

MarkTech Optoelectronics

Visible Emitters

Winter 2026 Catalog



Gary Kardys 01/06/2026
Version: 2

Product	Peak Wavelength	Angle	Power	Bandwidth	Forward Voltage	Conditions IF	Package				
MT112TB-RG-A	700	120	0.7 mcd	100	2.1	20	2.0×4.0mm Plastic Rectangle (2 pin)				1
MT1403-RG-A	700	35	5.0 mcd	100	2.1	20	3mm Plastic Round Lens (2 pin)				1
MT2030-HRG-A	567, 635	118	7.0 mcd	30	2.1	20	3mm Plastic Round Lens (2 pin)				1
MT2118-G-A	567	35	17 mcd	30	2.1	20	5mm Plastic Round (2 pin)				1
MT212TB-G-A	576	120	10 mcd	30	2.1	20	2.0×4.0mm Plastic Rectangle (2 pin)				1
MT240-G-A	567	60	16 mcd	30	2.1	20	3mm Plastic Round Lens (2 pin)				1
MT3118-Y-A	585	35	27.5mcd	35	2.1	20	5mm Plastic Round Lens (2 pin)				1
MT4118-HR-A	642	35	35mcd	35	2.1	20	5mm Plastic Round Lens (2 pin)				1
MT5470-BL	470	55 / 35	950 mcd	26	3.2	20	5.2×4.6mm Plastic Oval (2 pin)				1
MT5470-UG	525	55 / 35	2800mcd	35	3.2	20	5.2×4.6mm Plastic Oval (2 pin)				1
MT5470A-LWT	470	70 / 40	5860 mcd		3.6	20	5.2×4.6mm Plastic Oval (2 pin)				1
MT5470D-UY	591	70 / 40	2000mcd	15	2.1	20	5.2×4.6mm Plastic Oval (2 pin)				1
MT5470E-OR	610	60 / 40	3000mcd	17	2.1	20	5.2×4.6mm Plastic Oval (2 pin)				1
MT5470E-UR	632	70 / 40	2300mcd	20	2.4	20	5.2×4.6mm Plastic Oval (2 pin)				1
MT5505-BG-15	507	15	8500 mcd	30	3.2	20	5mm Plastic Round (2 pin)				1
MT5505-BG-30	507	30	15000 mcd	30	3.2	30	5mm Plastic Round (2 pin)				1

MT6224B-AHRG-A	650, 573	70	20mcd	20	1.9	20	5mm Plastic Round (3 pin)				1
MT7065A-UR	660	28	5.5	25	1.8	20	3mm Plastic Round Lens (2 pin)	VSF666C5	VSF666C5.pdf		0
MT7118B-UR-A	660	35	150 mcd	20	1.9	20	5mm Plastic Round (2 pin)				1
MT7303A-UR-A	660	35	200 mcd	20	1.9	20mA	3mm Plastic Round Lens (2 pin)				1
MT7318A-UR-A	660	15	2000 mcd	20	1.9	20mA	5mm Plastic Round Lens (2 pin)				1
MT7403A-UR-A	660	35	200 mcd	20	1.9	20mA	3mm Plastic Round Lens (2 pin)				1
MTE1074W2-WRC	740	90	11	25	1.9	20	TO-18 Low Profile Metal Can Flat Lens (2 pin)	VS741TL2-WRC	VS741TL2-WRC.pdf		1
MTE1166C2-UR	660	60	15	20	1.9	20	3mm Plastic Flat Lens (2 pin)	VSF6611C2	VSF6611C2.pdf	v121025	1
MTE1303B-UHR-A	632	25	8000 mcd	20	2.5	20	3mm Plastic Round Lens (2 pin)				1
MTE2056M3A-UYG	560	160	0.25	11	2.3	20	3mm Ceramic Domed Lens (2 pin)	VSC572M3A	VSC572M3A.pdf		0
MTE2056N-UYG	560	12	0.15	11	2.3	20	TO-18 Metal Can Domed Lens (2 pin)	VS562N	VS562N.pdf		0
MTE2056W-UYG	560	40	0.15	11	2.3	20	TO-18 Metal Can Flat Lens (2 pin)	VS562TM	VS562TM.pdf		0
MTE2057M3A-UYG	570	160	0.14	25	2.1	20	3mm Ceramic Domed Lens (2 pin)	VSC572M3A	VSC572M3A.pdf		0
MTE2066N3-UR	660	80	8	15	2.3	20	5mm Plastic Flat Lens (2 pin)	VSF662N3	VSF662N3.pdf		0
MTE2162N-UR	630	7	4.8	20	2.6	20	TO-18 Metal Can Domed Lens (2 pin)	VS6221N	VS6221N.pdf		0

MTE2162NK1-UR	630	5	3.0	20	2.6	20	TO-46 Metal Can Domed (2 pin)	VS6221NK1	VS6221NK1.pdf		0
MTE3061N-UO	620	14	14	20	2.2	20	TO-18 Metal Can Domed Lens (2 pin)				0
MTE3061NK1-UO	620	10	2.3	20	2.2	20	TO-46 Metal Can Domed Lens (2 pin)				0
MTE3062N-UO	620	9	5.25	15	2.1	20	TO-18 Metal Can Domed (2 pin)	VS6132N	VS6132N.pdf		0
MTE3062NK1-UO	620	5	3.25	15	2.1	20	TO-46 Metal Can Domed (2 pin)	VS6132NK1	VS6132NK1.pdf		0
MTE3062NK2-UO	620	5	4.0	15	2.1	20	TO-46 Metal Can Domed (2 pin)	VS6132NK2	VS6132NK2.pdf		0
MTE3062SL-WRC	620	9	1.25	15	2.1	20	TO-46 Focused Ball Lens (2 pin)	VS6132SL-WRC	VS6132SL-WRC.pdf		0
MTE4047C2-UB	470	45	14.5	35	3.0	20	3mm Plastic Flat Lens (2 pin)	VSF474C2	VSF474C2.pdf	v052825	1
MTE4047C5-UB	470	40	16	20	3	20	3mm Plastic Round Lens (2 pin)	VSF474C5	VSF474C5.pdf	v052825	0
MTE4047N-UB	470	12	3	35	3.5	20	TO-18 Metal Can Domed Lens (2 pin)	VS474N	VS474N.pdf	v052825	0
MTE4047N2-UB	470	80	16	35	3	20	5mm Plastic Flat Lens (2 pin)	VSF474N2	VSF474N2.pdf	v052825	0
MTE4047N3-WT	470	55	1000 mcd		3.0	20	5mm Plastic Flat Lens (2 pin)	WSF474N3	WSF474N3.pdf	v052825	1
MTE4047NK2-UB	474	10	3.5	35	3	20	TO-46 Metal Can Domed Lens (2 pin)	VS474NK2	VS474NK2.pdf	v052825	0
MTE4047W-UB	476	30	4	35	3	20	TO-18 Metal Can Flat Lens (2 pin)	VS474TM	VS474TM.pdf	v052825	0
MTE4061M3A-UO	610	160	1.7	17	2	20	3mm Ceramic Domed Lens (2 pin)	VSC614M3A	VSC614M3A.pdf		0

MTE4061N-UO	610	12	1	17	2	20	TO-18 Metal Can Domed Lens (2 pin)	VS614N	VS614N.pdf		0
MTE4061W-UO	610	40	1	17	2	20	TO-18 Metal Can Flat Lens (2 pin)	VS614TM	VS614TM.pdf		0
MTE4064M3A-UR	640	160	4	18	2	20	3mm Ceramic Domed Lens (2 pin)	VSC644M3A	VSC644M3A.pdf		0
MTE4064N-UR	640	12	3	18	2	20	TO-18 Metal Can Domed Lens (2 pin)				0
MTE4064NK2-UR	650	8	1.5	20	2	20	TO-46 Metal Can Domed Lens (2 pin)	VS644NK2	VS644NK2.pdf		0
MTE4064PT-UR	640	10	1	20	2	20	Pigtail Metal Can Domed Lens (1 pin)				0
MTE4064W-UR	640	40	3	18	2	20	TO-18 Metal Can Flat Lens (2 pin)	VS644TM	VS644TM.pdf		0
MTE4600L-HP	450	50	45.7	20	2.7	50	TO-39 Metal Can Flat Lens (2 pin)	VS4501T8-WRC	VS4501T8-WRC.pdf	v122222	0
MTE4600N	450	9	43.2	20	2.8	50	TO-18 Metal Can Domed Lens (2 pin)	VS4502N-WRC	VS4502N-WRC.pdf	v070819	0
MTE4600NK2-25.4	460	5	8	20	3.3	20	TO-46 Metal Can Domed Lens (2 pin)	VS460NK2-25.4	VS460NK2-25.4.pdf		0
MTE4600P-C	450	10	3.3	20	2.8	50	TO-18 Metal Can Domed Lens (2 pin)	VS4502C-WRC	VS4502C-WRC.pdf		0
MTE4600P-WRC-25.4	460	5	9.0	20	3.3	20	TO-18 Metal Can Domed Lens (2 pin)	VS460C-WRC-25.4	VS460C-WRC-25.4.pdf		0
MTE5052M3A-UBG	525	160	1.5	45	3.5	20	3mm Ceramic Domed Lens (2 pin)	VSC525M3A	VSC525M3A.pdf		0
MTE5052N-UBG	525	12	0.9	45	3.5	20	TO-18 Metal Can Domed Lens (2 pin)	VS525N	VS525N.pdf		0
MTE5052W-UBG	525	40	0.9	45	3.5	20	TO-18 Metal Can Flat Lens (2 pin)	VS525TM	VS525TM.pdf		0

MTE5057M3A-UYG	570	160	0.5	11	2.3	20	3mm Ceramic Domed Lens (2 pin)	VSC575M3A	VSC575M3A.pdf	0
MTE5057N-UYG	570	12	0.3	11	2.3	20	TO-18 Metal Can Domed Lens (2 pin)	VS575N	VS575N.pdf	0
MTE5057W-UYG	570	40	0.3	11	2.3	20	TO-18 Metal Can Flat Lens (2 pin)			0
MTE5063W-UR	635	30	3.0	25	2.6	20	TO-46 Metal Can Flat (2 pin)	VS635TM	VS635TM.pdf	0
MTE5066C-UR	660	36	7	25	1.8	20	3mm Plastic Round Lens (2 pin)	VSF665C1	VSF665C1.pdf	0
MTE5066CJ-UR	660	36	7	25	1.8	20	3mm Plastic Round Lens (2 pin)	VSF665C1-J	VSF665C1-J.pdf	0
MTE5066M3A-UR	660	160	4.5	25	2.2	20	3mm Ceramic Domed Lens (2 pin)	VSC665M3A	VSC665M3A.pdf	0
MTE5066N-UR	660	12	3	25	2.2	20	TO-18 Metal Can Domed Lens (2 pin)	VS665N	VS665N.pdf	0
MTE5066N2-UR	660	40	5.0	25	1.8	20	5mm Plastic Flat Lens (2 pin)	VSF665N2	VSF665N2.pdf	0
MTE5066N5J-UR	660	14	6.5	25	1.8	20	5mm Plastic Round Lens (2 pin)	VSF665N5-J	VSF665N5-J.pdf	0
MTE5066NK2-UR	660	8	3	25	1.8	20	TO-46 Metal Can Domed Lens (2 pin)	VS665NK2	VS665NK2.pdf	0
MTE5066S1J-UR	660	24	6.5	25	1.8	20	5mm Plastic Round Lens (2 pin)	VSF665S1-J	VSF665S1-J.pdf	0
MTE5066W-UR	660	40	3	25	1.8	20	TO-18 Metal Can Flat Lens (2 pin)	VS665TM	VS665TM.pdf	0
MTE5066WS-UR	660	90	7.5	25	1.8	20	TO-18 Metal Can Flat Lens (2 pin)	VS665TS	VS665TS.pdf	0
MTE5066WSC-UR	660	80	5.5	25	1.8	20	TO-18 Metal Can Flat Lens (2 pin)	VS665TS-WRC	VS665TS-WRC.pdf	0

MTE5077T-WRC	770	45	18	35	2	500	TO-5 Metal Can Flat Lens (2 pin)	VS775T8-WRC	VS775T8-WRC.pdf		0
MTE5270C1	525	15	6.5	35	3.0	20	3mm Plastic Round Lens (2 pin)	VSF527C1	VSF527C1.pdf	v05222025	0
MTE5270C5	525	15	6.0	35	3.0	20	3mm Plastic Round Lens (2 pin)	VSF527C5	VSF527C5.pdf		1
MTE5270N	527	9	26.6	35	2.7	50	TO-18 Metal Can Domed Lens (2 pin)	VS5201N-WRC	VS5201N-WRC.pdf	v090424	0
MTE5270P-C	527	6	23.9	35	2.7	50	TO-18 Metal Can Domed Lens (2 pin)	VS5201C-WRC	VS5201C-WRC.pdf	v090116	0
MTE5270W-UBG	527	50	30	35	2.8	50	TO-18 Metal Can Flat Lens (2 pin)	VS5201TM-WRC	VS5201TM-WRC.pdf	v040219	0
MTE5900M3A-UY	590	160	0.9	15	2.1	20	3mm Ceramic Domed Lens (2 pin)	VSC590M3A	VSC590M3A.pdf		0
MTE5900N-UY	590	12	0.5	15	2.1	20	TO-18 Metal Can Domed Lens (2 pin)	VS590N	VS590N.pdf		0
MTE5900W-UY	590	40	0.5	15	2.1	20	TO-18 Metal Can Flat Lens (2 pin)	VS590TM	VS590TM.pdf		0
MTE5901SL-WRC	600	15	2.24	85	2.75	20	TO-46 Focused Ball Lens (2 pin)	VS5901SL-WRC	VS5901SL-WRC.pdf		1
MTE5901W-WRC	600	50	10.3	80	2.75	20	TO-18 Metal Can Flat Lens (2 pin)	VS5901TM-WRC	VS5901TM-WRC.pdf		1
MTE6000L-HP	600	50	20.5	80	2.8	50	TO-39 Metal Can Flat Lens (2 pin)	VS5902T8-WRC	VS5902T8-WRC.pdf	v050416	0
MTE6000N	600	10	20.4	80	2.8	50	TO-18 Metal Can Domed Lens (2 pin)	VS5901N-WRC	VS5901N-WRC.pdf	v040915	0
MTE6000P-C	600	6	18.8	80	2.8	50	TO-18 Metal Can Domed Lens (2 pin)	VS5910C-WRC	VS5910C-WRC.pdf	v083018	0
MTE6052PT-UBG	520	6	0.6	35	3.5	20mA	Pigtail Metal Can Domed Lens (1 pin)	VS526PT	VS526PT.pdf		0

MTE6063C2-UR	640	40	7.0	20	2.5	20	3mm Plastic Flat Lens (2 pin)	VSF636C2	VSF636C2.pdf		0
MTE6066C-UR	660	40	5	25	1.8	20	3mm Plastic Round Lens (2 pin)	VSF666C1	VSF666C1.pdf		0
MTE6066C2-UR	660	80	4.5	25	1.8	20	3mm Plastic Flat Lens (2 pin)	VSF666C2	VSF666C2.pdf		0
MTE6066C5-UR	660	14	5.5	25	1.8	20	5mm Plastic Round (2 pin)	VSF666C5	VSF666C5.pdf		0
MTE6066D3-UR	660	140	4	25	1.8	20	3mm Plastic Flat Lens (2 pin)	VSF666D3	VSF666D3.pdf		0
MTE6066M2-UR	660	180	5	25	1.8	20	TO-46 Low Profile Metal Can Domed Lens (2 pin)	VS666M2	VS666M2.pdf		0
MTE6066N1-UR	660	24	5	25	1.8	20	5mm Plastic Round Lens (2 pin)	VSF666N1	VSF666N1.pdf		0
MTE6066N3-UR	660	110	5	25	1.8	20	5mm Plastic Flat Lens (2 pin)	VSF666N3	VSF666N3.pdf		0
MTE6066N5-UR	660	14	5	25	1.8	20	5mm Plastic Round Lens (2 pin)	VSF666N5	VSF666N5.pdf		0
MTE6066S1-UR	660	24	5	25	1.8	20	5mm Plastic Round Lens (2 pin)	VSF666S1	VSF666S1.pdf		0
MTE6163M-UHR	630	55	27.5	19	2.2	50	TO-42 Metal Can Domed (2 pin)	VS636M61	VS636M61.pdf		0
MTE6800N2-UR	680	70	5.5	30	1.8	20	5mm Plastic Flat Lens (2 pin)	VSF680N2	VSF680N2.pdf		0
MTE7052M3A-UG	525	70	5.0	35	3.5	20	3mm Ceramic Domed Lens (2 pin)	VSC527M3A	VSC527M3A.pdf	v040219	0
MTE7052M3C-UG	525	3	5.0	35	3.0	20	3mm Ceramic Domed Lens (2 pin)	VSC527M3C-5H	VSC527M3C-5H.pdf		0
MTE7052N2-UBG	525	40	5.0	35	3.5	20	5mm Plastic Flat Lens (2 pin)	VSF527N2	VSF527N2.pdf		0

MTE7052W-UBG-WRC	525	45	3.0	35	3.5	20	TO-18 Metal Can Flat Lens (2 pin)	VS527TM-WRC	VS527TM-WRC.pdf	0
MTE7063C2-UR	640	100	7	15	2	20	3mm Plastic Flat Lens (2 pin)	VSF637C2	VSF637C2.pdf	0
MTE7063NK2-UR	630	5	4	15	2.2	20	TO-46 Metal Can Domed Lens (2 pin)	VS637NK2	VS637NK2.pdf	0
MTSM3466SMR2-UR	660	40	8	16	1.7	20	5.0x5.0 mm SMD Dome Lens	VS6634SMSRY2	VS6634SMSRY2.pdf	1
MTSM3466SMR2-URS	660	40	8.0	16	1.7	20	5.0x5.0 mm SMD Dome Lens on Board	VS6634SMSRY2	VS6634SMSRY2.pdf	1
MTSM4047SMR1-UB	470	15	0.85	23	2.85	20	3.0x3.0 mm SMD Dome Lens	VS474SMSRY1	VS474SMSRY1.pdf	1
MTSM4047SMR1-UBS	470	15	0.85	23	2.85	20	3.0x3.0 mm SMD Dome Lens on Board	VS474SMSRY1	VS474SMSRY1.pdf	1
MTSM4501SMR2-UB	450	50	17	18	2.65	20	5.0x5.0 mm SMD Dome Lens	VS4501SMSRY2	VS4501SMSRY2.pdf	1
MTSM4501SMR2-UBS	450	50	17	18	2.65	20	5.0x5.0 mm SMD Dome Lens on Board	VS4501SMSRY2	VS4501SMSRY2.pdf	1
MTSM5201SMR2-UG	525	40	11	34	2.73	20	5.0x5.0 mm SMD Dome Lens	VS5201SMSRY2	VS5201SMSRY2.pdf	1
MTSM5201SMR2-UGS	525	40	11	34	2.73	20	5.0x5.0 mm SMD Dome Lens on Board	VS5201SMSRY2	VS5201SMSRY2.pdf	1
MTSM6320-UR-A	632	120	750mcd	20	2.4	20	2.8x3.5 mm Flat Top SMD			v111225 0



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SPECIFICATION

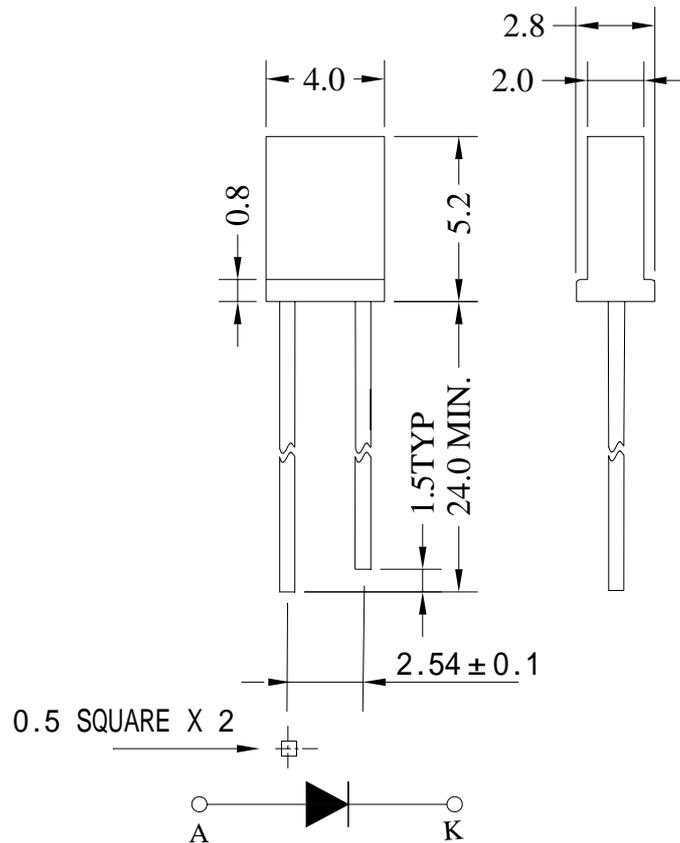
PART NO. : MT112TB-RG-A

2.0×4.0mm RECTANGULAR LED LAMP



Description

This red lamp is made with GaP/GaP chip and red diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT112TB-RG-A	GaP/GaP	Red	Red diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	90	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-40 to +95	
Storage Temperature Range	Tstg.	-40 to +100	
Soldering Temperature(1.6mm from body)	Tsol	Dip Soldering : 260 for 5 sec. Hand Soldering : 350 for 3 sec.	

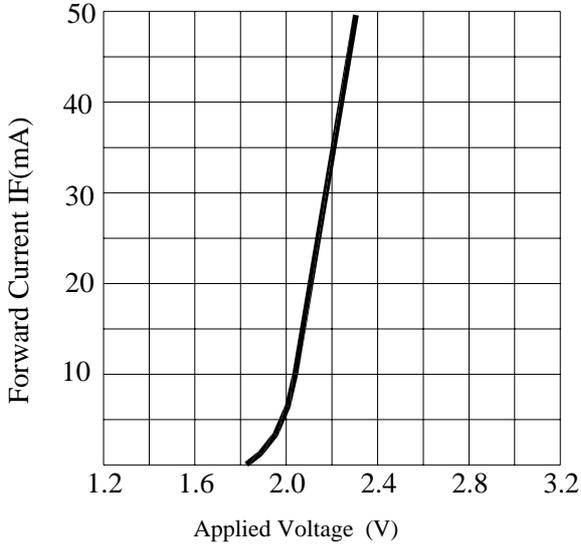
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	0.42	0.7	1.35	mcd
Forward Voltage	Vf	If=20mA		2.1	3.0	V
Peak Wavelength	λp	If=20mA		700		nm
Dominant Wavelength	λd	If=20mA		650		nm
Reverse (Leakage) Current	Ir	Vr=5V			100	μA
Viewing Angle	2 1/2	If=20mA		120		deg
Spectrum Line Halfwidth	Δλ	If=20mA		100		nm

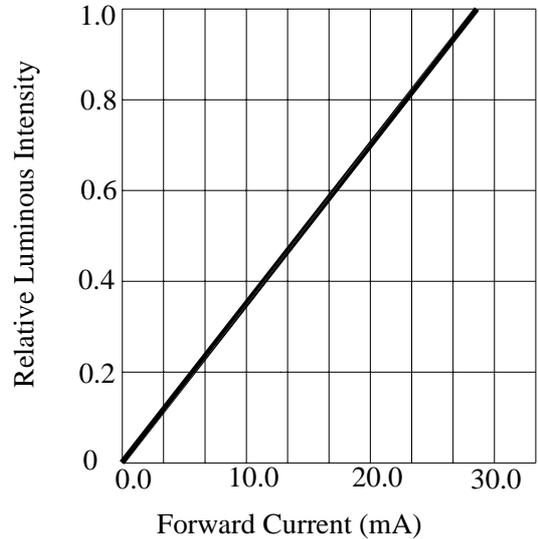
Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

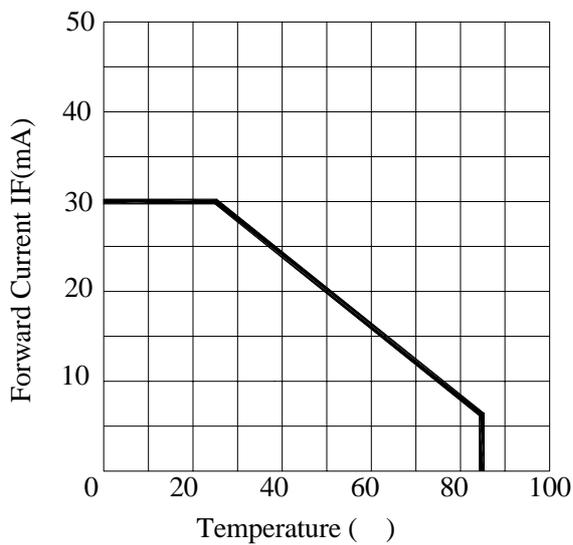
Typical Electrical / Optical Characteristics Curves :



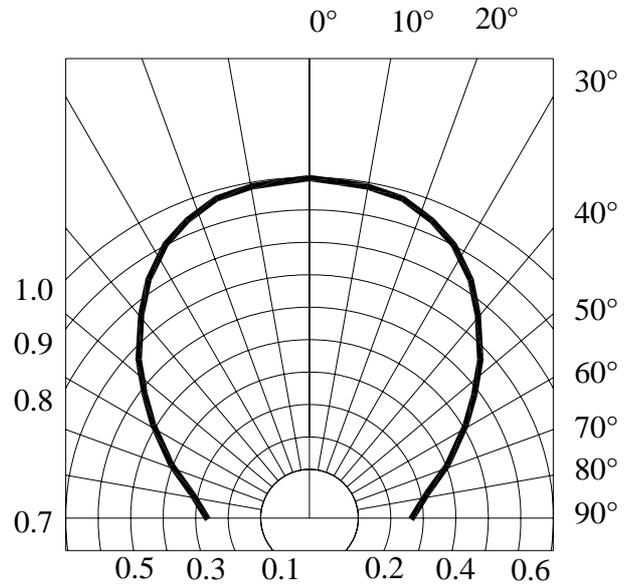
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
10	0.429	0.622
12	0.622	0.909
14	0.909	1.35

Specifications for Vf Group:

Vf(V)		
Group	MIN.	MAX.
V1	1.6	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4
V5	2.4	2.6
V6	2.6	2.8
V7	2.8	3.0

***Majority VF bins are highlighted in Yellow.**

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 60 seconds

Solder bath: 260±5 (Solder temperature), Within 5 seconds

(3) Soldering iron : 350 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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Phone:1.518.956.2980

Fax:1.518.785.4725

Http://www.marktechopto.com

SPECIFICATION

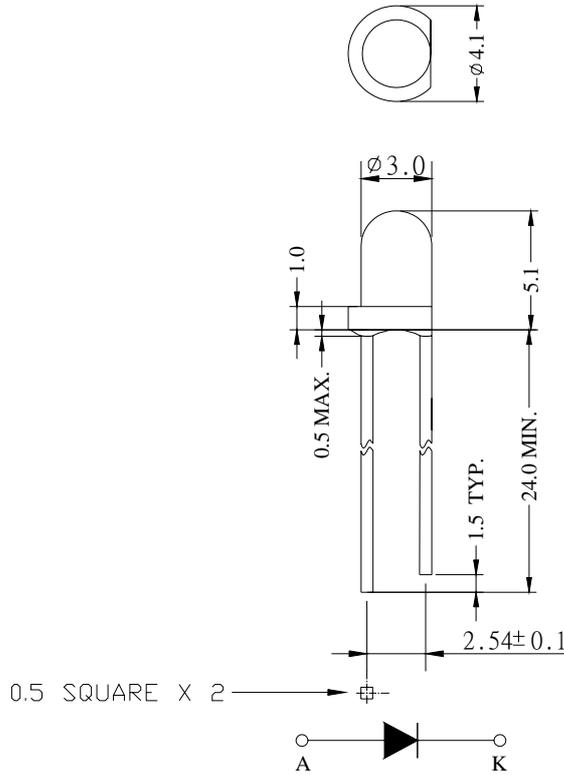
PART NO. : MT3625/TI /A

5.0mm ROUND LED LAMP



Description

This red lamp is made with GaP/GaP chip and red clear epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens color
	Material	Emitting Color	
O T3625/TI /C	GaP/GaP	Red	Red clear

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	90	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μ A
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature(1.6mm from body)	Tsol.	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

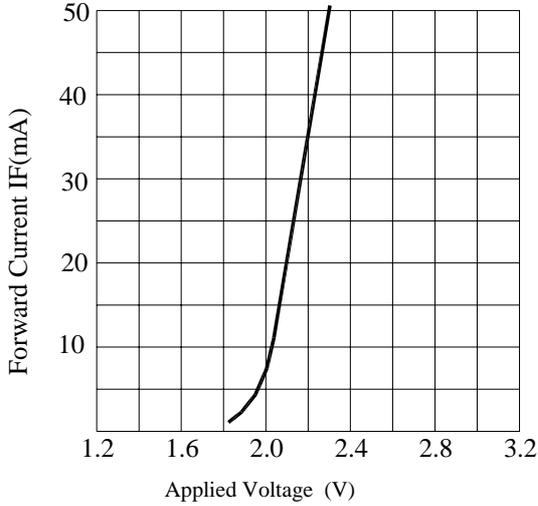
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	2.0	5.0		mcd
Forward Voltage	Vf	If=20mA		2.1	3.0	V
Peak Wavelength	λ_p	If=20mA		700		nm
Dominant Wavelength	λ_d	If=20mA		650		nm
Reverse (Leakage) Current	Ir	Vr=5V			100	μ A
Viewing Angle	2θ	If=20mA		35		deg
Spectrum Line Halfwidth	$\Delta\lambda$	If=20mA		100		nm

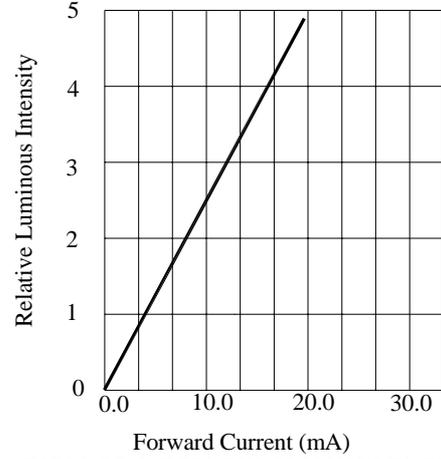
Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

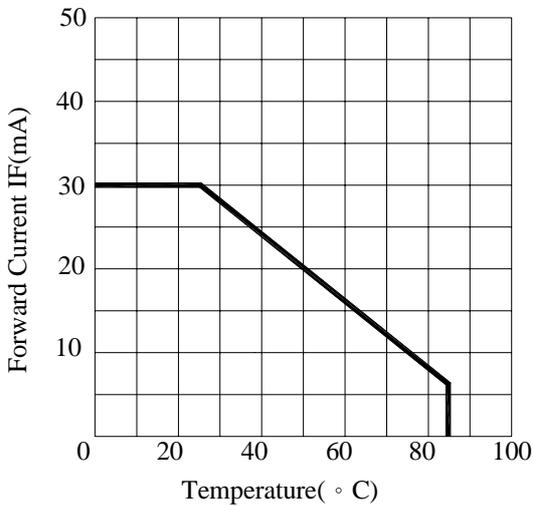
Typical Electrical / Optical Characteristics Curves :



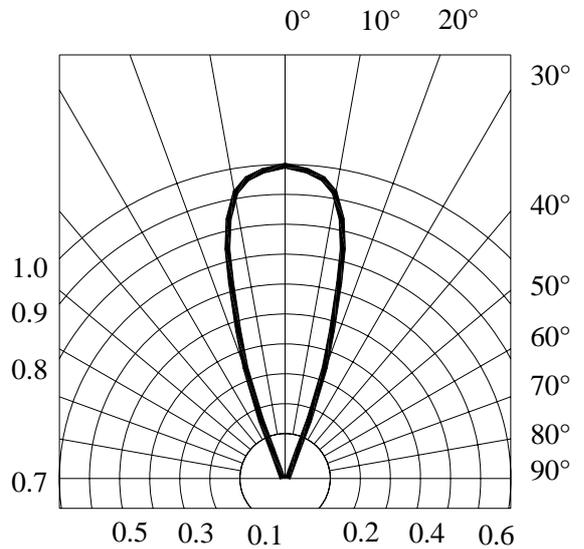
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C.

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260 ±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

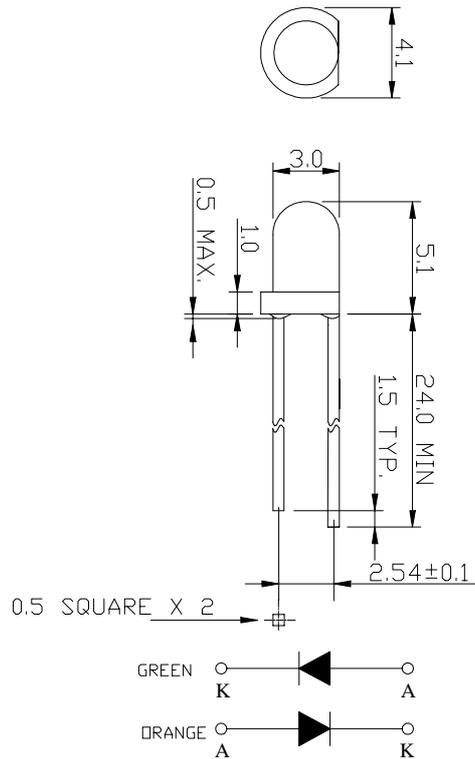
PART NO. : MT2030-HRG-A

3.0mm ROUND BI-POLAR LAMP (2 LEADS)



Description

This green and orange bi-color lamp is made with GaP/GaP green chip, GaAsP/GaP orange chip and white diffused epoxy resin.



Notes:

1. ALL DIMENSIONS ARE IN mm.
2. TOLERANCE IS±0.25mm UNLESS OTHERWISE NOTED.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT2030-HRG-A	GaP/GaP	Green	White diffused
	GaAsP/GaP	Red	

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	78	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	
Storage Temperature Range	T _{stg.}	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds		260	

Electrical and Optical Characteristics:
Green

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	3.0	7.0		mcd
Forward Voltage	V _f	I _f =20mA		2.1	2.6	V
Peak Wavelength	λ _P	I _f =20mA		567		nm
Dominant Wavelength	λ _D	I _f =20mA		572		nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	2 1/2	I _f =20mA		118		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		30		nm

NOTE: THE DATAS TESTED BY IS TESTER

Absolute Maximum Ratings at Ta=25

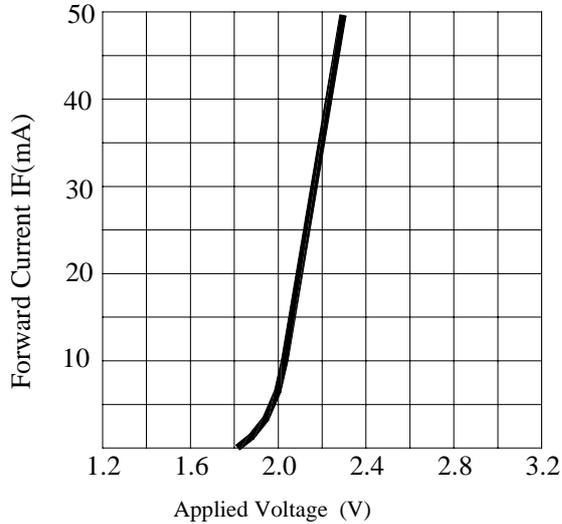
Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	78	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μ A
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	
Storage Temperature Range	T _{stg.}	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds		260	

Electrical and Optical Characteristics:
R e d

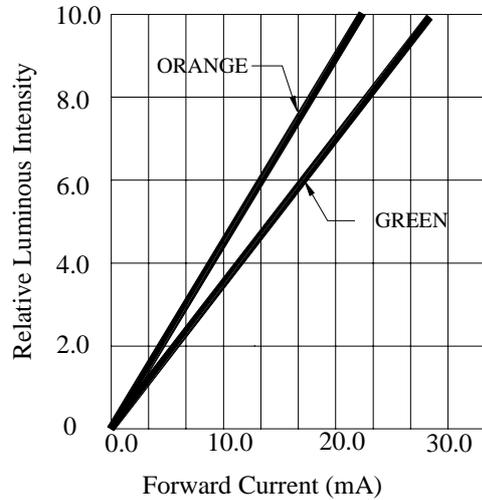
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	4.29	9.0		mcd
Forward Voltage	V _f	I _f =20mA		2.1	2.6	V
Peak Wavelength	λ _P	I _f =20mA		635		nm
Dominant Wavelength	λ _D	I _f =20mA		626		nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	2 1/2	I _f =20mA		118		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		35		nm

NOTE: THE DATAS TESTED BY IS TESTER

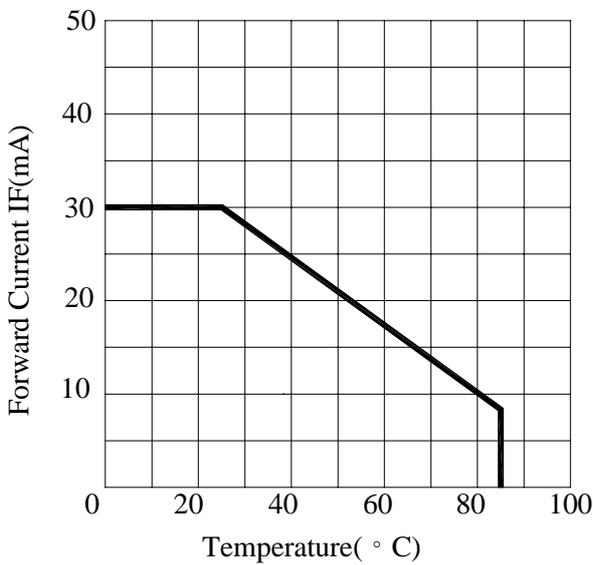
Typical Electrical / Optical Characteristics Curves :



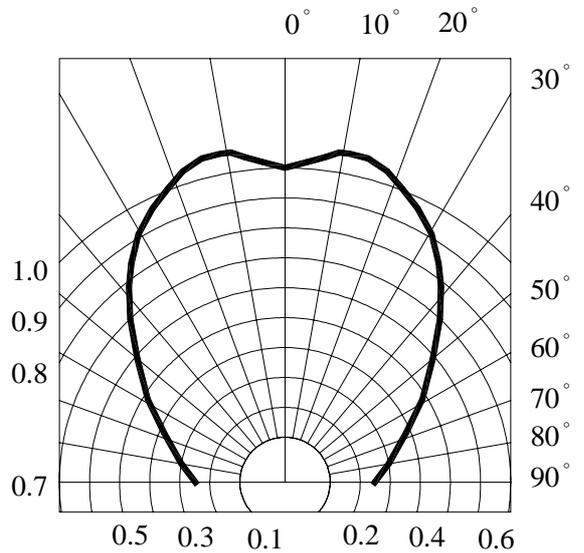
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 120 seconds

Solder bath: 250 max. (Solder temperature), Within 5 seconds

(3) Soldering iron : 250 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

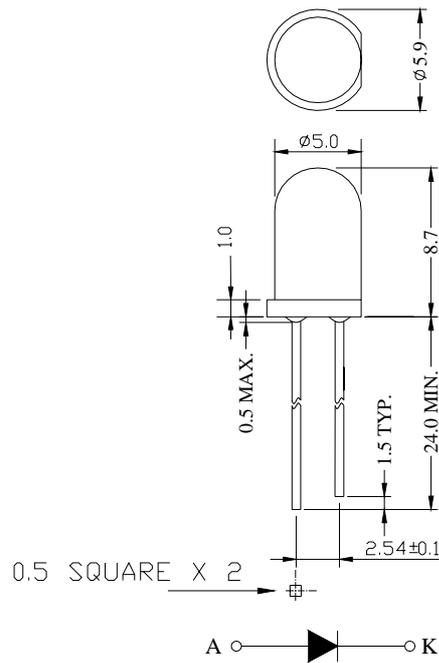
PART NO. : MT2118-G-A

5.0mm ROUND LED LAMP



Description

This green lamp is made with GaP/GaP chip and green diffused epoxy resin.



Notes:

1. ALL DIMENSIONS ARE IN mm.
2. TOLERANCE IS ±0.25mm UNLESS OTHERWISE NOTED.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT2118-G-A	GaP/GaP	Green	Green diffused

Absolute Maximum Ratings at Ta=25

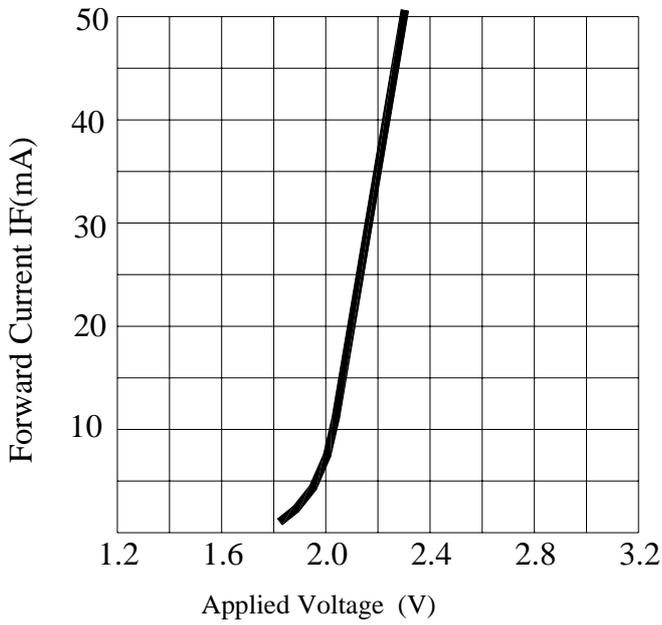
Parameter	Symbol	Rating	Unit
Power Dissipation	PD	78	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	
Storage Temperature Range	Tstg.	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds		260	

Electrical and Optical Characteristics:

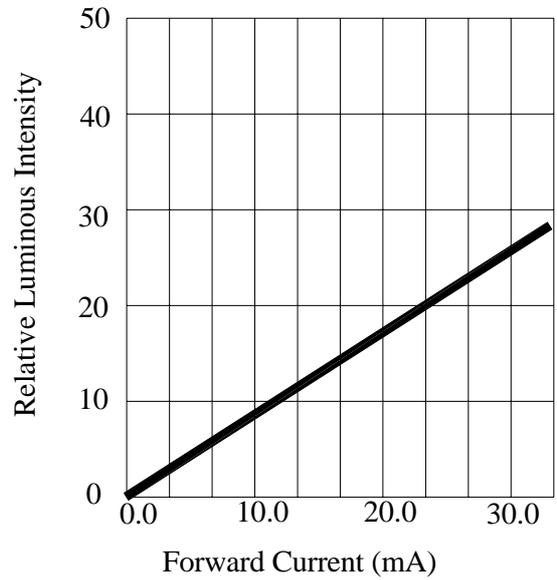
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	7.56	17.0		mcd
Forward Voltage	Vf	If=20mA		2.1	2.6	V
Peak Wavelength	λP	If=20mA		567		nm
Dominant Wavelength	λD	If=20mA		572		nm
Reverse (Leakage) Current	Ir	VR=5V			100	μA
Viewing Angle	2 1/2	If=20mA		35		deg
Spectrum Line Halfwidth	Δλ	If=20mA		30		nm

NOTE: THE DATAS TESTED BY IS TESTER

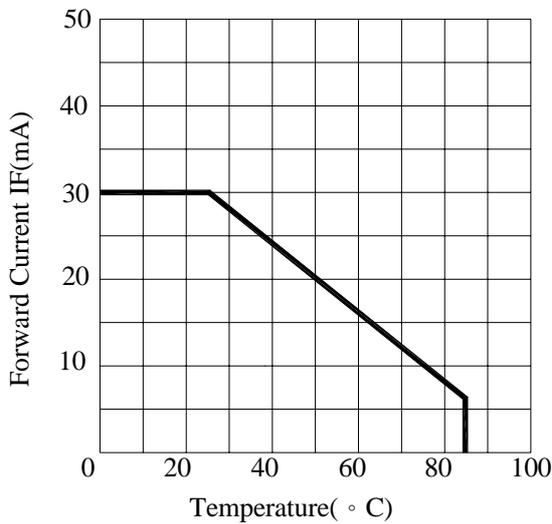
Typical Electrical / Optical Characteristics Curves :



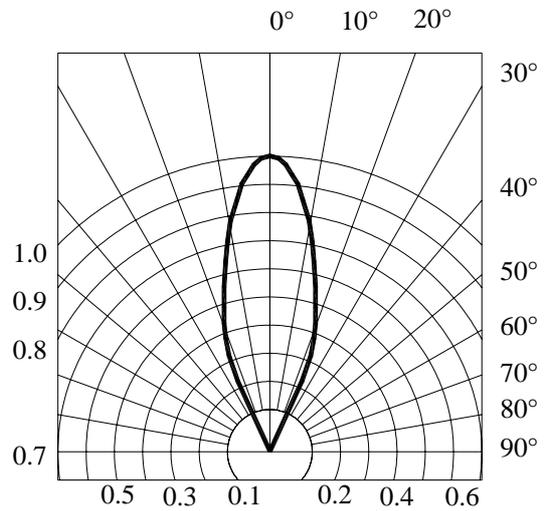
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 120 seconds

Solder bath: 250 max. (Solder temperature), Within 5 seconds

(3) Soldering iron : 250 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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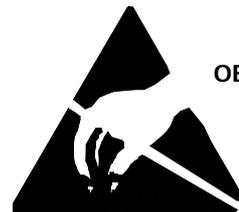
Fax:1.518.785.4725

Http://www.marktechopto.com

SPECIFICATION

PART NO. : MT212TB-G-A

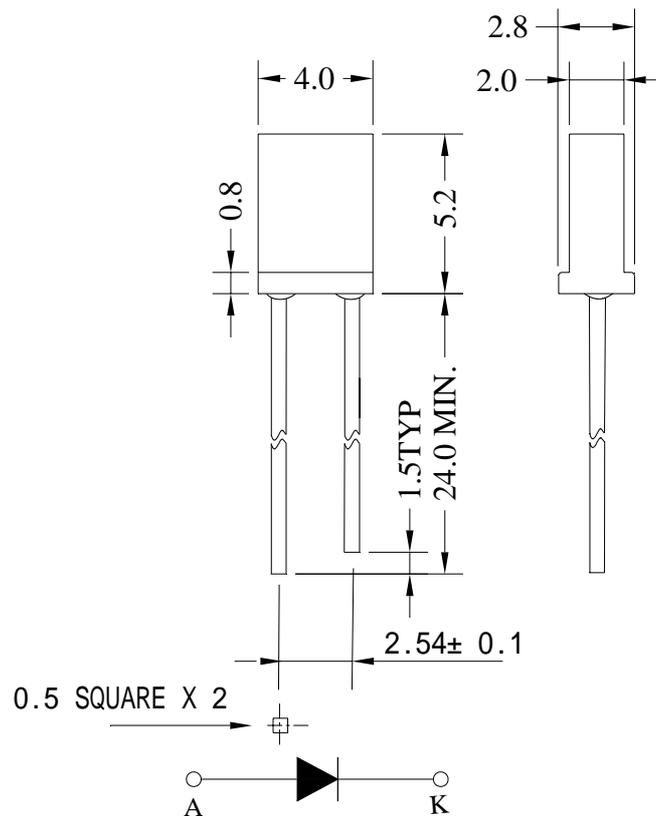
2.0×4.0mm RECTANGULAR LED LAMP



ATTENTION
OBSERVE PRECAUTION
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES

Description

This green lamp is made with GaP/GaP chip and green diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT212TB-G-A	GaP/GaP	Green	Green diffused

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	78	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μ A
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature(1.6mm from body)	Tsol	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

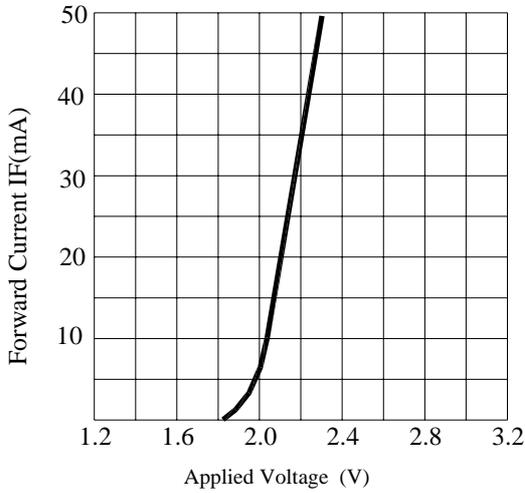
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	4.2	10.0		mcd
Forward Voltage	Vf	If=20mA		2.1	2.6	V
Peak Wavelength	λ_p	If=20mA		576		nm
Dominant Wavelength	λ_d	If=20mA		572		nm
Reverse (Leakage) Current	Ir	VR=5V			100	μ A
Viewing Angle	2θ 1/2	If=20mA		120		deg
Spectrum Line Halfwidth	$\Delta\lambda$	If=20mA		30		nm

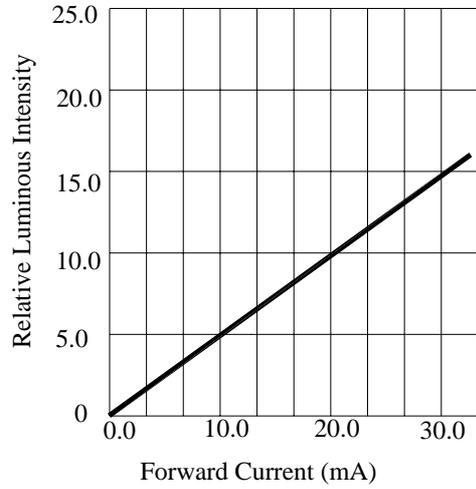
Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

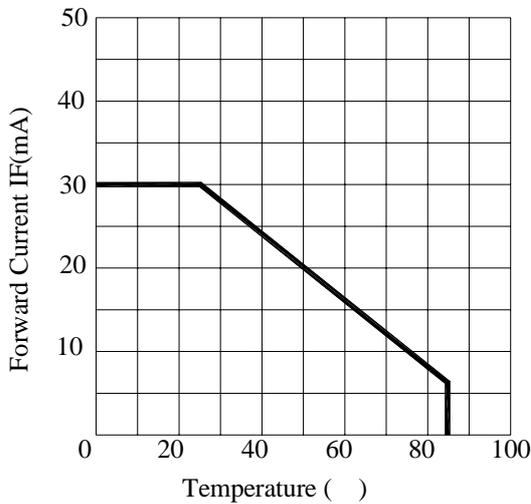
Typical Electrical / Optical Characteristics Curves :



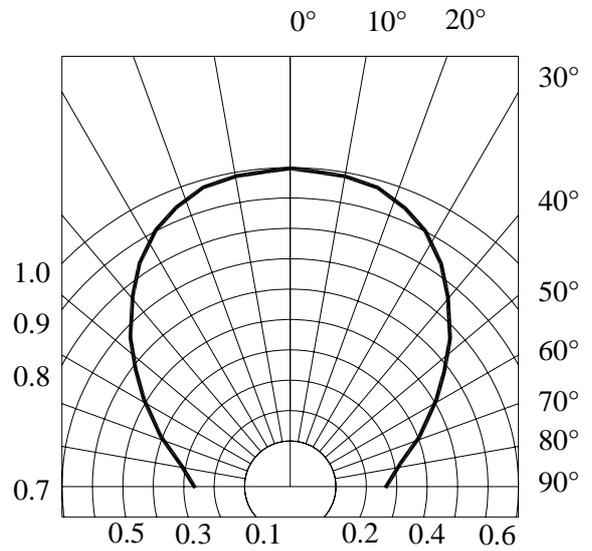
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C.

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

PART NO. : MT240-G-A

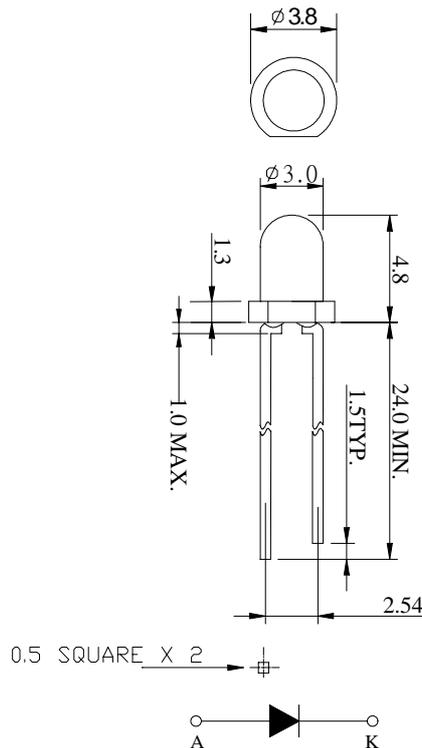
3.0mm ROUND LED LAMP



Description

This green lamp is made with GaP/GaP super red chip and green diffused epoxy resin.

Package Dimensions



Notes:

1. ALL DIMENSIONS ARE IN mm.
2. TOLERANCE IS ± 0.25 mm UNLESS OTHERWISE NOTED.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT240-G-A	GaP/GaP	Green	Green diffused

Absolute Maximum Ratings at Ta=25

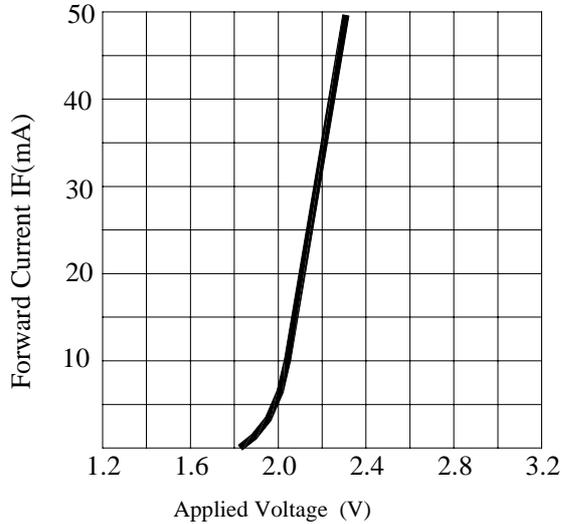
Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	78	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	
Storage Temperature Range	T _{stg.}	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds		260	

Electrical and Optical Characteristics:

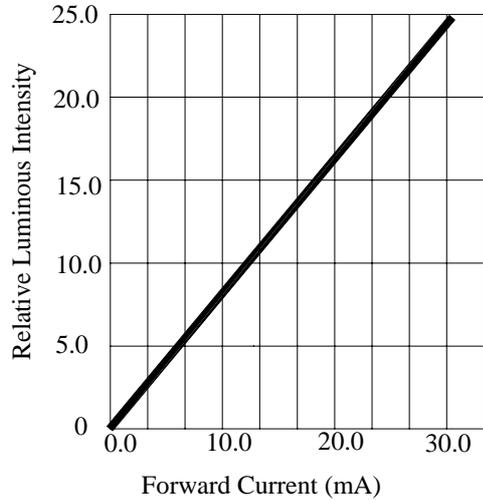
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	6.22	16.0		mcd
Forward Voltage	V _f	I _f =20mA		2.1	2.6	V
Peak Wavelength	λ _P	I _f =20mA		567		nm
Dominant Wavelength	λ _D	I _f =20mA		572		nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	2 1/2	I _f =20mA		60		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		30		nm

NOTE: THE DATAS TESTED BY IS TESTER

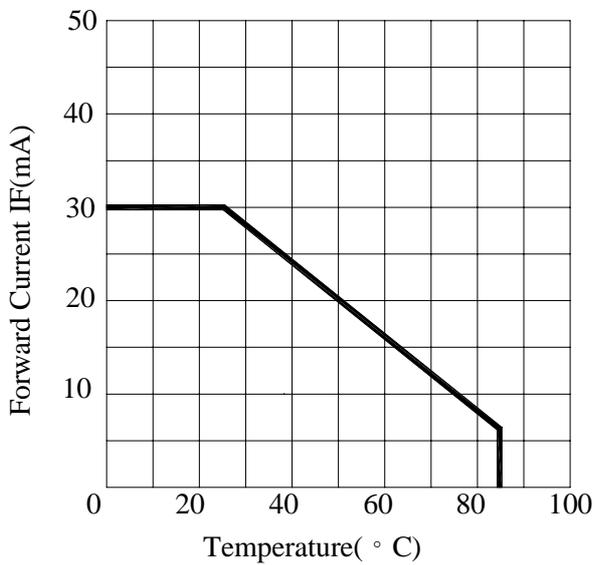
Typical Electrical / Optical Characteristics Curves :



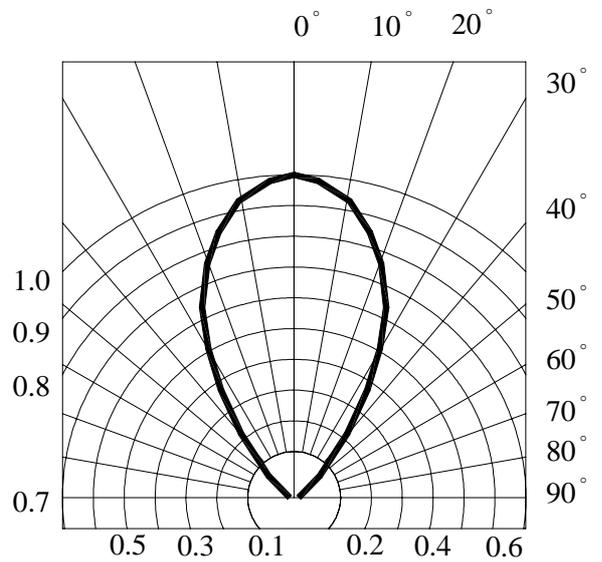
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 120 seconds

Solder bath: 250 max. (Solder temperature), Within 5 seconds

(3) Soldering iron : 250 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



3Northway Lane North Latham,New York 12110.

Tollfree:1.800.984.5337

Phone:1.518.956.2980

Fax:1.518.785.4725

Http://www.marktechopto.com

SPECIFICATION

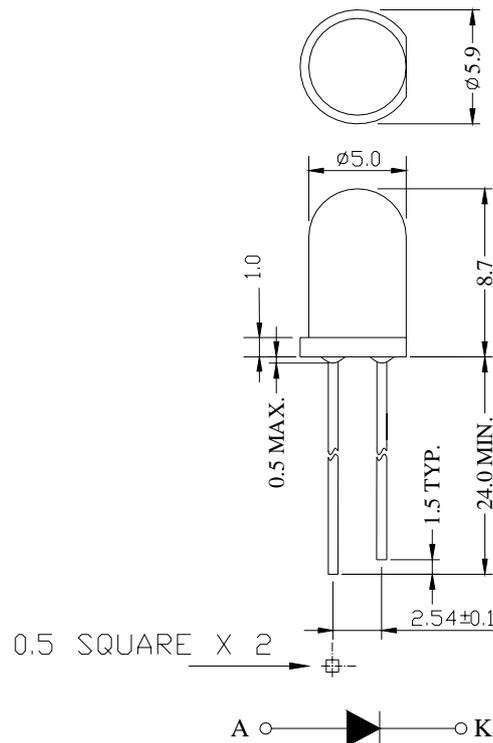
PART NO. : MT3118-Y-A

5.0mm ROUND LED LAMP



Description

This yellow lamp is made with GaAsP/GaP chip and yellow diffused epoxy resin.



Notes:

1. ALL DIMENSIONS ARE IN mm.
2. TOLERANCE IS ± 0.25 mm UNLESS OTHERWISE NOTED.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT3118-Y-A	GaAsP/GaP	Yellow	Yellow diffused

Absolute Maximum Ratings at Ta=25

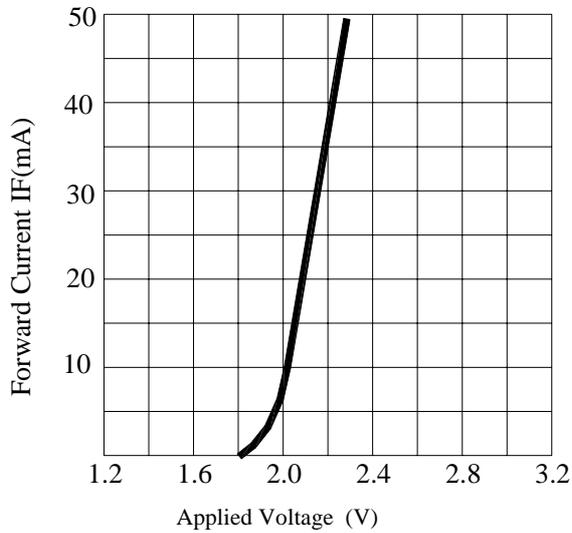
Parameter	Symbol	Rating	Unit
Power Dissipation	PD	78	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	
Storage Temperature Range	Tstg.	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds		260	

Electrical and Optical Characteristics:

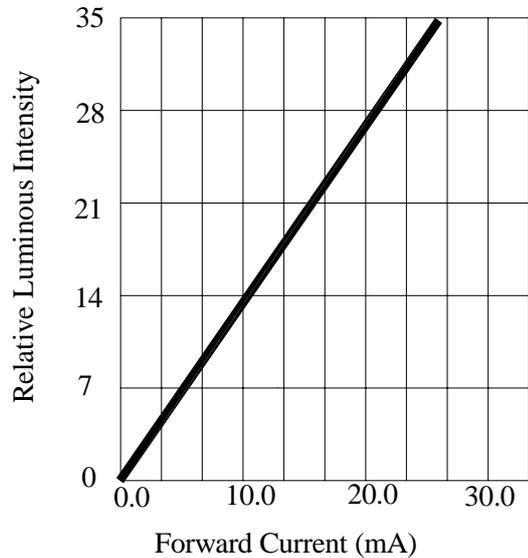
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	16.5	27.5		mcd
Forward Voltage	Vf	If=20mA		2.1	2.6	V
Peak Wavelength	λP	If=20mA		585		nm
Dominant Wavelength	λD	If=20mA		590		nm
Reverse (Leakage) Current	Ir	Vr=5V			100	μA
Viewing Angle	2 1/2	If=20mA		35		deg
Spectrum Line Halfwidth	Δλ	If=20mA		35		nm

NOTE: THE DATAS TESTED BY IS TESTER

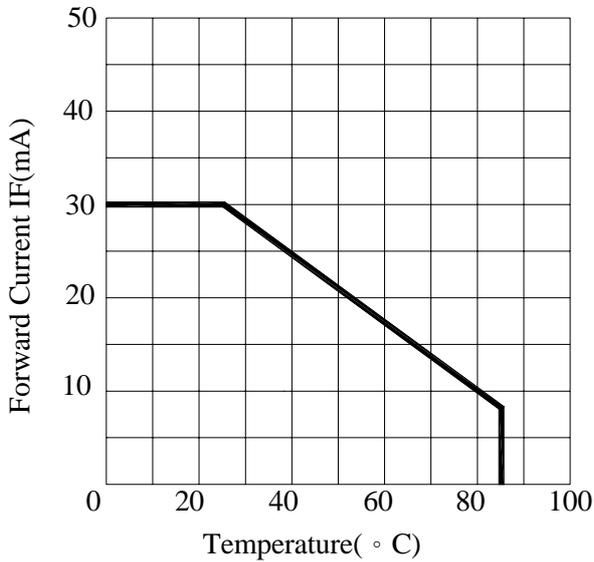
Typical Electrical / Optical Characteristics Curves :



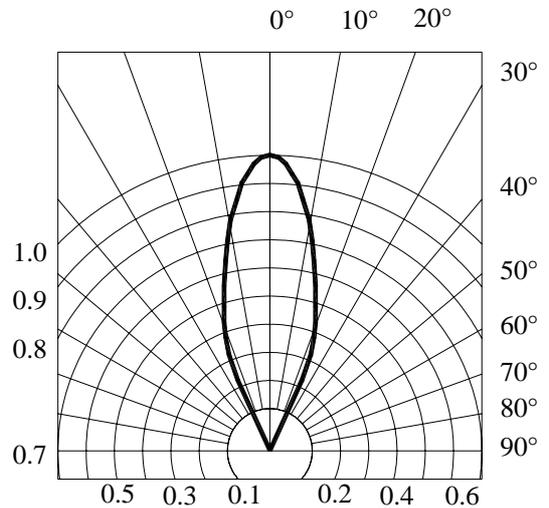
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 120 seconds

Solder bath: 250 max. (Solder temperature), Within 5 seconds

(3) Soldering iron : 250 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

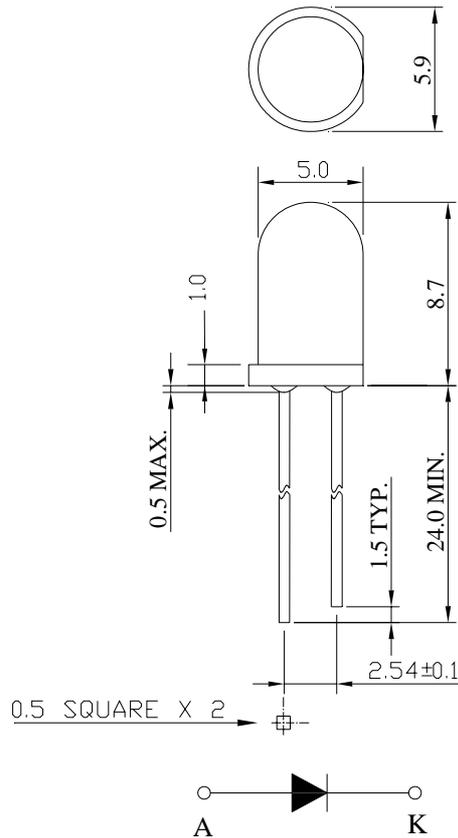
PART NO. : MT4118-HR-A

5.0mm ROUND LED LAMP



Description

This Hi-Effect red lamp is made with GaAsP/GaP chip and red diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT4118-HR-A	GaAsP/GaP	Hi-Effect Red	Red diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	78	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-40 to +95	
Storage Temperature Range	Tstg.	-40 to +100	
Soldering Temperature(1.6mm from body)	Tsol	Dip Soldering : 260 for 5 sec. Hand Soldering : 350 for 3 sec.	

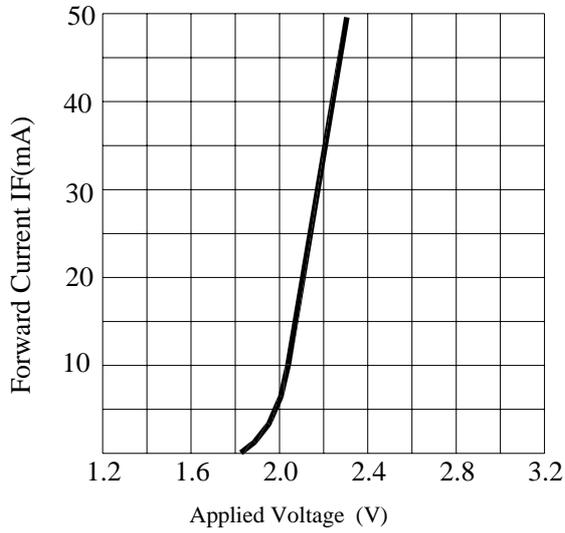
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	19.0	35.0	72.8	mcd
Forward Voltage	Vf	If=20mA		2.1	2.6	V
Peak Wavelength	λp	If=20mA		642		nm
Dominant Wavelength	λd	If=20mA	624	629	636	nm
Reverse (Leakage) Current	Ir	Vr=5V			100	μA
Viewing Angle	2 1/2	If=20mA		35		deg
Spectrum Line Halfwidth	Δλ	If=20mA		35		nm

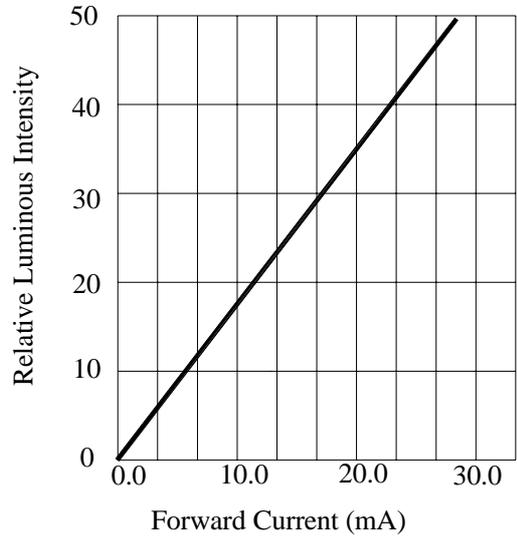
Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

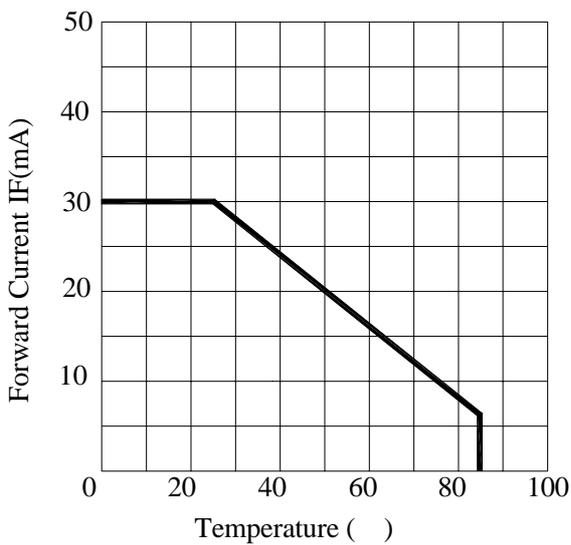
Typical Electrical / Optical Characteristics Curves :



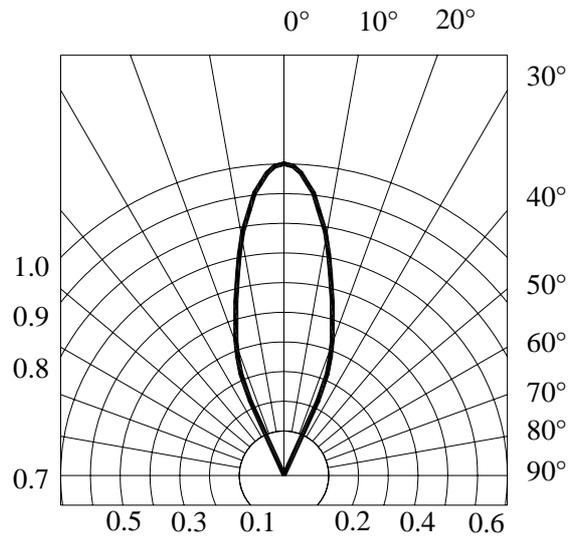
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
F	19.0	26.6
G	26.6	37.2
H	37.2	52.0
J	52.0	72.8

Specifications for Vf Group:

Vf(V)		
Group	MIN.	MAX.
V1	1.6	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4
V5	2.4	2.6

*Majority VF bins are highlighted in Yellow.

Specifications for Wavelength Group:

D(nm) @20mA		
Group	MIN.	MAX.
X3	624	627
X4	627	630
X5	630	633
X6	633	636

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 60 seconds

Solder bath: 260±5 (Solder temperature), Within 5 seconds

(3) Soldering iron : 350 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

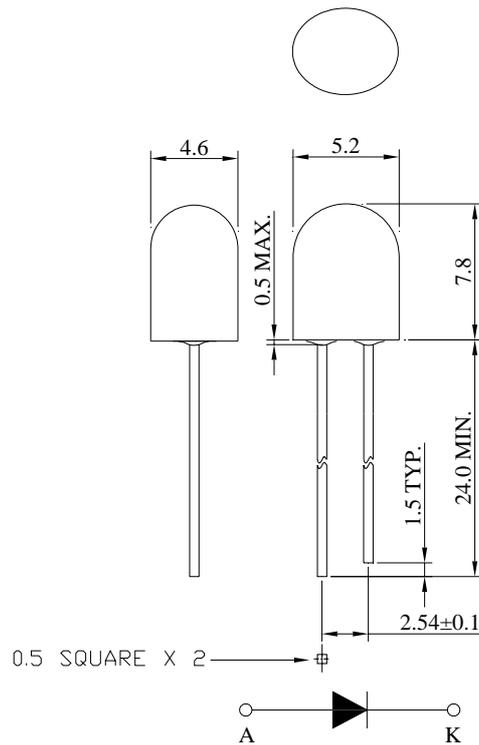
PART NO. : MT5470-BL

5.2×4.6mm OVAL LED LAMP



Description

This blue lamp is made with InGaN/Sapphire chip and blue diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT5470-BL	InGaN/Sapphire	Blue	Blue diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	100	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	25	mA
Reverse (Leakage) Current	I _r	50	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-40 to +95	
Storage Temperature Range	T _{stg.}	-40 to +100	
Soldering Temperature(1.6mm from body)	T _{sol.}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	
Electrostatic discharge	ESD.	6000	V

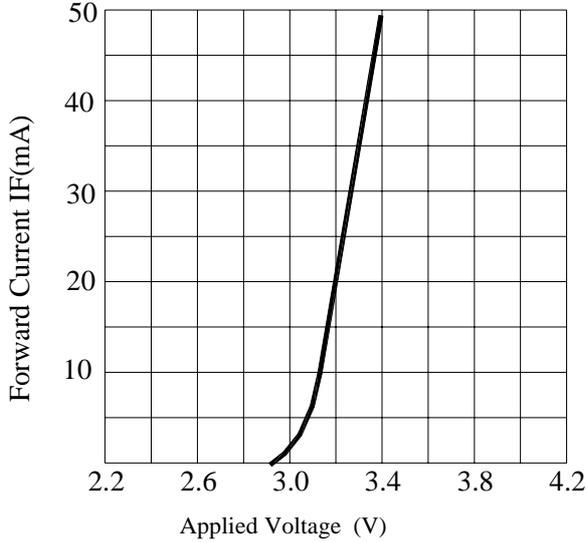
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	550	950		mcd
Forward Voltage	V _f	I _f =20mA		3.2	4.0	V
Dominant Wavelength	λ _d	I _f =20mA	465	470	475	nm
Reverse (Leakage) Current	I _r	V _r =5V			50	μA
Viewing Angle	Vertical	2 1/2	I _f =20mA	35		deg
	Horizontal	2 1/2	I _f =20mA	55		
Spectrum Line Halfwidth	Δλ	I _f =20mA		26		nm

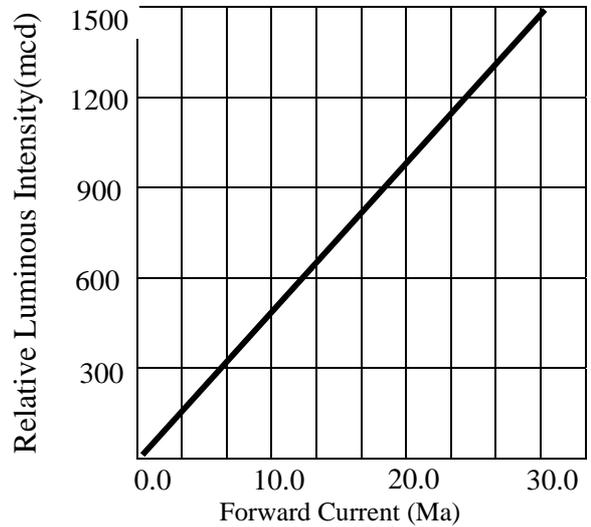
Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

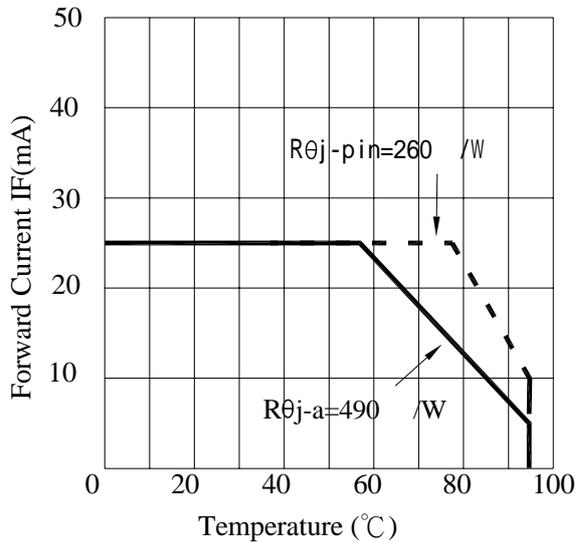
Typical Electrical / Optical Characteristics Curves :



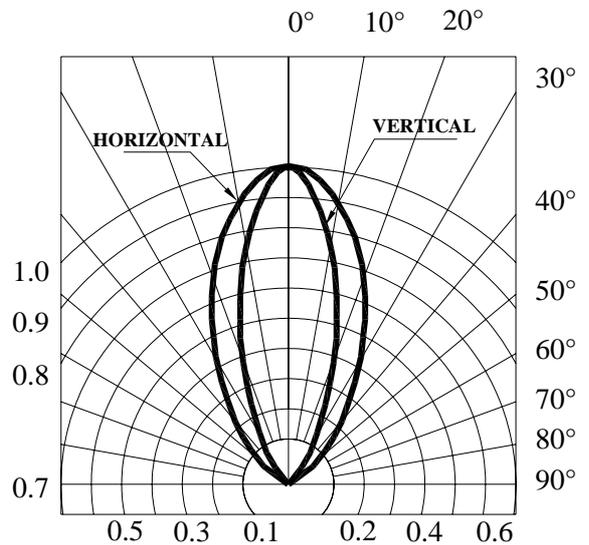
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
R	550	770
S	770	1100
T	1100	1520

Specifications for Vf Group:

Vf(V)		
Group	MIN.	MAX.
V6	2.6	2.8
V7	2.8	3.0
V8	3.0	3.2
V9	3.2	3.4
V10	3.4	3.6
V11	3.6	3.8
V12	3.8	4.0

*Majority VF bins are highlighted in Yellow.

Specifications for Wavelength Group:

D(nm) @20mA		
Group	MIN.	MAX.
X4	465	470
X5	470	475

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 60 seconds

Solder bath: 260±5 (Solder temperature), Within 5 seconds

(3) Soldering iron : 350 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

PART NO. : MT5470-UG

5.2×4.6mm OVAL LED LAMP

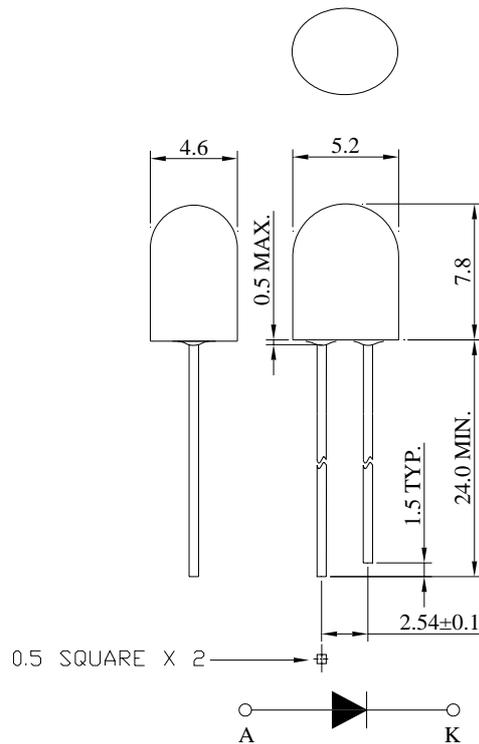


ATTENTION

**OBSERVE PRECAUTION
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES**

Description

This true green lamp is made with InGaN/Sapphire chip and green diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT5470-UG	InGaN/Sapphire	True green	Green diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	100	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	25	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-40 to +95	
Storage Temperature Range	T _{stg.}	-40 to +100	
Soldering Temperature(1.6mm from body)	T _{sol.}	Dip Soldering : 260 for 5 sec. Hand Soldering : 350 for 3 sec.	
Electrostatic discharge	ESD.	6000	V

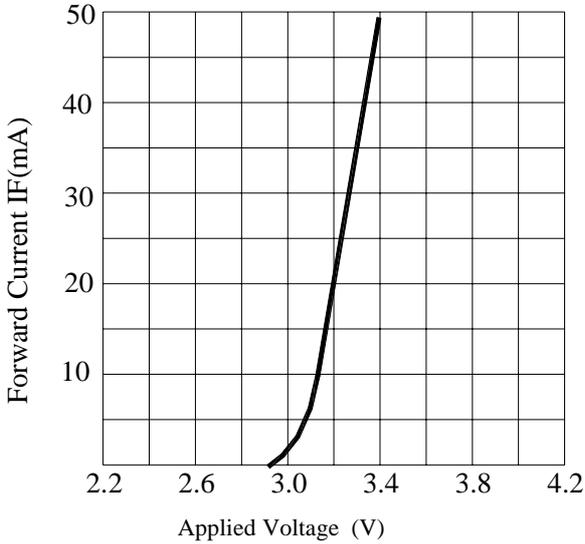
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	1520	2800		mcd
Forward Voltage	V _f	I _f =20mA		3.2	4.0	V
Dominant Wavelength	λ _d	I _f =20mA	520	525	535	nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	Vertical	2 1/2	I _f =20mA	35		deg
	Horizontal	2 1/2	I _f =20mA	55		
Spectrum Line Halfwidth	Δλ	I _f =20mA		35		nm

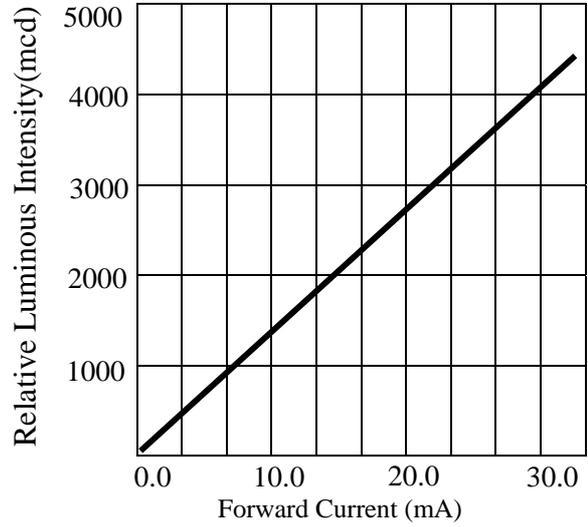
Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

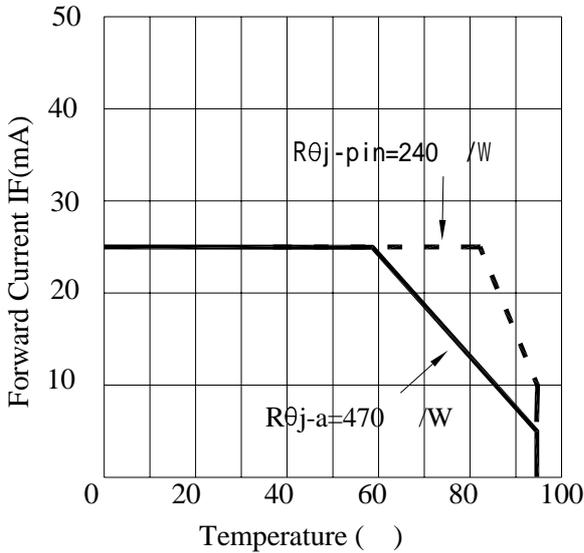
Typical Electrical / Optical Characteristics Curves :



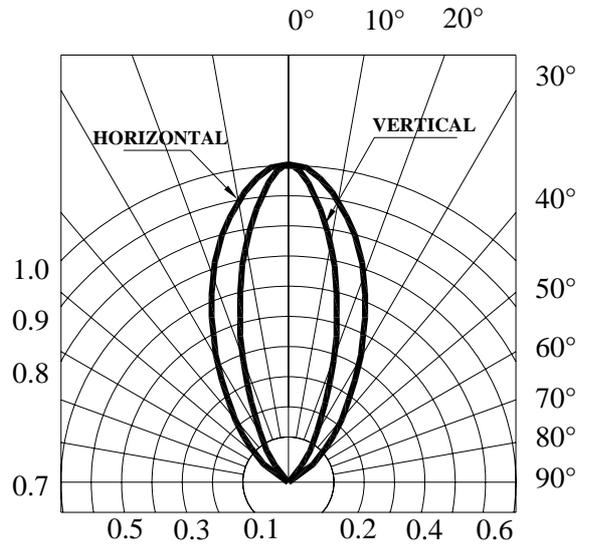
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
U	1520	2130
V	2130	3000
W	3000	4180

Specifications for Vf Group:

Vf(V)		
Group	MIN.	MAX.
V6	2.6	2.8
V7	2.8	3.0
V8	3.0	3.2
V9	3.2	3.4
V10	3.4	3.6
V11	3.6	3.8
V12	3.8	4.0

*Majority VF bins are highlighted in Yellow.

Specifications for Wavelength Group:

D(nm) @20mA		
Group	MIN.	MAX.
X7	520	525
X8	525	530
X9	530	535

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 60 seconds

Solder bath: 260±5 (Solder temperature), Within 5 seconds

(3) Soldering iron : 350 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

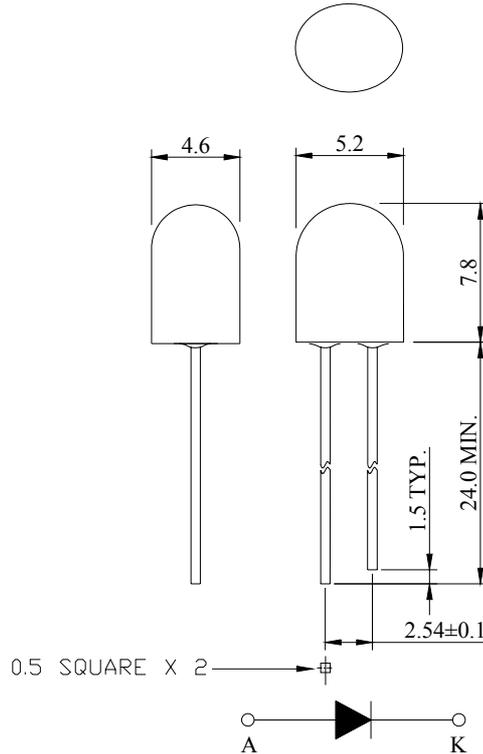
PART NO. : MT5470A-LWT

5.2x4.6mm OVAL LED LAMP



Description

This white lamp is made with InGaN/Sapphire chip and water clear epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT5470A-LWT	InGaN/Sapphire	White	Water clear

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	108	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	50	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	
Storage Temperature Range	T _{stg.}	-40 to +100	
Soldering Temperature(1.6mm from body)	T _{sol.}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	
Electrostatic discharge	ESD.	6000	V

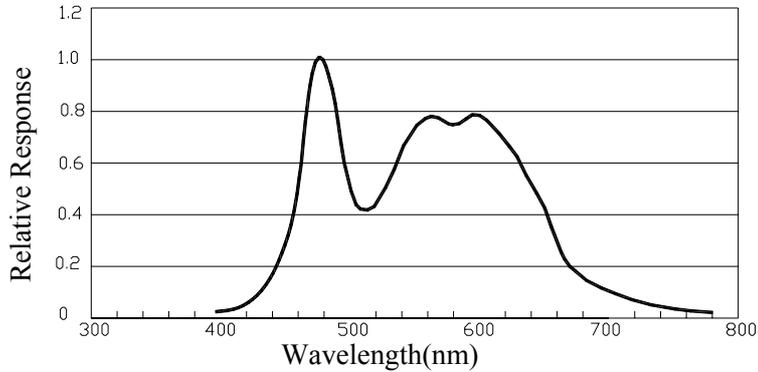
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	2130		5860	mcd
Forward Voltage	V _f	I _f =20mA	3.0		3.6	V
Correlated Colour Temperature	CCT	I _f =20mA	4500		5500	°K
Reverse (Leakage) Current	I _r	V _r =5V			50	μA
Viewing Angle	VERTICAL	2 1/2	I _f =20mA		40	deg
	HORIZONTAL	2 1/2	I _f =20mA		70	

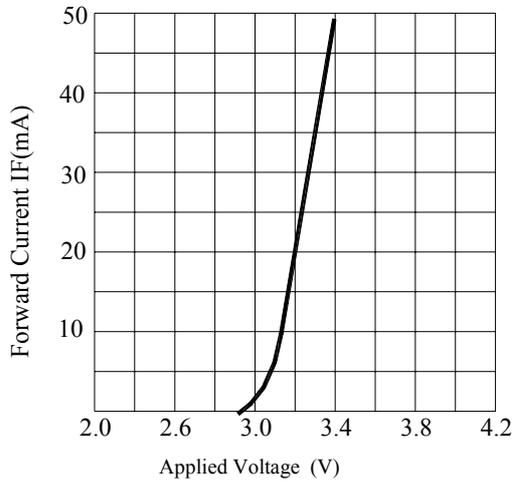
Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

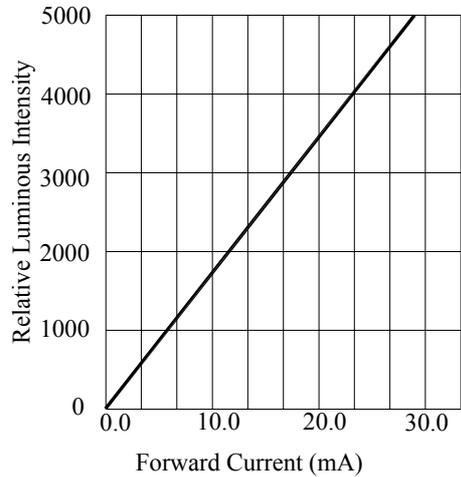
Typical Electrical / Optical Characteristics Curves :



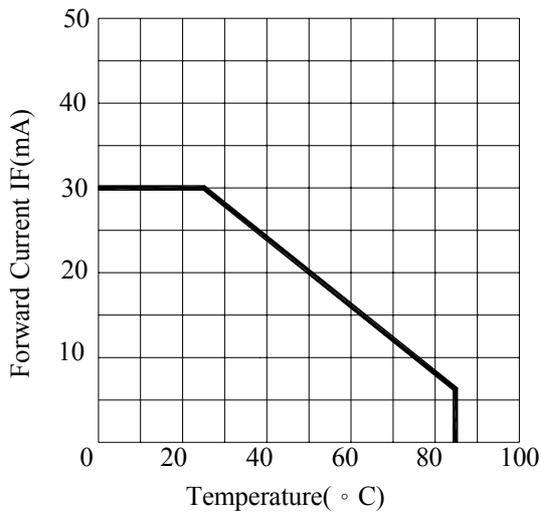
WHITE LED SPECTRUM VS. WAVELENGTH



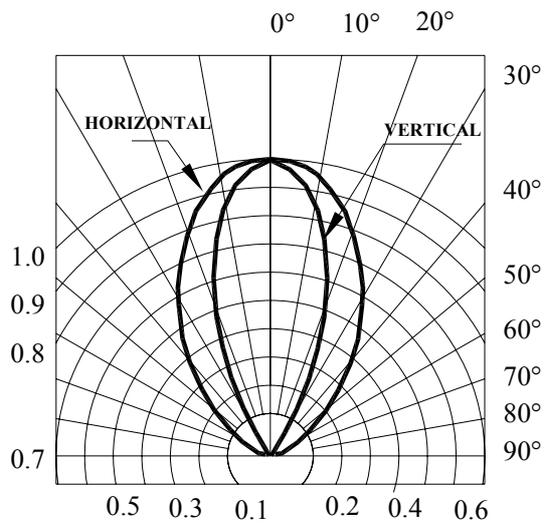
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
V	2130	3000
W	3000	4180
X	4180	5860

Specifications for Vf Group:

Vf(V)		
Group	MIN.	MAX.
V8	3.0	3.2
V9	3.2	3.4
V10	3.4	3.6

Specifications for Colour Temperature Group:

CCT (°K) @20mA	
MIN.	MAX.
4500	4750
4750	5000
5000	5250
5250	5500

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 °C.

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90 °C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260± 5 °C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350 °C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 °C max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

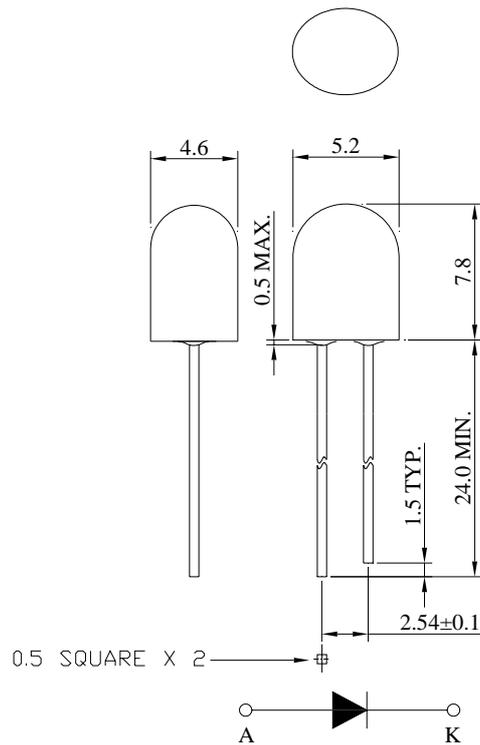
PART NO. : MT7672F -UY

5.2×4.6mm OVAL LED LAMP



Description

This yellow lamp is made with AlGaInP/GaP chip and yellow diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
O V7692F/W _l	AlGaInP/GaP	Yellow	Yellow diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	130	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	50	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	200	mA
Operating Temperature Range	T _{opr}	-40 to +95	
Storage Temperature Range	T _{stg}	-40 to +100	
Soldering Temperature(1.6mm from body)	T _{sol}	Dip Soldering : 260 Hand Soldering : 350	for 5 sec. for 3 sec.

Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	1520	2000		mcd
Forward Voltage	V _f	I _f =20mA		2.1	2.6	V
Peak Wavelength	λ _p	I _f =20mA		591		nm
Dominant Wavelength	λ _d	I _f =20mA	584	589	593	nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	VERTICAL	2 1/2	I _f =20mA		40	deg
	HORIZONTAL	2 1/2	I _f =20mA		70	
Spectrum Line Halfwidth	Δλ	I _f =20mA		15		nm

Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
U	1520	2130
V	2130	3000

Specifications for Vf Group:

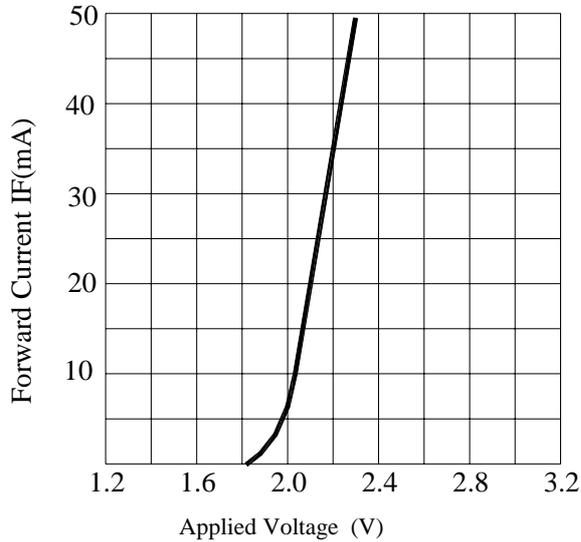
Vf(V)		
Group	MIN.	MAX.
V1	1.6	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4
V5	2.4	2.6

***Majority VF bins are highlighted in Yellow.**

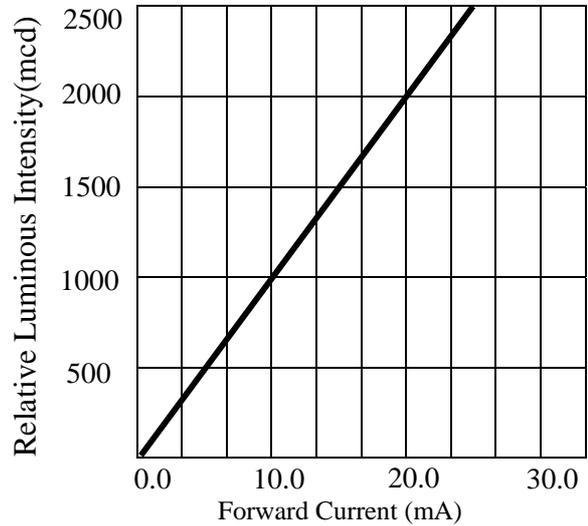
Specifications for Wavelength Group:

d(nm)		
Group	MIN.	MAX.
X2	584	587
X3	587	590
X4	590	593

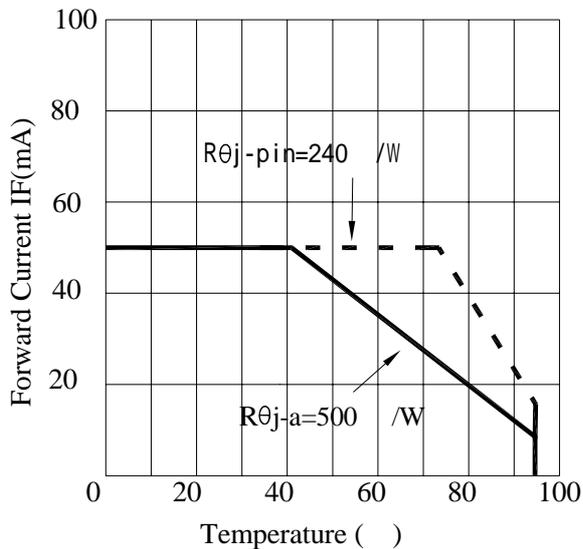
Typical Electrical / Optical Characteristics Curves :



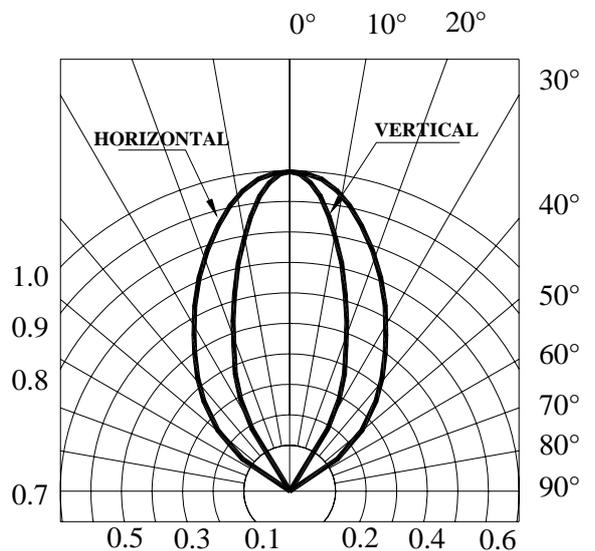
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90 max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5 (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350 max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

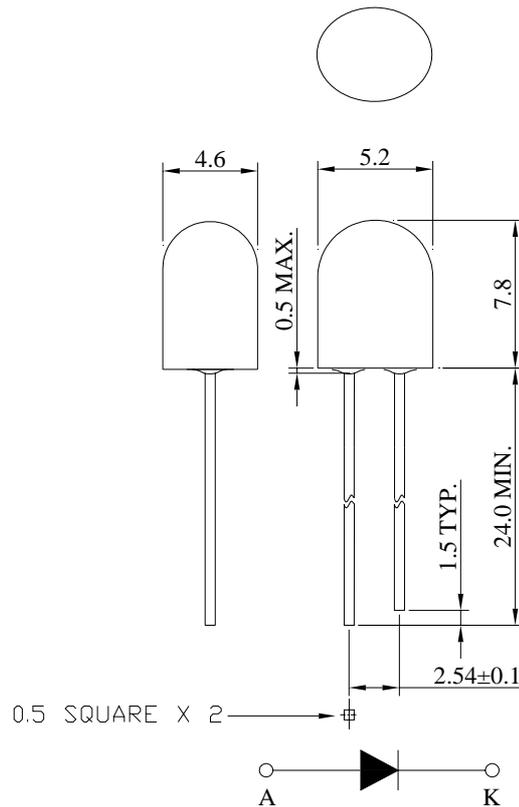
PART NO. : O T7692G-QT

5.2×4.6mm OVAL LED LAMP



Description

This amber lamp is made with AlGaInP/GaAs chip and white diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ±0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
O V7692G/QT	AlGaInP/GaAs	Amber	White diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	125	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	50	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	200	mA
Operating Temperature Range	T _{opr.}	-40 to +95	
Storage Temperature Range	T _{stg.}	-40 to +100	
Soldering Temperature(1.6mm from body)	T _{sol.}	Dip Soldering : 260 for 5 sec. Hand Soldering : 350 for 3 sec.	

Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	2130	3000		mcd
Forward Voltage	V _f	I _f =20mA		2.1	2.6	V
Peak Wavelength	λ _p	I _f =20mA		610		nm
Dominant Wavelength	λ _d	I _f =20mA	600	605	609	nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	VERTICAL	2 1/2	I _f =20mA		40	deg
	HORIZONTAL	2 1/2	I _f =20mA		60	
Spectrum Line Halfwidth	Δλ	I _f =20mA		17		nm

Notes: 1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
V	2130	3000
W	3000	4180
X	4180	5860

Specifications for Vf Group:

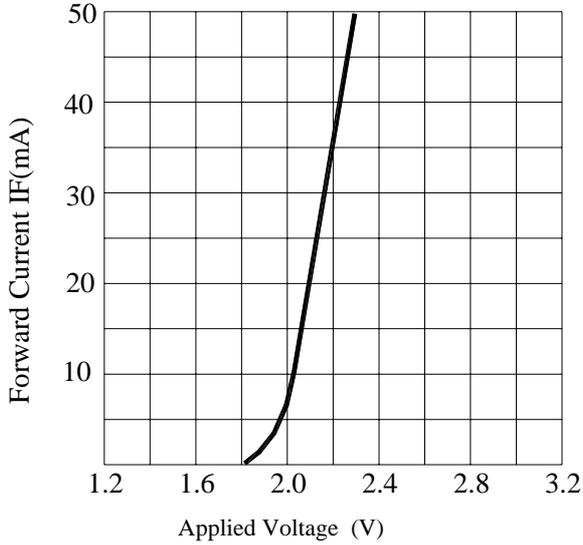
Vf(V)		
Group	MIN.	MAX.
V1	1.6	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4
V5	2.4	2.6

***Majority VF bins are highlighted in Yellow.**

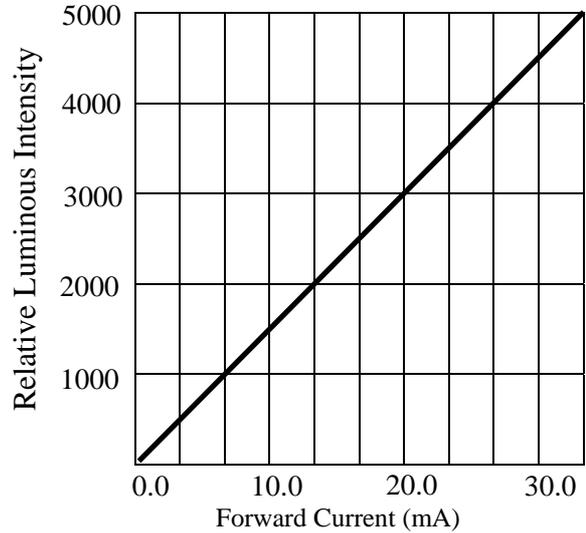
Specifications for Wavelength Group:

d(nm)		
Group	MIN.	MAX.
X2	600	603
X3	603	606
X4	606	609

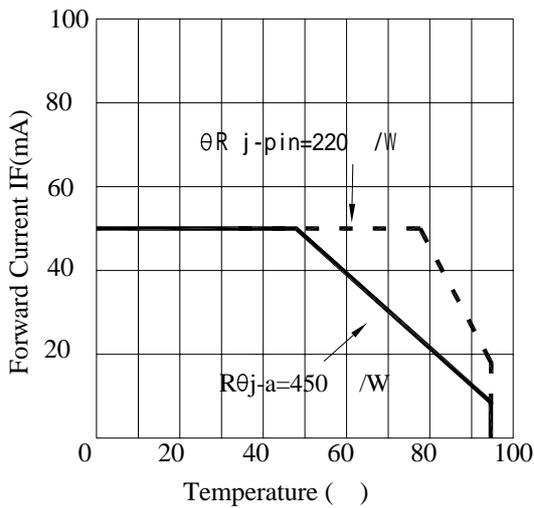
Typical Electrical / Optical Characteristics Curves :



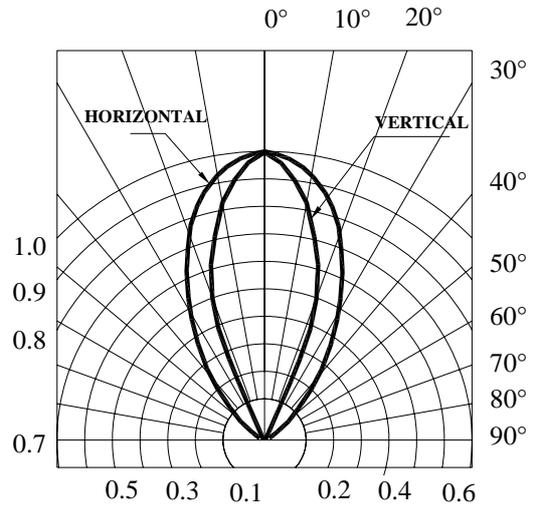
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90 max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5 (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350 max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

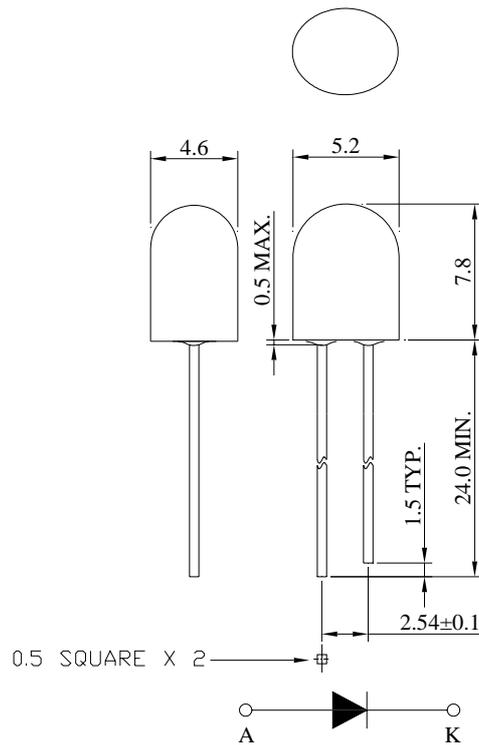
PART NO. : O T7692G-WT

5.2×4.6mm OVAL LED LAMP



Description

This hyper red lamp is made with AlGaInP/GaP chip and red diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
O V7692G/WT	AlGaInP/GaP	Hyper red	Red diffused

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	130	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	50	mA
Reverse (Leakage) Current	Ir	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	200	mA
Operating Temperature Range	Topr	-40to +95	
Storage Temperature Range	Tstg	-40 to +100	
Soldering Temperature(1.6mm from body)	Tsol	Dip Soldering : 260 for 5 sec. Hand Soldering : 350 for 3 sec.	

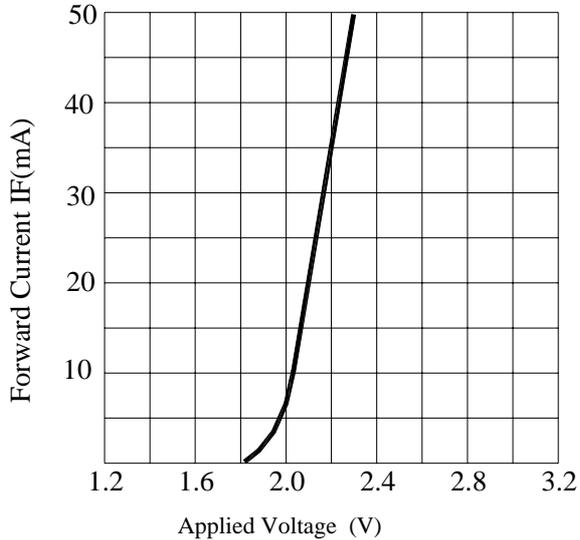
Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	2130	2300		mcd
Forward Voltage	Vf	If=20mA	1.8		2.4	V
Peak Wavelength	λp	If=20mA		632		nm
Dominant Wavelength	λd	If=20mA	618	625	630	nm
Reverse (Leakage) Current	Ir	Vr=5V			100	μA
Viewing Angle	Vertical	2 1/2	If=20mA		40	deg
	Horizontal	2 1/2	If=20mA		70	
Spectrum Line Halfwidth	Δλ	If=20mA		20		nm

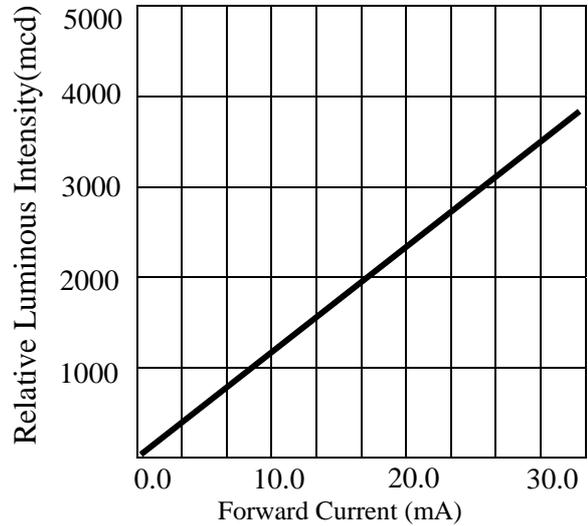
Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

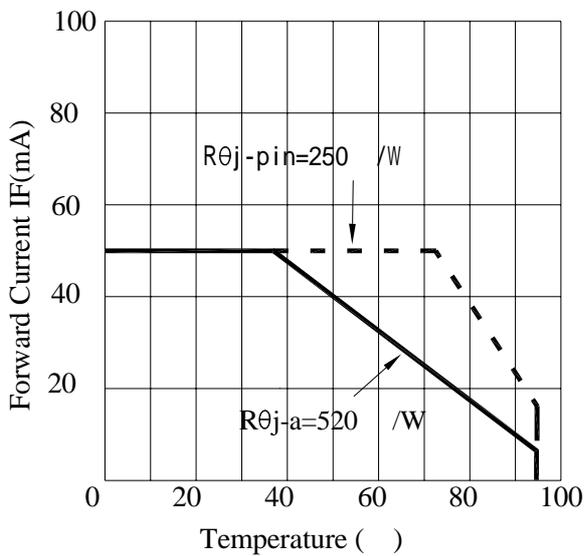
Typical Electrical / Optical Characteristics Curves :



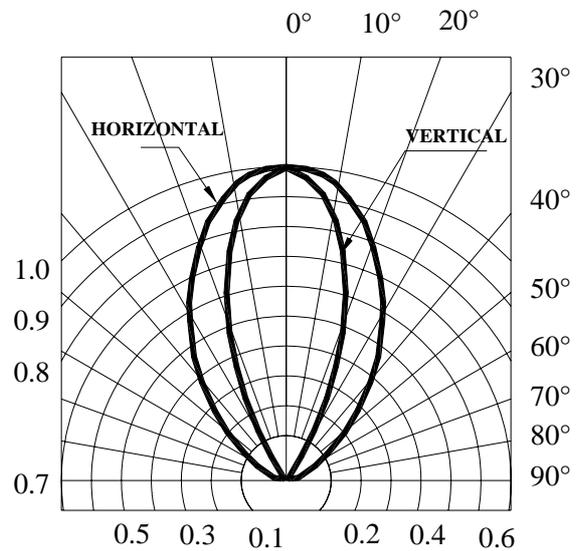
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	MIN.	MAX.
V	2130	3000
W	3000	4180

Specifications for Vf Group:

Vf(V)		
Group	MIN.	MAX.
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90 max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5 (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350 max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds.

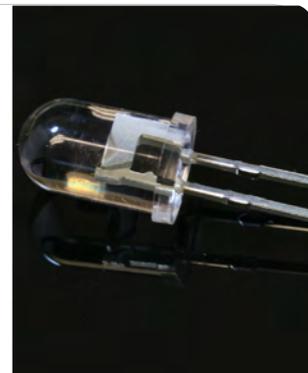
If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Peak Emission Wavelength: 507nm

The MT5505-BG-15 is a blue green T 1 3/4, 5mm water clear LED designed for applications requiring high Brightness and high reliability in a narrow angle package.

FEATURES

- > Super Bright LED Lamp
- > High Luminous Intensity
- > Narrow Beam Angle
- > Emitted Color: Blue Green



Absolute Maximum Ratings (Ta=25°C)

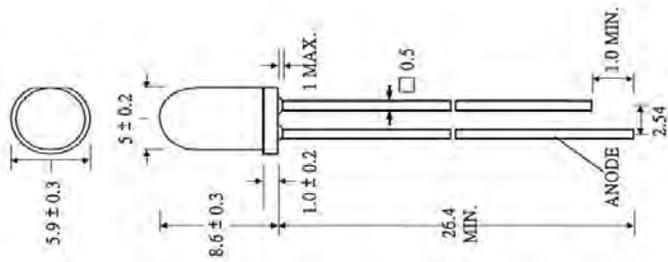


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Peak)*1	IFP	100	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-40 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

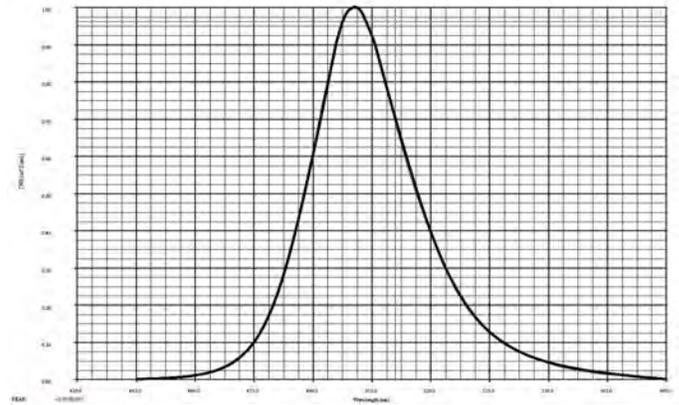
*1: 1/10 Duty cycle @ 1KHz. *2: Time 3 Sec, 1.6mm from case.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	3.2	3.8	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	507	--	nm
Dominant Wavelength	λd	IF=20mA	--	505	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	30	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	15	--	deg
Luminous Intensity	Iv	IF=20mA	5600	8500	--	mcd



Spectral Response

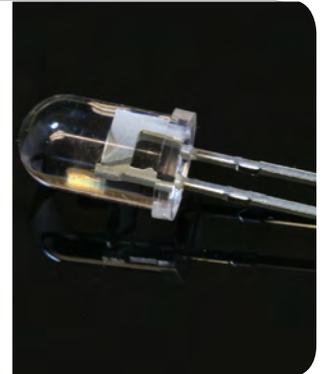


Peak Emission Wavelength: 507nm

The MT5505-BG-30 is a blue green T 1 3/4, 5mm water clear LED designed for applications requiring high Brightness and high reliability in a narrow angle package.

FEATURES

- > Super Bright LED Lamp
- > High Luminous Intensity
- > Narrow Beam Angle
- > Emitted Color: Blue Green



Absolute Maximum Ratings (Ta=25°C)

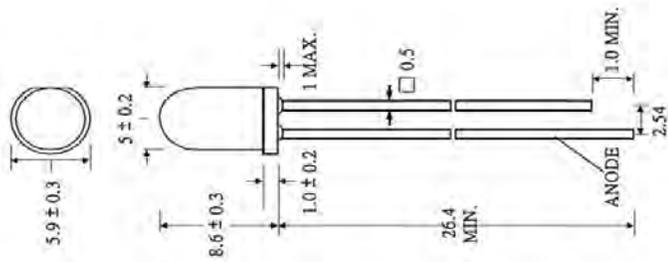


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Peak)*1	IFP	100	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-40 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

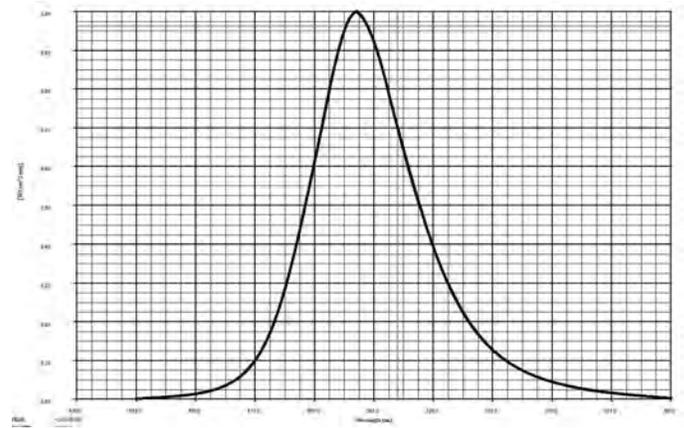
*1: 1/10 Duty cycle @ 1KHz. *2: Time 3 Sec, 1.6mm from case.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	3.2	3.8	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	507	--	nm
Dominant Wavelength	λd	IF=20mA	--	505	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	30	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	30	--	deg
Luminous Intensity	Iv	IF=20mA	10000	15000	--	mcd



Spectral Response





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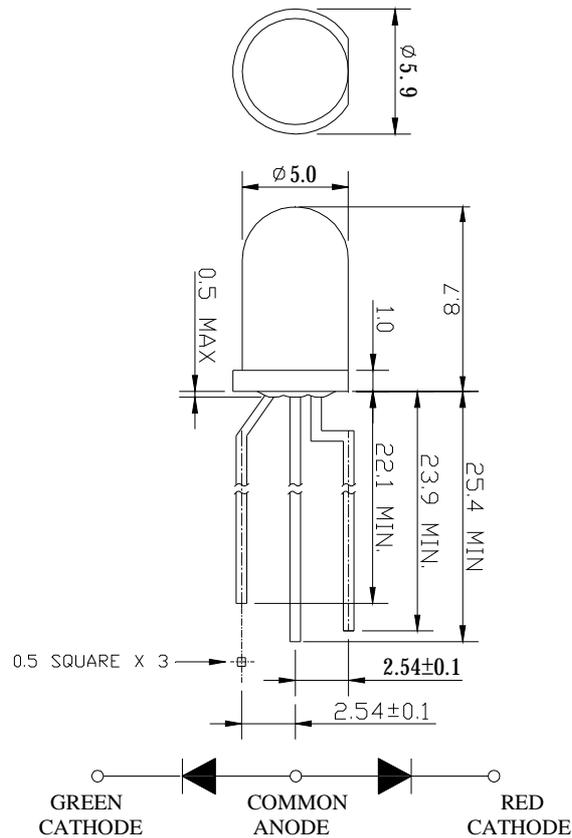
PART NO. : MT6224B-AHRG-A

5.0mm ROUND BI-COLOR LAMP(3LEADS)



Description

This deep red and yellow green bi-color lamp is made with AlGaInP/GaAs red chip, AlGaInP/GaAs green chip and white diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT6224B-AHRG-A	AlGaInP/GaAs	Deep red	White diffused
	AlGaInP/GaAs	Yellow green	

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating		Unit
		R	G	
Power Dissipation	PD	R	72	mW
		G	72	
Reverse Voltage	V _R	5		V
D.C. Forward Current	I _f	30		mA
Reverse (Leakage) Current	I _r	100		μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100		mA
Operating Temperature Range	T _{opr}	-25 to +85		°C
Storage Temperature Range	T _{stg}	-40 to +100		°C
Soldering Temperature(1.6mm from body)	T _{sol}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.		

Electrical and Optical Characteristics:

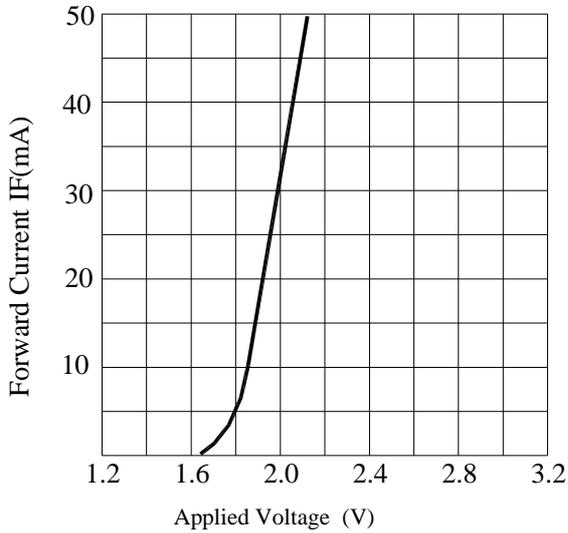
Parameter	Symbol	Condition	Color	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	R	9.09	20.0		mcd
			G	9.09	20.0		
Forward Voltage	V _f	I _f =20mA	R		1.9	2.4	V
			G		1.9	2.4	
Peak Wavelength	λ _p	I _f =20mA	R		650		nm
			G		573		
Dominant Wavelength	λ _d	I _f =20mA	R		639		nm
			G		570		
Reverse (Leakage) Current	I _r	V _r =5V				100	μA
Viewing Angle	2θ 1/2	I _f =20mA			70		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA	R		20		nm
			G		20		

Notes: 1.Tolerance of Luminous Intensity is ±15%.

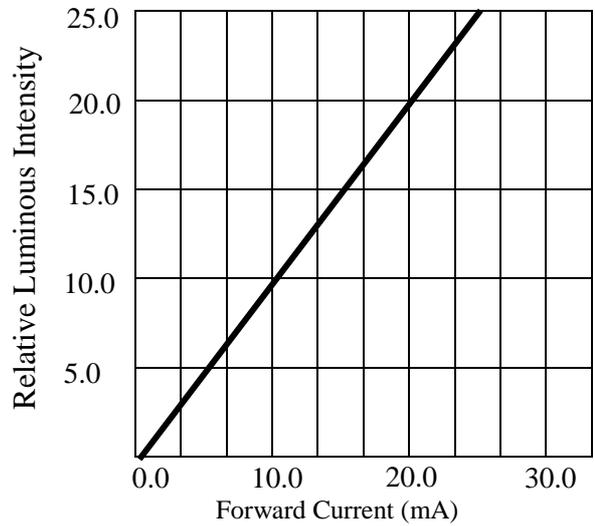
2.Tolerance of Forward Voltage is ±0.1V.

3.Tolerance of Dominant Wavelength is ±1nm.

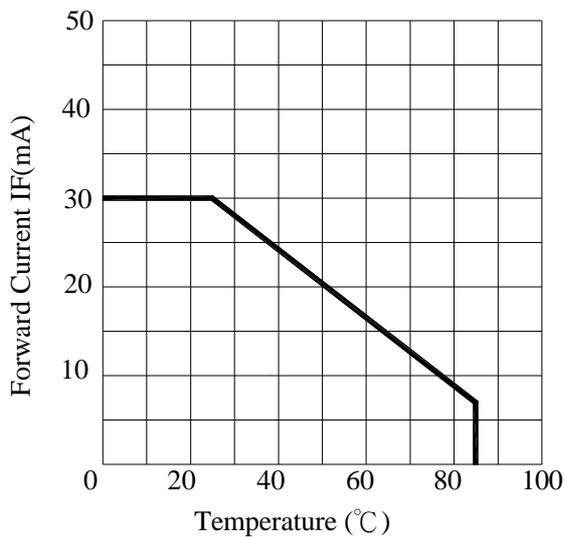
Typical Electrical / Optical Characteristics Curves :



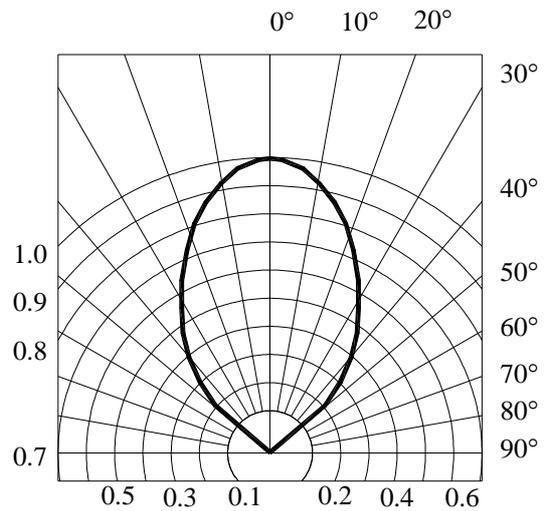
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin. Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use. Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C. At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened. If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoided applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

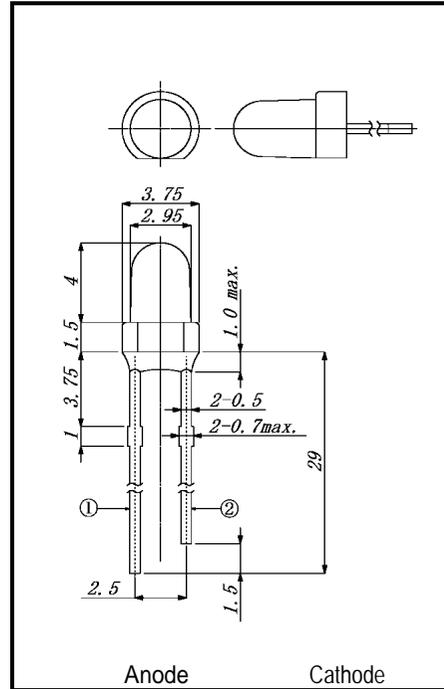
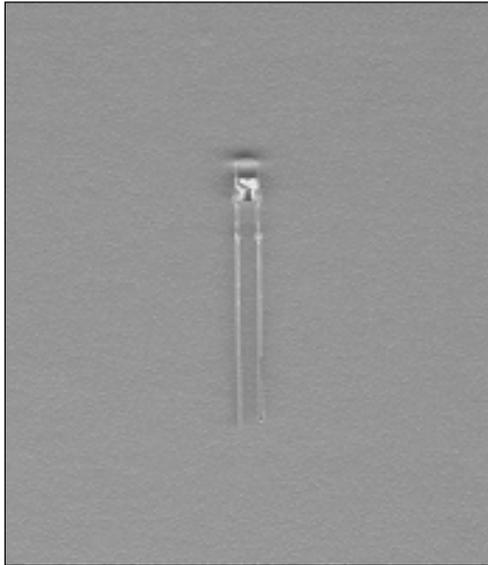
Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds. If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Disclaimer

1. Our department reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets our department published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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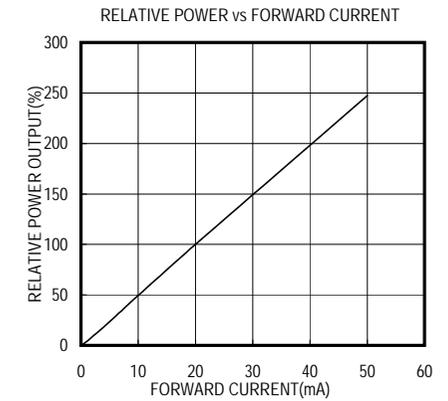
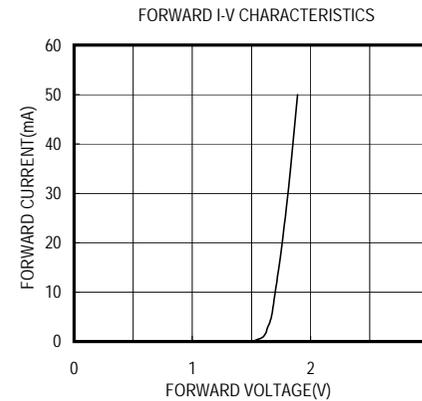
This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.



- FEATURES**
- High-output Power
 - Compact
 - High Reliability
- APPLICATIONS**
- Optical Switches
 - Optical Sensors

2. ELECTRICAL & OPTICAL CHARACTERISTICS (Ta=25 °C)

ITEM	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA		5.5		mW
Luminous Intensity	Iv	IF=20mA		300		mcd
Forward Voltage	VF	IF=20mA		1.8	2.2	V
Reverse Current	IR	VR=5V			100	μA
Peak Wavelength	λp	IF=20mA		660		nm
Spectral Line Half Width		IF=20mA		25		nm
Half Intensity Beam Angle		IF=20mA		±14		deg.

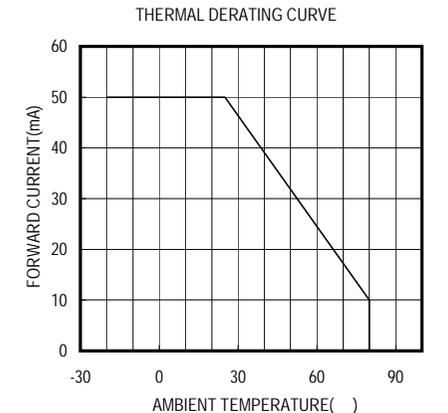
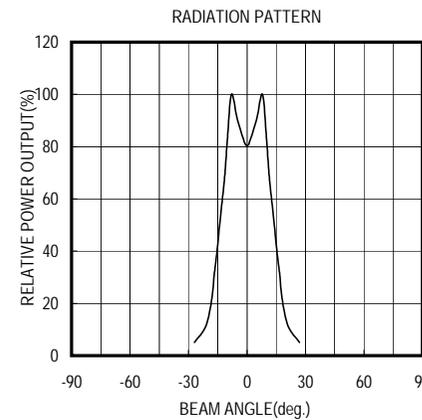
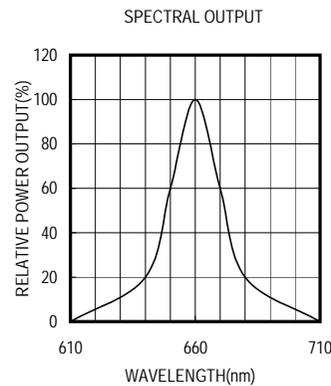


1. ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)

ITEM	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temp.	Topr	-20 TO 80	
Storage Temp.	Tstg	-30 TO 100	
Junction Temp.	Tj	100	
Lead Soldering Temp.*2	Tls	260	

*1: Tw=10uS, T=10mS

*2: Time 5 Sec max, Position: Up to 3mm from the body



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SPECIFICATION

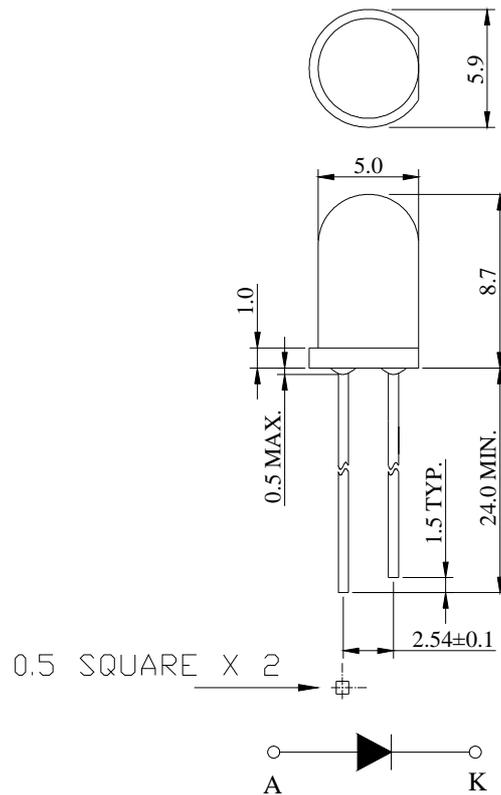
PART NO. : MT7118B-UR-A

5.0mm ROUND LED LAMP



Description

This super red lamp is made with AlGaInP chip and red diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT7118B-UR-A	AlGaInP	Super red	Red diffused

Absolute Maximum Ratings at Ta=25°C

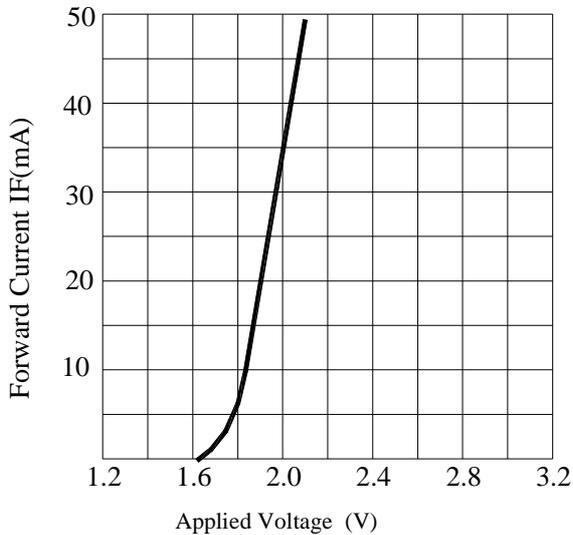
Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	72	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	°C
Storage Temperature Range	T _{stg.}	-40 to +100	°C
Soldering Temperature(1.6mm from body)	T _{sol.}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

Electrical and Optical Characteristics:

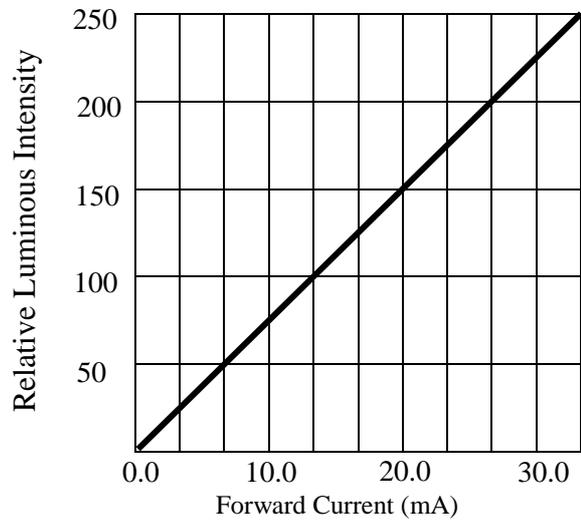
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	75.0	150		mcd
Forward Voltage	V _f	I _f =20mA		1.9	2.4	V
Peak Wavelength	λ _p	I _f =20mA		660		
Dominant Wavelength	λ _d	I _f =20mA		640		nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	2θ 1/2	I _f =20mA		35		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		20		nm

- Notes: 1. Tolerance of Luminous Intensity is ±15%
2. Tolerance of Forward Voltage is ±0.1V
3. Tolerance of Dominant Wavelength is ±1nm
4. Customer's special requirements are also welcome.

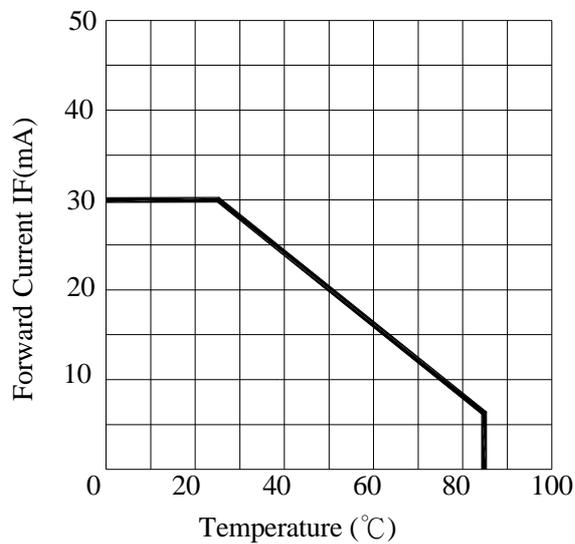
Typical Electrical / Optical Characteristics Curves :



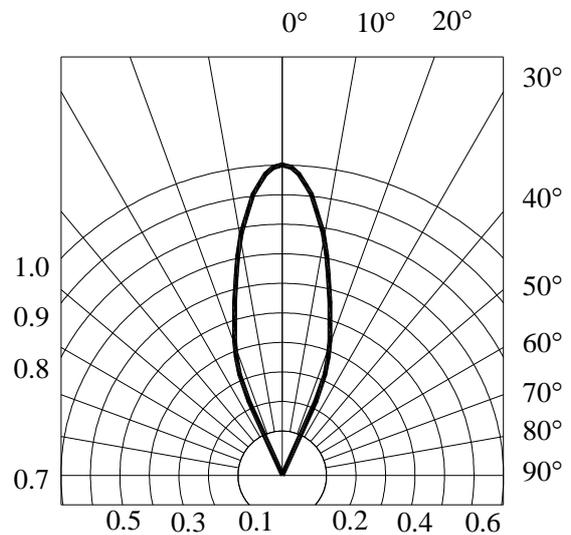
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin. Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use. Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C. At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened. If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds. If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Disclaimer

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SPECIFICATION

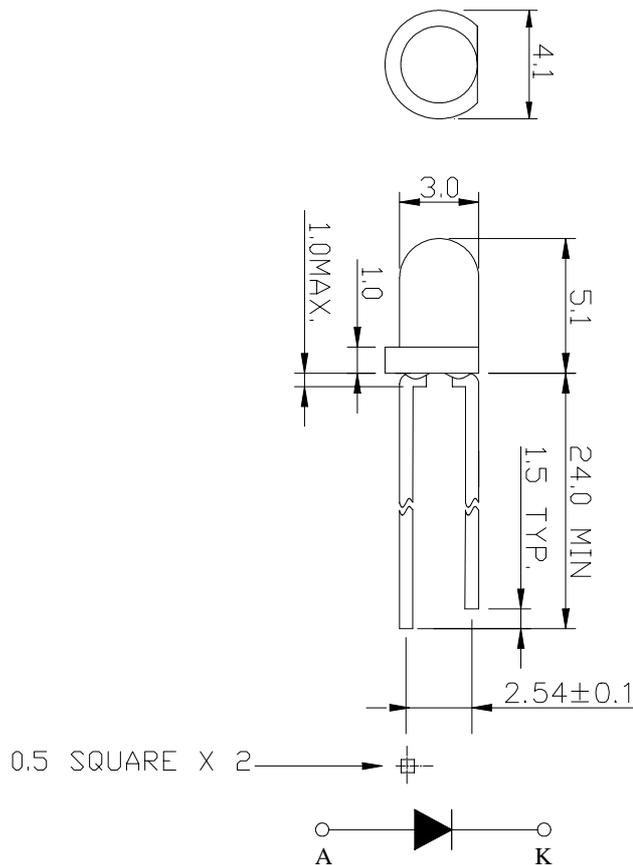
PART NO. : MT7303A-UR-A

3.0mm ROUND LED LAMP



Description

This super red lamp is made with AlGaAs/AlGaAs chip and water clear epoxy resin.



Notes:

1. ALL DIMENSIONS ARE IN mm.
2. TOLERANCE IS ± 0.25 mm UNLESS OTHERWISE NOTED.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT7303A-UR-A	AlGaAs/AlGaAs	Super red	Water clear

Absolute Maximum Ratings at Ta=25

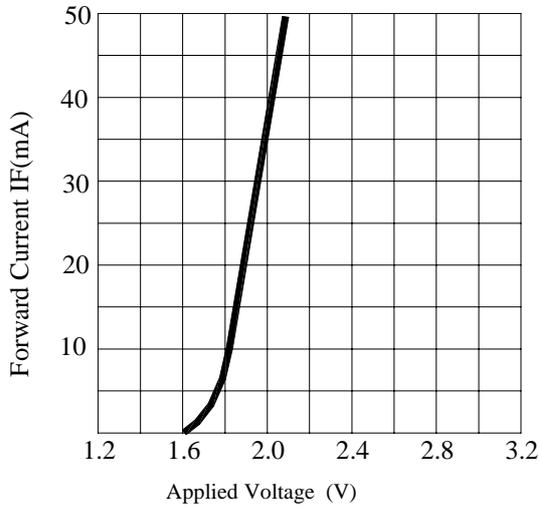
Parameter	Symbol	Rating	Unit
Power Dissipation	PD	72	mW
Reverse Voltage	VR	4	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μ A
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	
Storage Temperature Range	Tstg.	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds		260	

Electrical and Optical Characteristics:

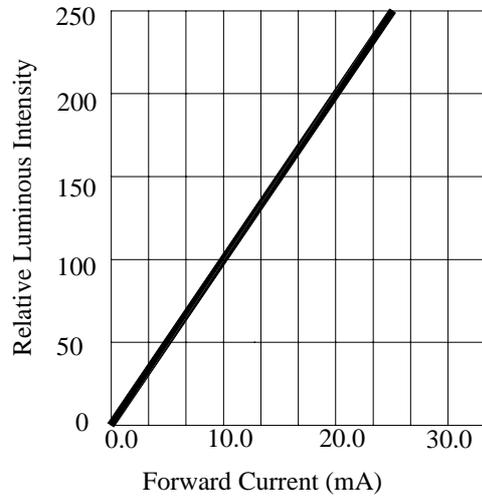
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	90.9	200		mcd
Forward Voltage	Vf	If=20mA		1.9	2.4	V
Peak Wavelength	λP	If=20mA		660		nm
Dominant Wavelength	λD	If=20mA		643		nm
Reverse (Leakage) Current	Ir	Vr=4V			50	μA
Viewing Angle	2 1/2	If=20mA		35		deg
Spectrum Line Halfwidth	Δλ	If=20mA		20		nm

NOTE: THE DATAS TESTED BY IS TESTER

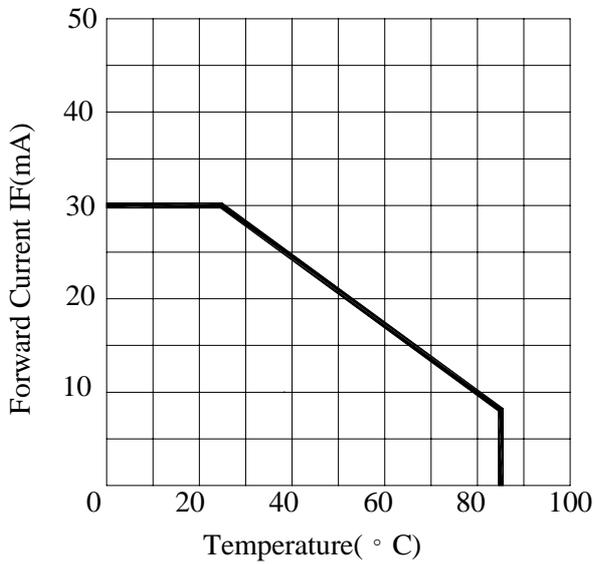
Typical Electrical / Optical Characteristics Curves :



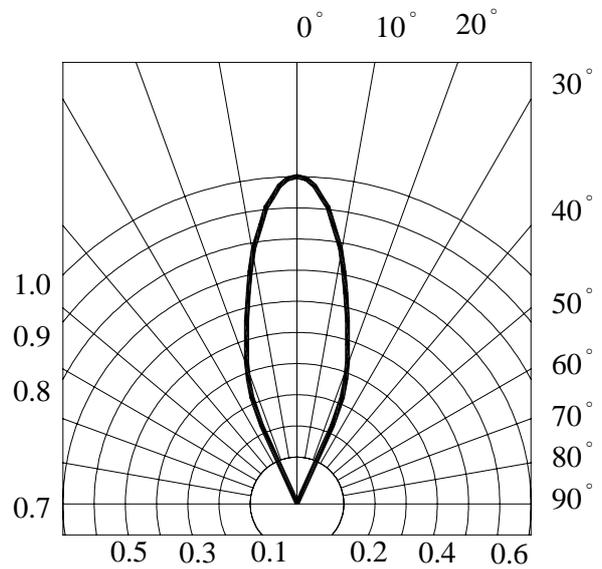
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 120 seconds

Solder bath: 250 max. (Solder temperature), Within 5 seconds

(3) Soldering iron : 250 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.



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SPECIFICATION

PART NO. : MT7318A-UR-A

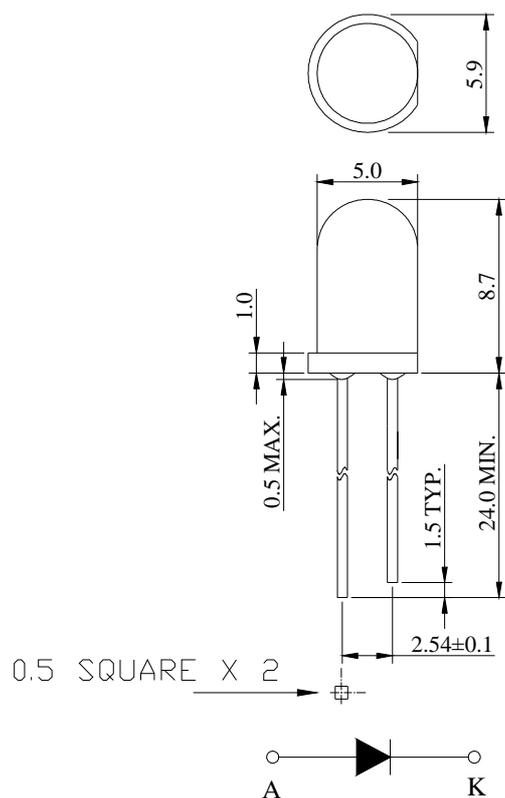
5.0mm OVAL LED LAMP



ATTENTION
OBSERVE PRECAUTION
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES

Description

This super red lamp is made with AlGaInP chip and water clear epoxy resin.



Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT7318A-UR-A	AlGaInP	Super red	Water clear

Absolute Maximum Ratings at Ta=25°C

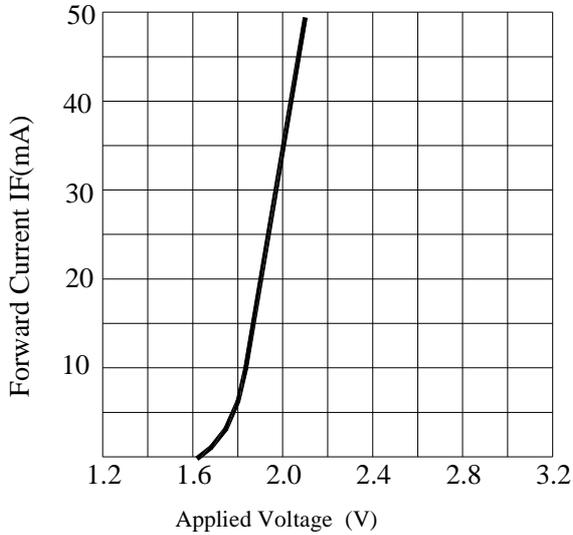
Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	72	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr.}	-25 to +85	°C
Storage Temperature Range	T _{stg.}	-40 to +100	°C
Soldering Temperature(1.6mm from body)	T _{sol.}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

Electrical and Optical Characteristics:

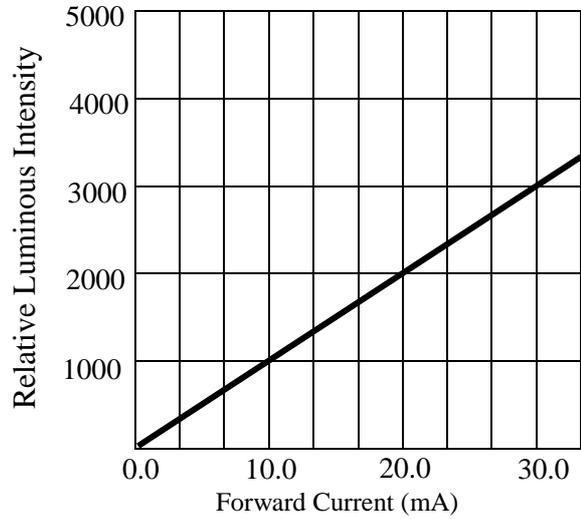
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	909	2000		mcd
Forward Voltage	V _f	I _f =20mA		1.9	2.4	V
Peak Wavelength	λ _p	I _f =20mA		660		
Dominant Wavelength	λ _d	I _f =20mA		640		nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	2θ 1/2	I _f =20mA		15		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		20		nm

- Notes: 1. Tolerance of Luminous Intensity is ±15%
 2. Tolerance of Forward Voltage is ±0.1V
 3. Tolerance of Dominant Wavelength is ±1nm
 4. Customer's special requirements are also welcome.

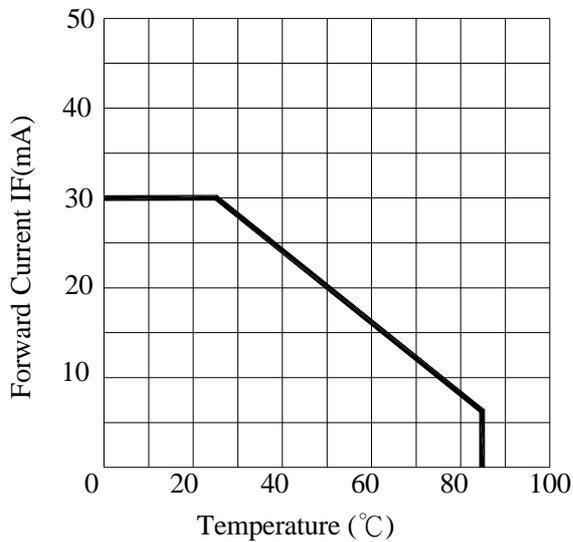
Typical Electrical / Optical Characteristics Curves :



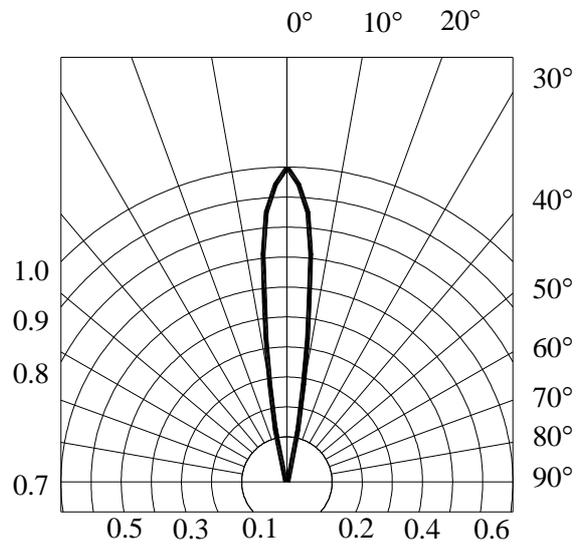
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin. Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use. Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C. At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened. If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds. If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Disclaimer

1. Our department reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets our department published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of our department. Reproduction in any form is prohibited without obtaining our department's prior consent.

This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.



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SPECIFICATION

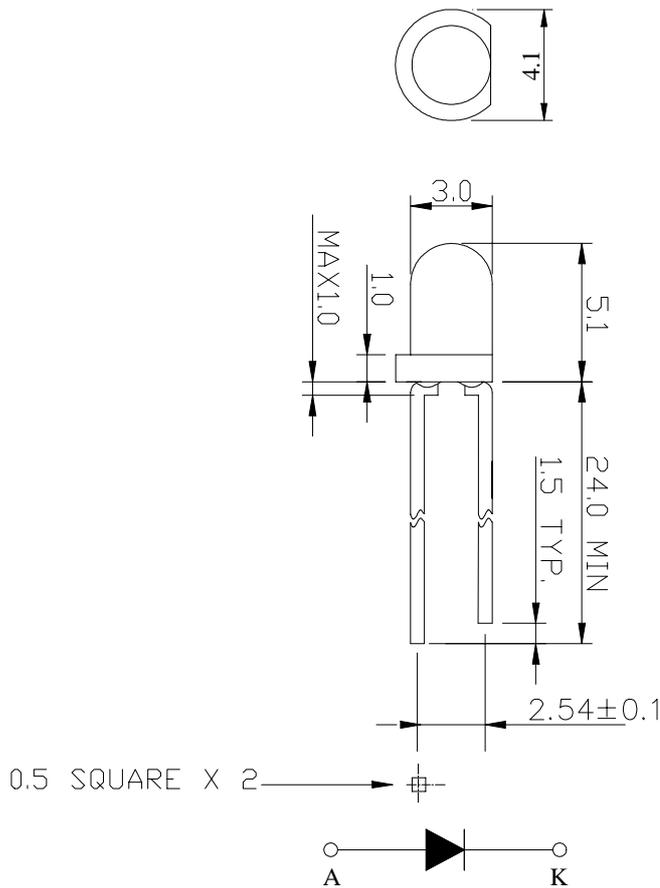
PART NO. : MT7403A-UR-A

3.0mm ROUND LED LAMP



Description

This super red lamp is made with AlGaAs/AlGaAs chip and red clear epoxy resin.



Notes:

- 1. ALL DIMENSIONS ARE IN mm.
- 2. TOLERANCE IS ± 0.25 mm UNLESS OTHERWISE NOTED.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT7403A-UR-A	AlGaAs/AlGaAs	Super red	Red clear

Absolute Maximum Ratings at Ta=25

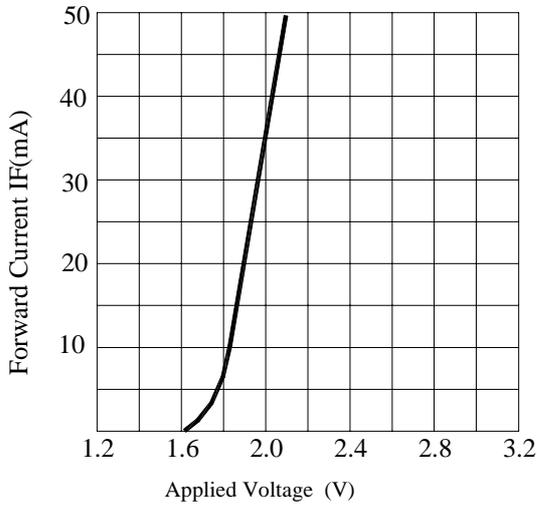
Parameter	Symbol	Rating	Unit
Power Dissipation	PD	72	mW
Reverse Voltage	VR	4	V
D.C. Forward Current	If	30	mA
Reverse (Leakage) Current	Ir	100	μ A
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	100	mA
Operating Temperature Range	Topr.	-25 to +85	
Storage Temperature Range	Tstg.	-40 to +100	
Lead Soldering Temp.(1.6mm from body) for 5 seconds	Tsol.	260	

Electrical and Optical Characteristics:

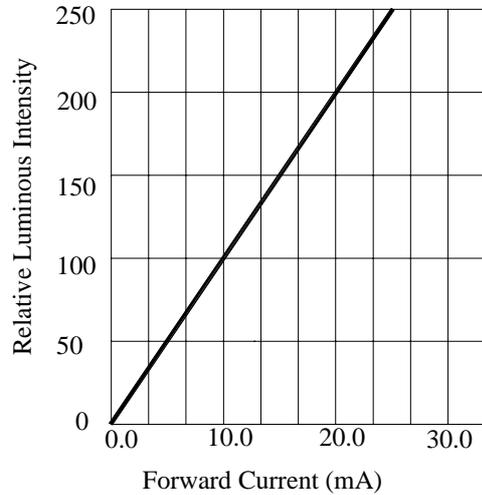
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	90.9	200		mcd
Forward Voltage	Vf	If=20mA		1.9	2.4	V
Peak Wavelength	λP	If=20mA		660		nm
Dominant Wavelength	λD	If=20mA		643		nm
Reverse (Leakage) Current	Ir	Vr=4V			50	μA
Viewing Angle	2 1/2	If=20mA		35		deg
Spectrum Line Halfwidth	Δλ	If=20mA		20		nm

NOTE: THE DATAS TESTED BY IS TESTER

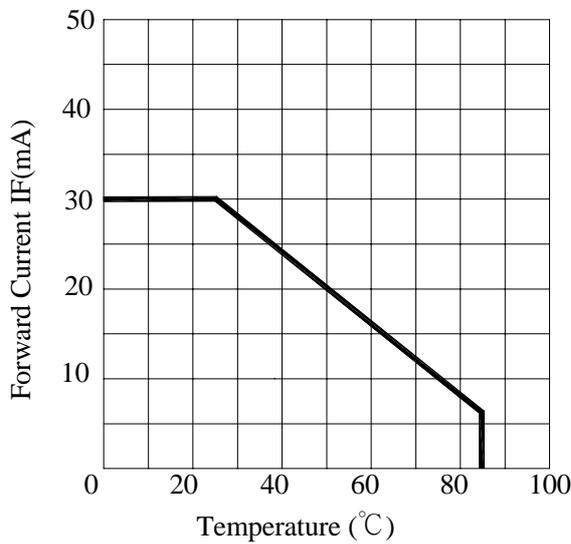
Typical Electrical / Optical Characteristics Curves :



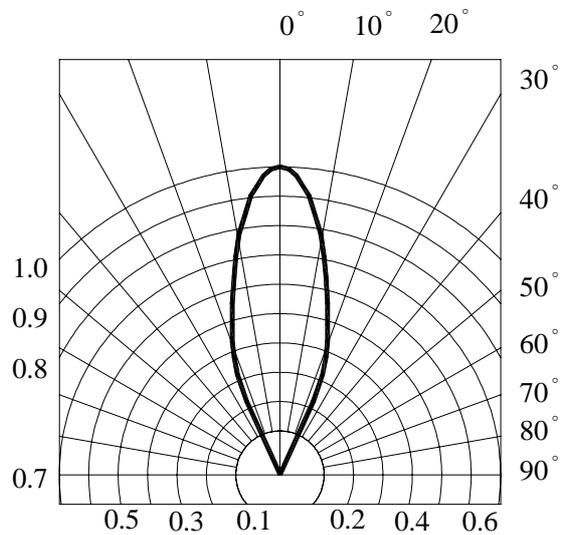
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Solder dip: Preheat: 90 max. (Backside of PCB), Within 60 seconds

Solder bath: 260±5 (Solder temperature), Within 5 seconds

(3) Soldering iron : 350 max. (Temperature of soldering iron tip), Within 3 seconds

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Peak Emission Wavelength: 740nm

The MTE1074W2-WRC is designed for applications requiring high output power and precise optical / mechanical axis alignment. Custom package solutions are available.

FEATURES

- > High Reliability
- > Wide Beam Angle
- > High Output Power

APPLICATIONS

- > Optical Sensors
- > Optical Switches
- > Medical Application



Absolute Maximum Ratings (Ta=25°C)

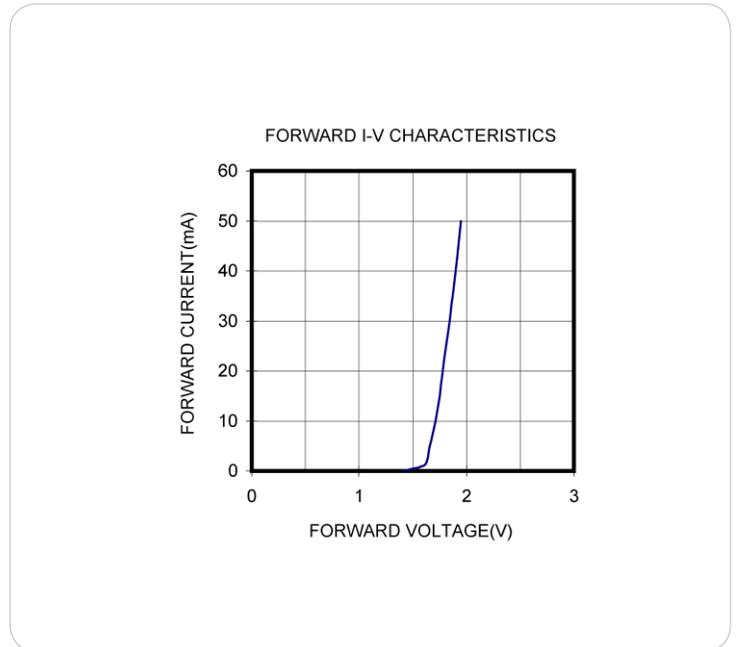
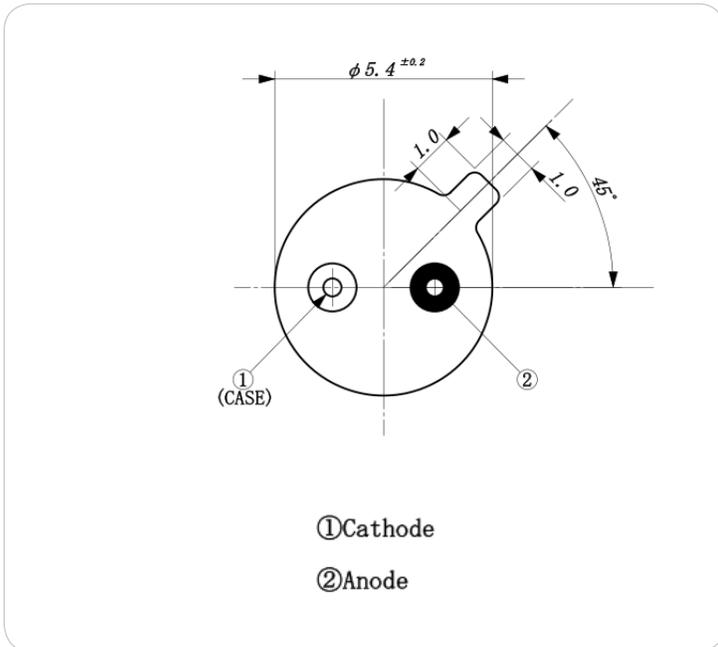
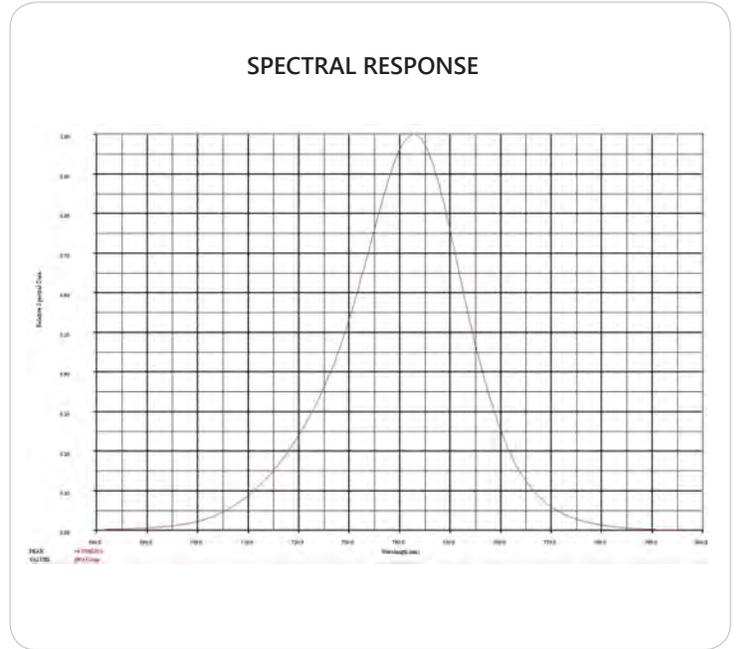
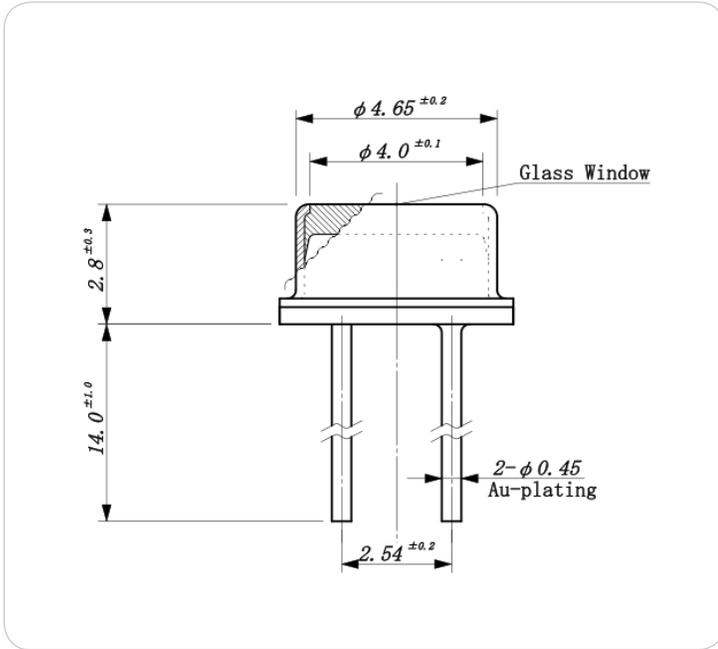


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

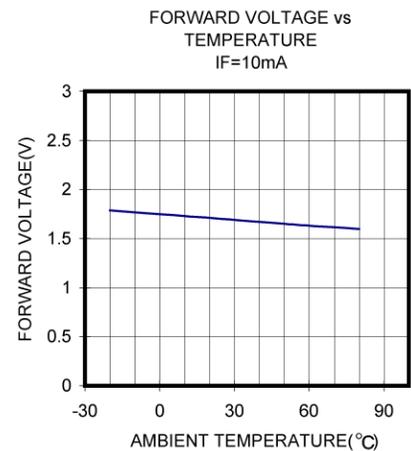
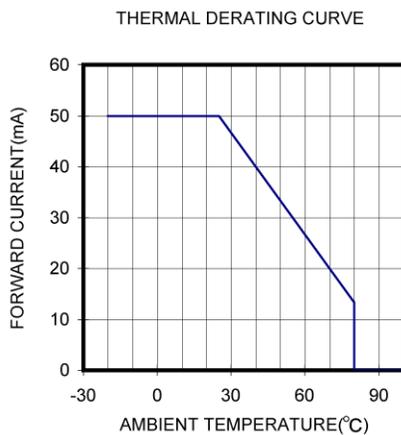
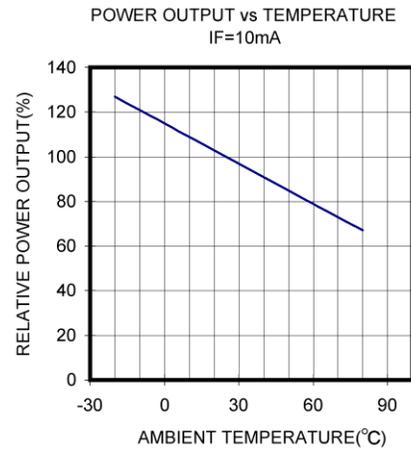
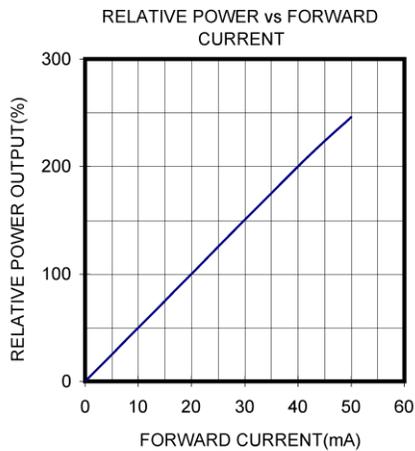
*1: Tw=10µsec, T=10msec; *2: Time 3 Sec max, Position: Up to 2mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	11	--	mW
Forward Voltage	VF	IF=20mA	--	1.9	--	V
Reverse Current	IR	VR=5V	--	--	100	µA
Peak Emission Wavelength	λp	IF=20mA	--	740	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	90	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	35	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.6	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.9	--	mV/°C



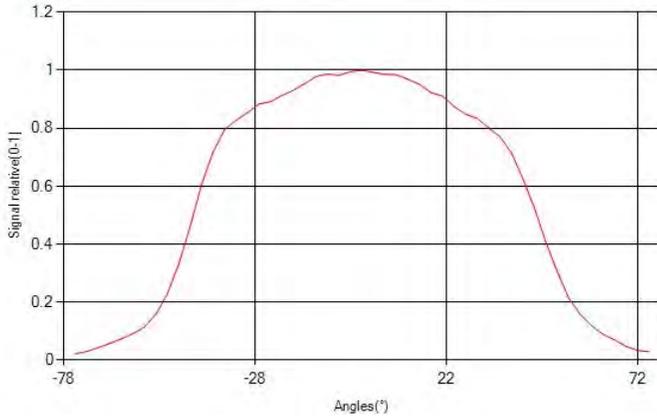
Unit: mm, Tolerance: ± 0.2



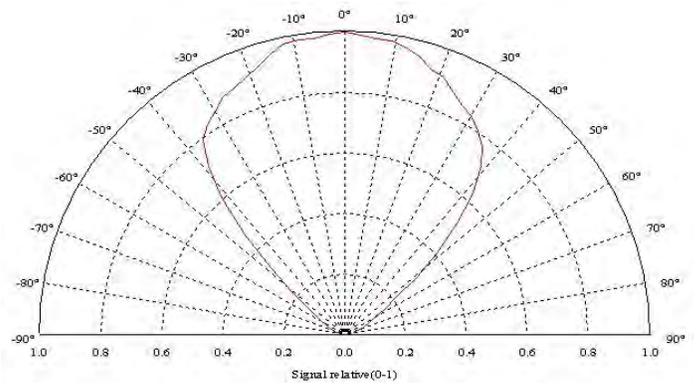
The information contained herein is subject to change without notice.

2024-11-21

RADIATION DISTRIBUTION



VIEW ANGLE



The information contained herein is subject to change without notice.

2024-11-21

Peak Emission Wavelength: 660nm

The MTE1166C2-UR is a red 3mm water clear emitter designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Wide Beam Angle

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning / Edge Sensing
- > Fiber Optical Communications



Absolute Maximum Ratings (Ta=25°C)

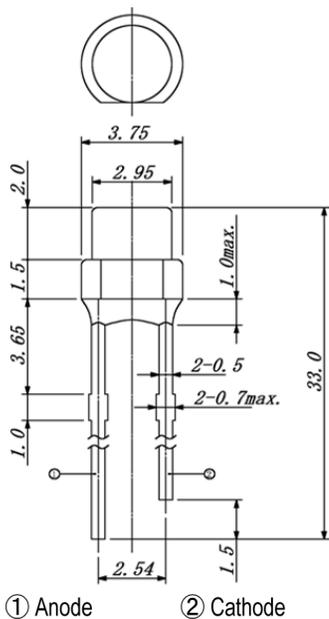


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

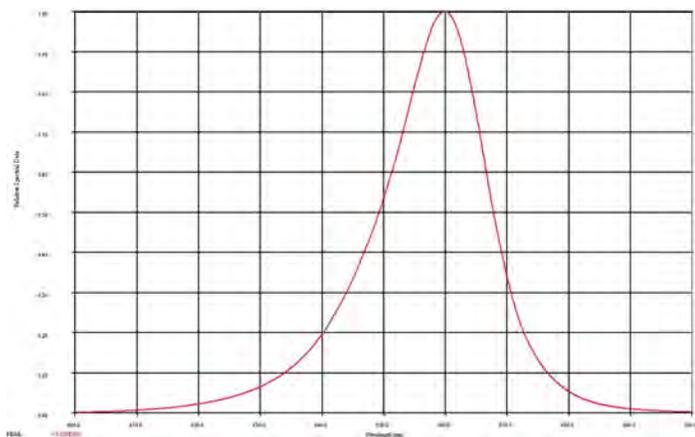
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

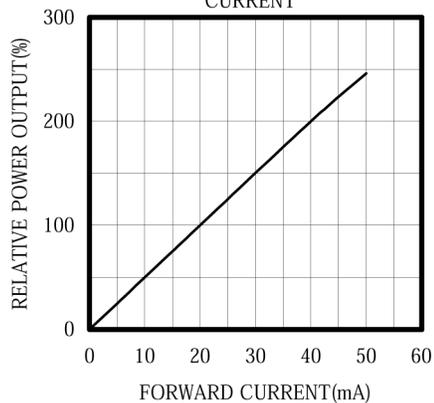
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	15	--	mW
Forward Voltage	VF	IF=20mA	--	1.9	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle		IF=20mA	--	+/-60	--	deg.



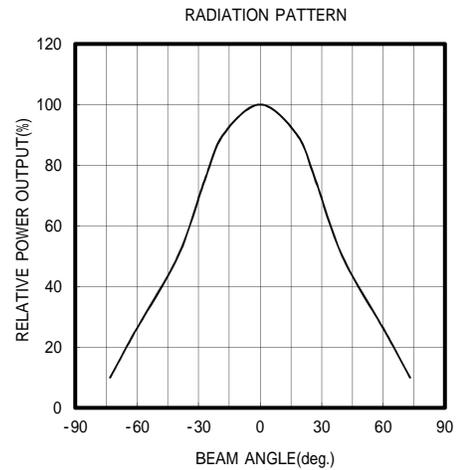
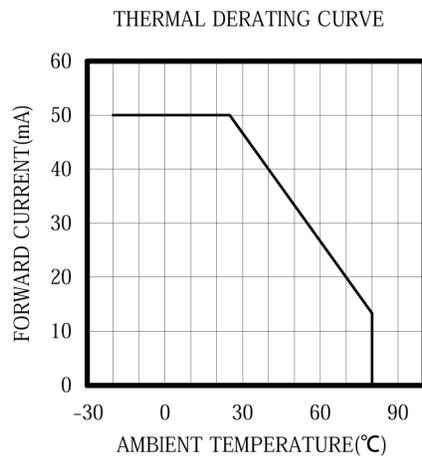
SPECTRAL OUTPUT



RELATIVE POWER vs FORWARD CURRENT



Unit: mm, Tolerance: ± 0.2





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SPECIFICATION

PART NO. : MTE1303B-UHR-A

3.0mm ROUND LED LAMP

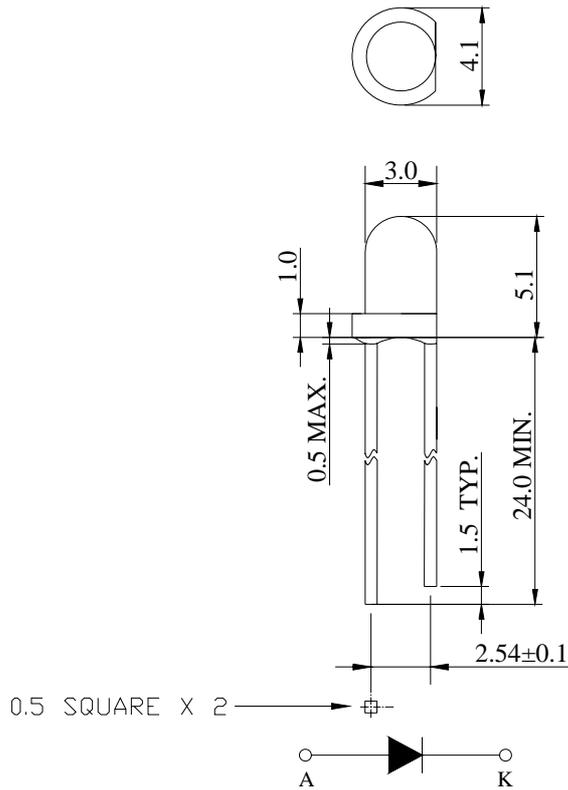


ATTENTION

**OBSERVE PRECAUTION
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES**

Description

This hyper red lamp is made with AlGaInP chip and water clear epoxy resin.



Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MTE1303B-UHR-A	AlGaInP	Hyper red	Water clear

Absolute Maximum Ratings at Ta=25

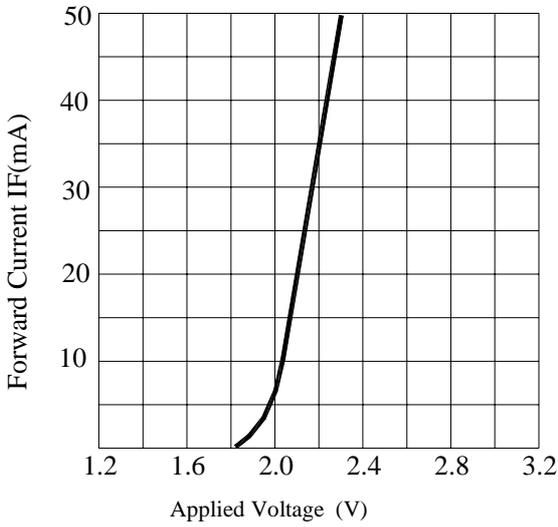
Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	75	mW
Reverse Voltage	V _R	5	V
D.C. Forward Current	I _f	30	mA
Reverse (Leakage) Current	I _r	100	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I _f (Peak)	100	mA
Operating Temperature Range	T _{opr}	-25 to +85	
Storage Temperature Range	T _{stg}	-40 to +100	
Soldering Temperature(1.6mm from body)	T _{sol}	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

Electrical and Optical Characteristics:

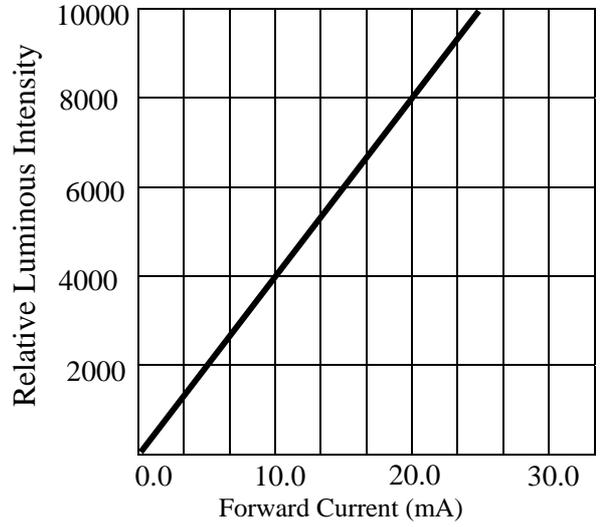
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I _v	I _f =20mA	3000	8000		mcd
Forward Voltage	V _f	I _f =20mA		2.1	2.5	V
Peak Wavelength	λ _p	I _f =20mA		632		nm
Dominant Wavelength	λ _d	I _f =20mA		625		nm
Reverse (Leakage) Current	I _r	V _r =5V			100	μA
Viewing Angle	2 1/2	I _f =20mA		25		deg
Spectrum Line Halfwidth	Δλ	I _f =20mA		20		nm

- Notes: 1. Tolerance of Luminous Intensity is ±15%
 2. Tolerance of Forward Voltage is ±0.1V
 3. Tolerance of Dominant Wavelength is ±1nm
 4. Customer's special requirements are also welcome.

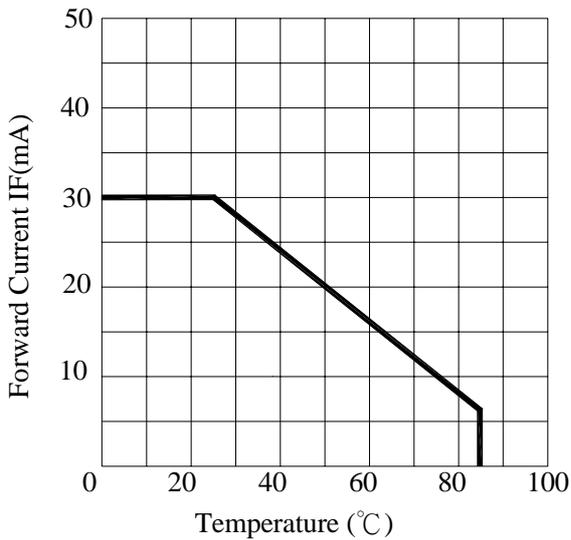
Typical Electrical / Optical Characteristics Curves :



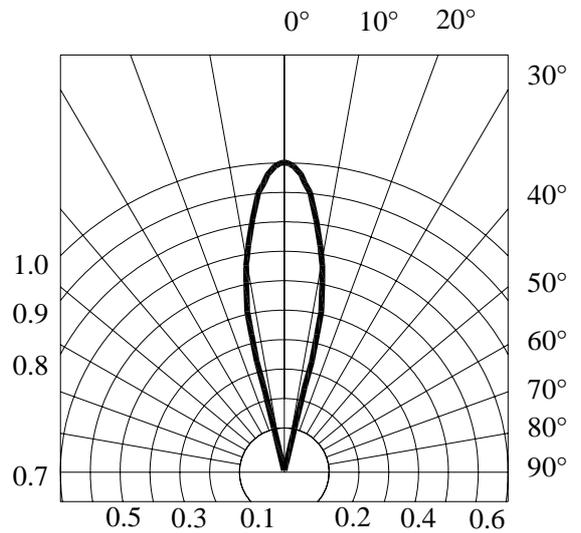
FORWARD CURRENT VS. APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoid applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90 max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5 (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350 max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120 max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

Peak Emission Wavelength: 562nm

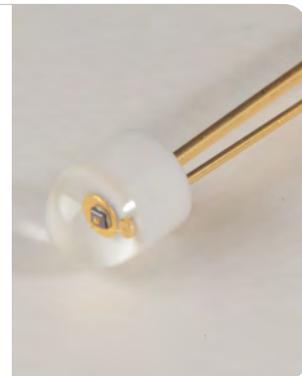
The 562nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

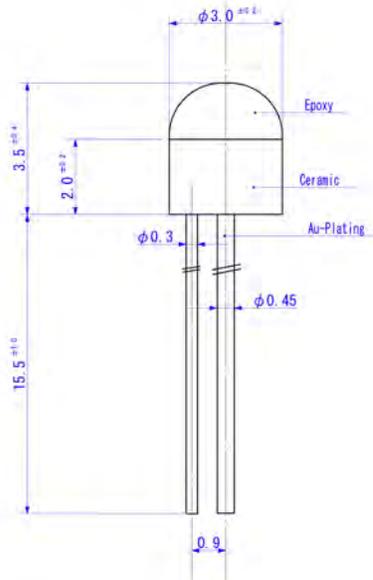


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

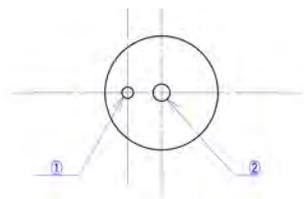
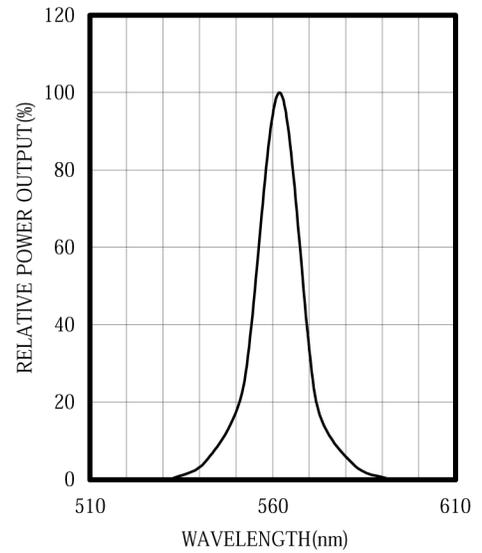
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.15	0.25	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	2.7	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	562	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	11	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	10	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.7	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-2.6	--	mV/°C

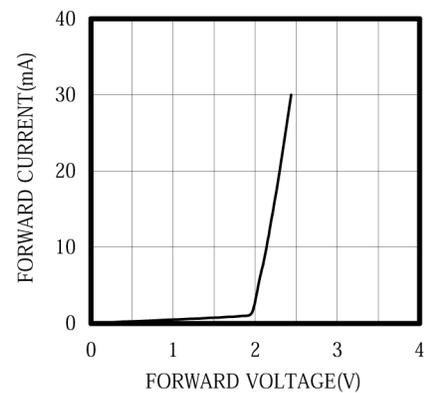


SPECTRAL OUTPUT

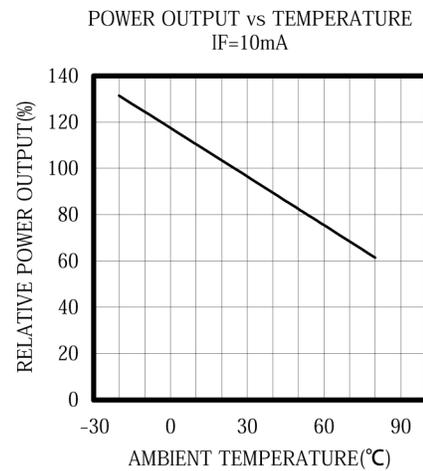
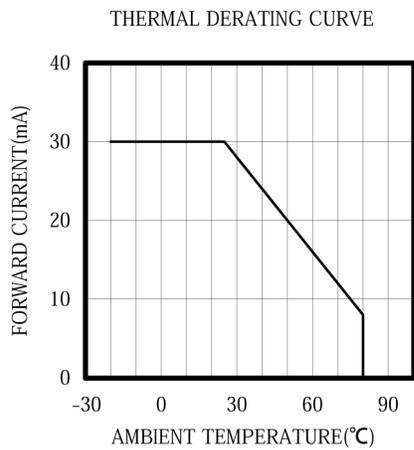
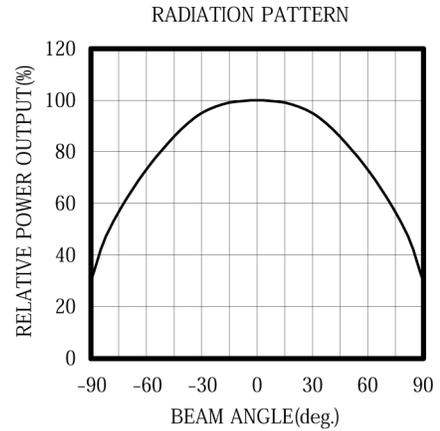
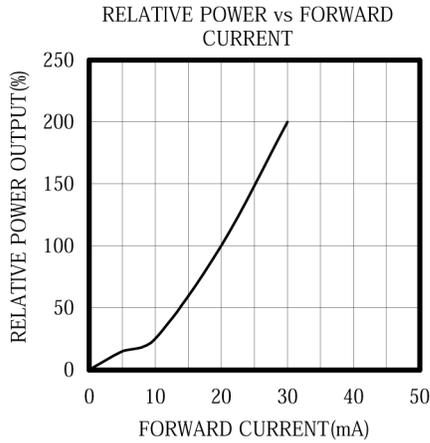


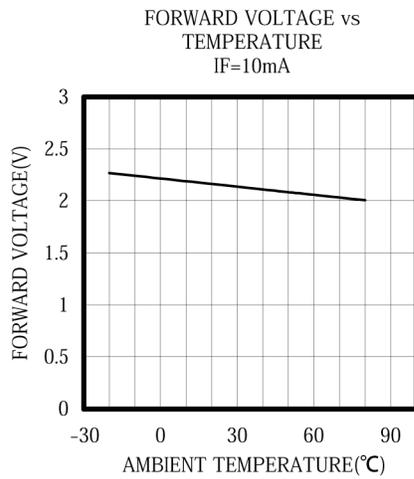
① Anode ② Cathode

FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 562nm

The 562nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

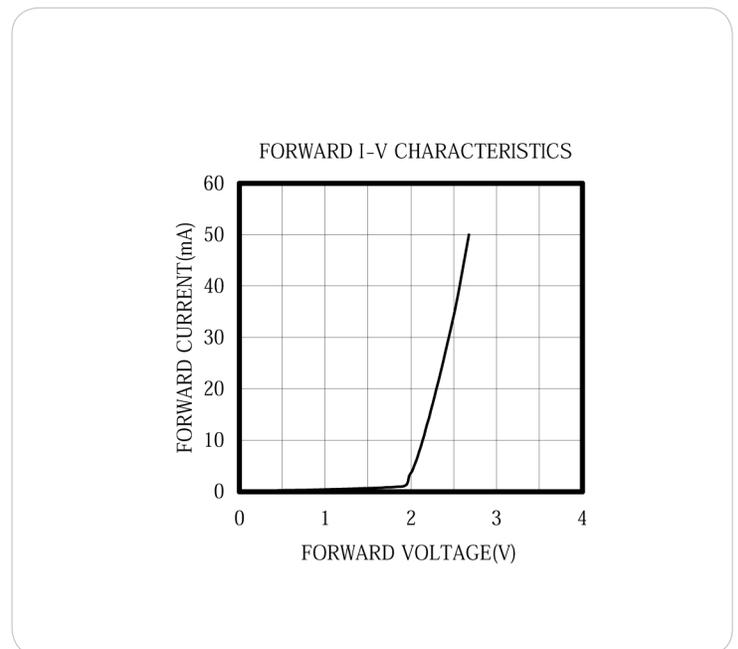
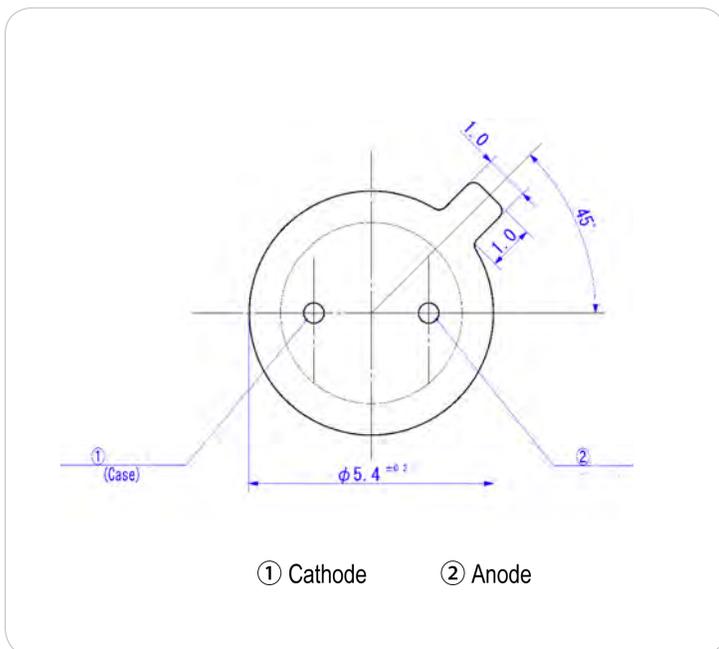
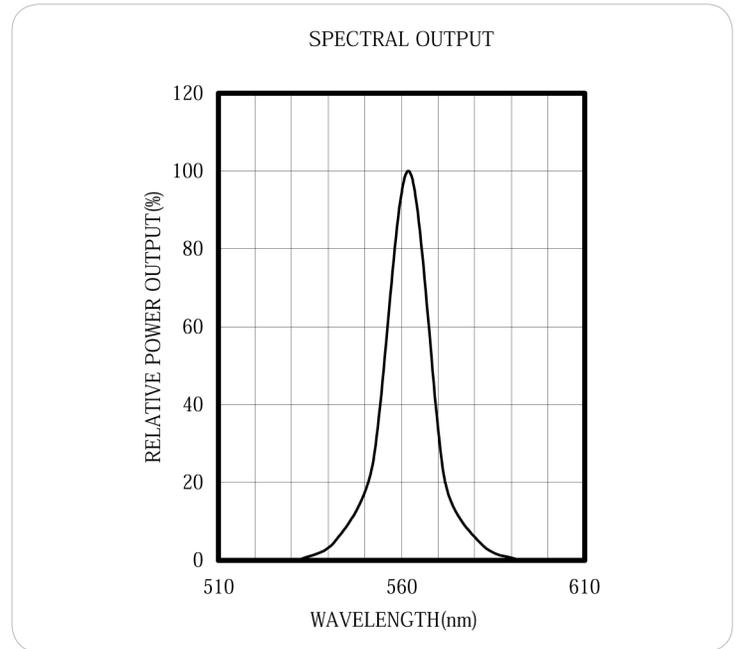
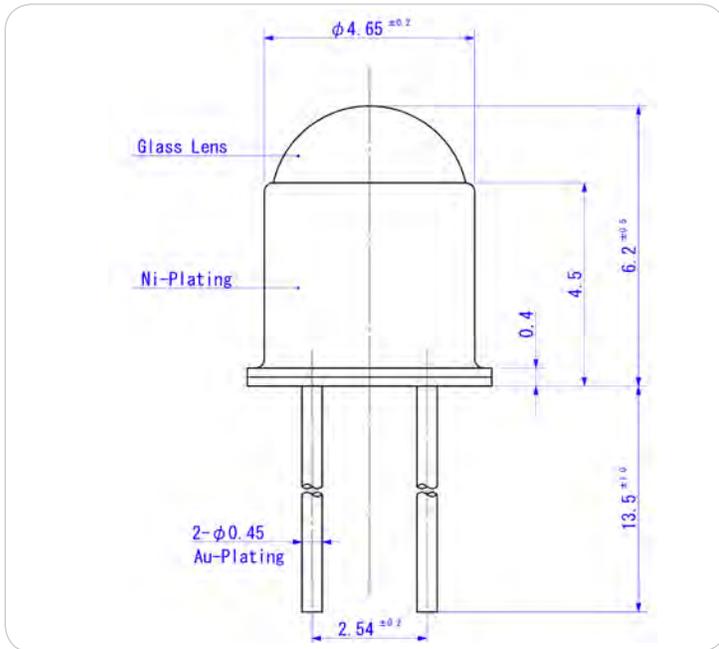


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

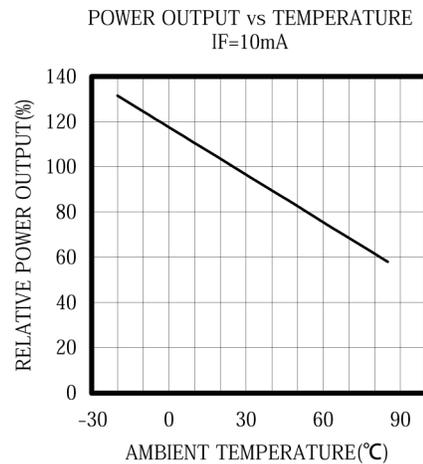
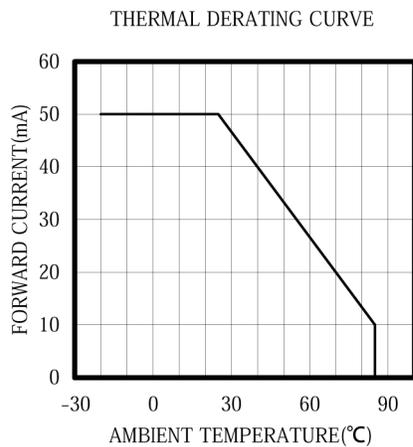
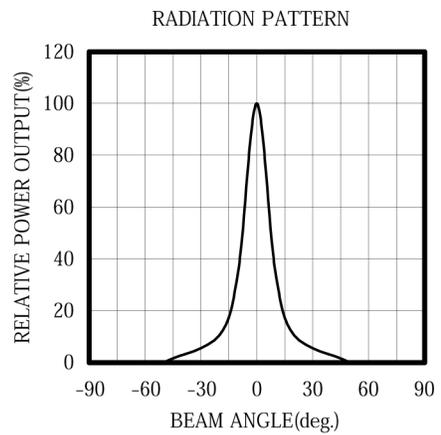
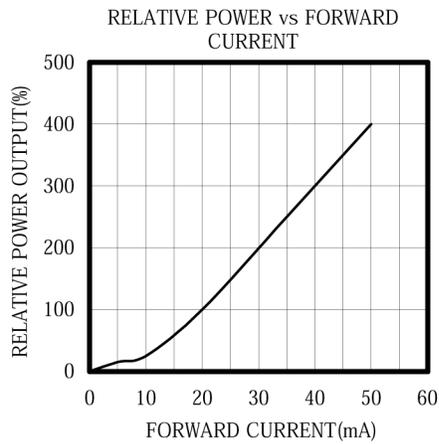
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

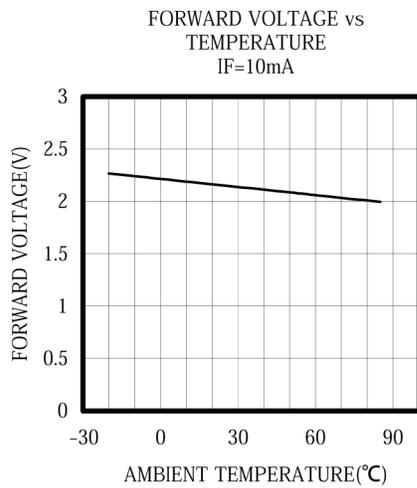
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.1	0.15	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	2.7	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	562	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	11	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	10	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.7	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-2.6	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 562nm

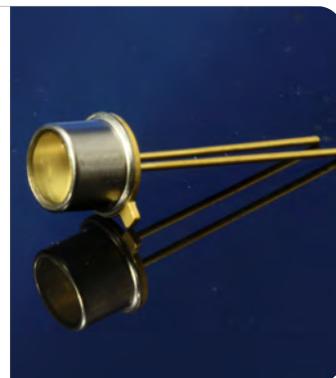
The 562nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

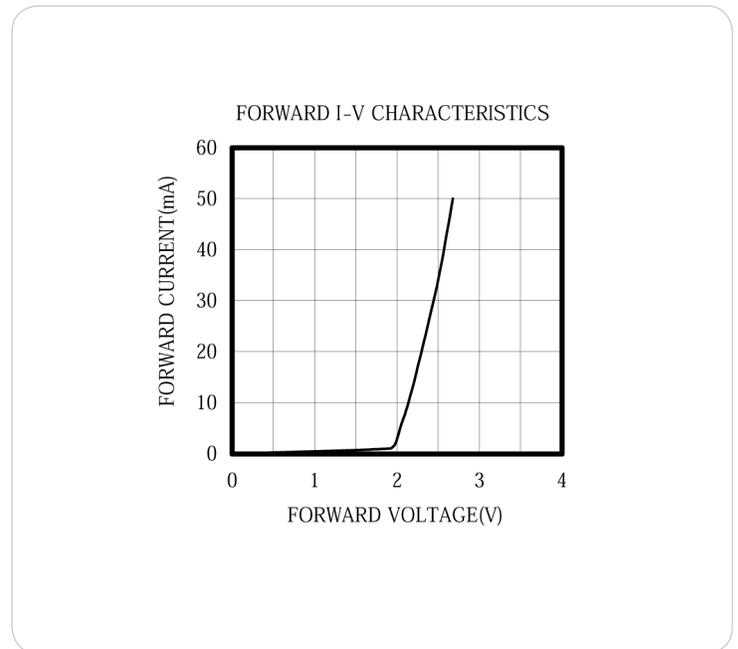
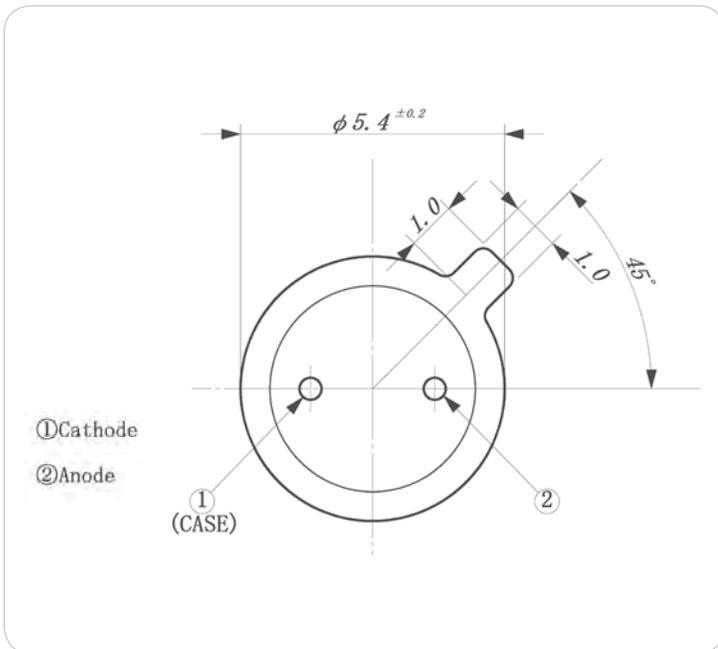
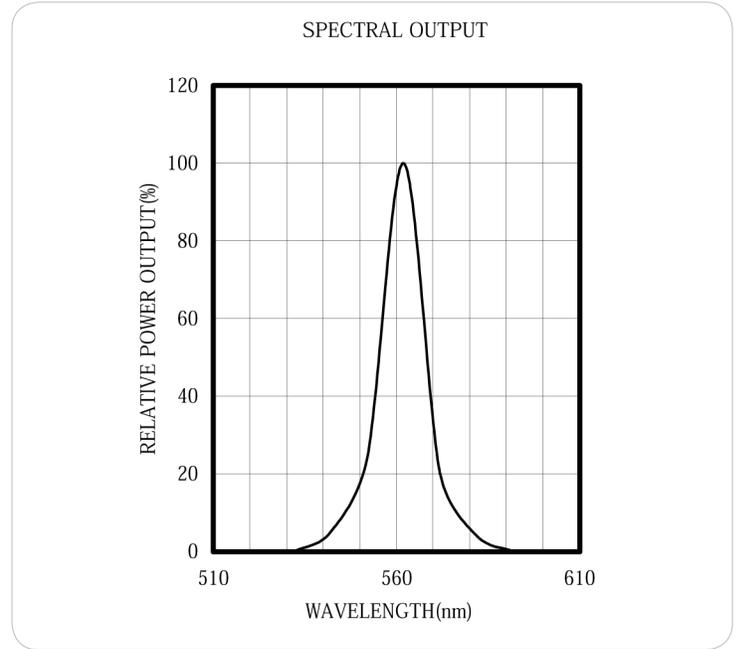
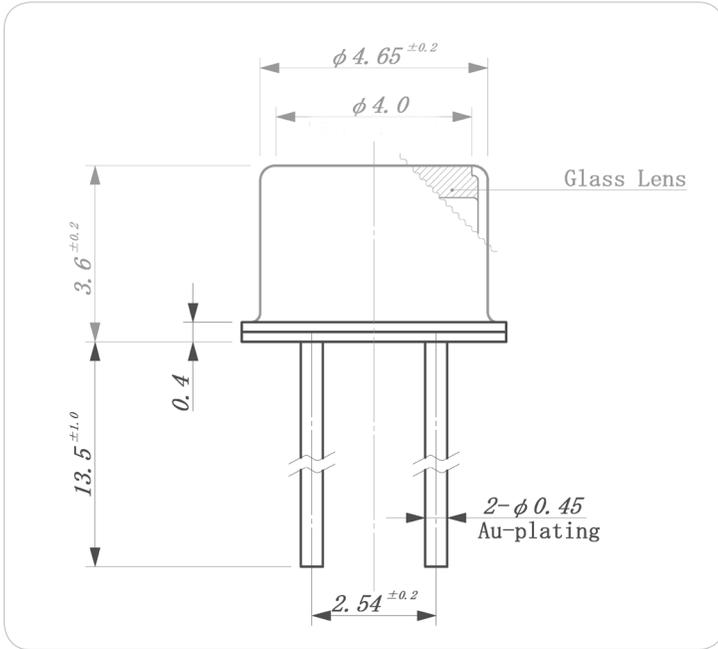


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	ToPr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

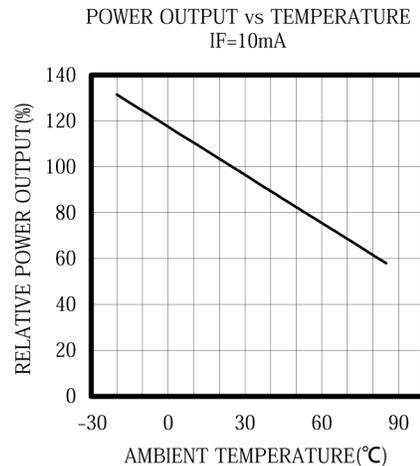
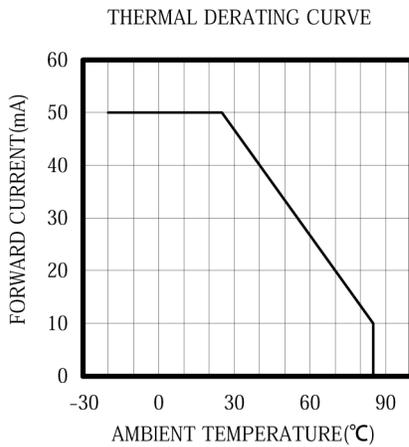
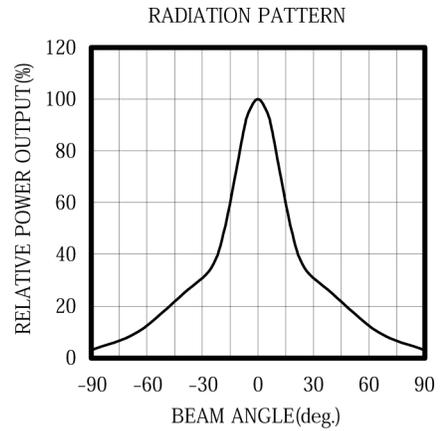
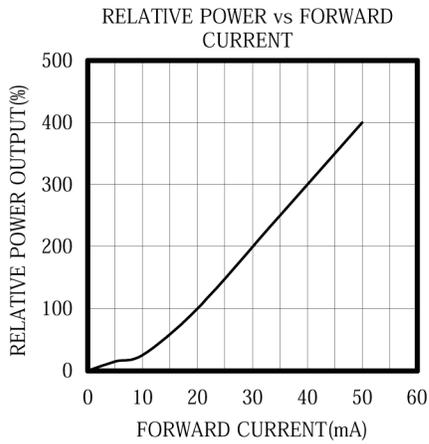
*1: Tw=10µsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

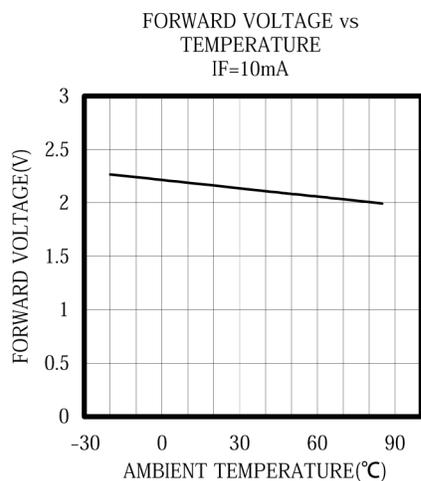
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.1	0.15	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	2.7	V
Reverse Current	IR	VR=5V	--	--	100	µA
Peak Emission Wavelength	λp	IF=20mA	--	562	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	11	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	µS
Fall Time	Tf	IFP=20mA	--	--	--	µS
Junction Capacitance	Cj	1MHz, V=0V	--	10	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.7	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-2.6	--	mV/°C



Unit: mm, Tolerance: ±0.2





Peak Emission Wavelength: 570nm

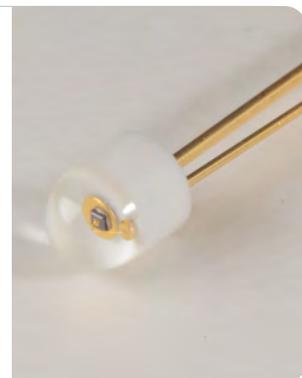
The 570nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

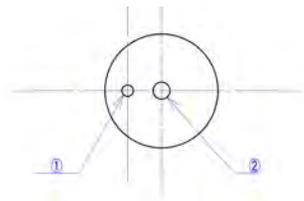
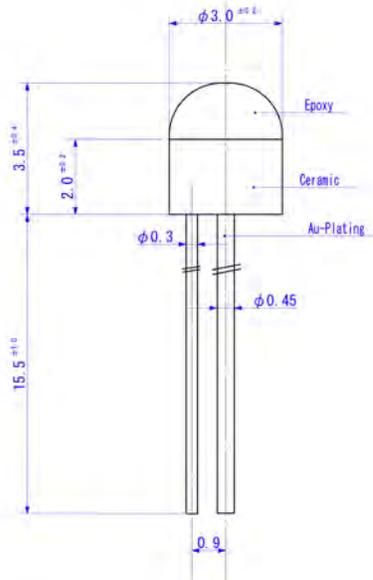


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.2	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	60	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.07	0.14	--	mW
Forward Voltage	VF	IF=20mA	--	2.1	2.4	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	570	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg



① Anode ② Cathode

Unit: mm, Tolerance: ± 0.2

The information contained herein is subject to change without notice.

2011-09-11

Peak Emission Wavelength: 660nm

The MTE2066N3-UR is a red 5mm water clear emitter designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Wide Beam Angle

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning / Edge Sensing
- > Fiber Optical Communications



Absolute Maximum Ratings (Ta=25°C)

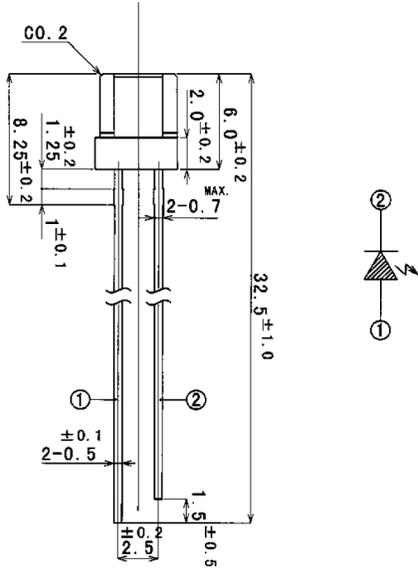


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

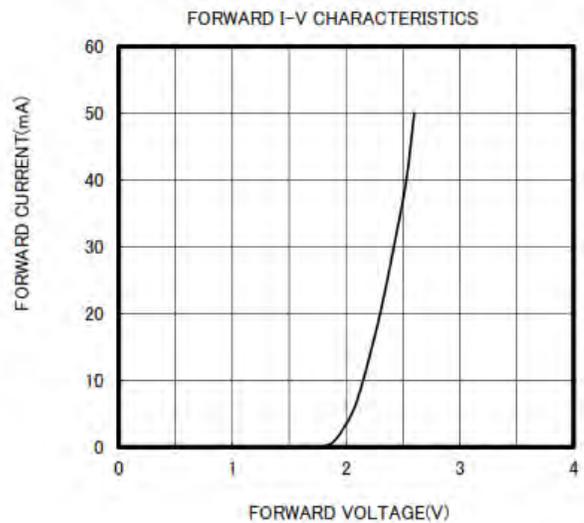
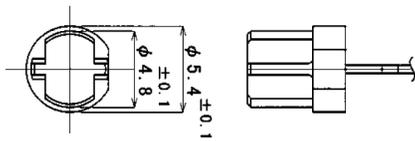
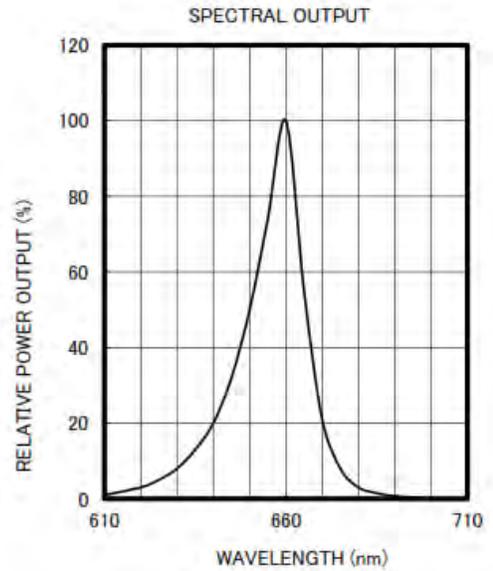
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	8.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±40	--	deg

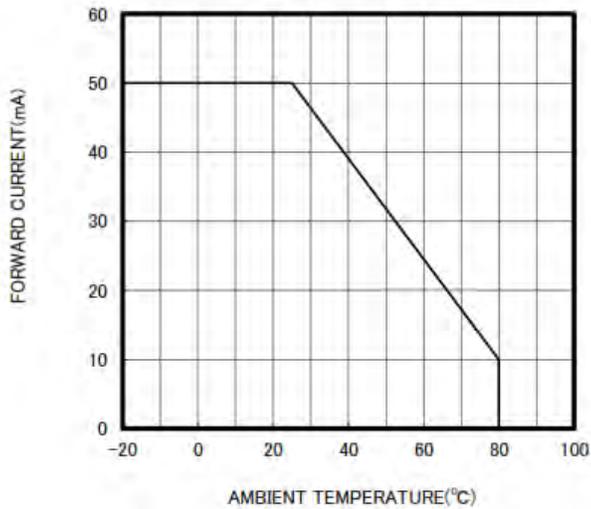


① Anode ② Cathode

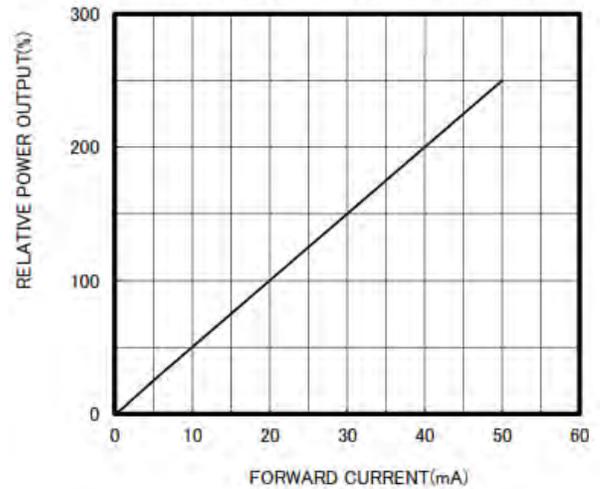


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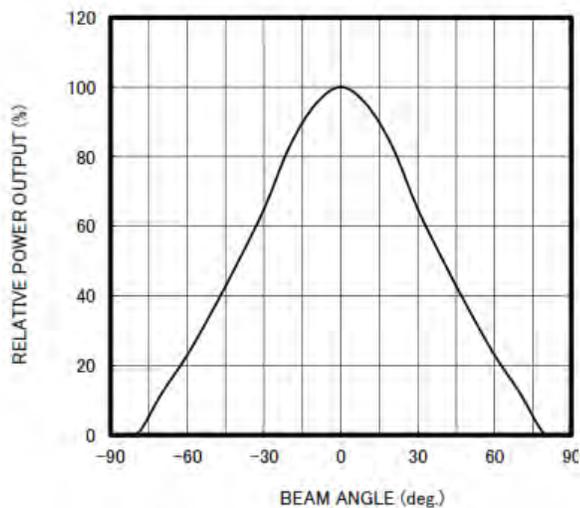
THERMAL DERATING CURVE



RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



Peak Emission Wavelength: 630nm

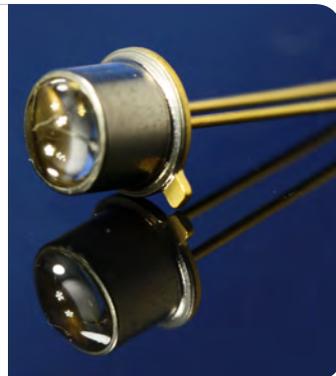
The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

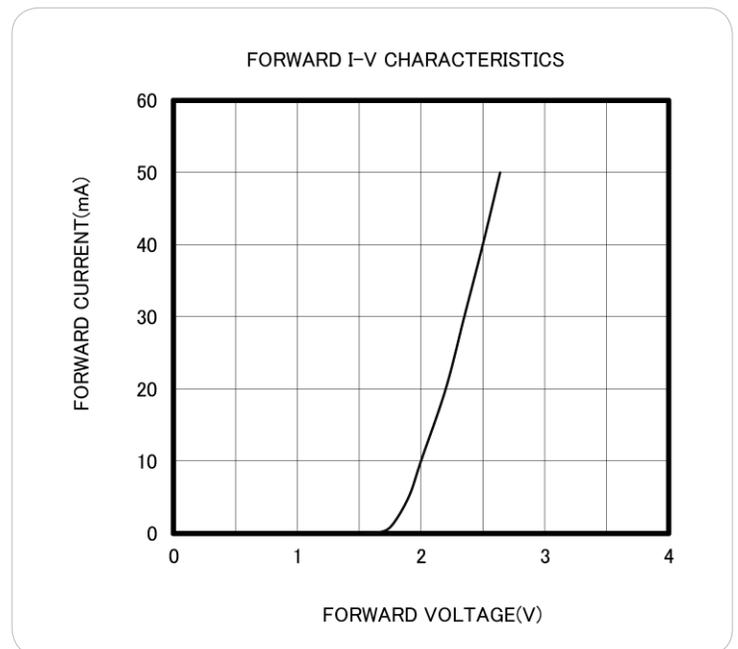
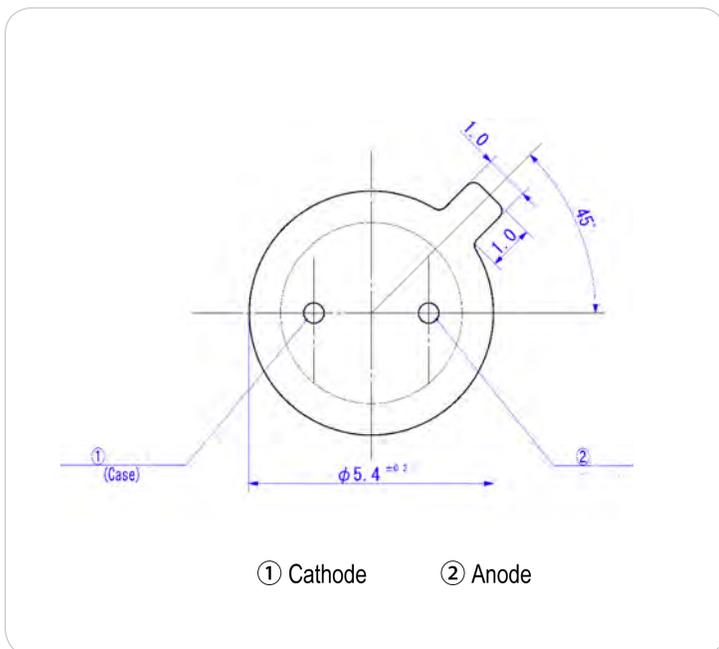
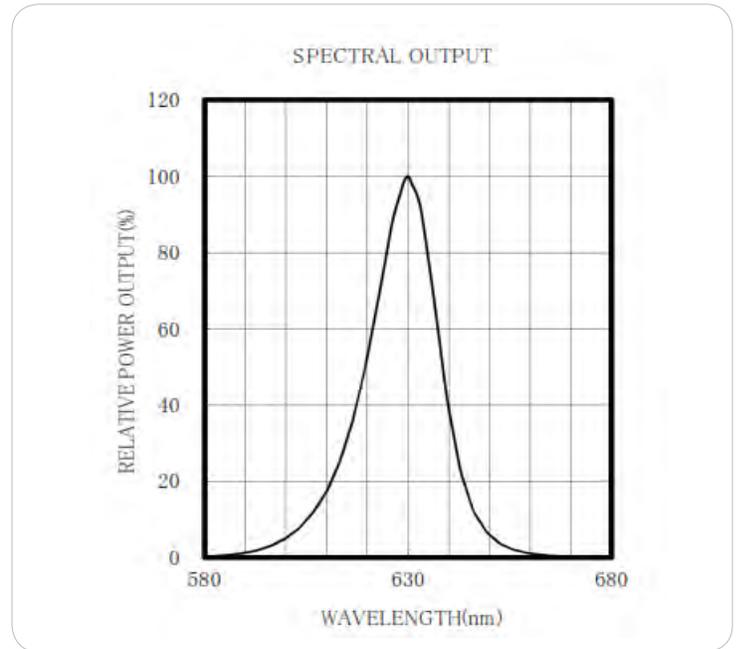
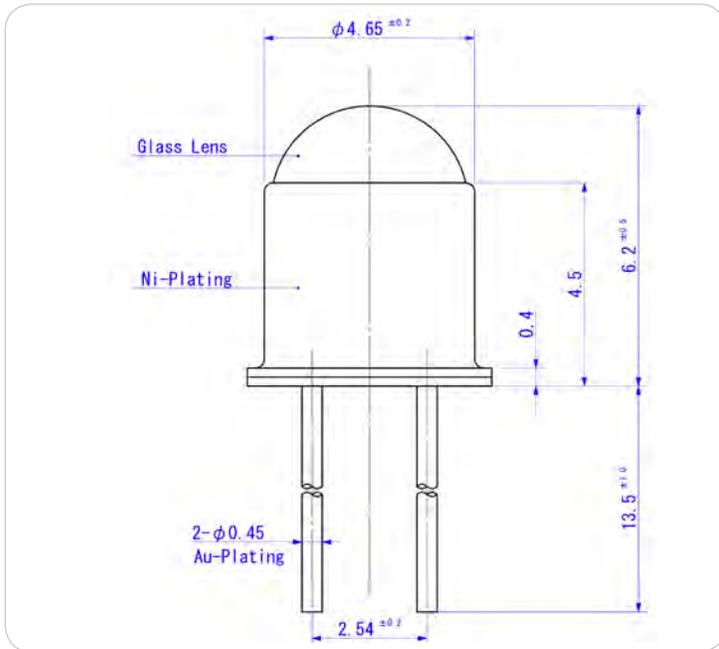


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

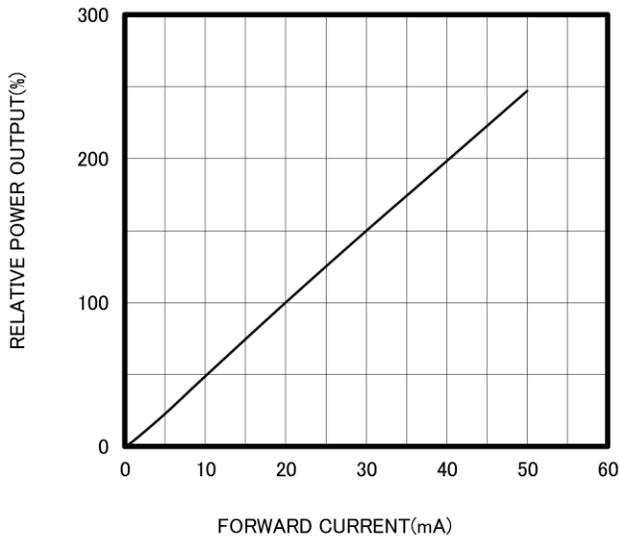
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	4.8	--	mW
Forward Voltage	VF	IF=20mA	--	2.2	2.6	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	630	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±7	--	deg

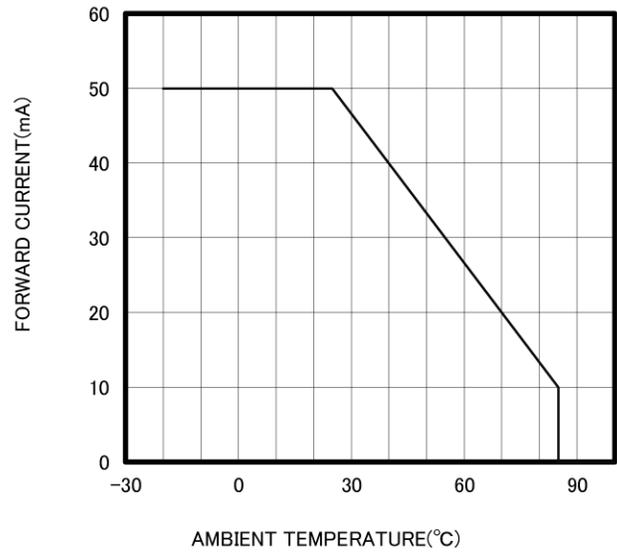


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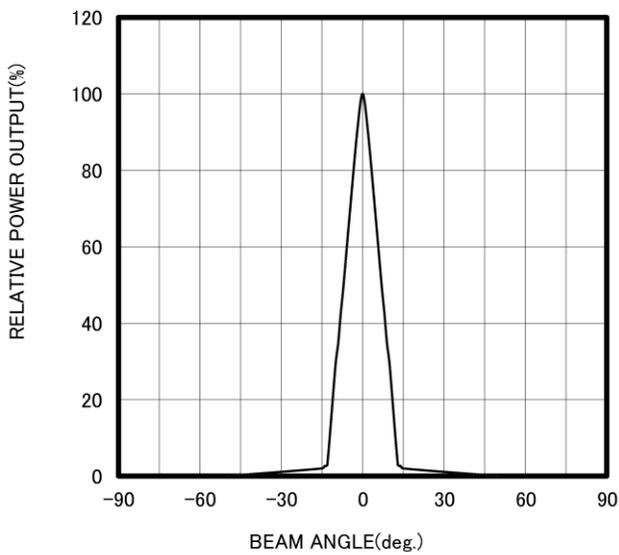
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2021-10- 08

Peak Emission Wavelength: 630nm

The 630nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

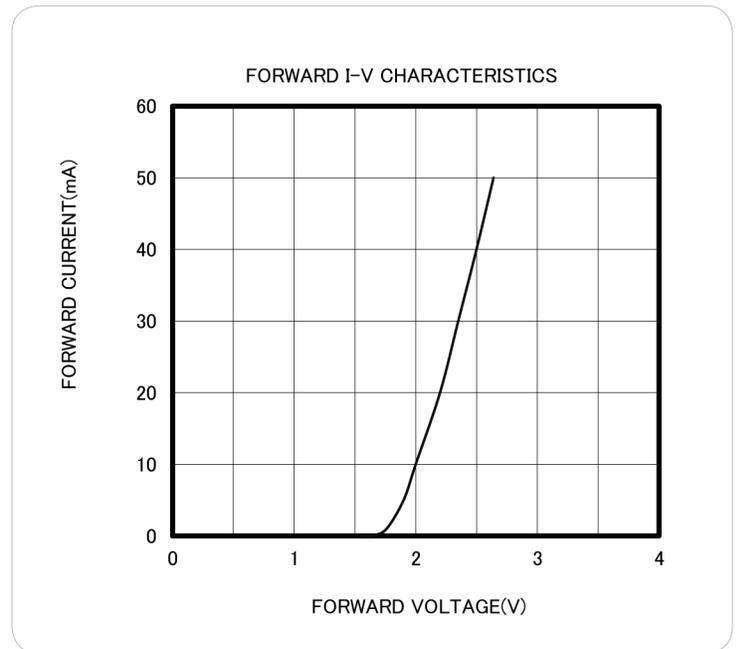
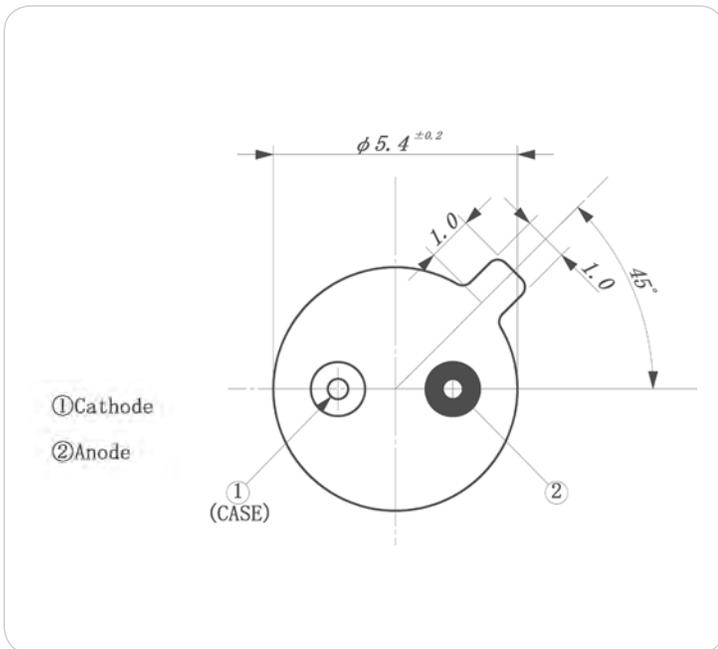
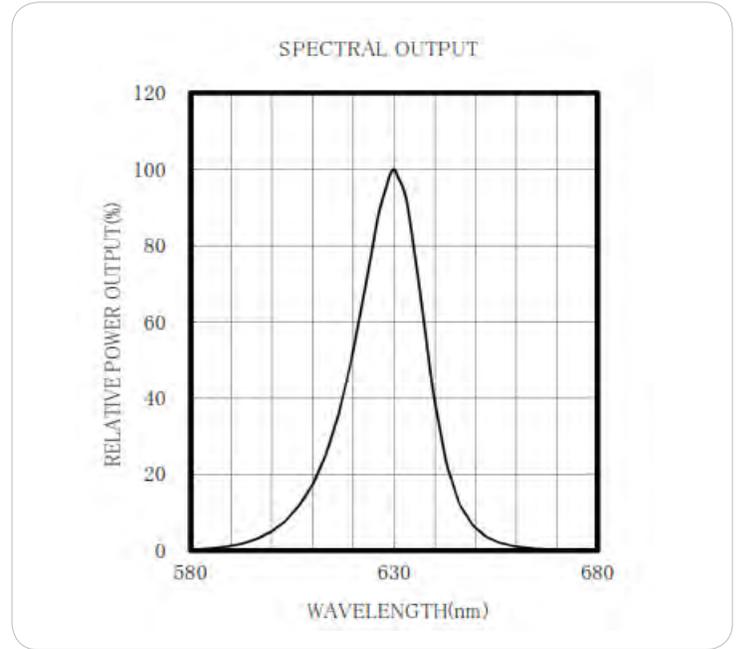
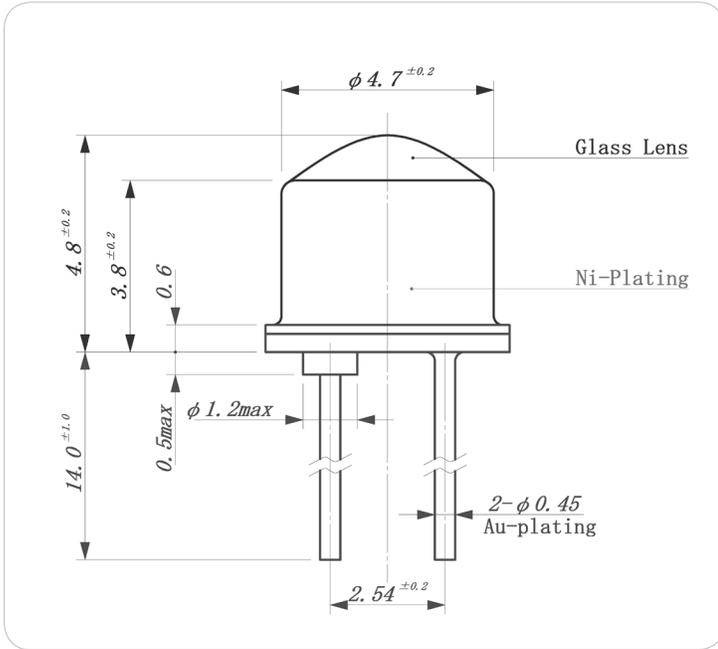


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Toopr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

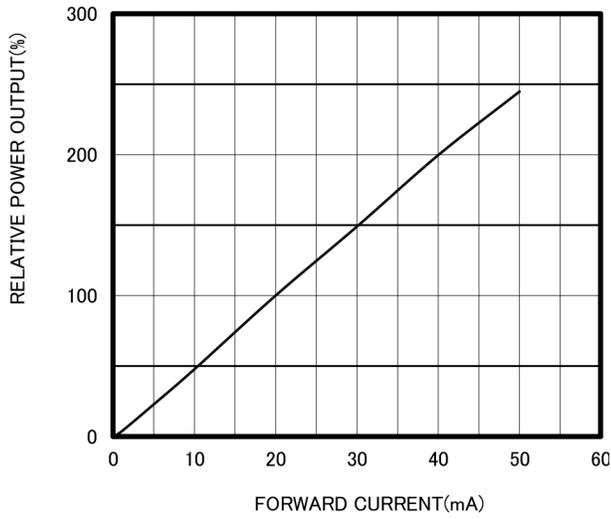
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.2	2.6	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	630	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

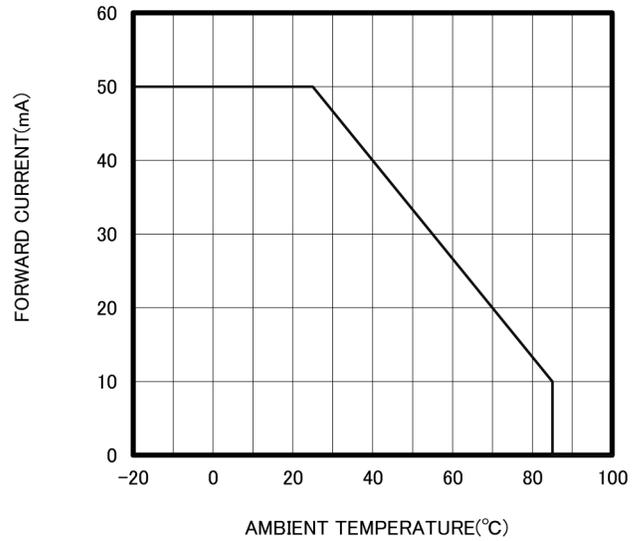


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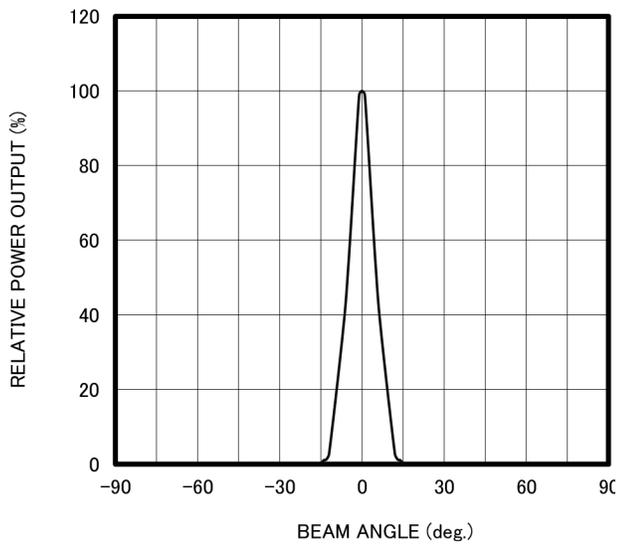
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2021-10-08

Peak Emission Wavelength: 620nm

The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

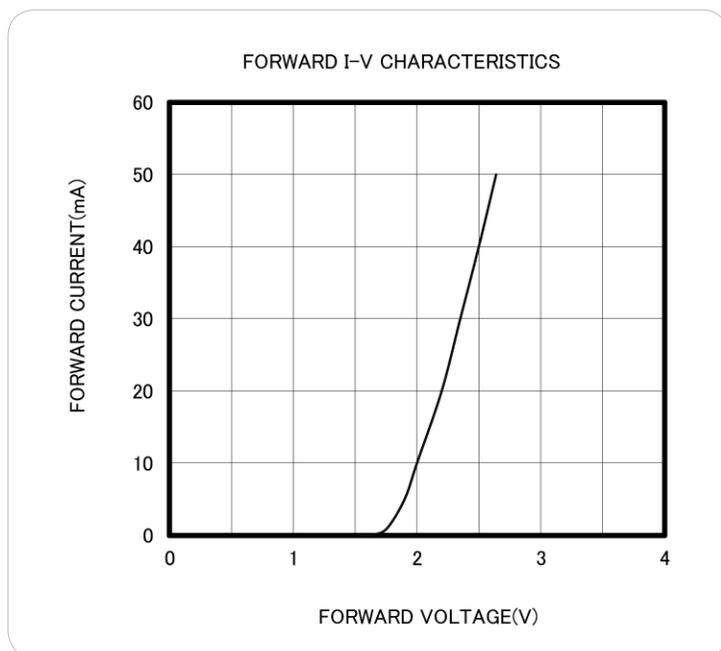
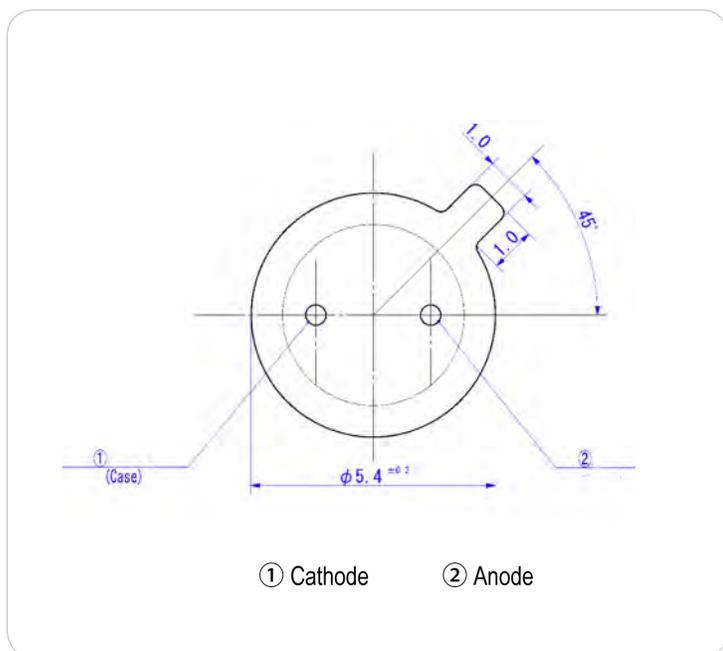
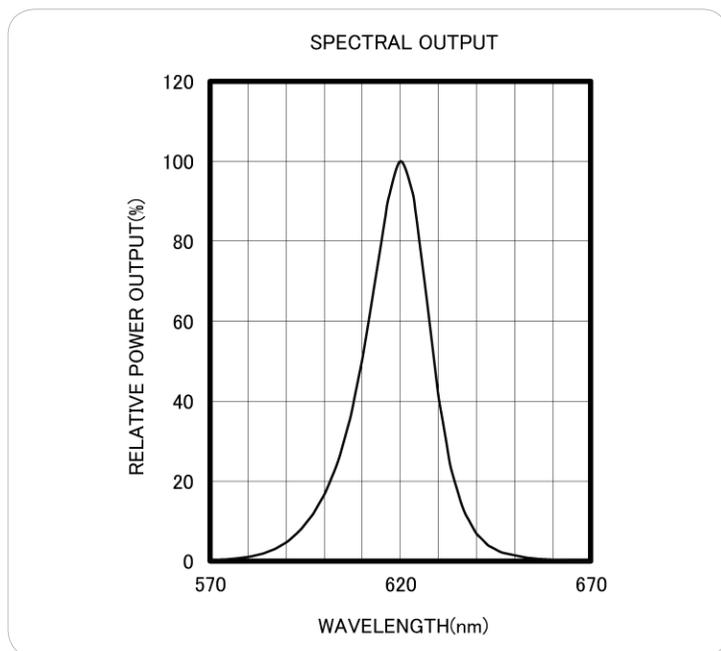
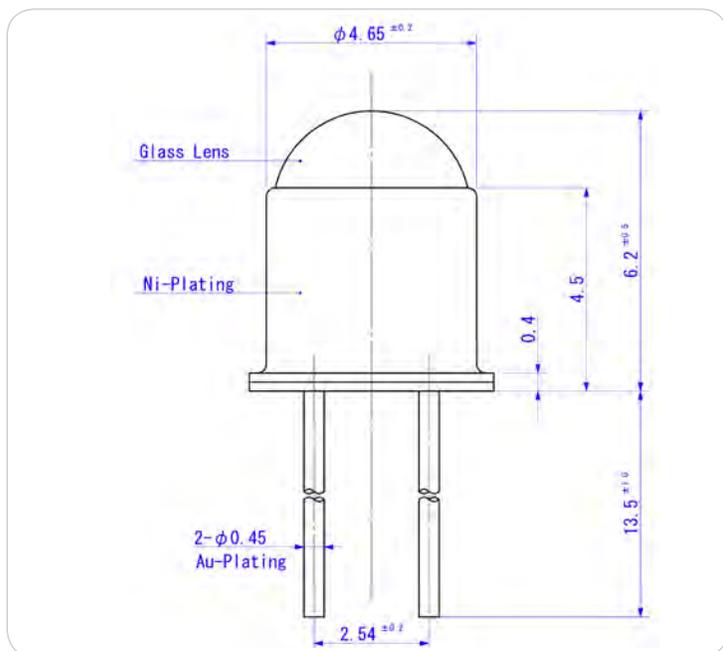


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

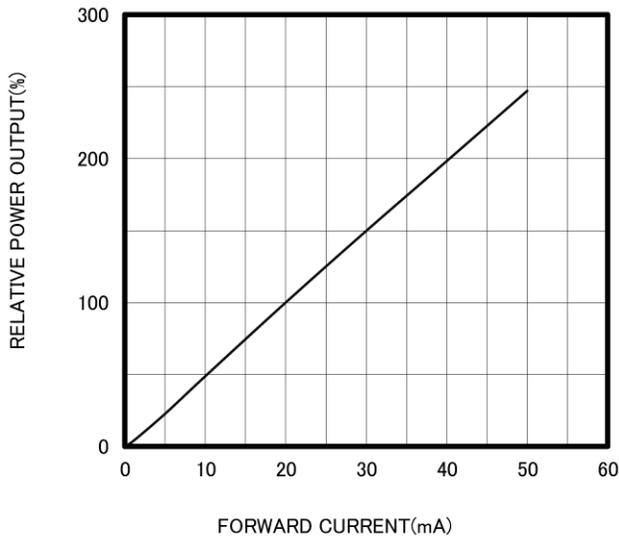
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	4.2	--	mW
Forward Voltage	VF	IF=20mA	--	2.2	2.6	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	620	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±7	--	deg

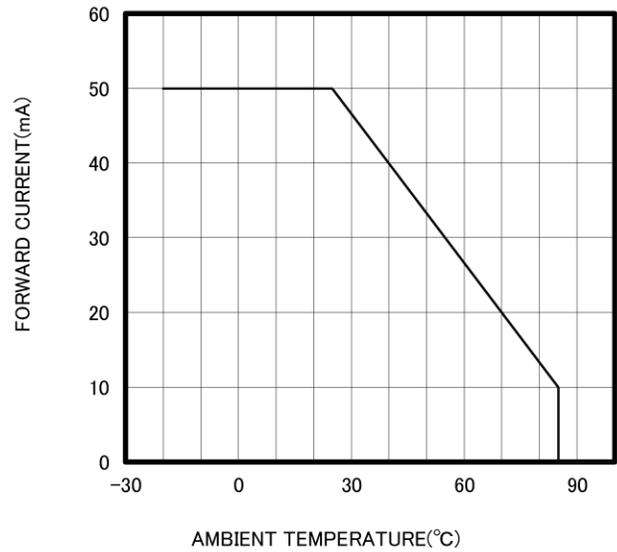


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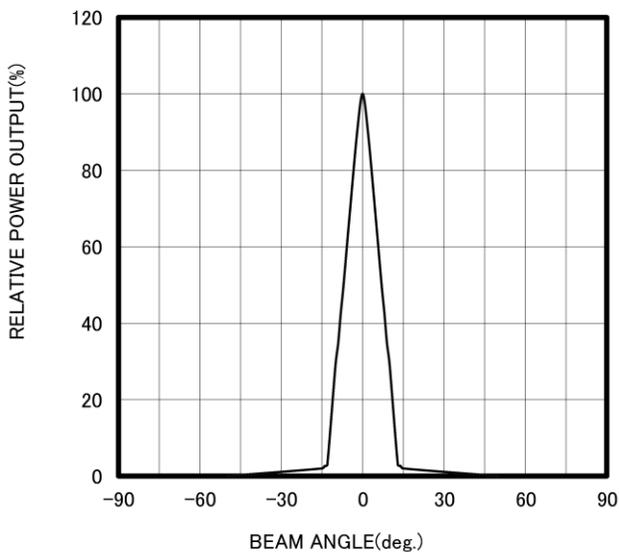
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2012-12-13

Peak Emission Wavelength: 620nm

The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

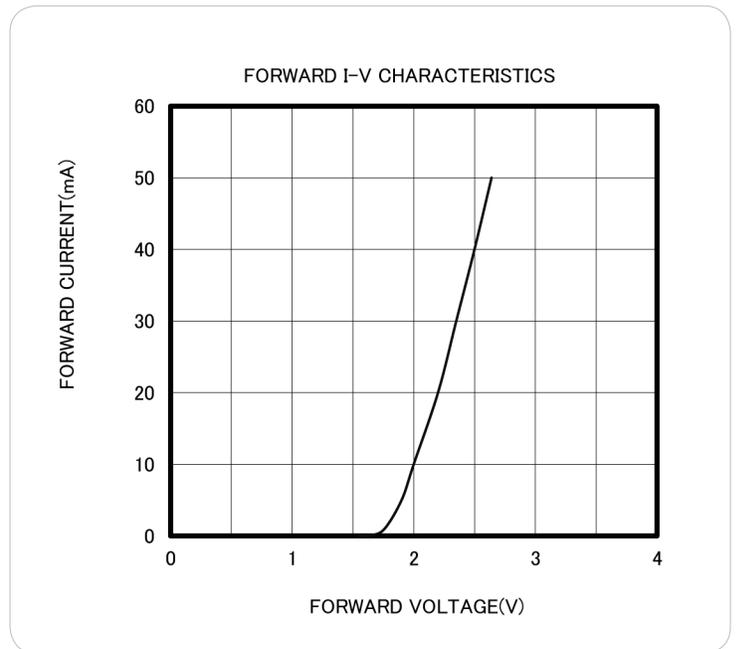
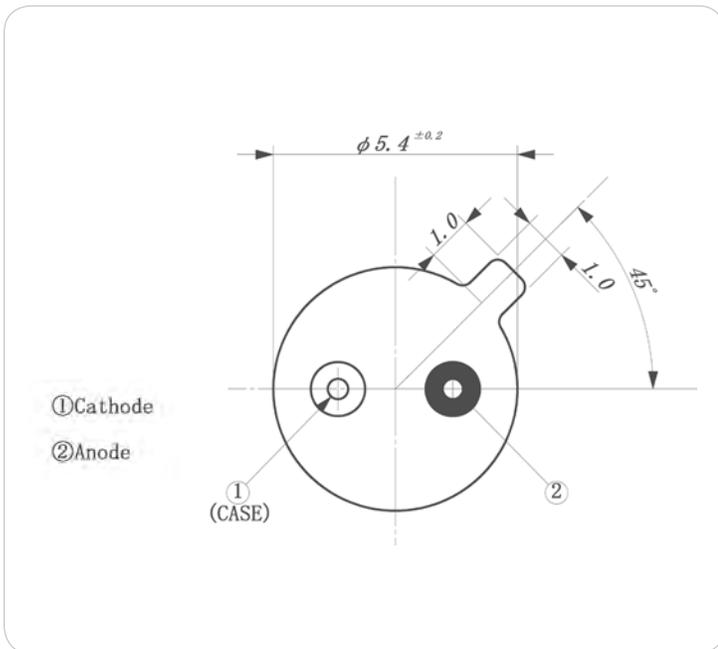
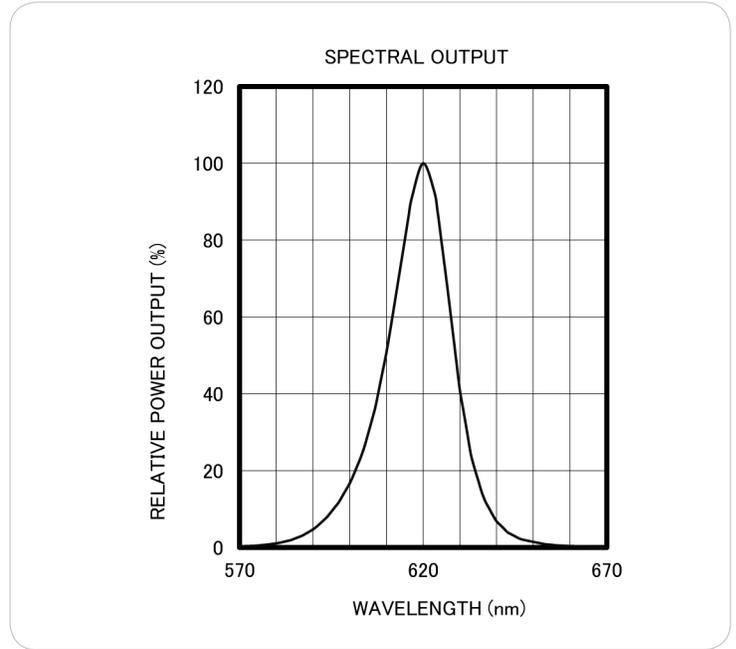
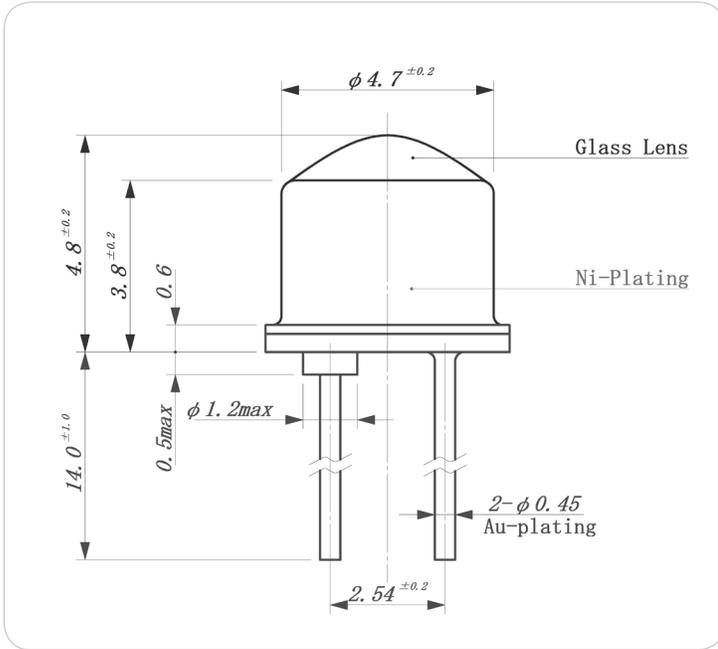


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

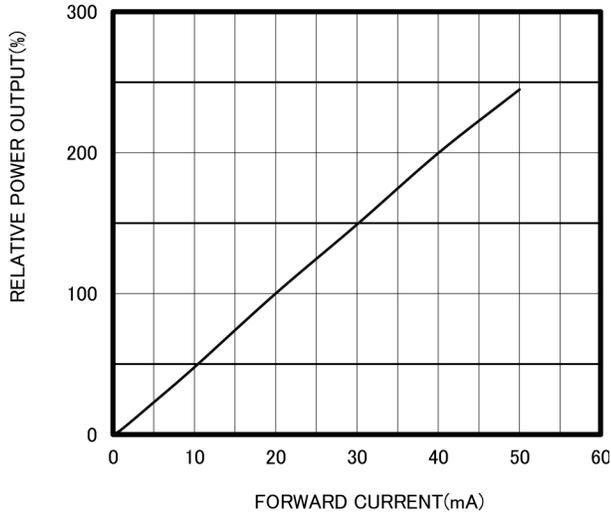
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	2.3	--	mW
Forward Voltage	VF	IF=20mA	--	2.2	2.6	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	620	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

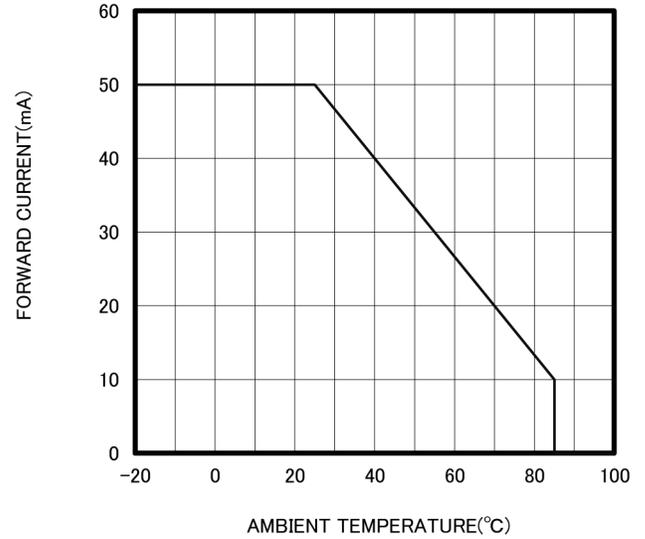


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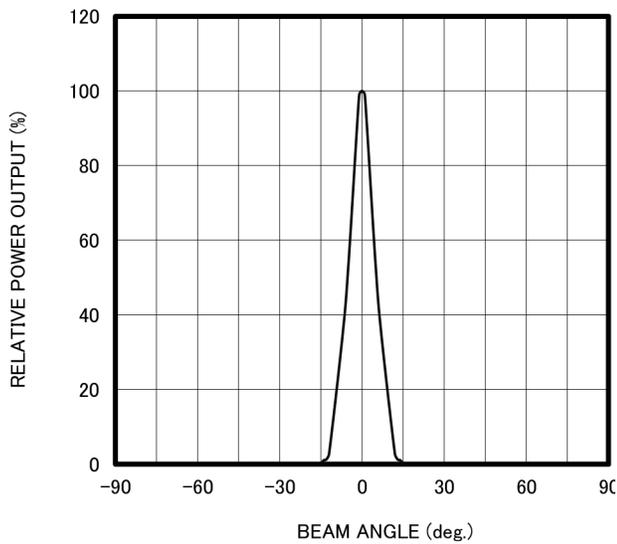
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2016-03-31

Peak Emission Wavelength: 620nm

The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

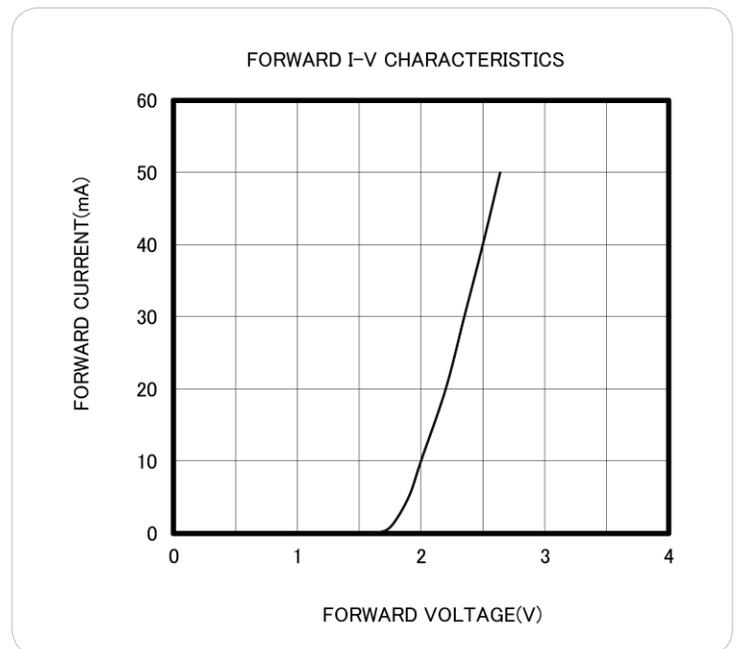
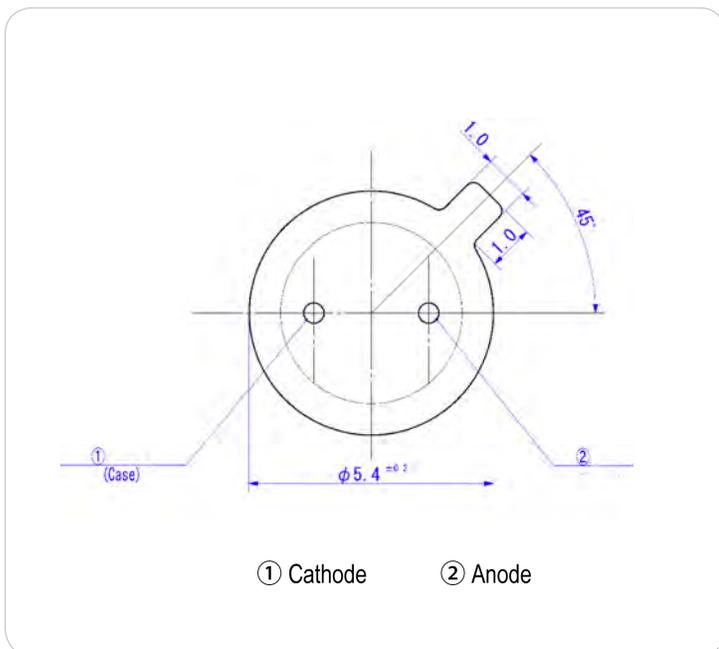
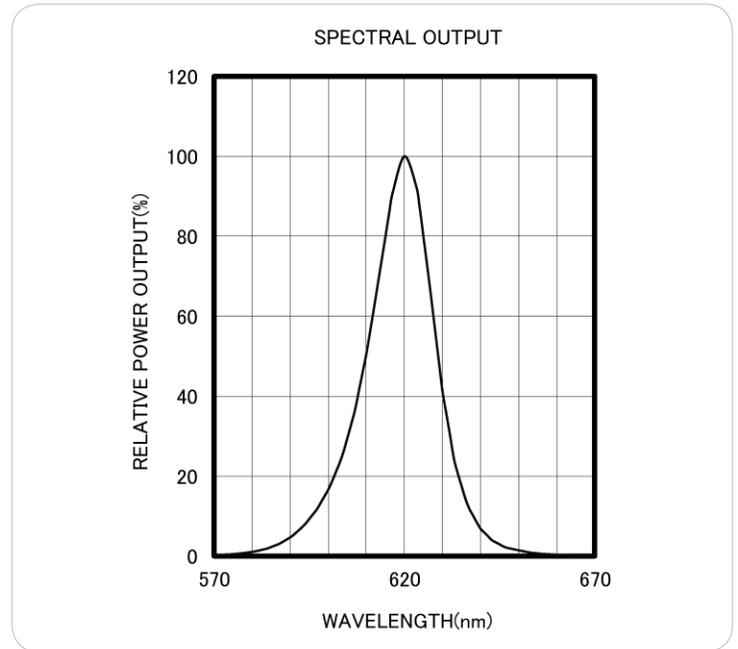
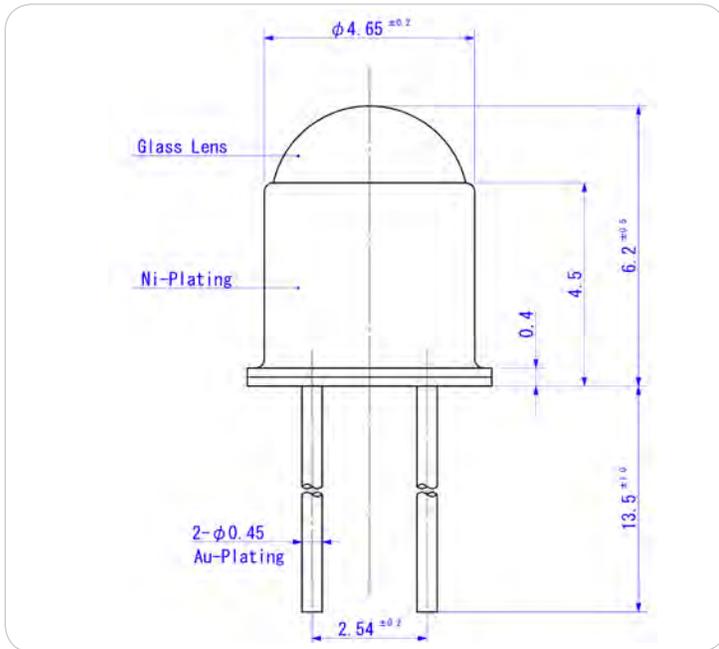


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

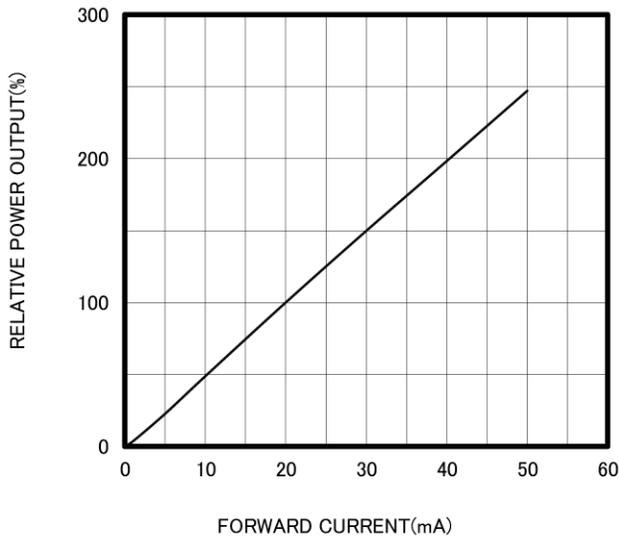
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.25	--	mW
Forward Voltage	VF	IF=20mA	--	2.05	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	620	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±9	--	deg

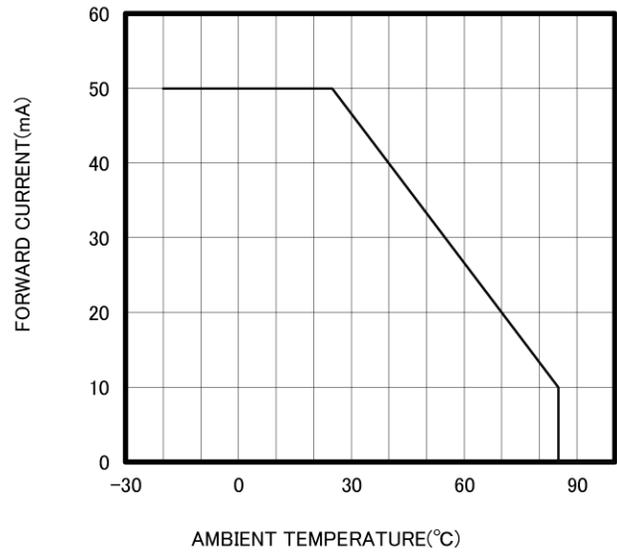


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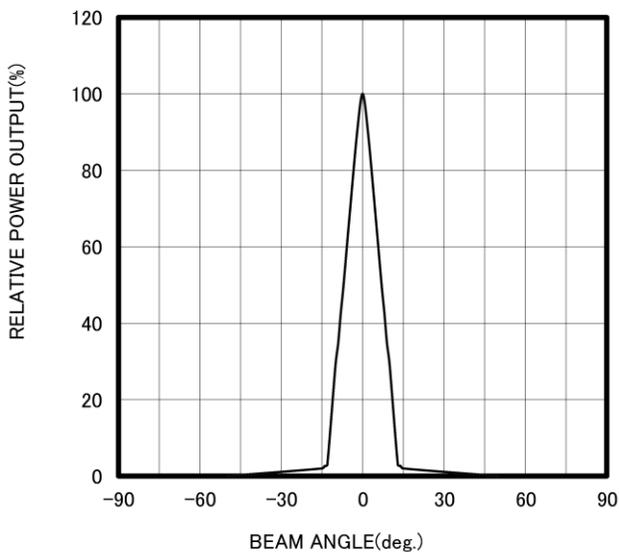
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2018-11-08

Peak Emission Wavelength: 620nm

The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

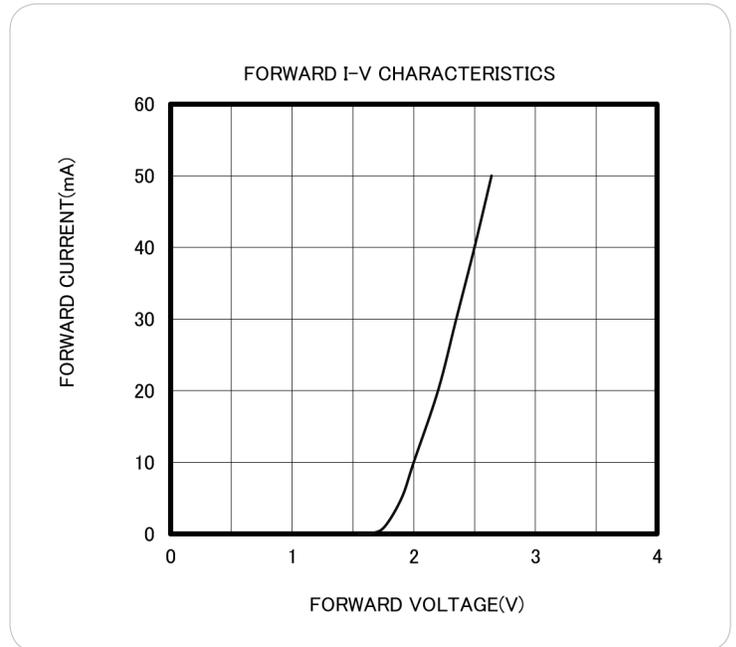
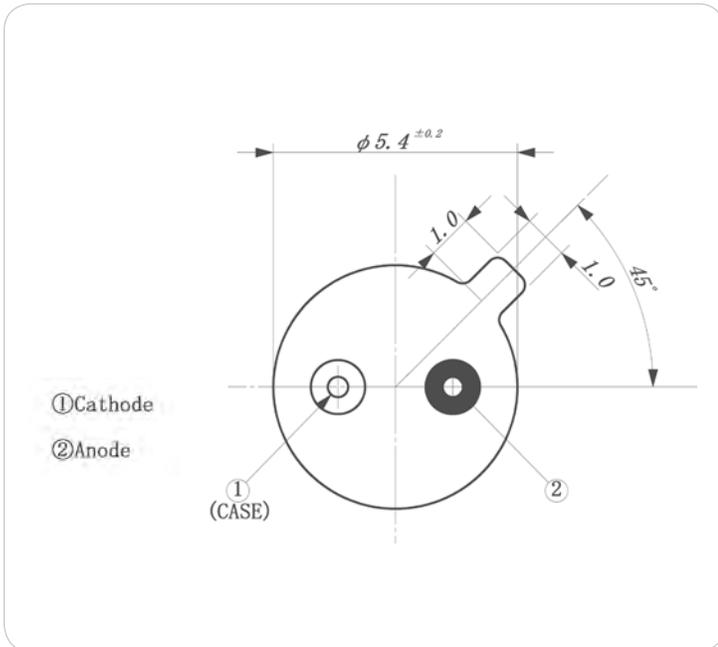
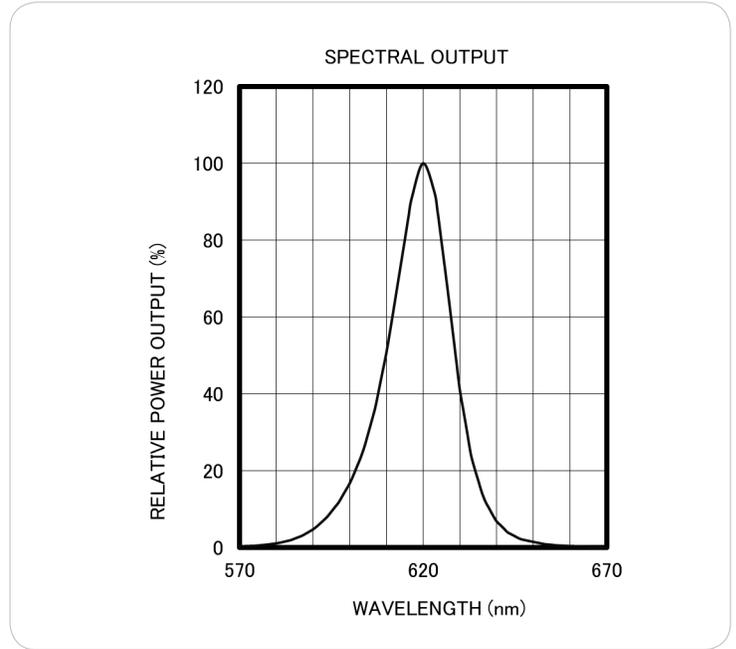
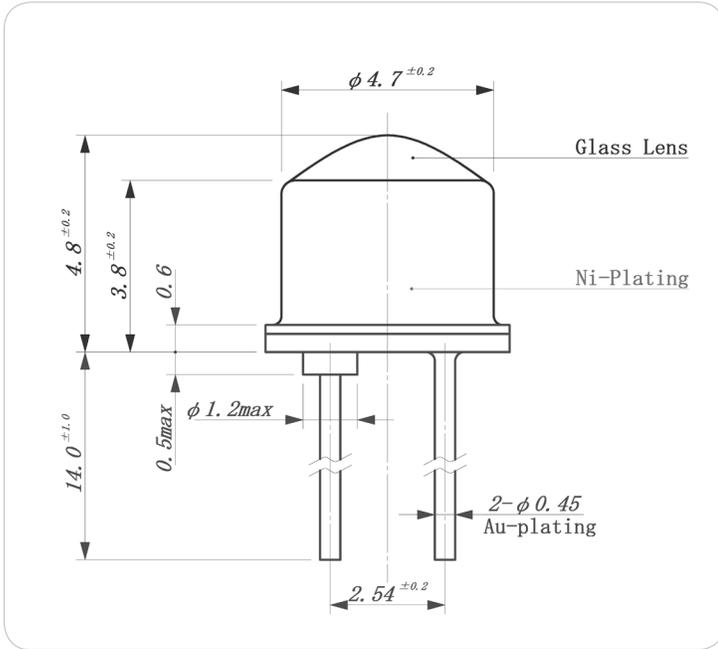


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

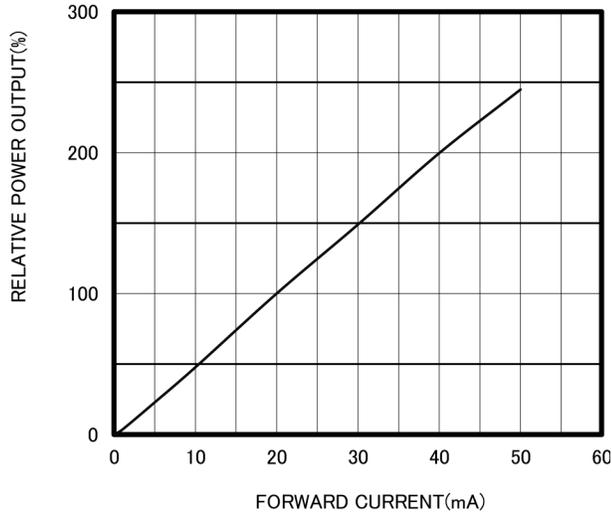
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	3.25	--	mW
Forward Voltage	VF	IF=20mA	--	2.05	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	620	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

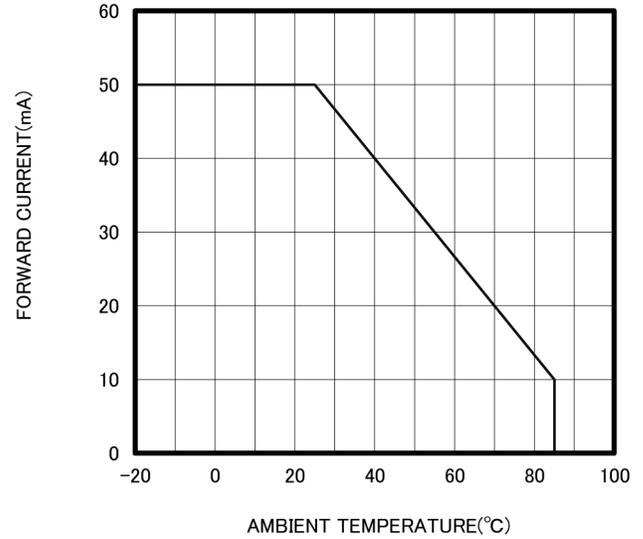


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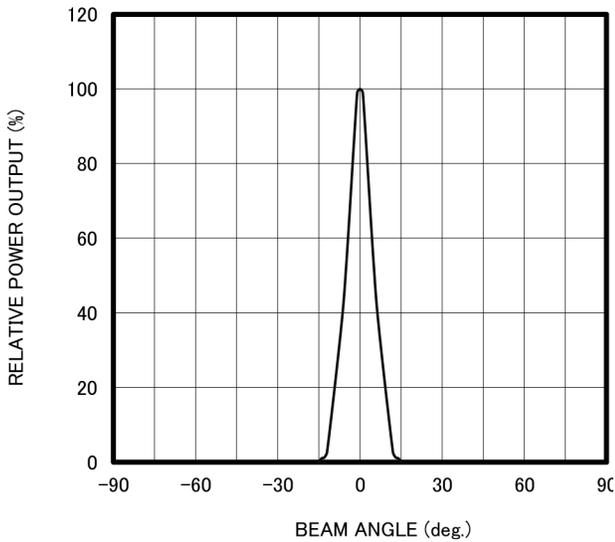
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2018-11-08

Peak Emission Wavelength: 620nm

The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

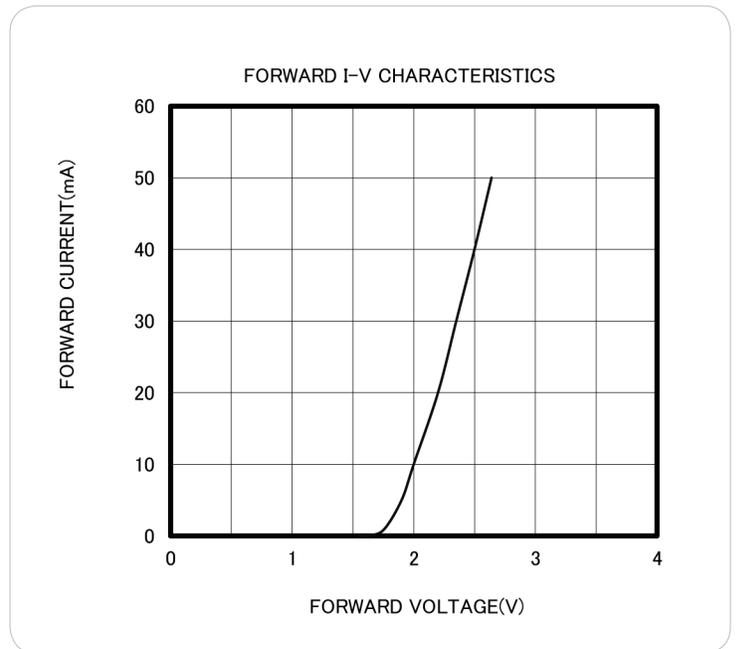
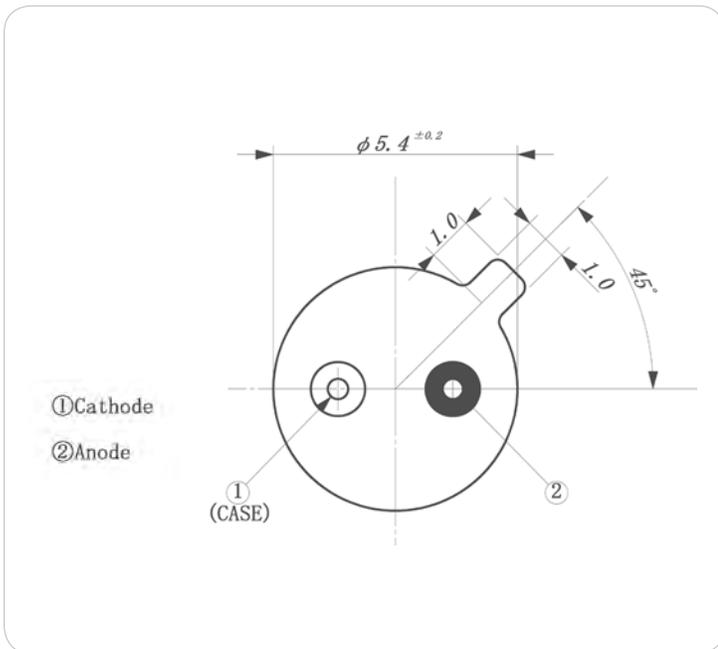
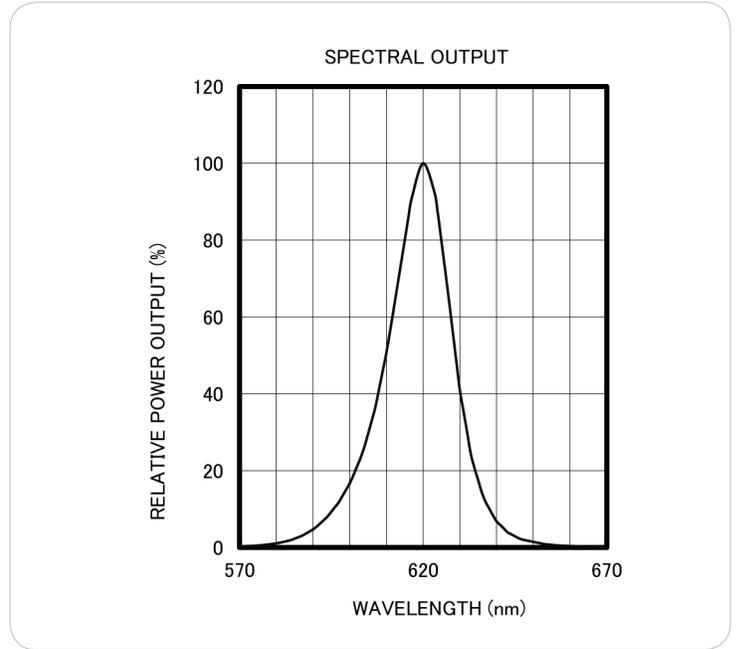
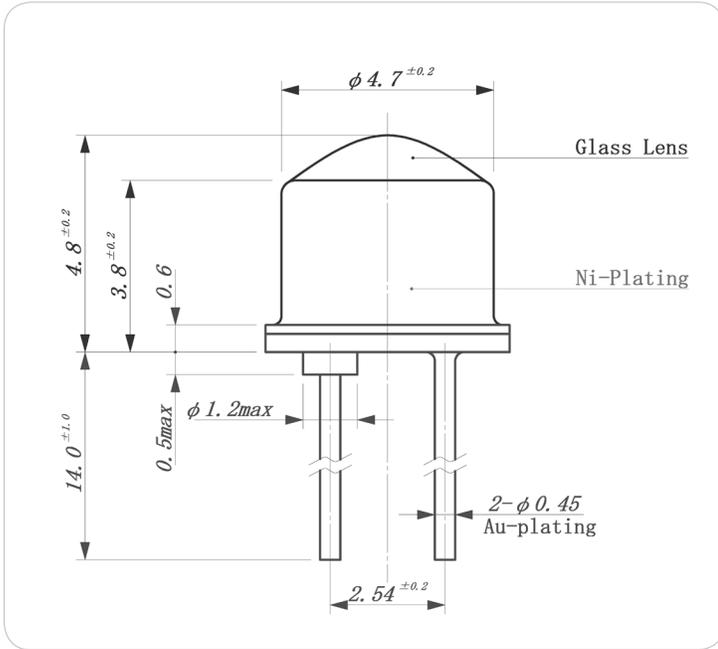


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

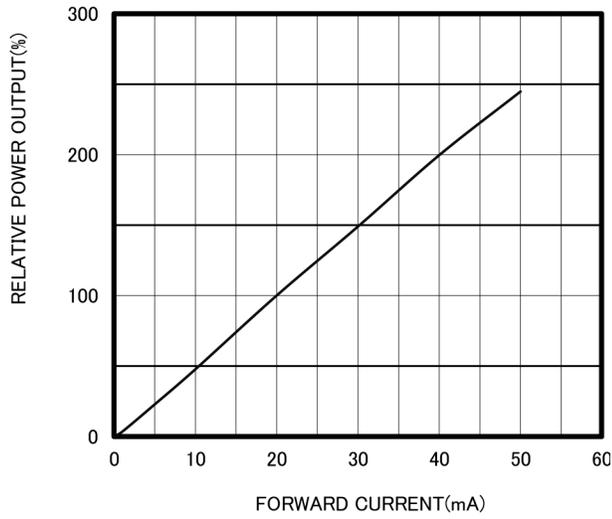
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	4.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.05	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	620	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

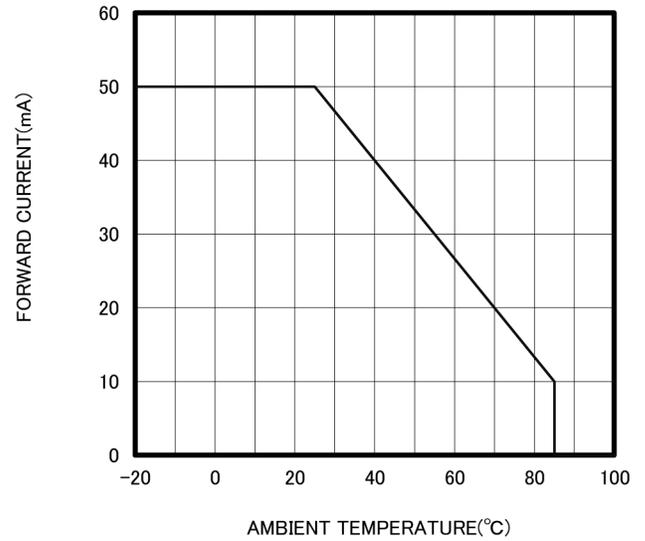


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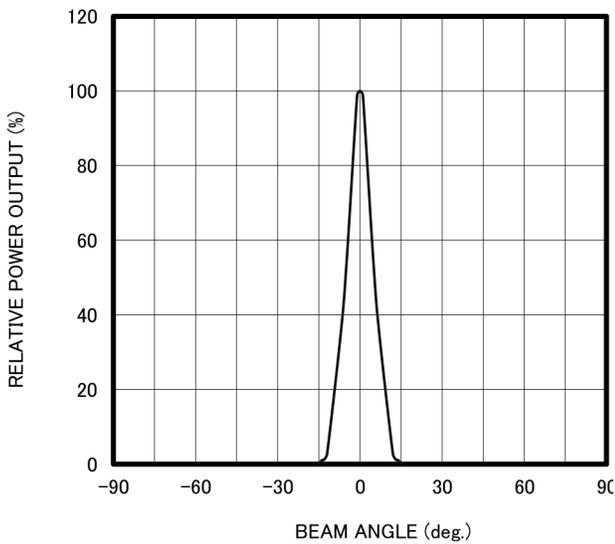
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2018-11-16

Peak Emission Wavelength: 620nm

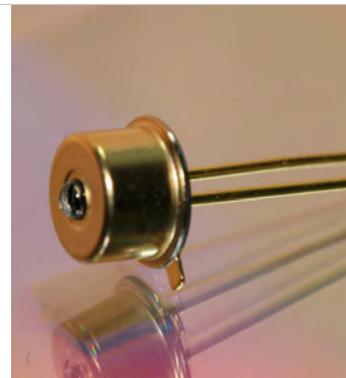
The 620nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

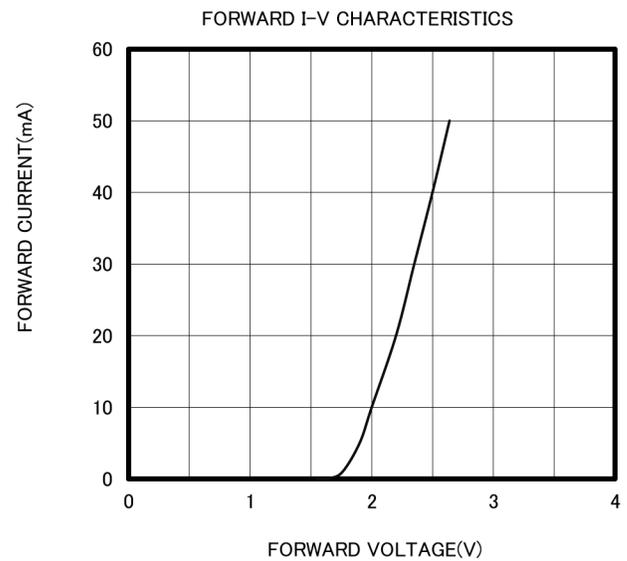
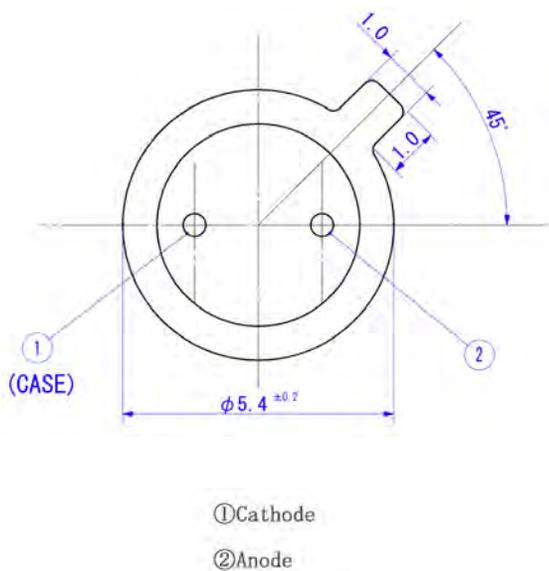
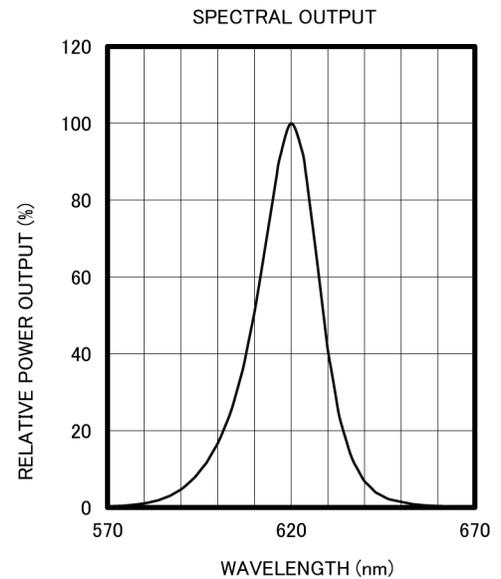
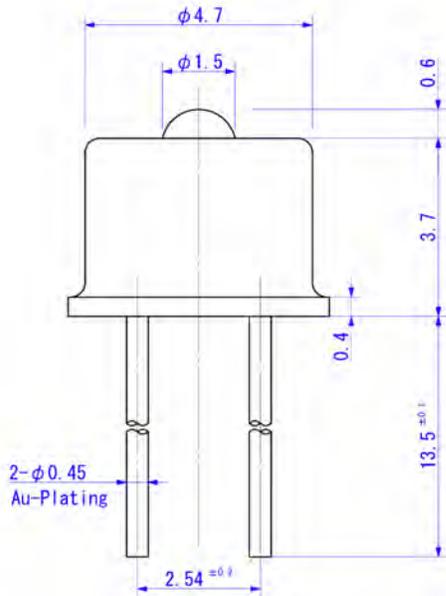


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

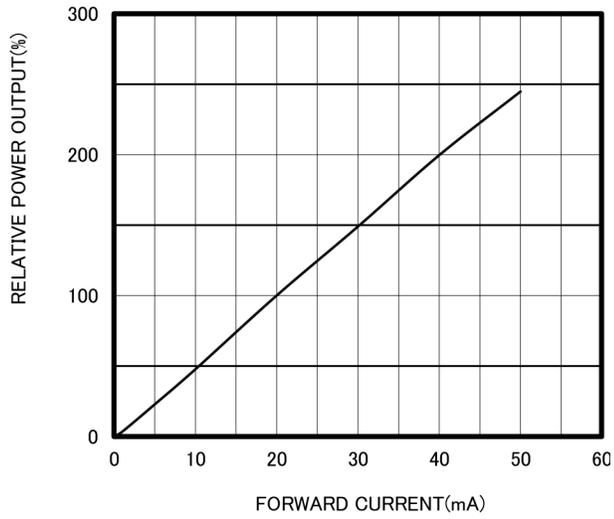
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	1.25	--	mW
Forward Voltage	VF	IF=20mA	--	2.05	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	620	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±9	--	deg

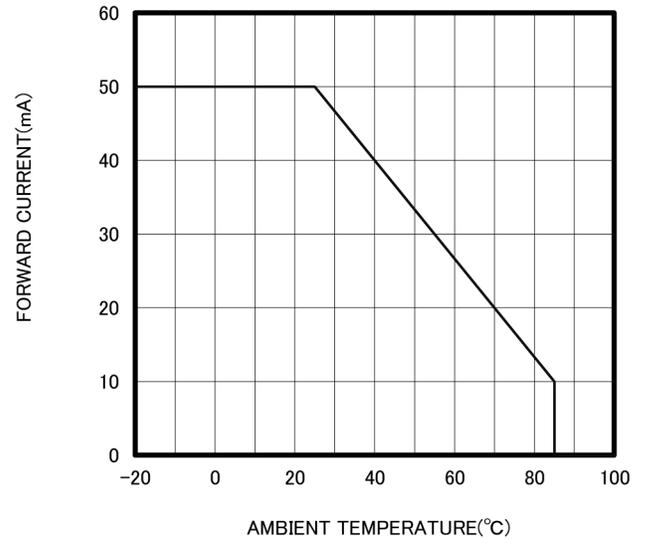


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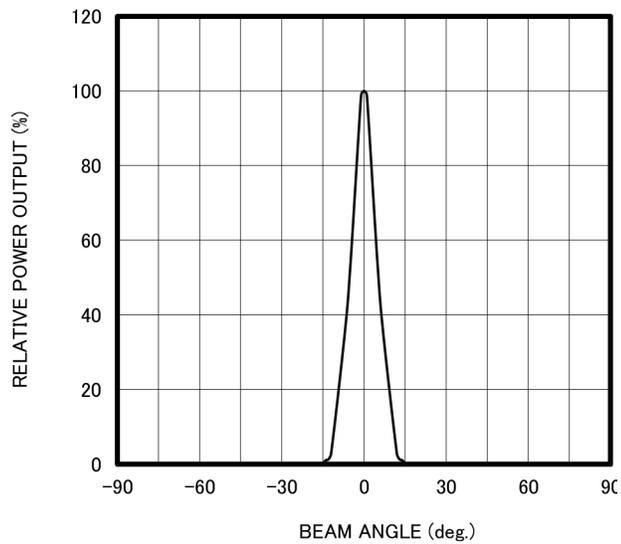
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2018-11-16

Peak Emission Wavelength: 470nm

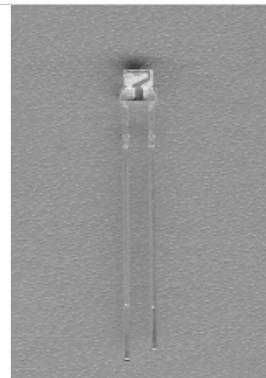
The MTE4047C2-UB consists of a 470nm high output die in a water-clear plastic molded package. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > High Reliability
- > Compact

APPLICATIONS

- > Color Sensor (Money-bill)
- > Paper Sensor (Money Bill)



Absolute Maximum Ratings (Ta=25°C)

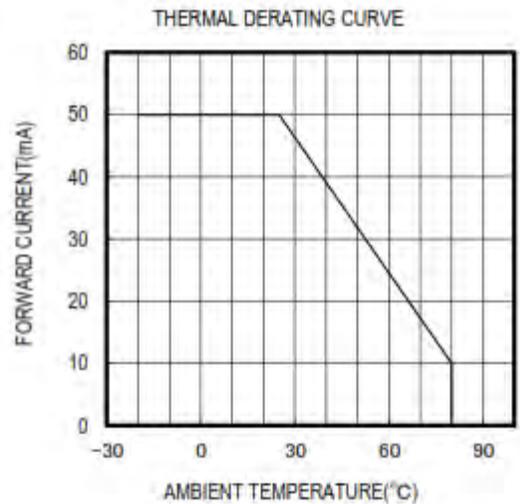
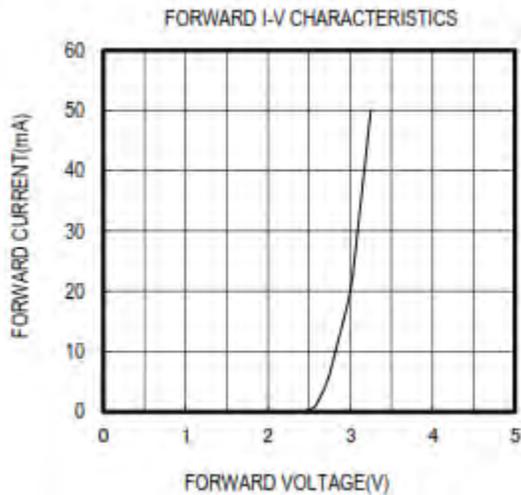
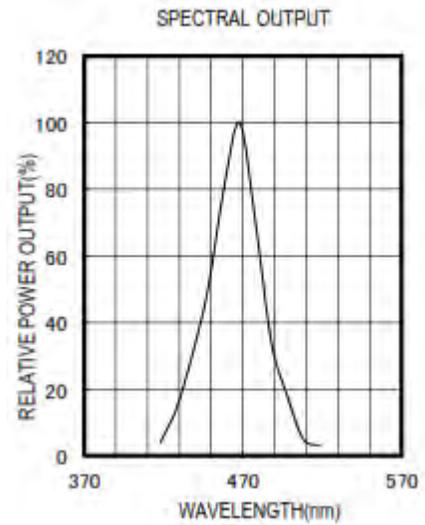
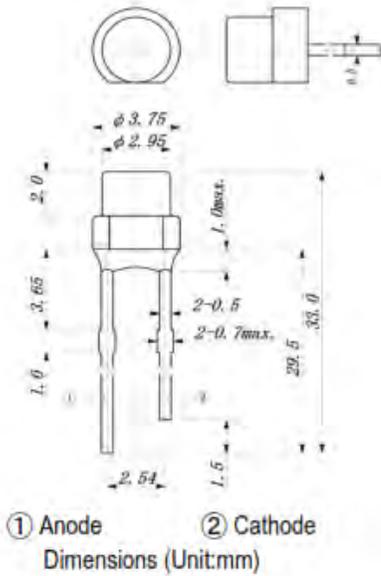


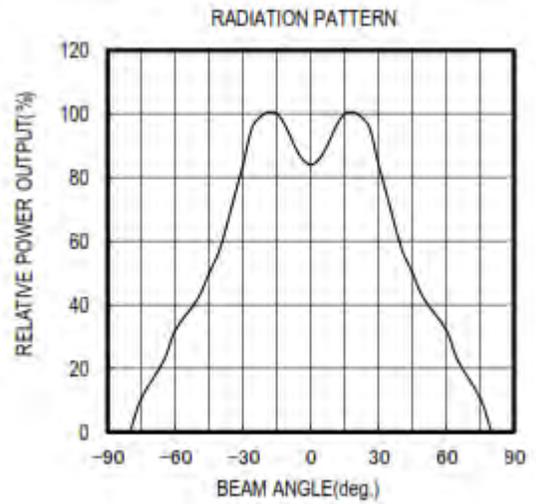
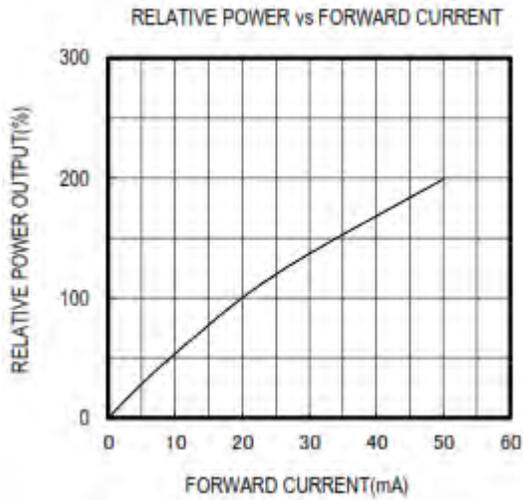
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	14.5	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	470	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±45	--	deg
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS





The information contained herein is subject to change without notice.

2025-05-28

Peak Emission Wavelength: 470nm

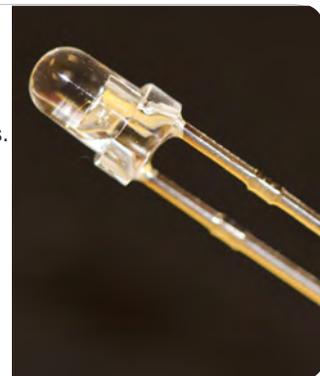
The MTE4047C5-UB is a blue T 1, 3mm water clear emitter designed for applications requiring high power output and high reliability in a wide angle package. It can be custom sorted for specific power output ranges.

FEATURES

- > High Output Power
- > High Reliability

APPLICATIONS

- > Optical Sensors
- > Fiber Optical Communications
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

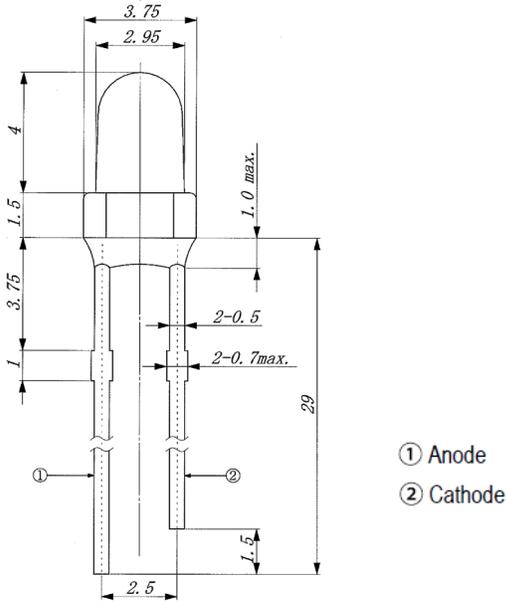


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

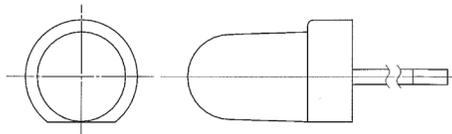
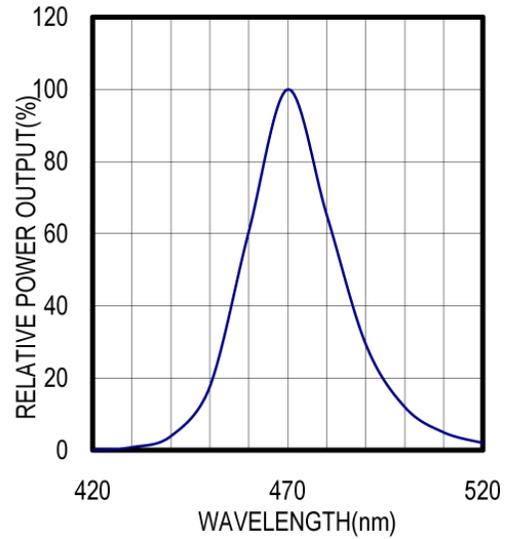
*1: Tw=10µsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

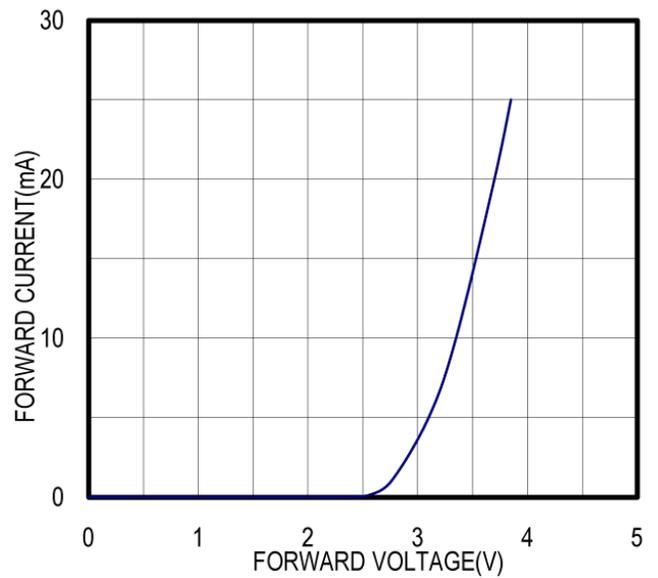
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	15.0	--	mW
Luminous Intensity	Iv	IF=20mA	--	3600	--	mcd
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	µA
Peak Emission Wavelength	λp	IF=20mA	--	470	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS



SPECTRAL OUTPUT

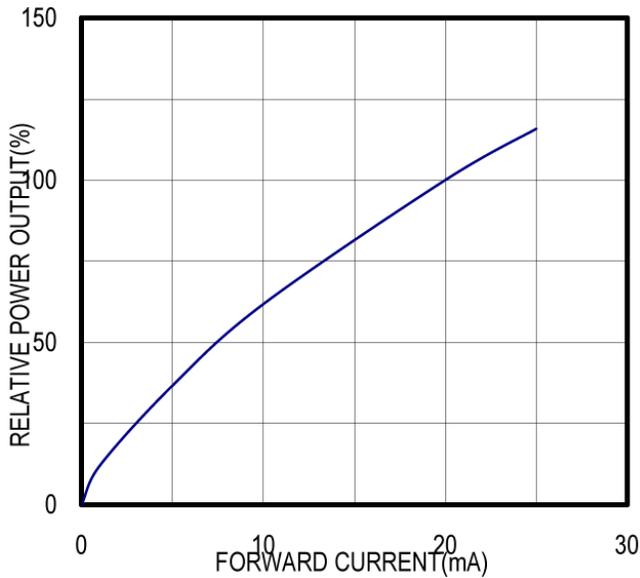


FORWARD I-V CHARACTERISTICS

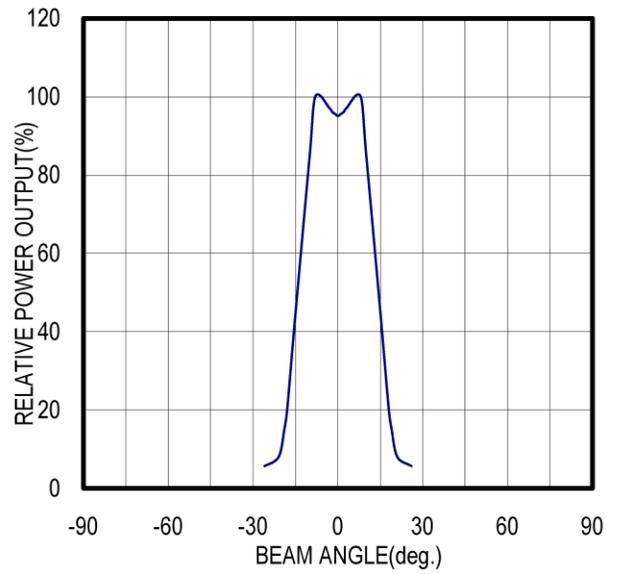


Unit: mm, Tolerance: ± 0.2

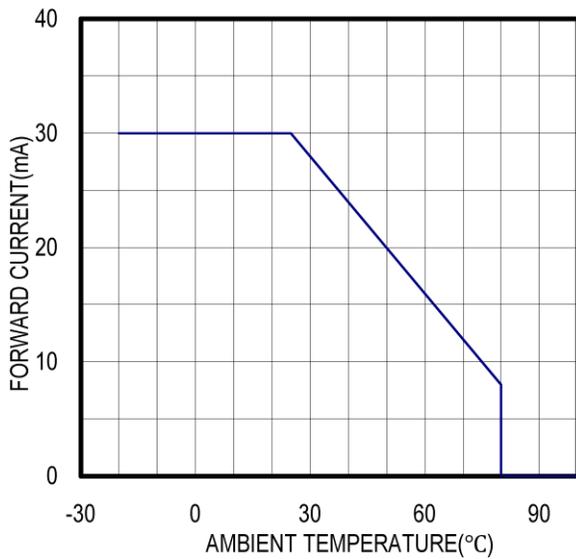
RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



THERMAL DERATING CURVE



The information contained herein is subject to change without notice.

2025-05-28

Peak Emission Wavelength: 470nm

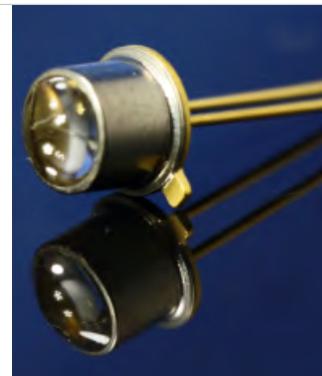
The 470nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

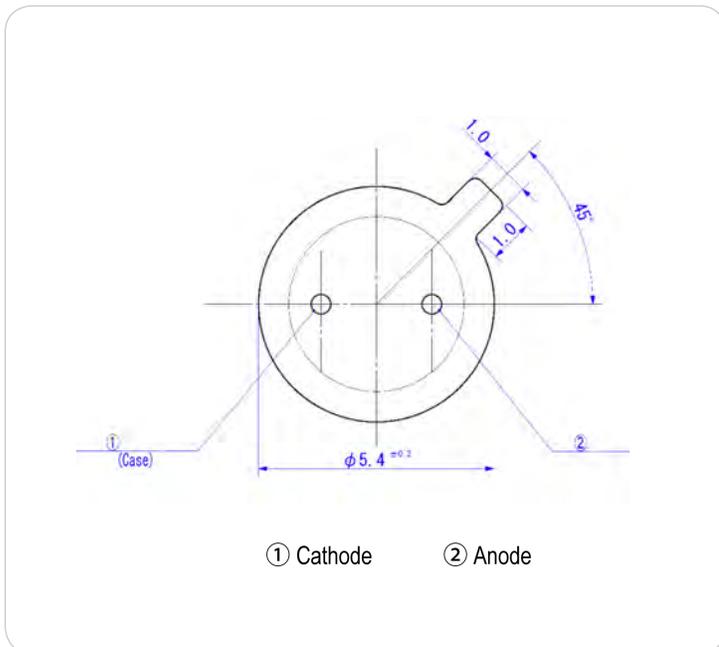
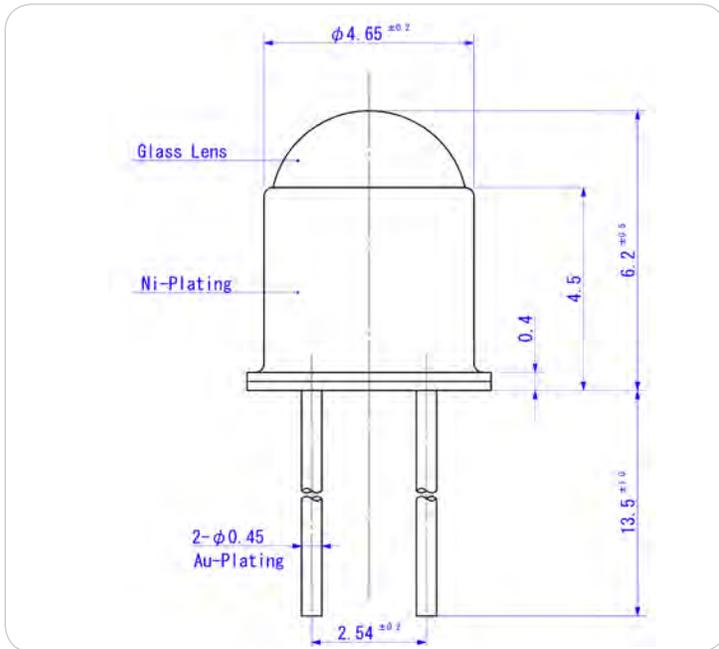


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

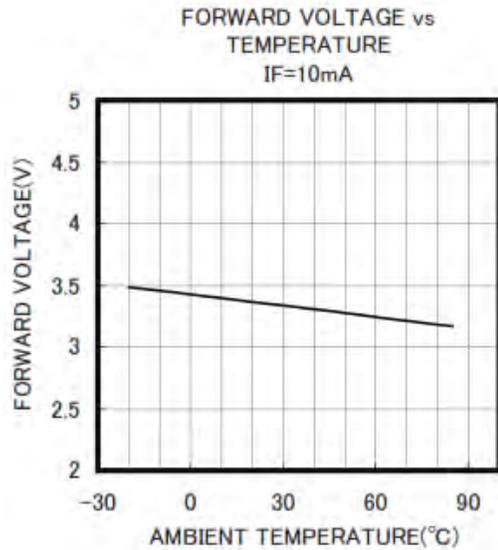
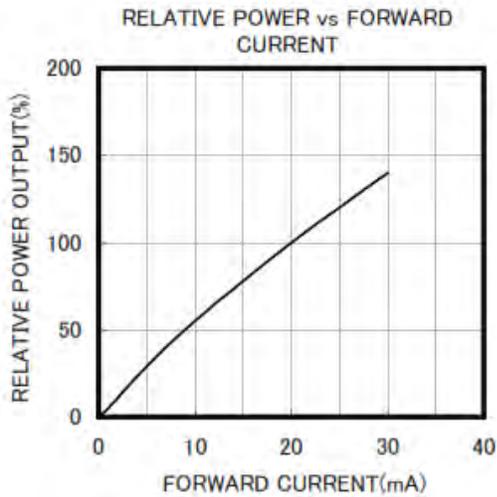
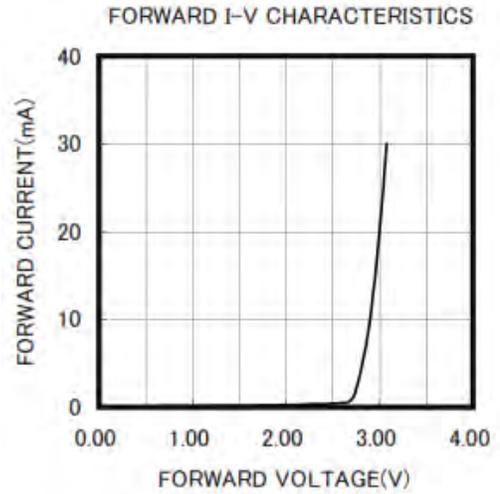
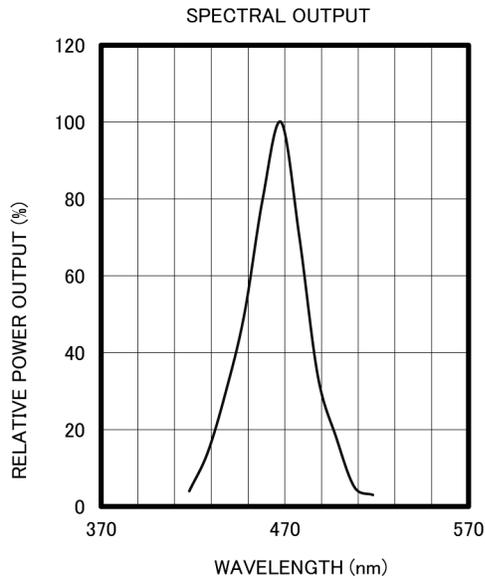
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	3.7	--	mW
Forward Voltage	VF	IF=20mA	--	2.9	--	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	470	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	23	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±8	--	deg
Temp. Coefficient of PO	P/T	IF=10mA	--	-0.2	--	%/°C
Temp. Coefficient of VF	V/T	IF=10mA	--	-3.0	--	mV/°C
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS



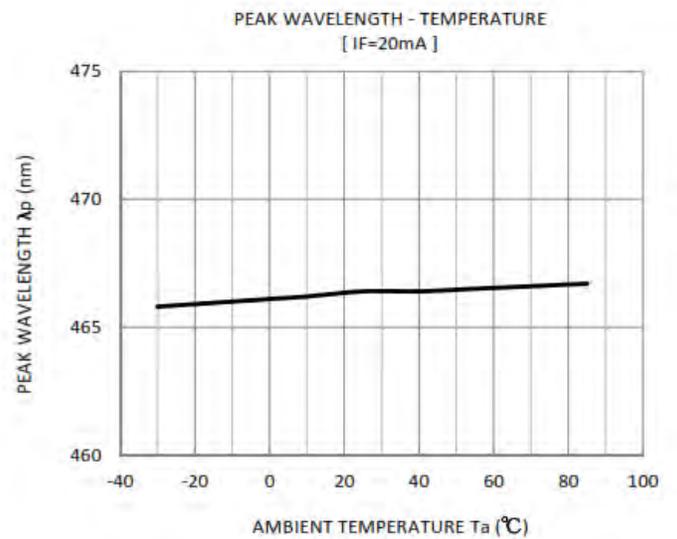
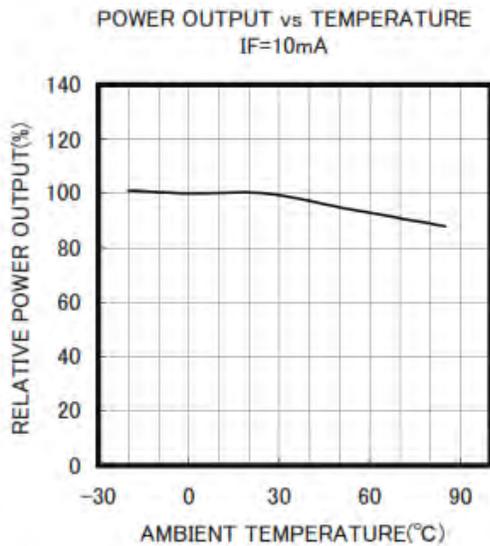
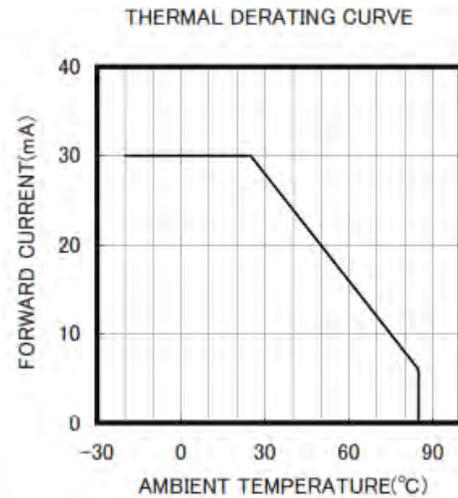
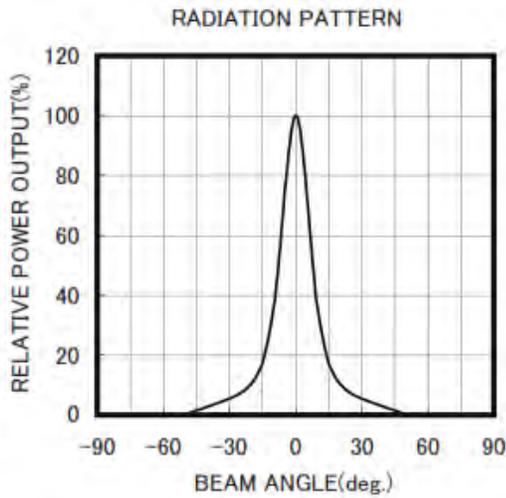
Unit: mm, Tolerance: ±0.2

2025-05-28



The information contained herein is subject to change without notice.

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The information contained herein is subject to change without notice.

2025-05-28

Peak Emission Wavelength: 470nm

The 470nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

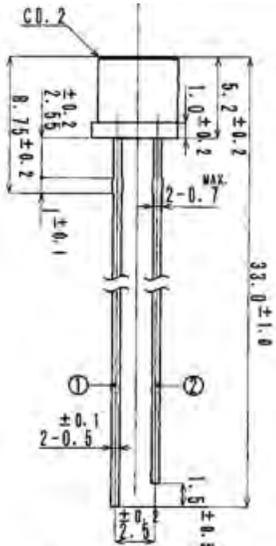


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

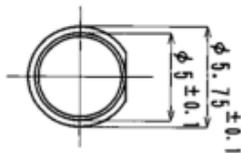
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	15.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	470	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±40	--	deg
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS

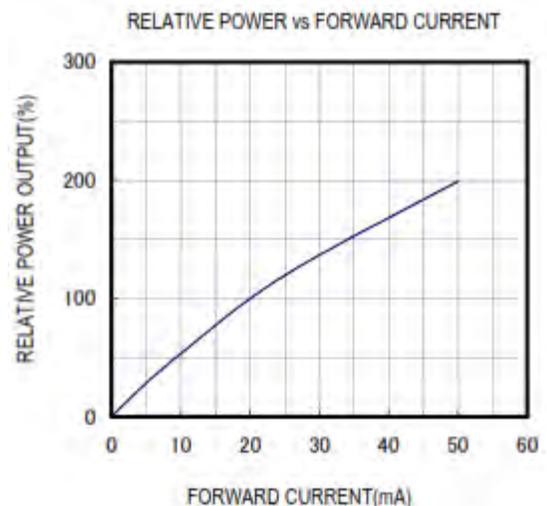
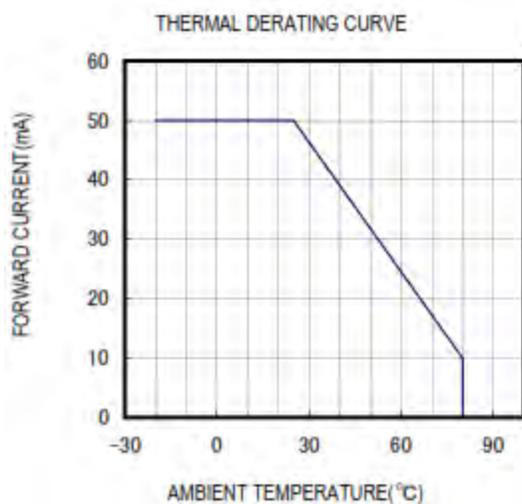
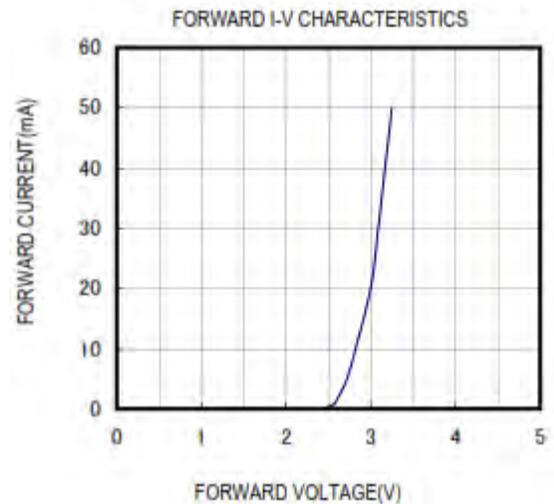
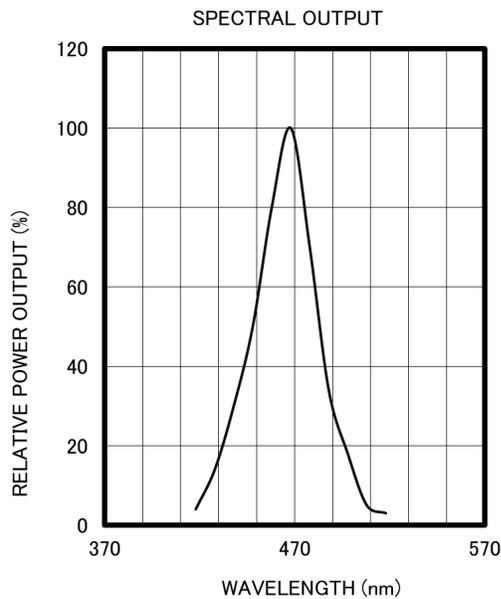


① Anode

② Cathode

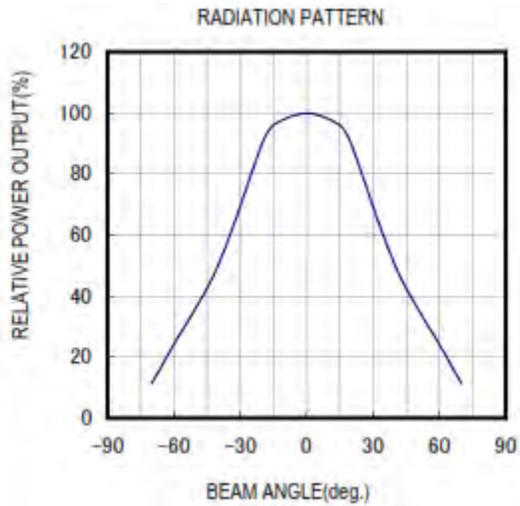


Unit: mm, Tolerance: ± 0.2



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2025-05-28

Visible Light Emitting Diode

The MTE4047N3-WT consists of a phosphor coated 470nm high output die in a water-clear plastic molded package producing neutral white illumination. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > High Reliability
- > Compact

APPLICATIONS

- > Fiber Optical Communications
- > Indicator



Absolute Maximum Ratings (Ta=25°C)

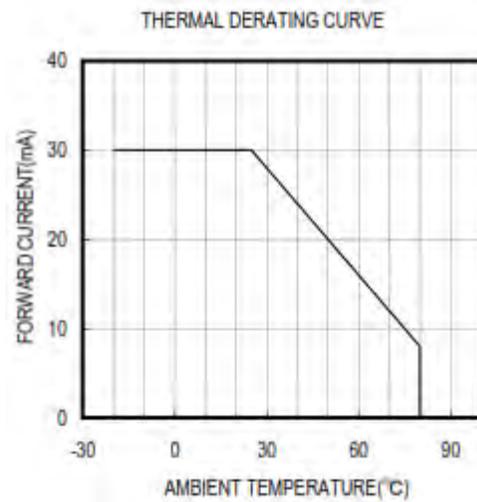
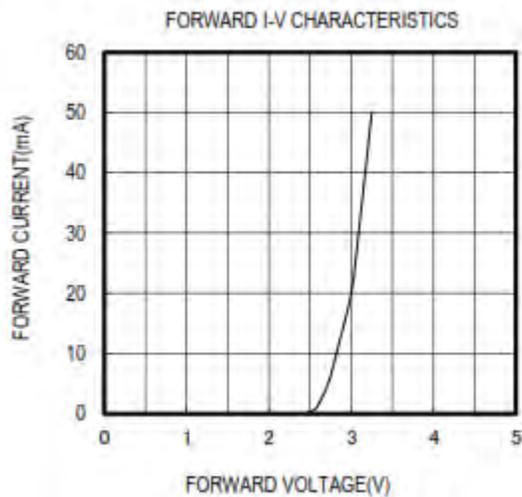
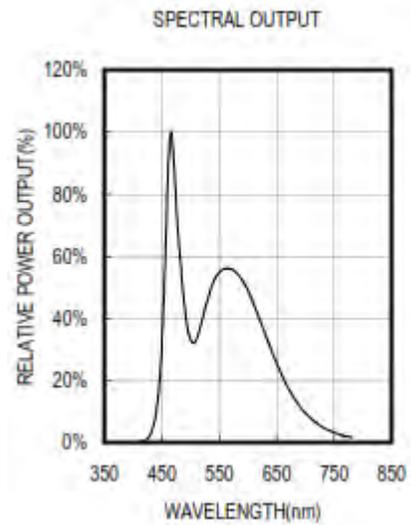
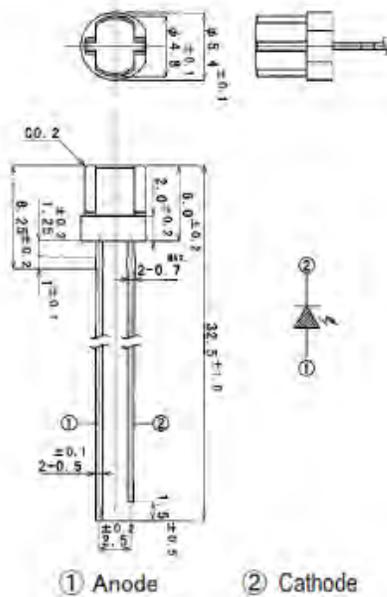


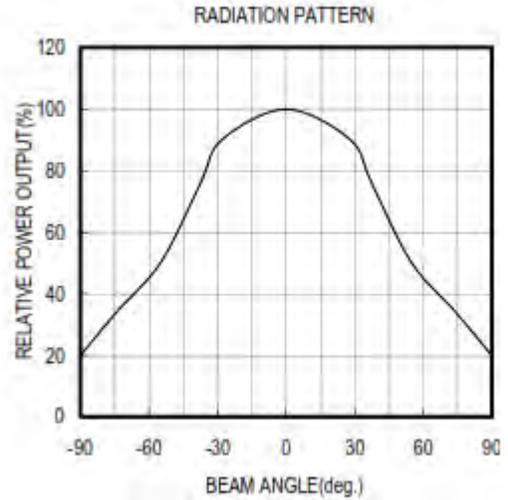
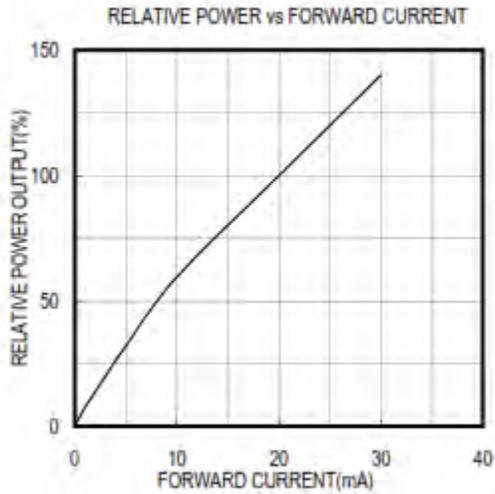
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C
Junction Temperature	Tj	100	°C

*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Luminous Intensity	IV	IF=20mA	--	1000	--	mcd
Color Temperature	TC	IF=20mA	4000	--	6000	K
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Half Intensity Beam Angle	Θ	IF=20mA	--	±55	--	deg
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS





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Peak Emission Wavelength: 470nm

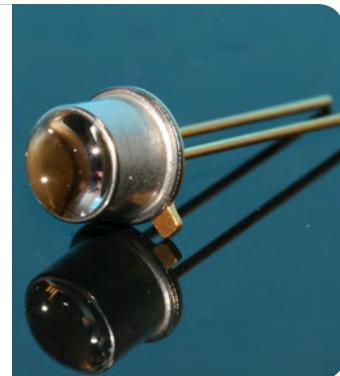
The 470nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

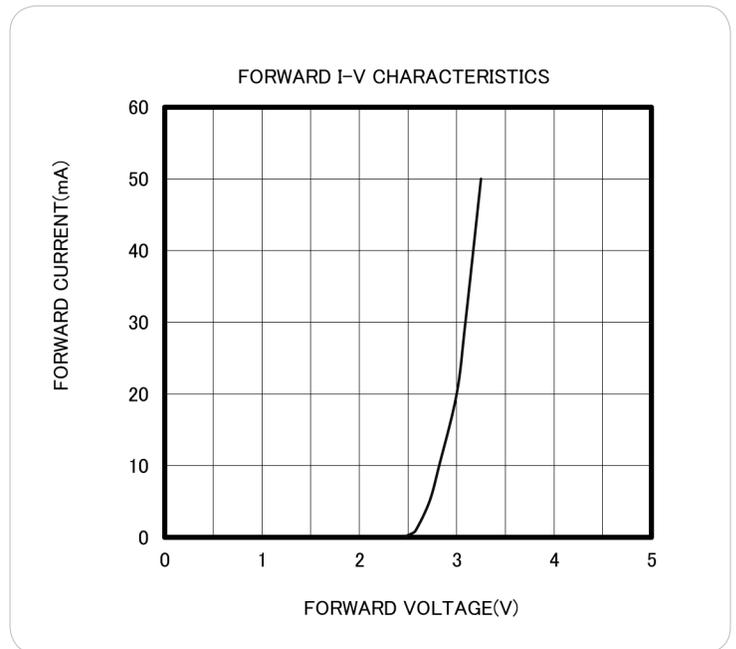
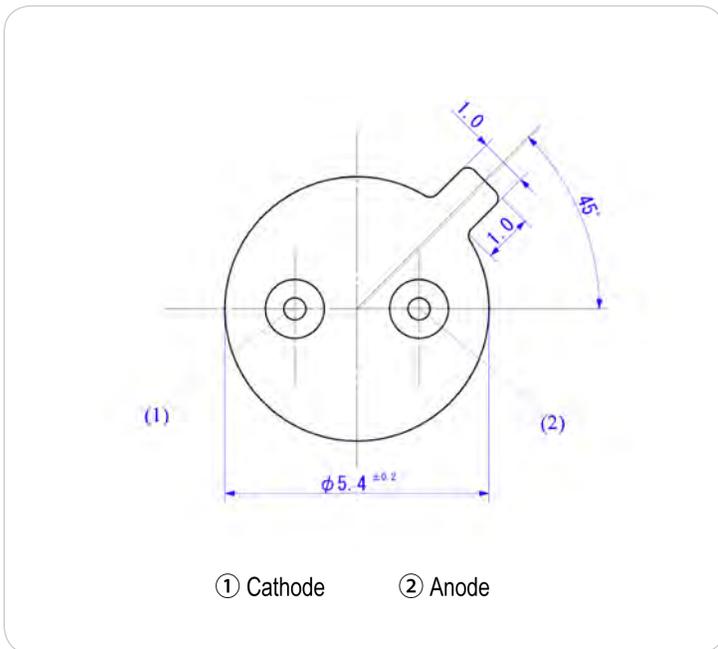
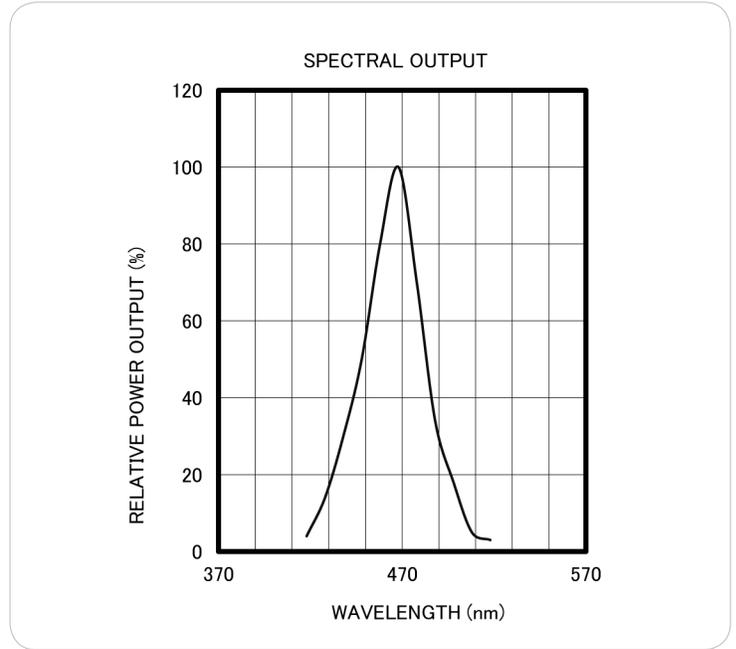
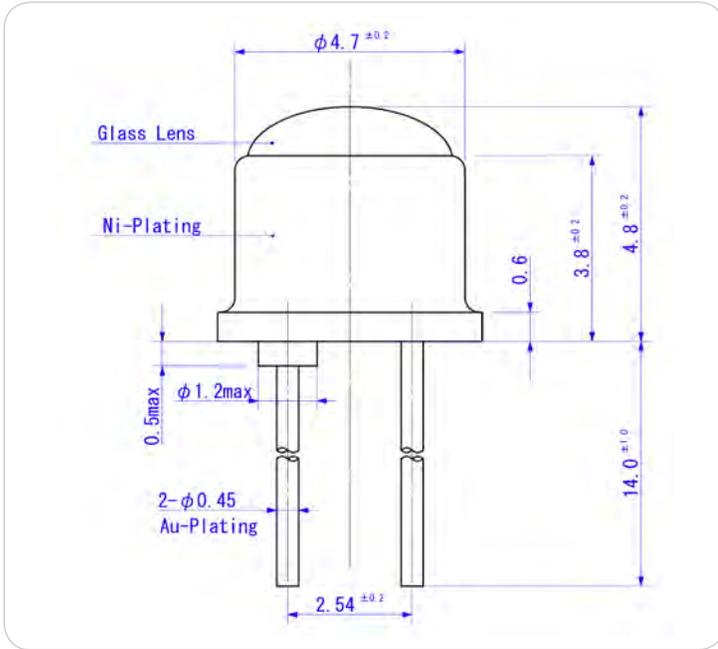


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

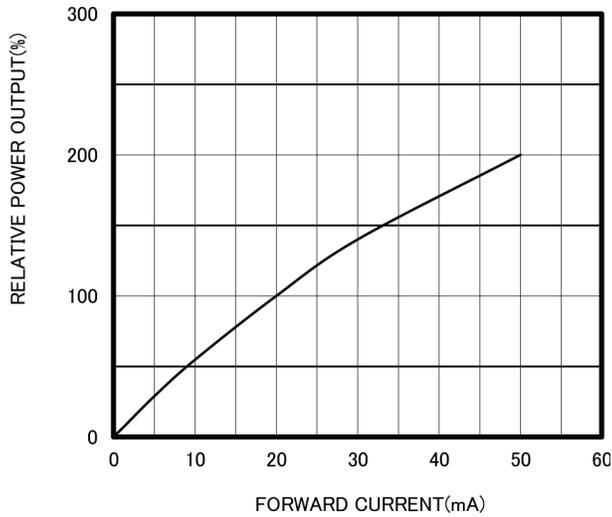
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	3.5	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	470	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS

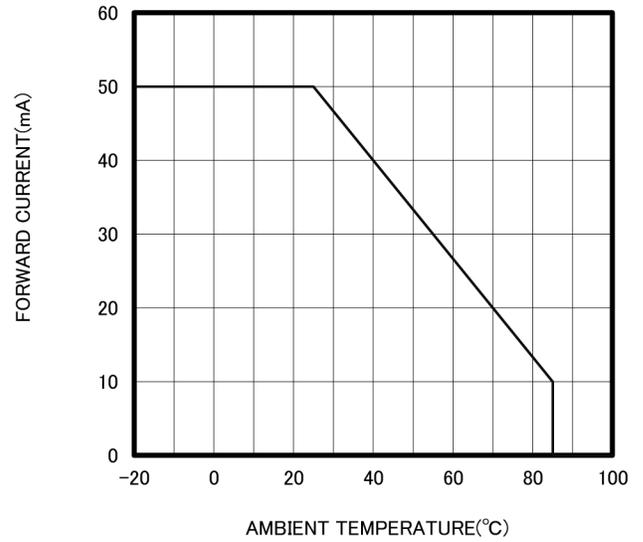


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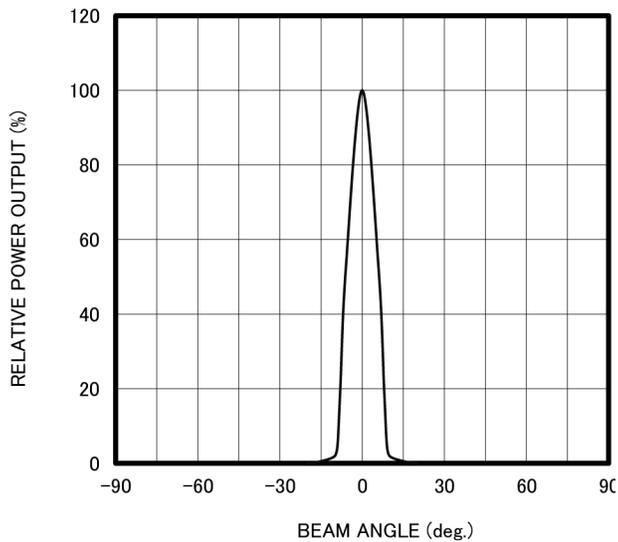
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



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2025-05-28

Peak Emission Wavelength: 470nm

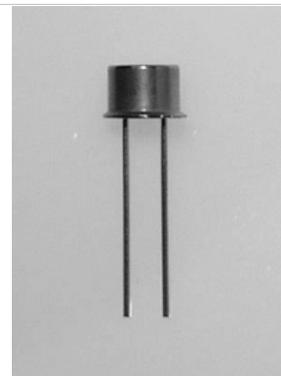
The 470nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

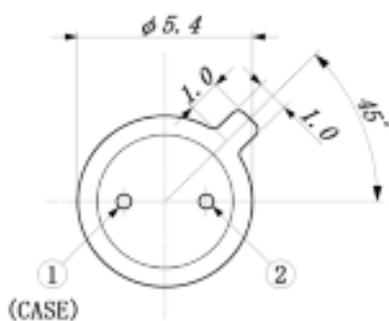
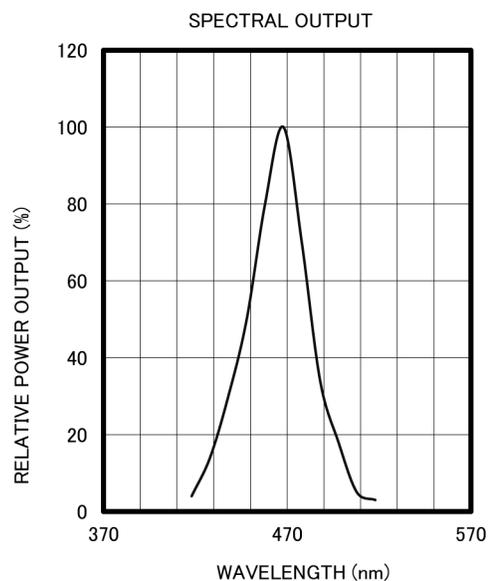
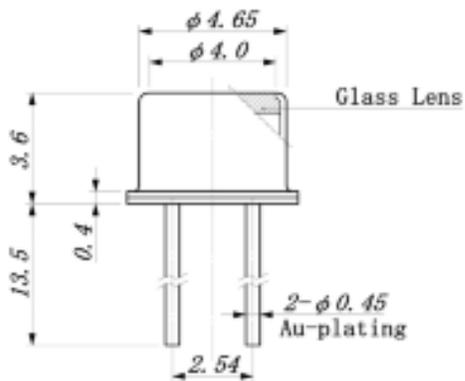


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

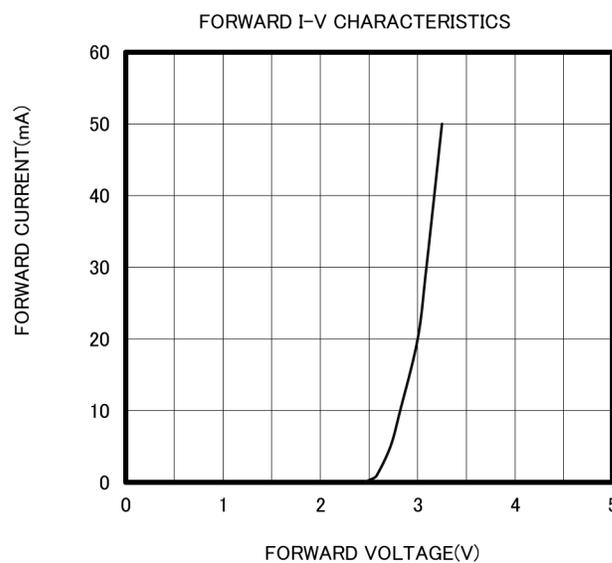
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	4.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	470	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±15	--	deg
Rise Time	TR	IF=20mA	--	40	--	nS
Fall Time	TF	IF=20mA	--	10	--	nS

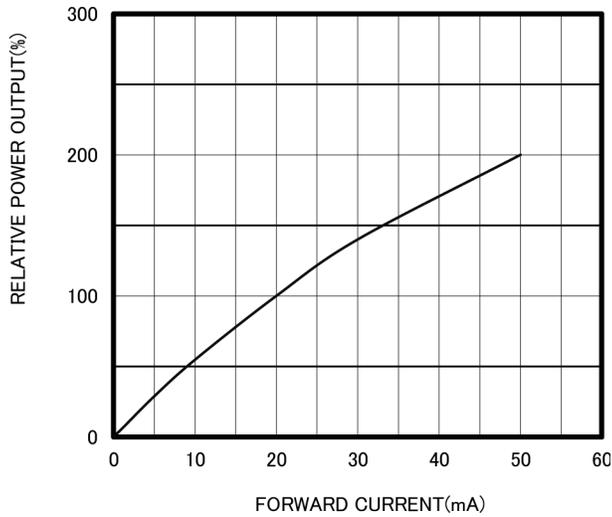


① Cathode ② Anode

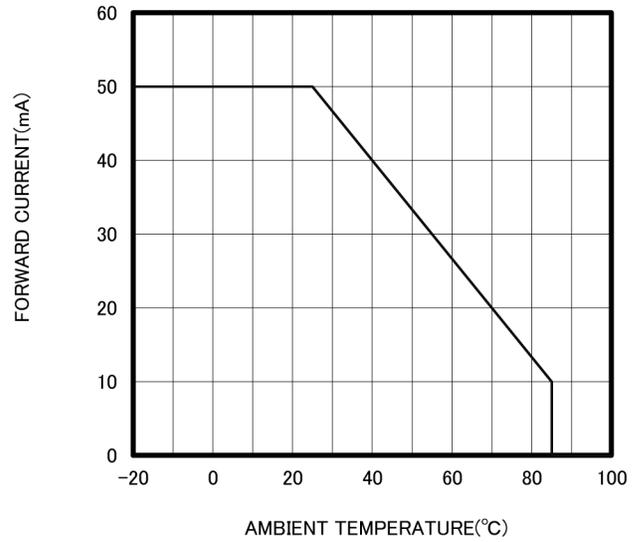


Unit: mm, Tolerance: ± 0.2

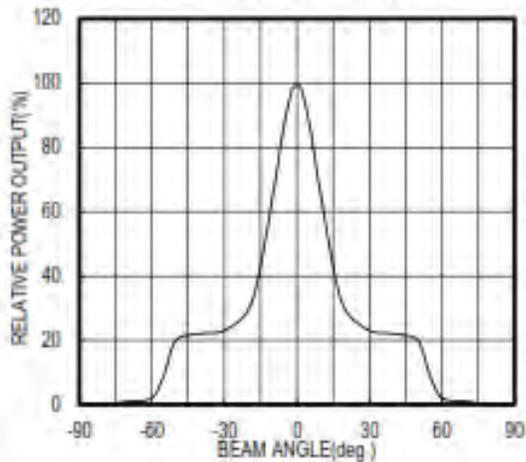
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



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Peak Emission Wavelength: 610nm

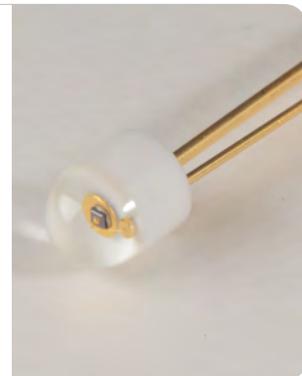
The 610nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

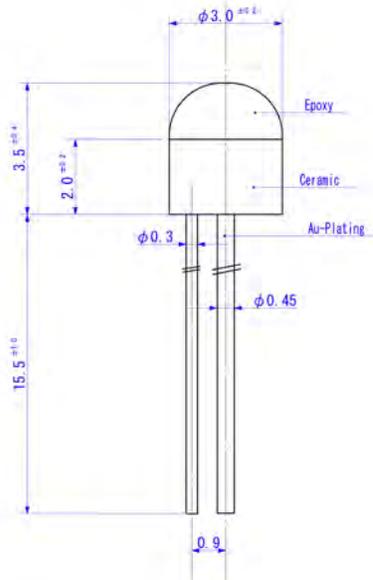


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	75	mW
Operating Temperature Range	ToPr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

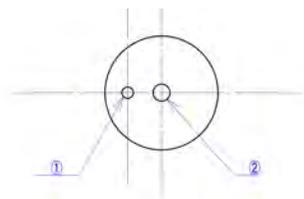
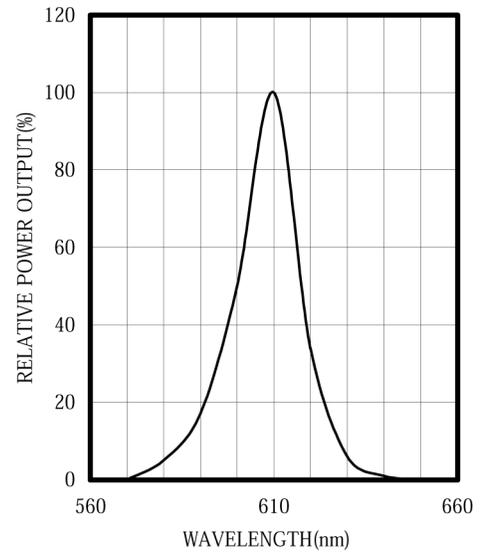
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.9	1.7	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	610	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	17	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.8	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.7	--	mV/°C

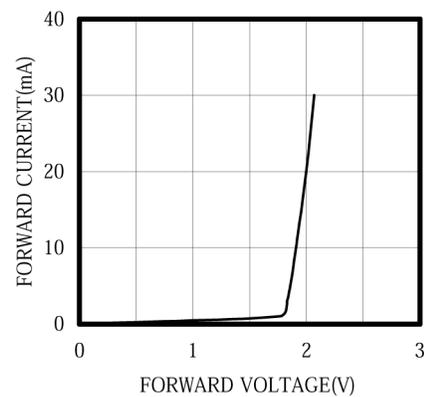


SPECTRAL OUTPUT

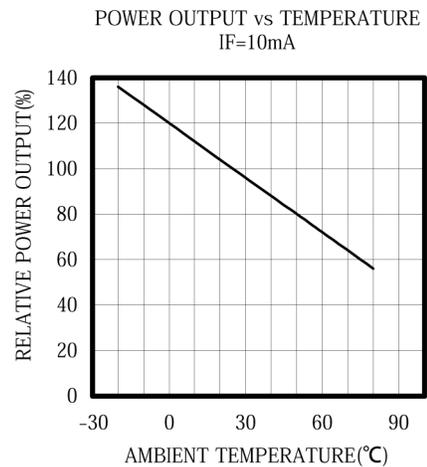
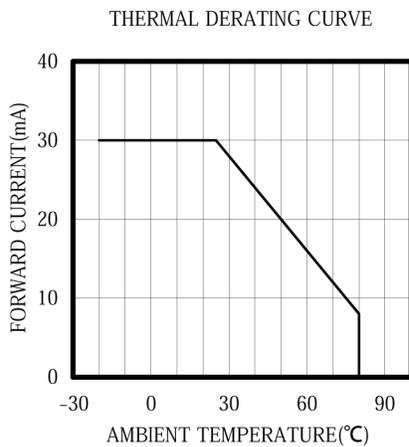
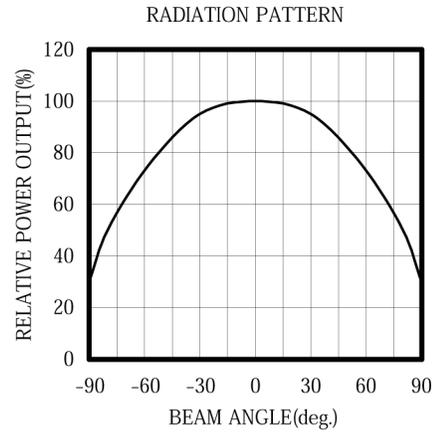
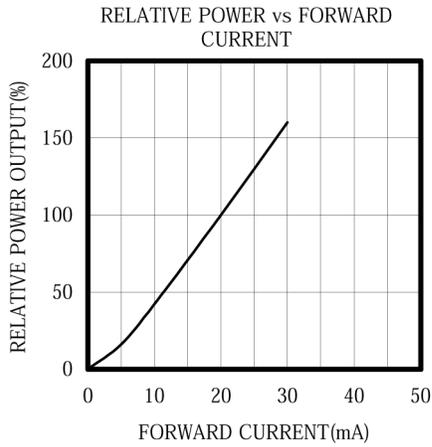


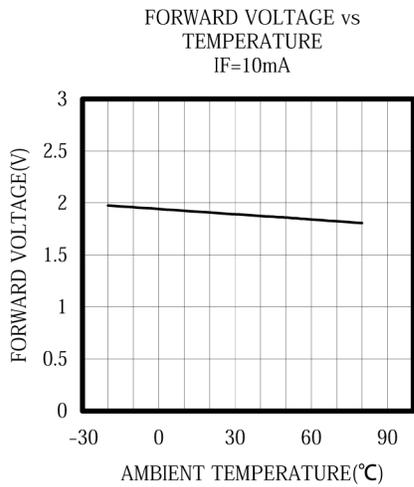
① Anode ② Cathode

FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 610nm

The 610nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

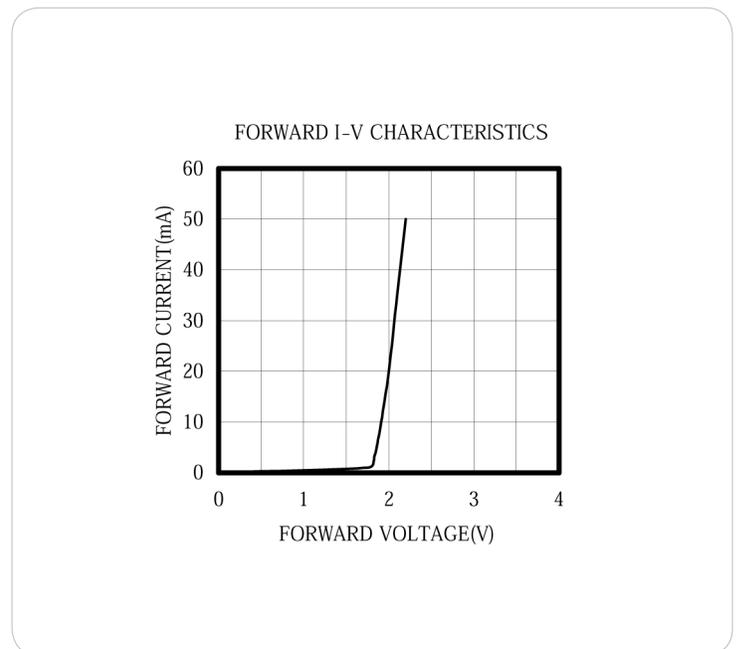
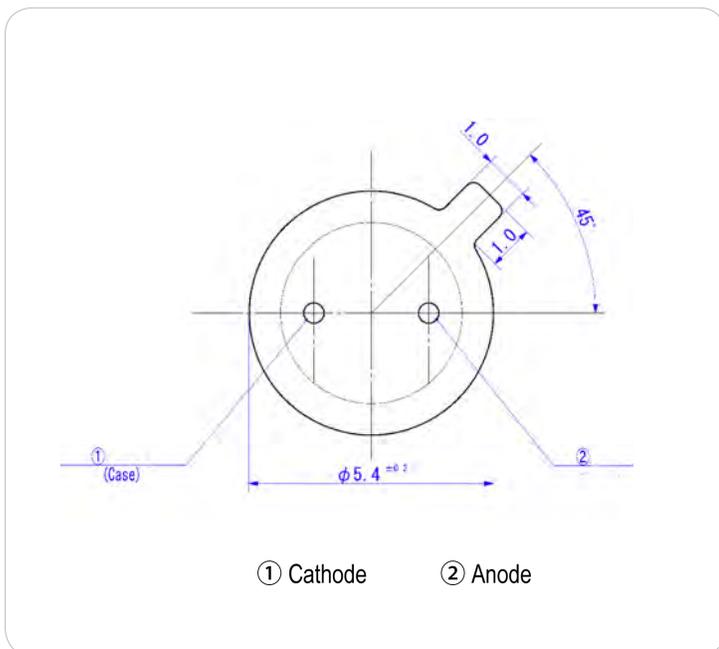
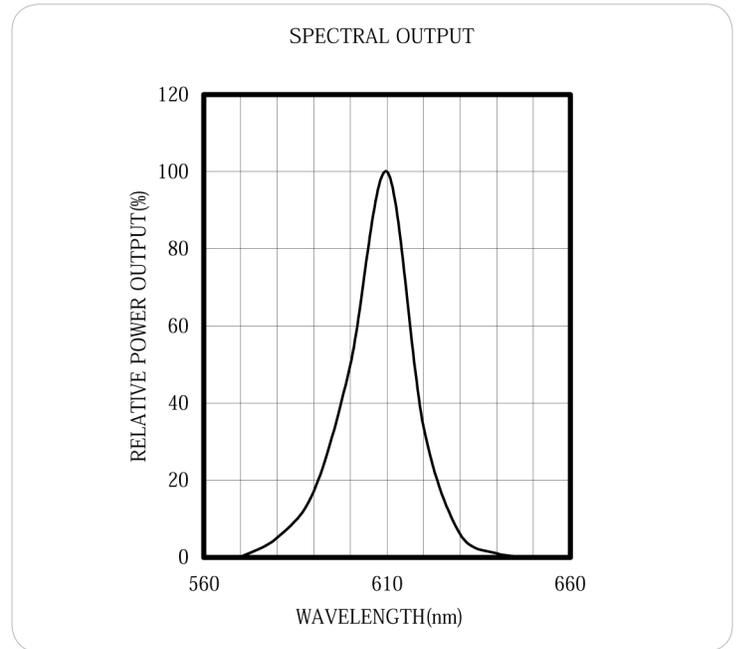
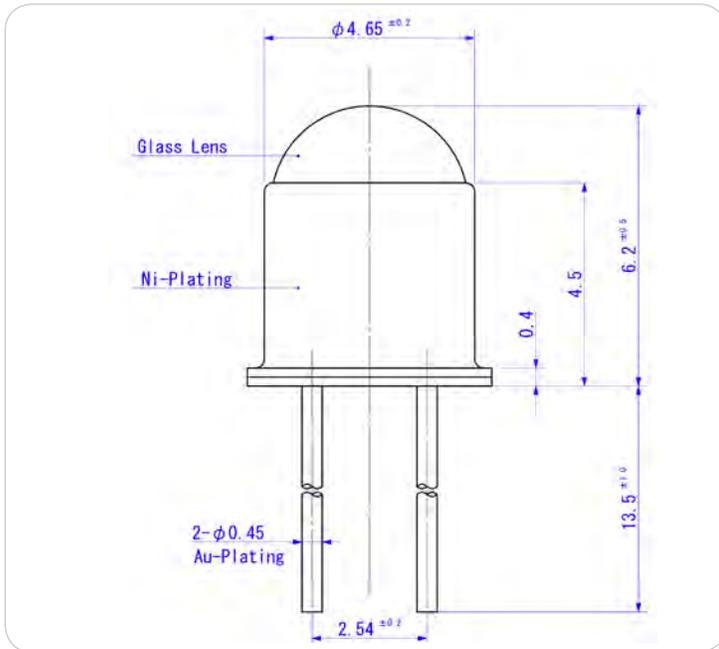


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

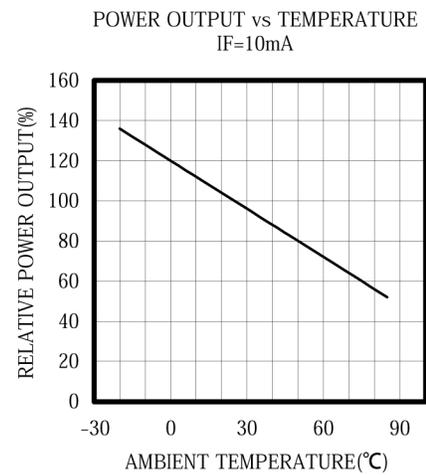
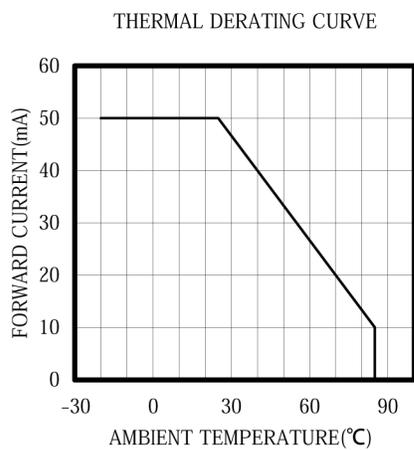
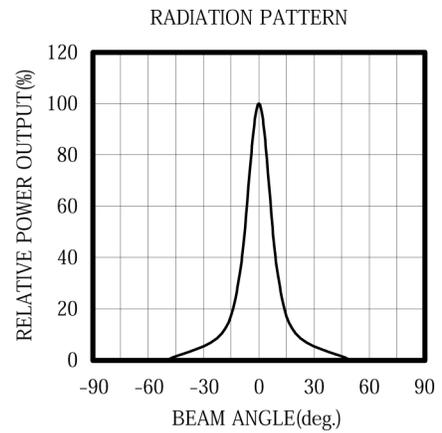
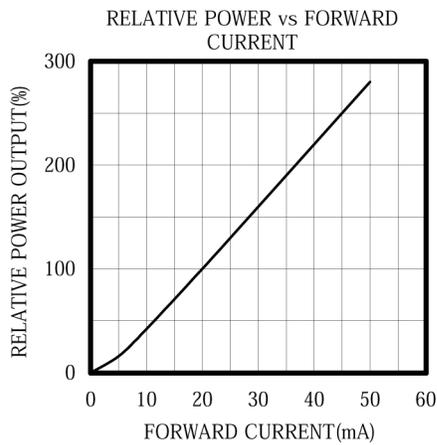
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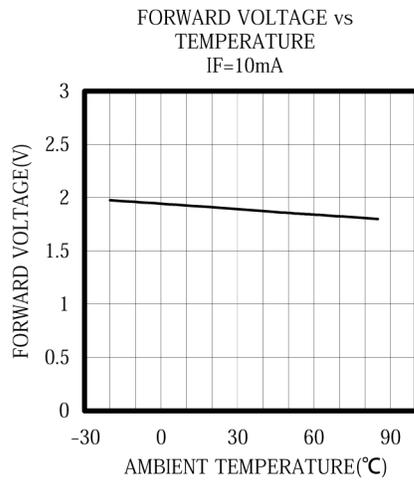
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.5	1.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	610	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	17	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.8	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.7	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 610nm

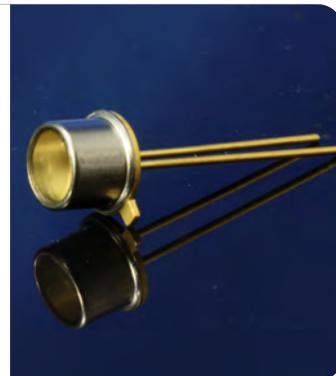
The 610nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

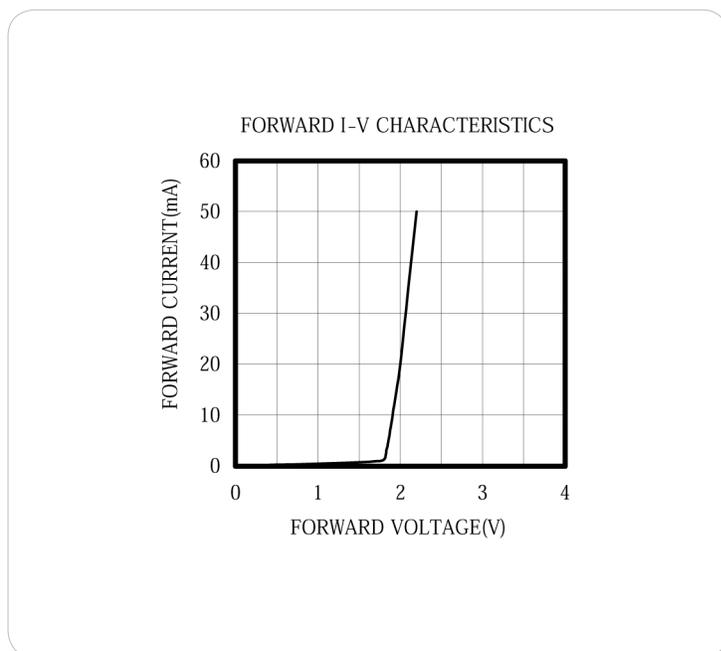
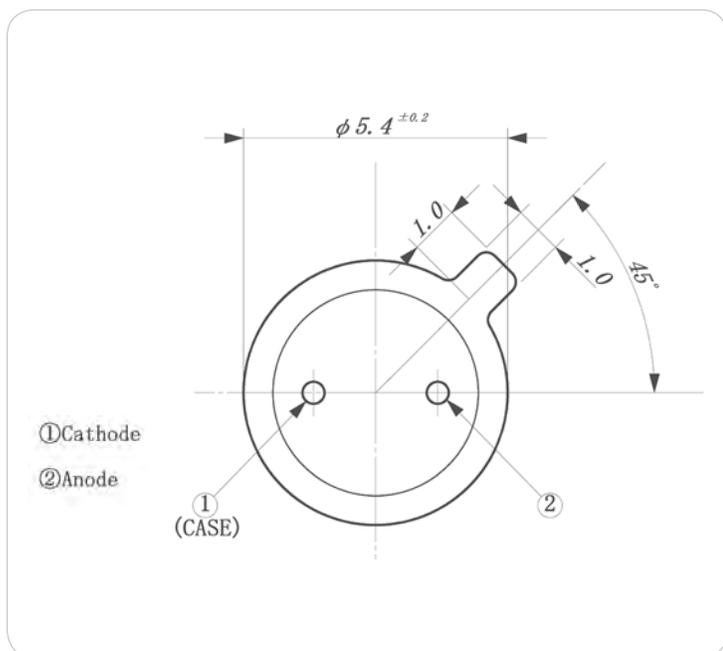
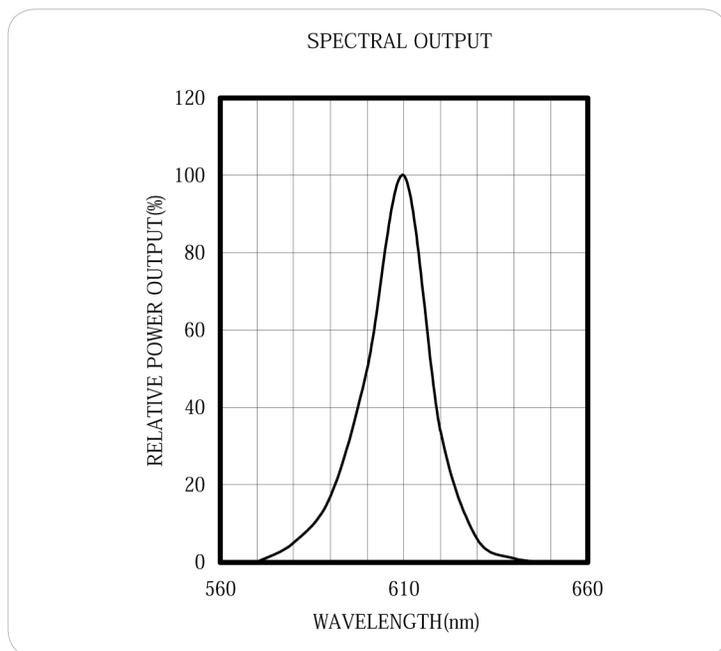
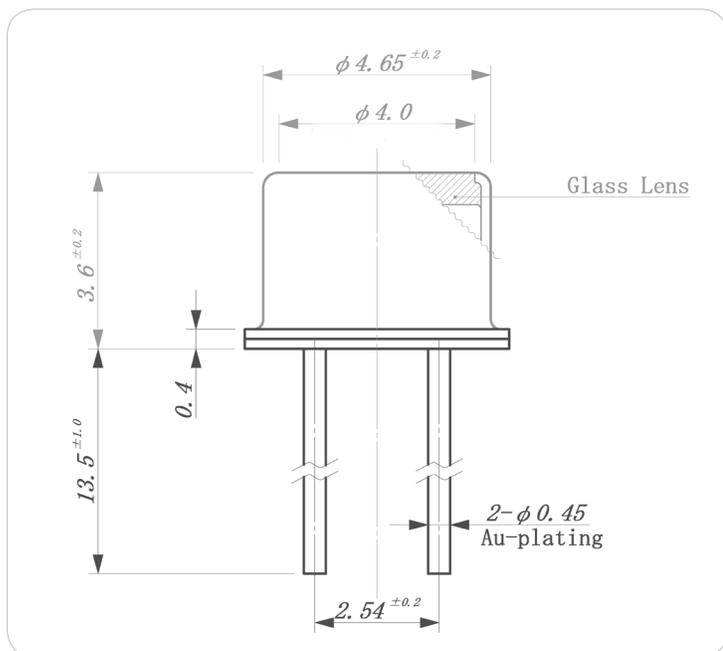


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

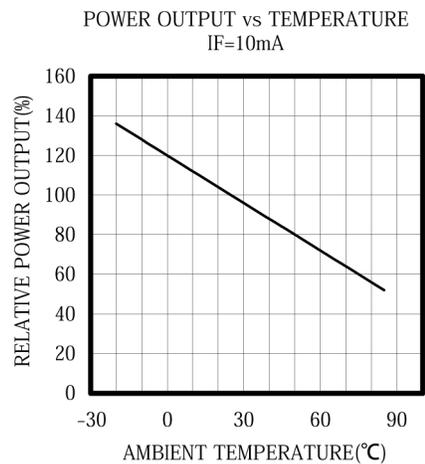
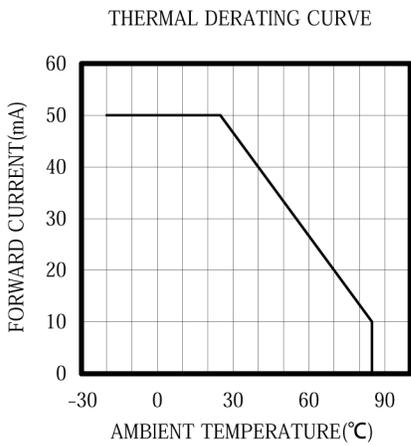
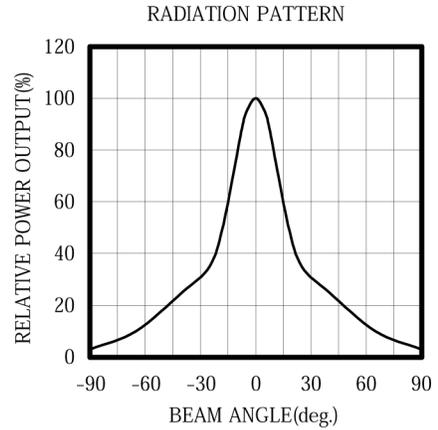
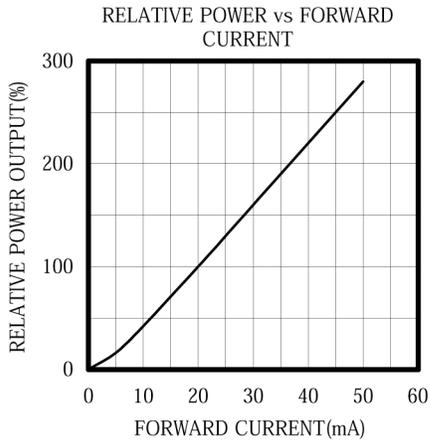
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

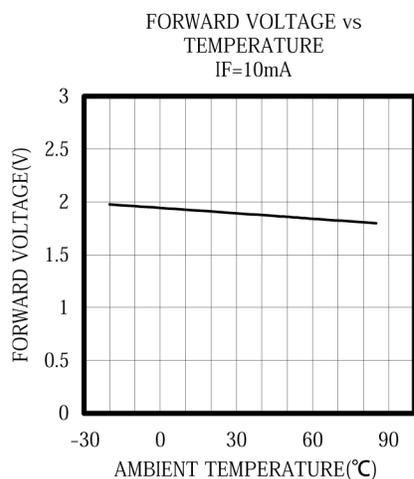
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.5	1.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	610	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	17	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	μS
Fall Time	Tf	IFP=20mA	--	--	--	μS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.8	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.7	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 643nm

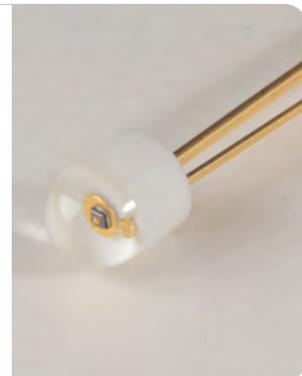
The 643nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

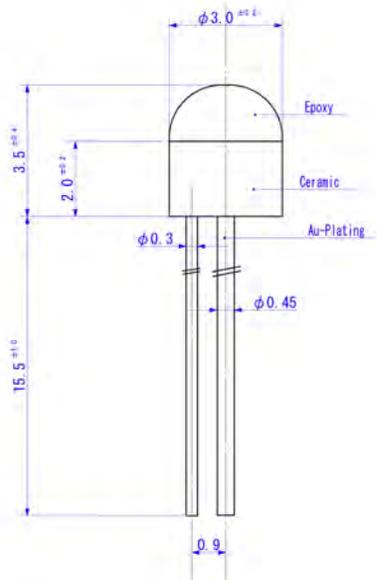


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	75	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

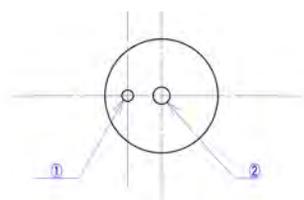
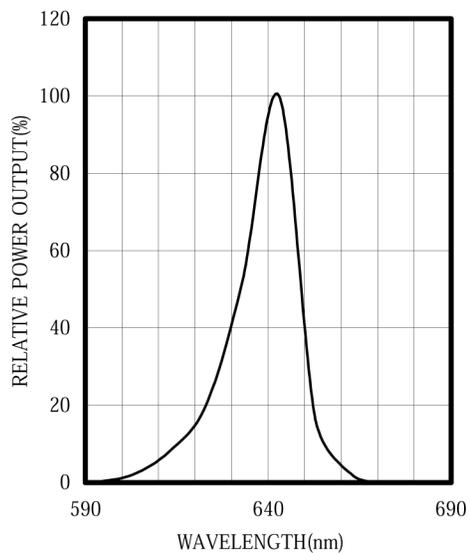
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	2.0	4.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	643	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	18	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.8	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C

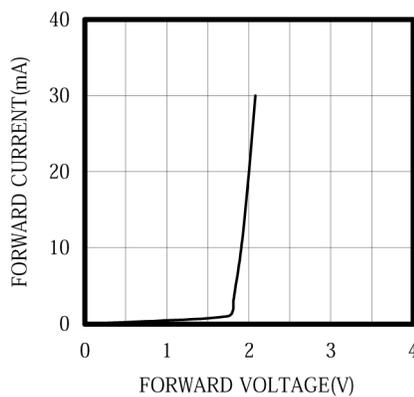


SPECTRAL OUTPUT



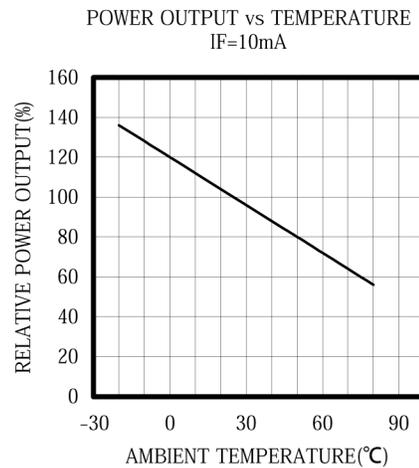
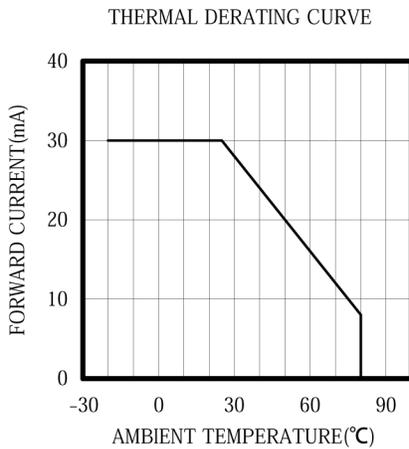
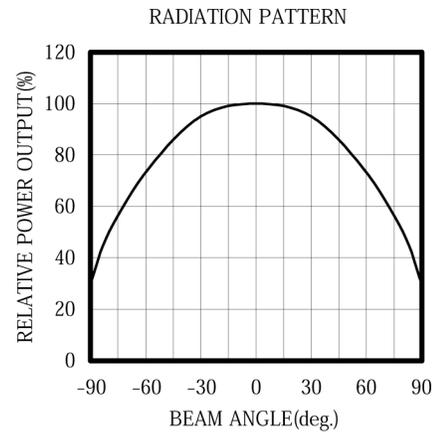
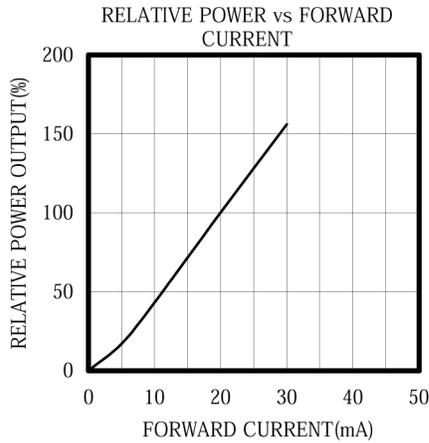
① Anode ② Cathode

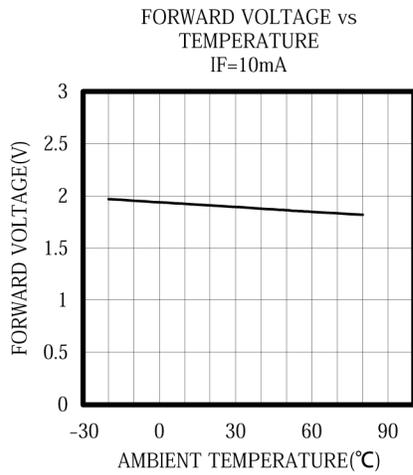
FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2

2011-09-11





Peak Emission Wavelength: 643nm

The 643nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

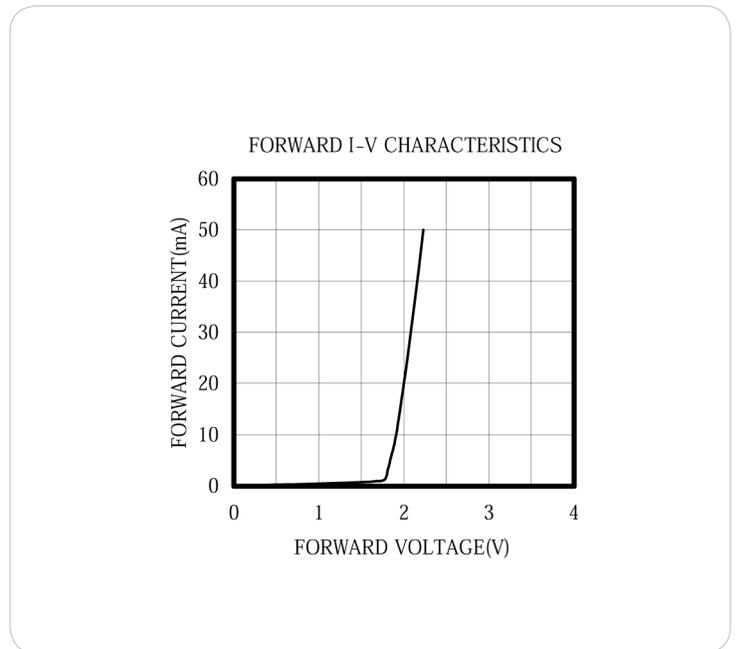
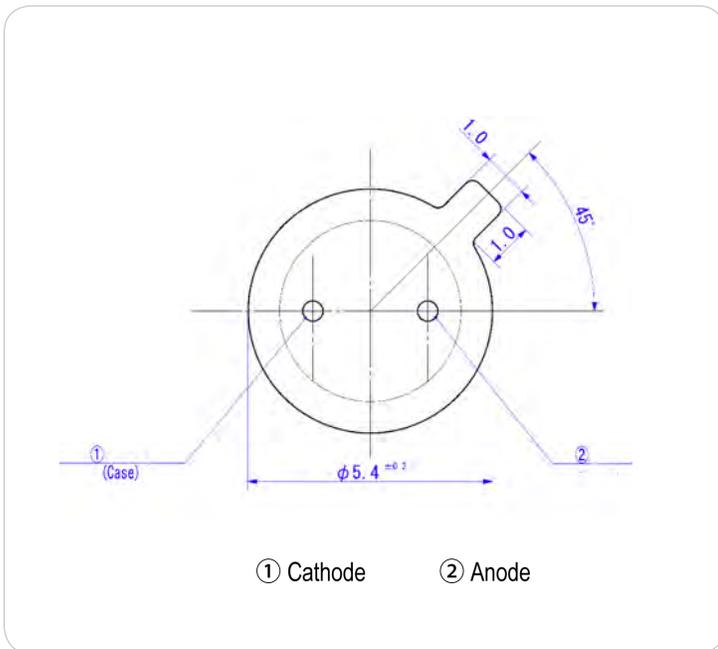
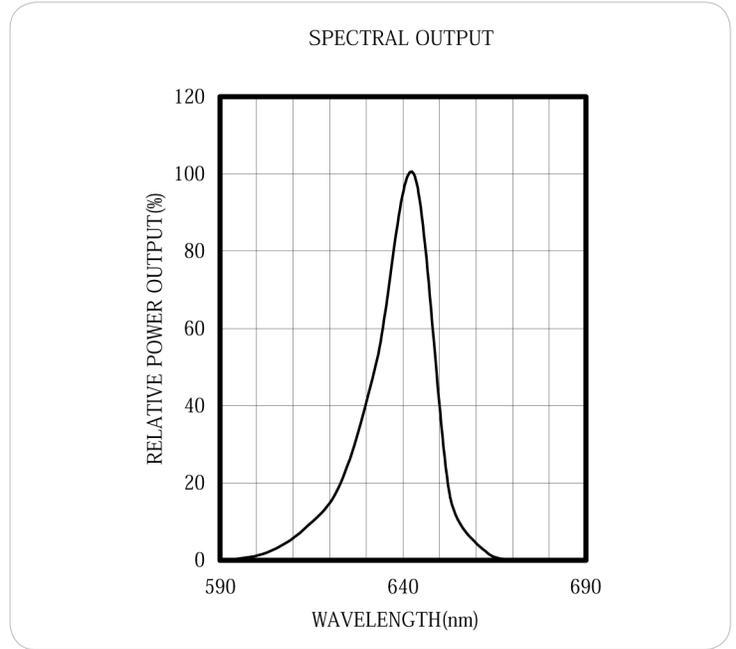
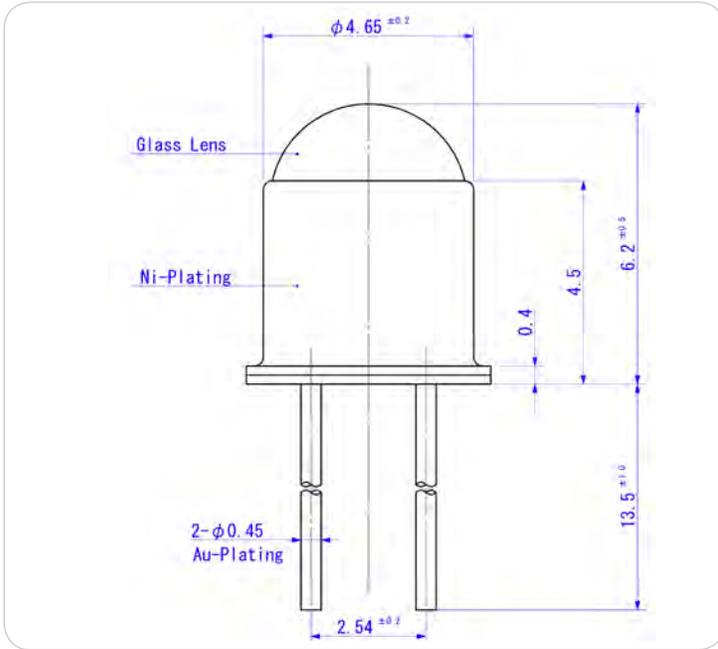


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	To _{opr}	-20 ~ +85	°C
Storage Temperature Range	T _{stg}	-30 ~ +100	°C
Junction Temperature	T _j	100	°C
Lead Soldering Temperature*2	T _{ls}	260	°C

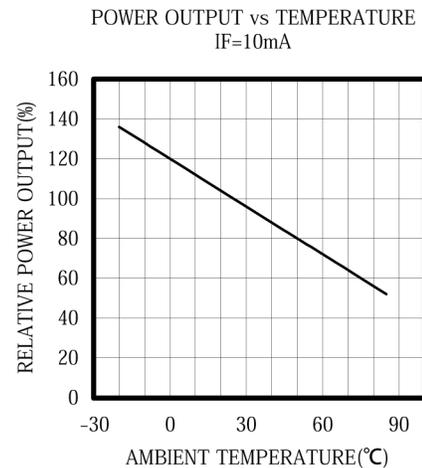
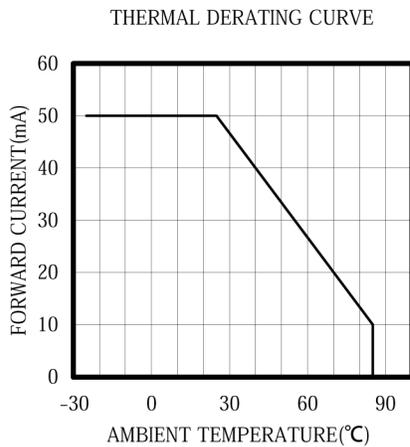
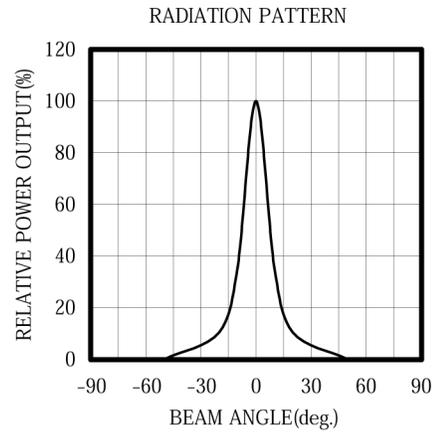
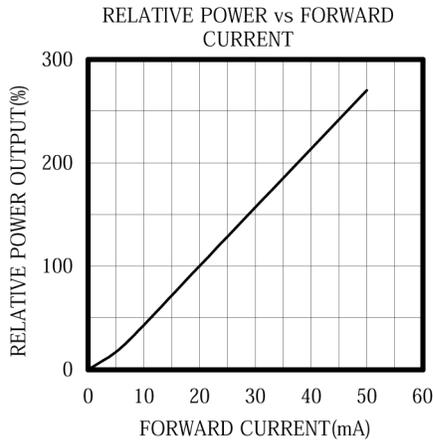
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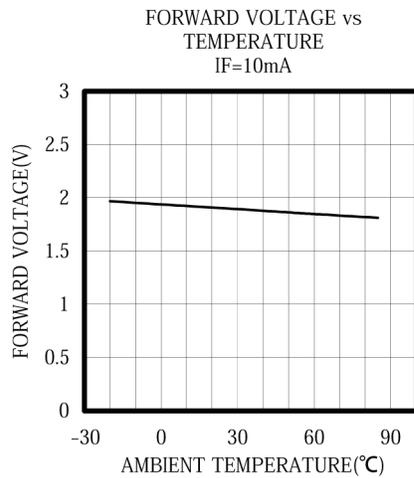
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	1.8	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λ _p	IF=20mA	--	643	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	18	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	C _j	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.8	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 650nm

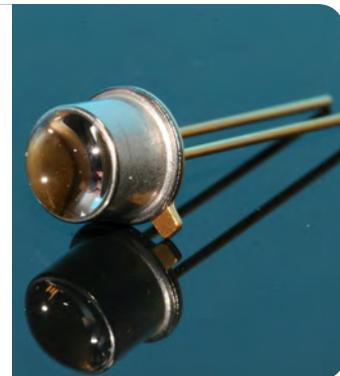
The 650nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

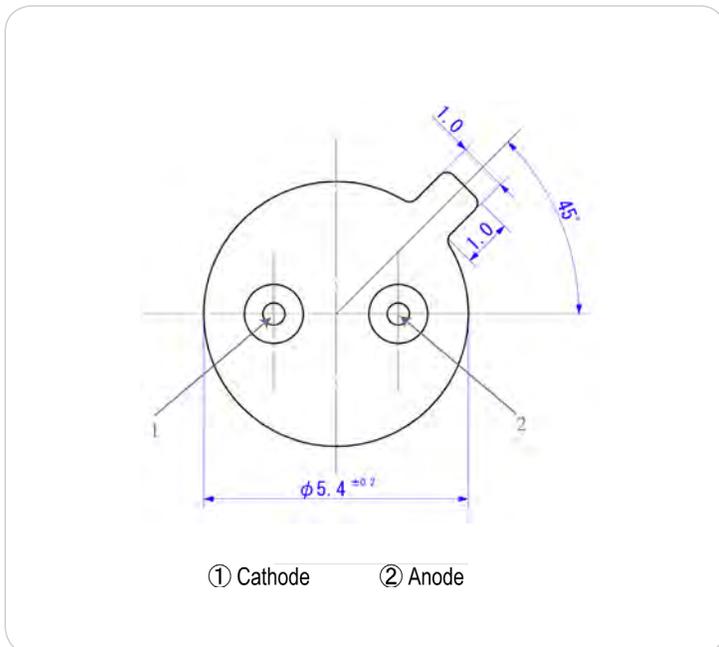
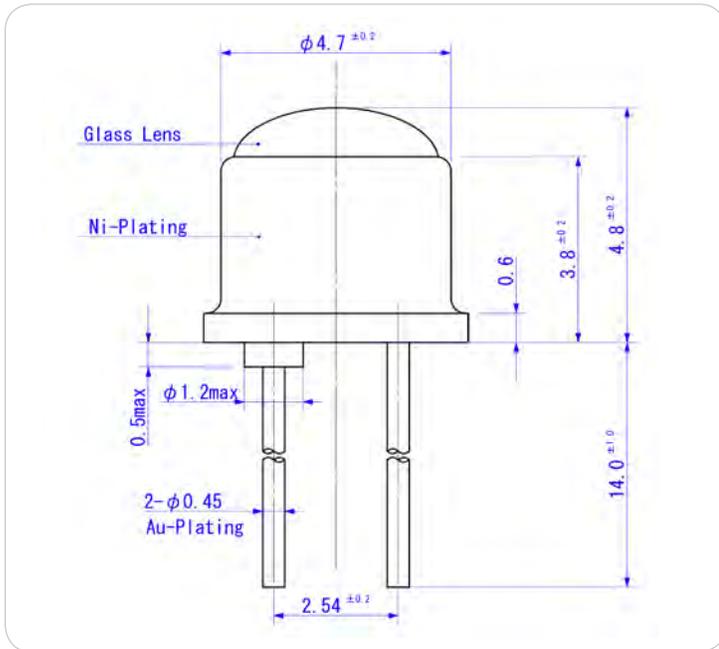


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.8	1.5	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	650	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±4	--	deg



Unit: mm, Tolerance: ± 0.2

The information contained herein is subject to change without notice.

2016-03-31

Peak Emission Wavelength: 643nm

The 643nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed Pigtail Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Optical Switches / Optical Sensor



Absolute Maximum Ratings (Ta=25°C)

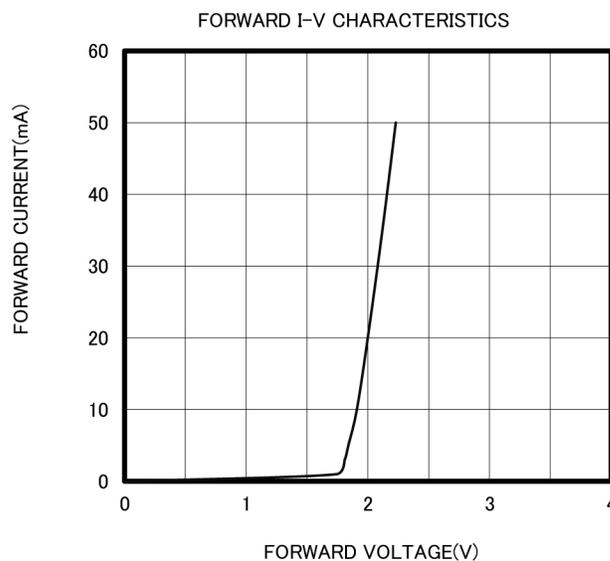
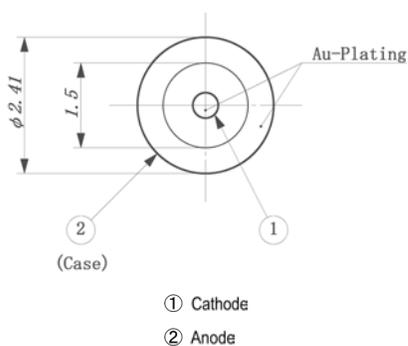
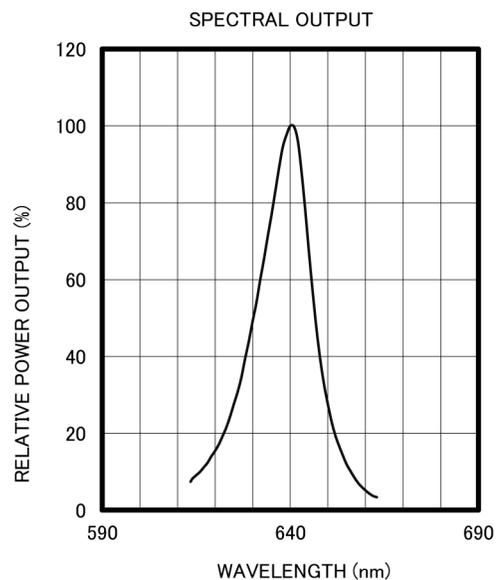
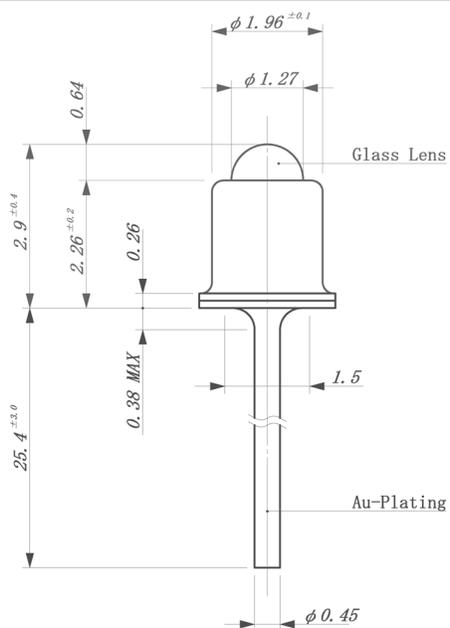


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

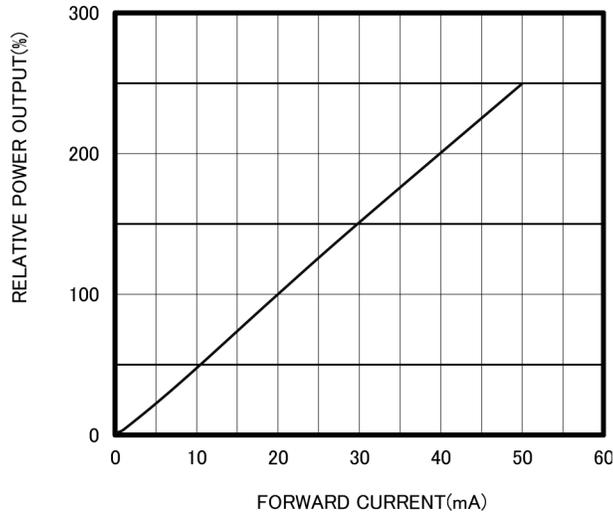
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	1.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	643	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

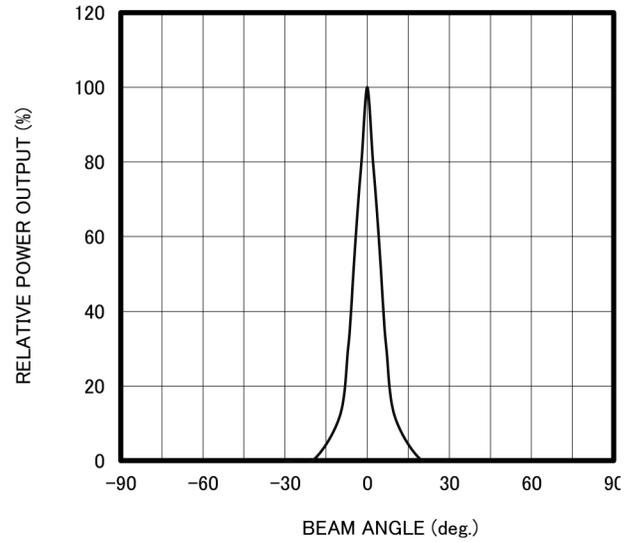


Unit: mm, Tolerance: ± 0.2

RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



Peak Sensitivity Wavelength: 643nm

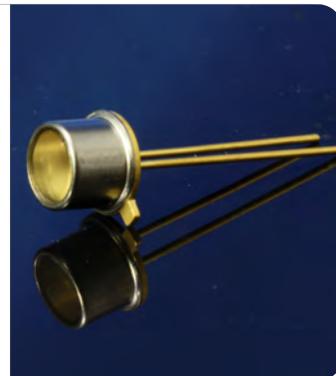
The 643nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

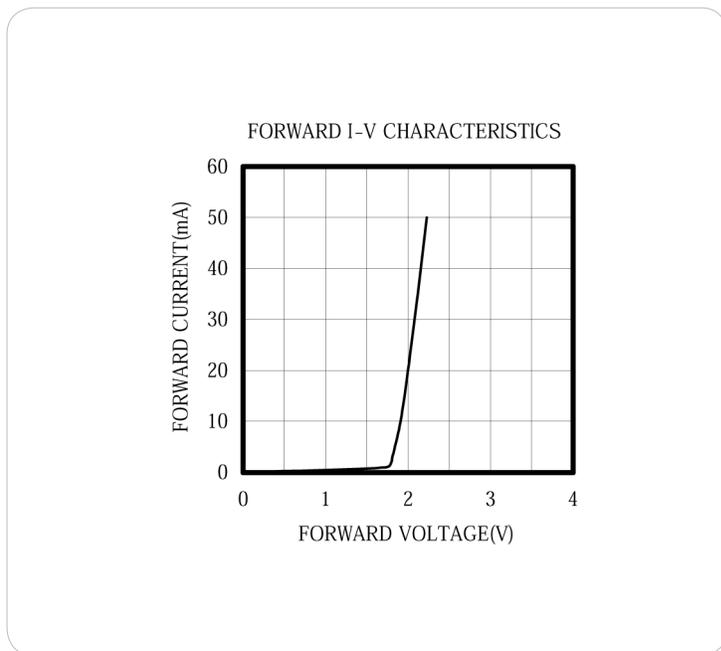
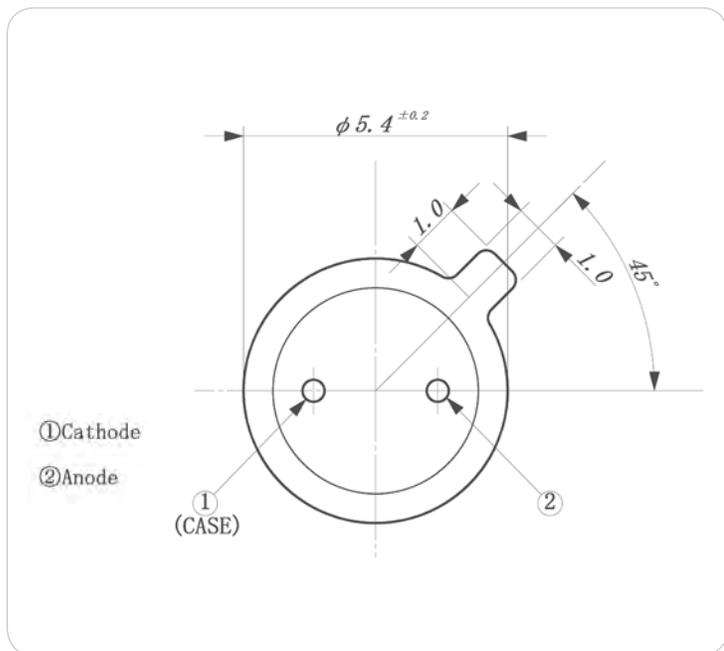
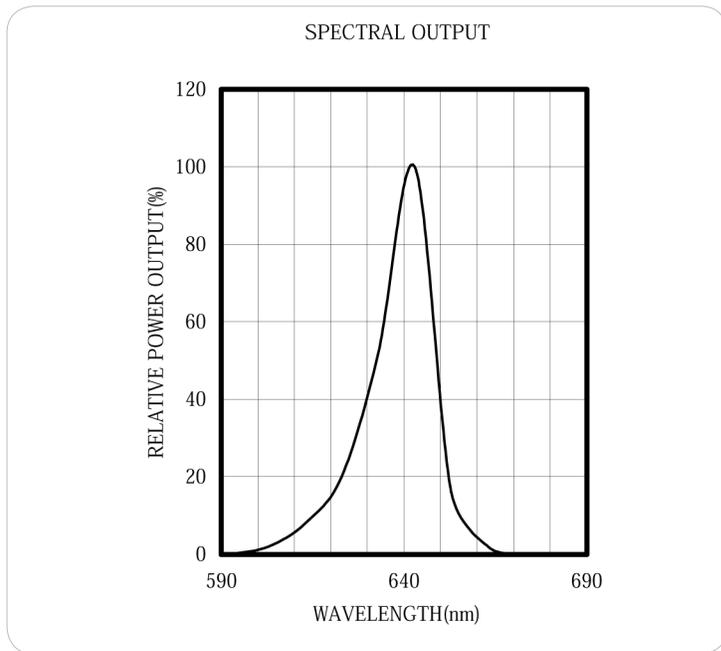
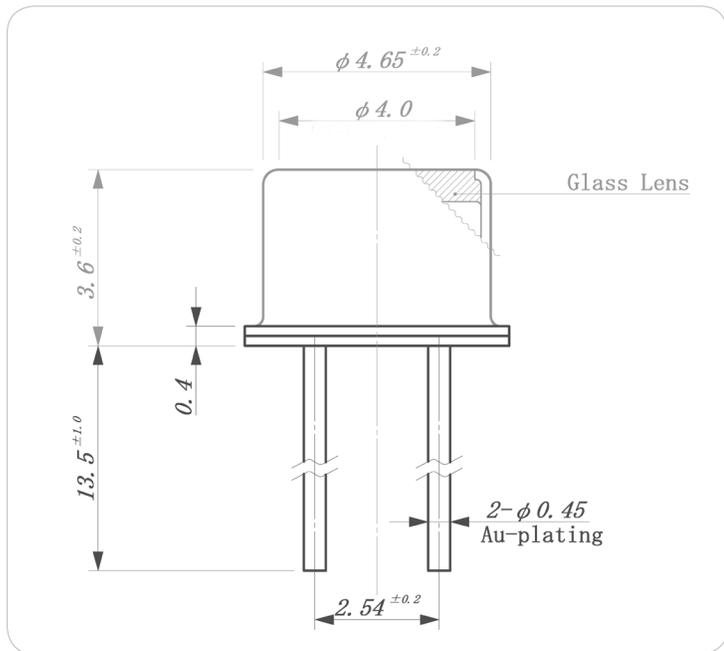


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	To _{opr}	-20 ~ +85	°C
Storage Temperature Range	T _{stg}	-30 ~ +100	°C
Junction Temperature	T _j	100	°C
Lead Soldering Temperature*2	T _{ls}	260	°C

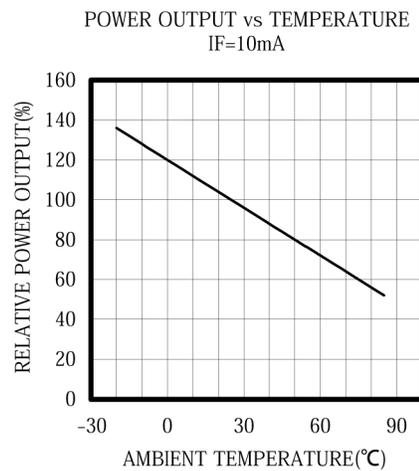
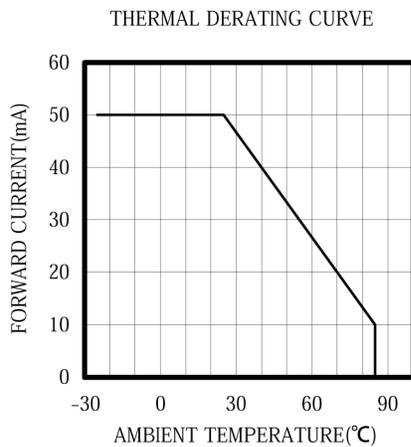
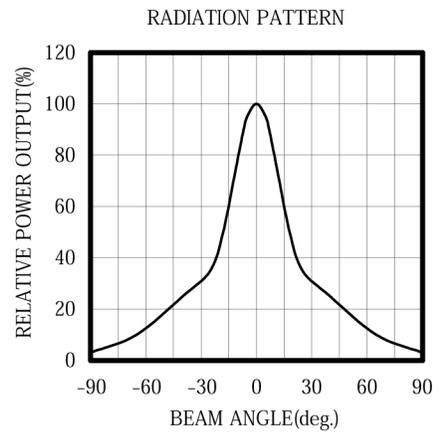
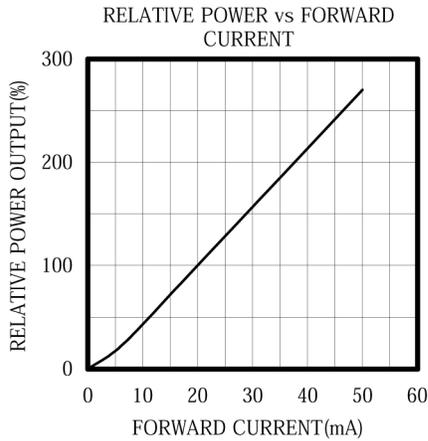
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

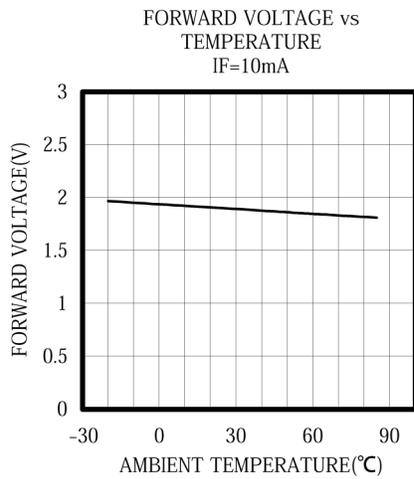
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	1.8	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λ _p	IF=20mA	--	643	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	17	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	C _j	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.8	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 450nm

The 450nm visible emitter series is designed for applications requiring high output optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-39 Metal Can Domed Package
- > High Output
- > High Reliability
- > Wide Beam Angle
- > Using Cree EZ1350 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



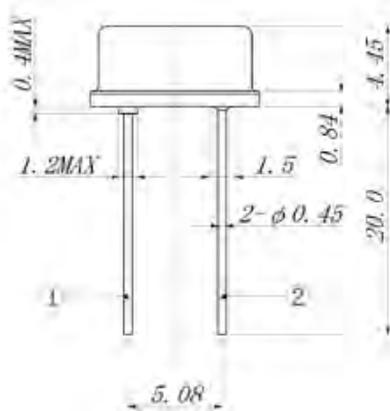
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

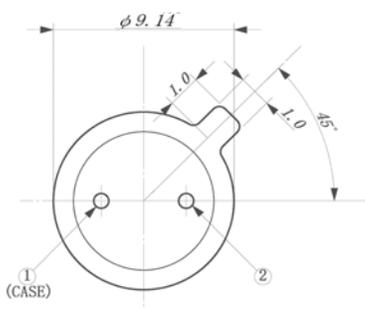
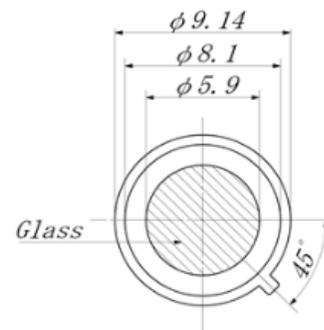
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	45.7	--	mW
Forward Voltage	VF	IF=50mA	--	2.7	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	447	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	452	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±50	--	deg

Package Dimensions



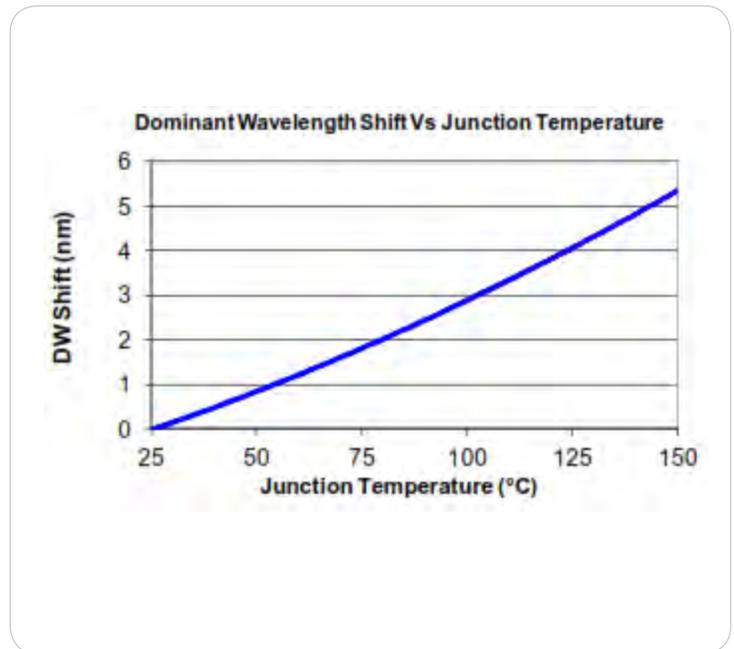
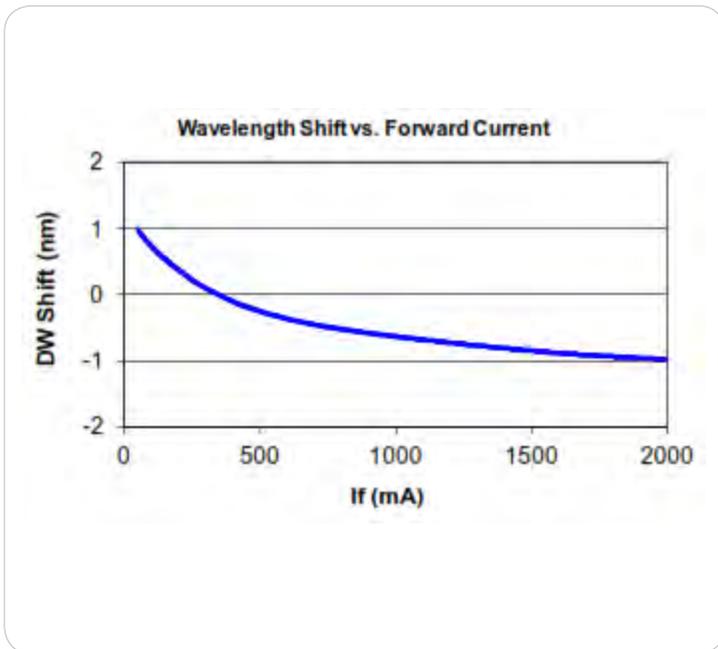
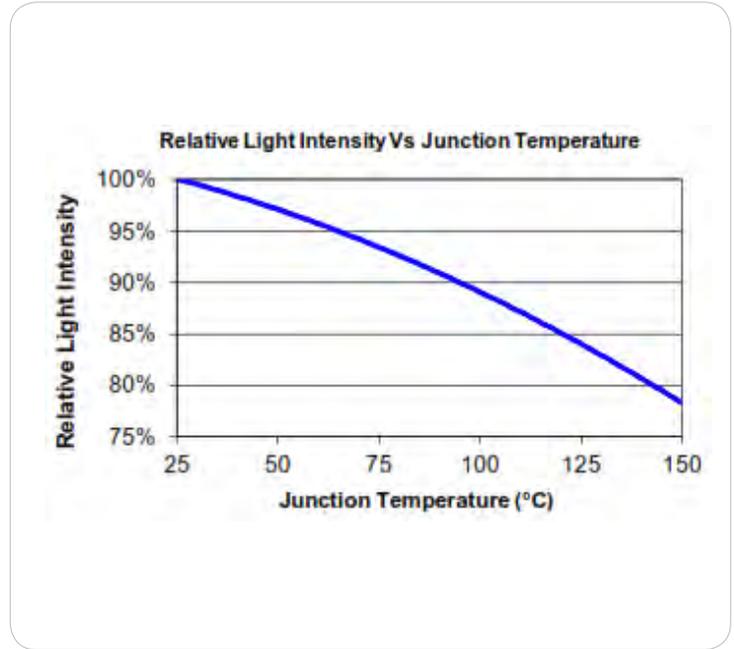
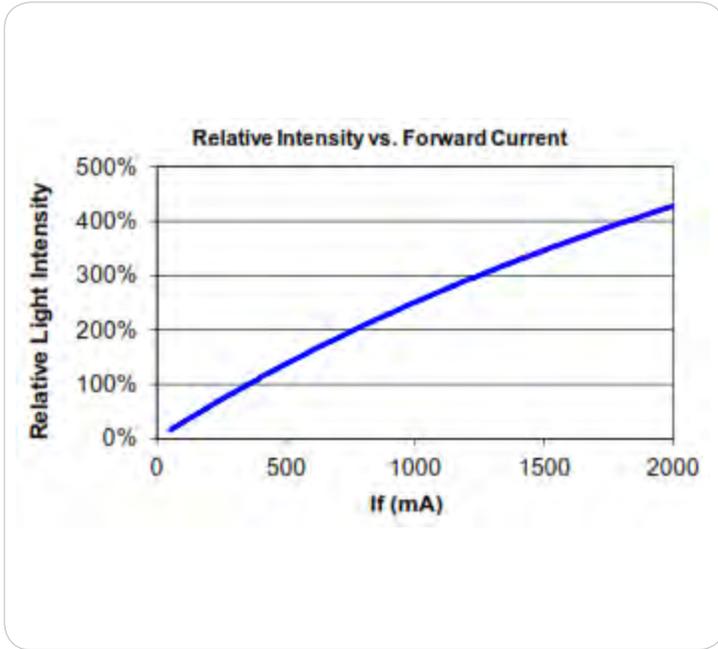
① Cathode
(Case) ② Anode



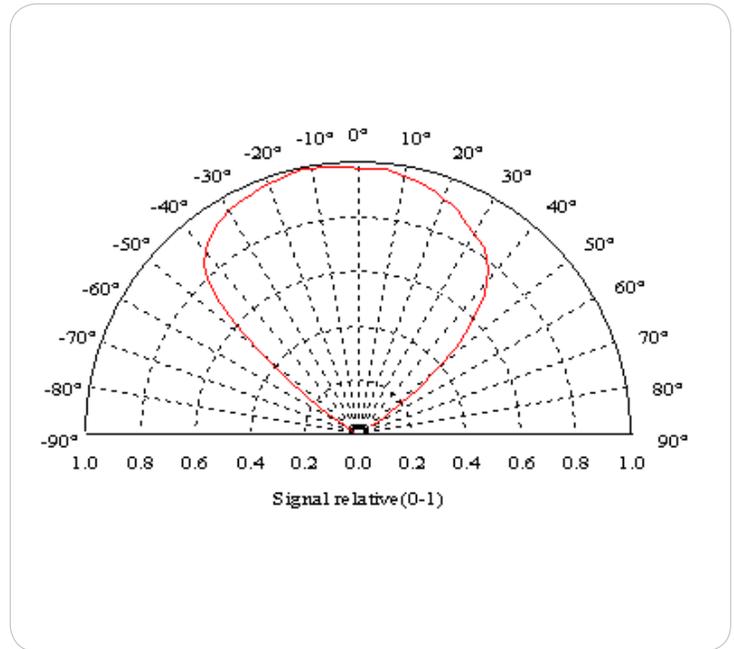
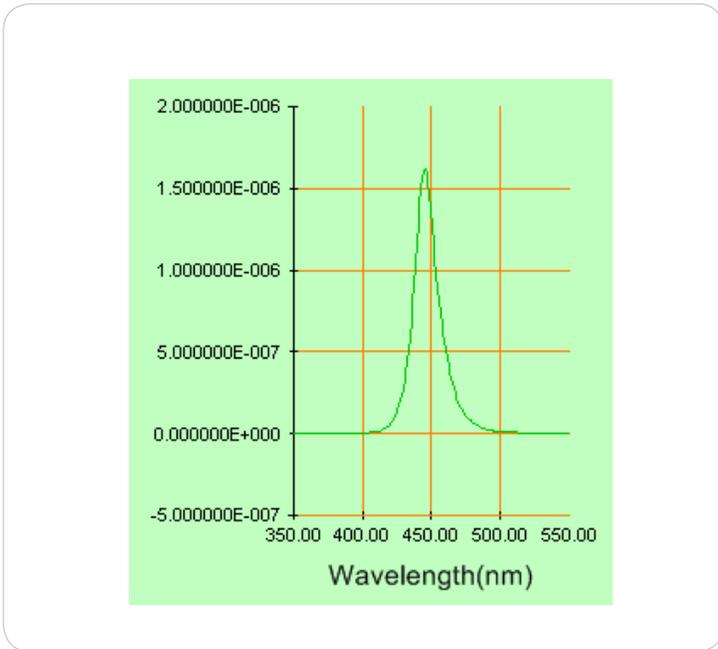
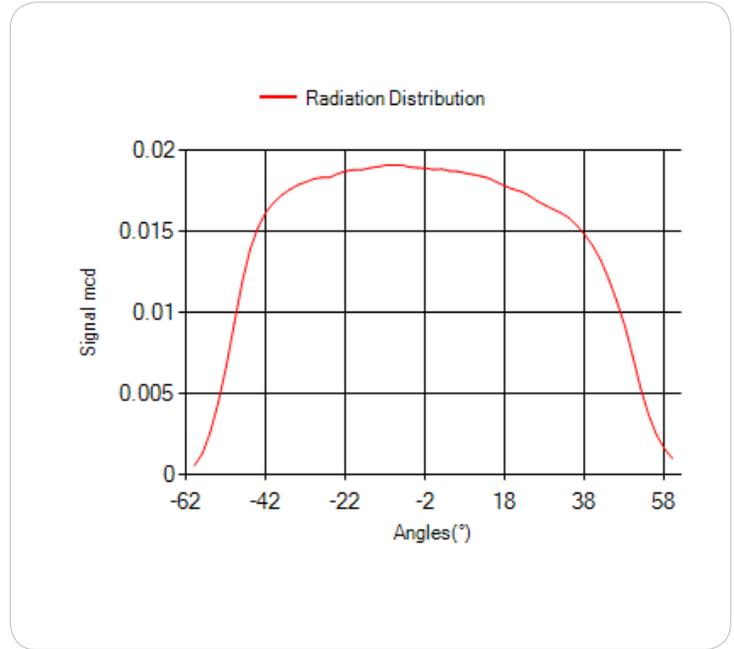
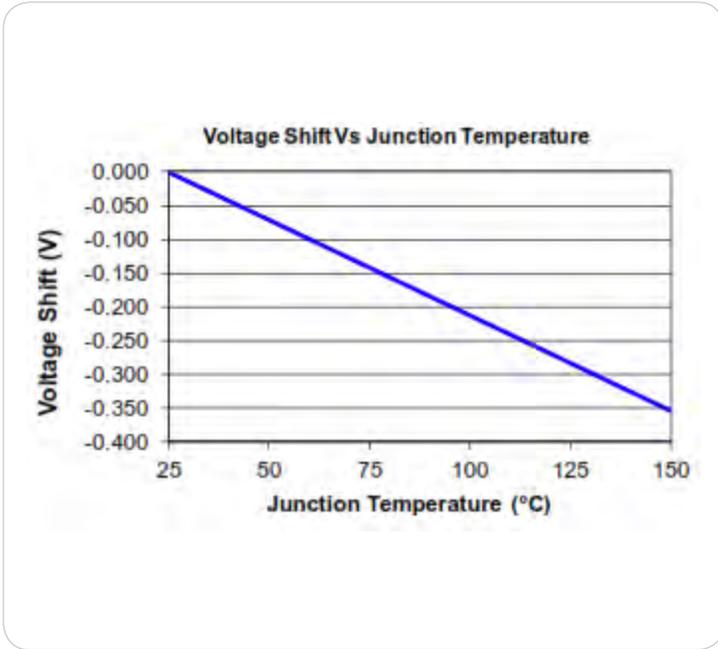
① Cathode
② Anode

Unit: mm, Tolerance: ±0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2022-12-22

Peak Emission Wavelength: 450nm

The 450nm visible emitter series is designed for applications requiring high output optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output
- > High Reliability
- > Narrow Beam Angle

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



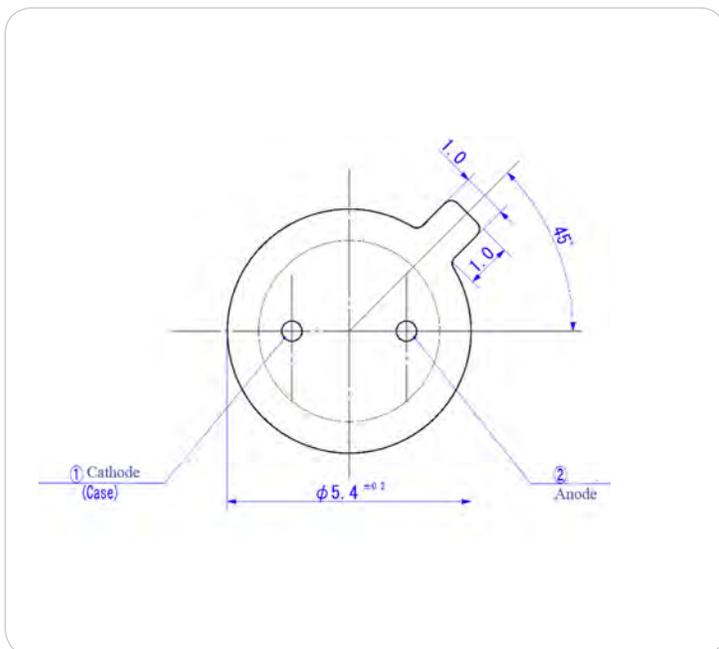
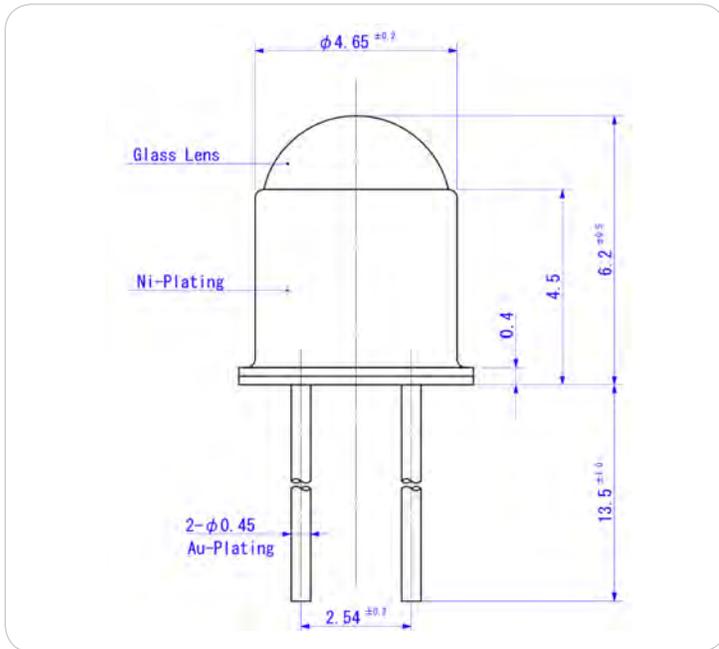
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

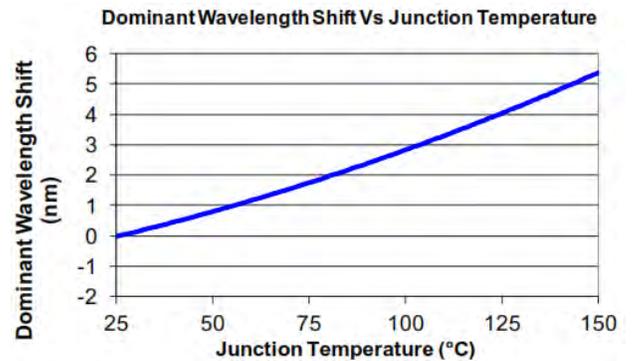
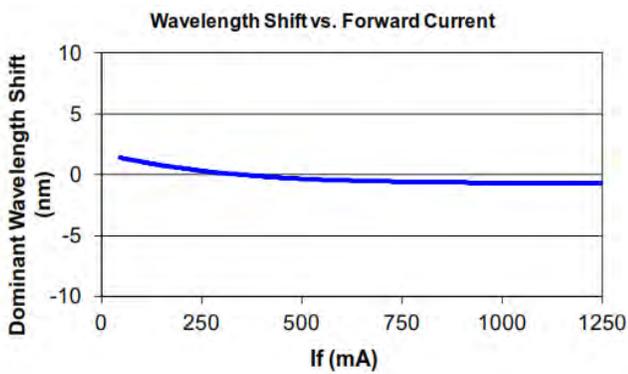
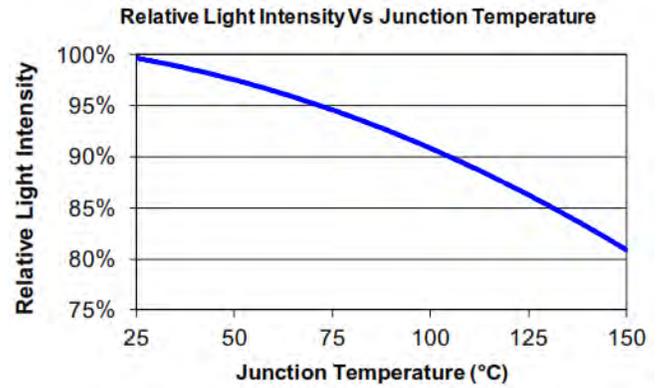
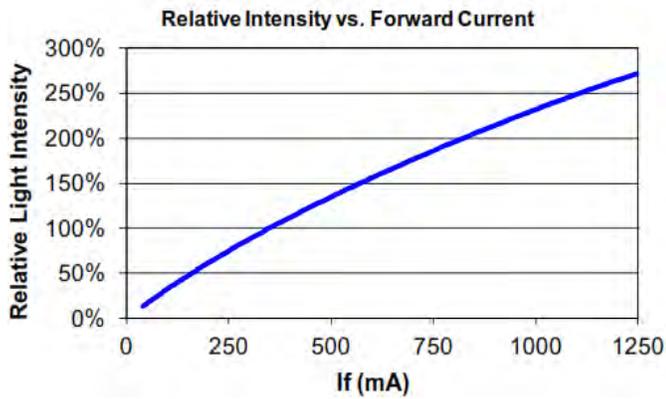
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	43.2	--	mW
Forward Voltage	VF	IF=50mA	--	2.8	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	447	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	452	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±9	--	deg

Package Dimensions

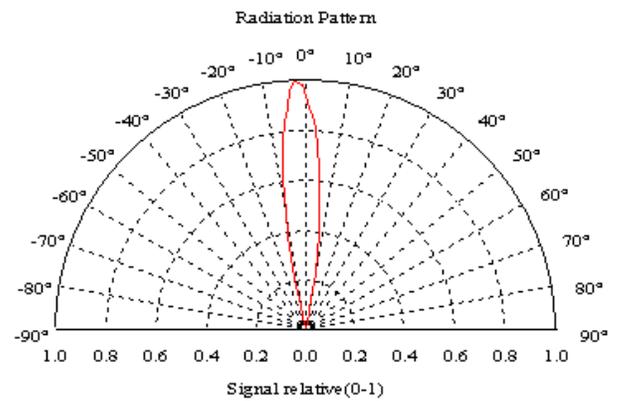
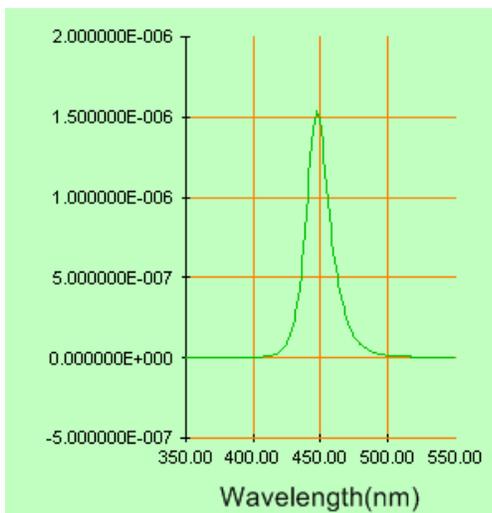
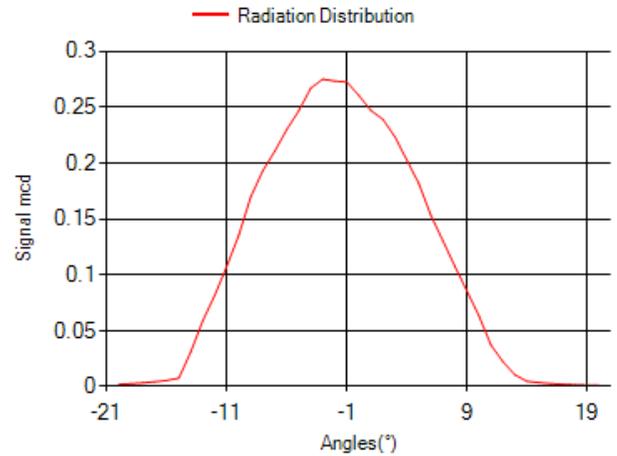
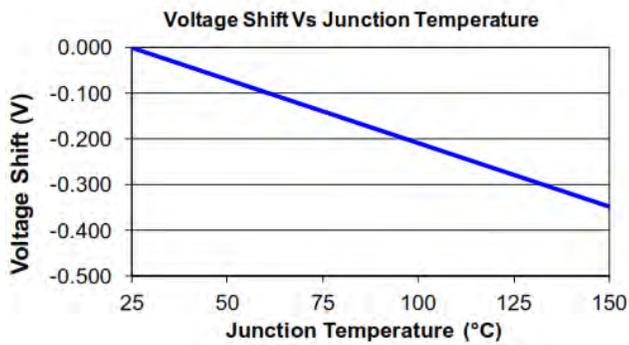


Unit: mm, Tolerance: ±0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2019-07-08

Peak Emission Wavelength: 460nm

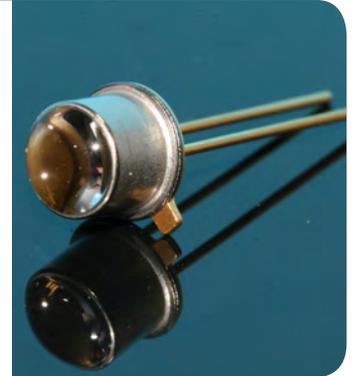
The 460nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

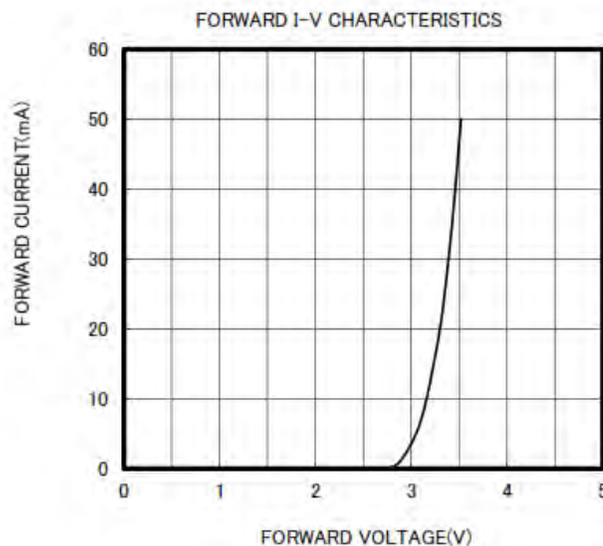
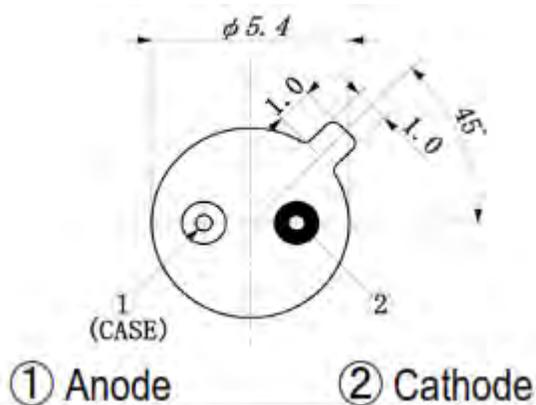
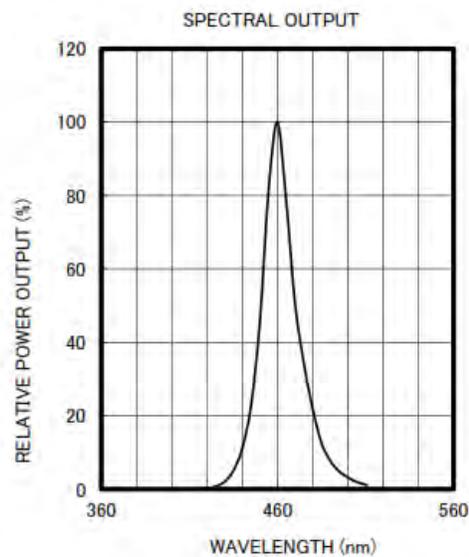
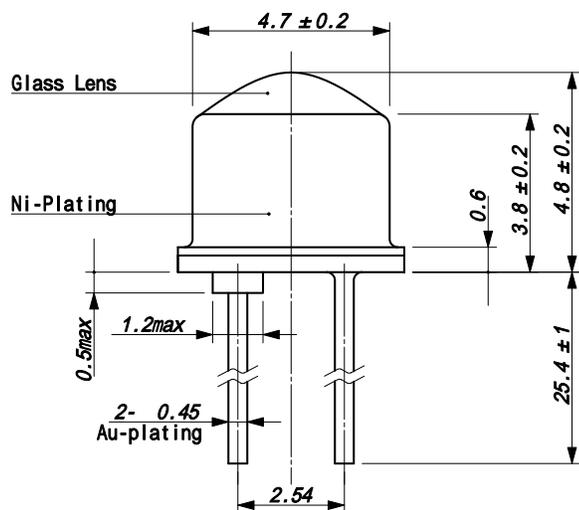


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

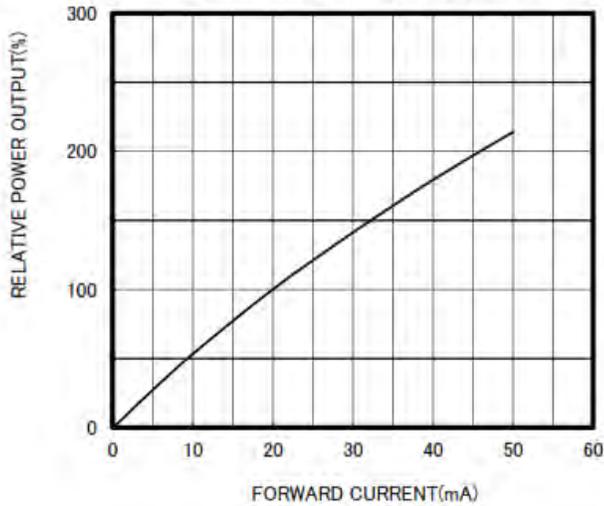
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	8.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.3	3.8	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	460	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

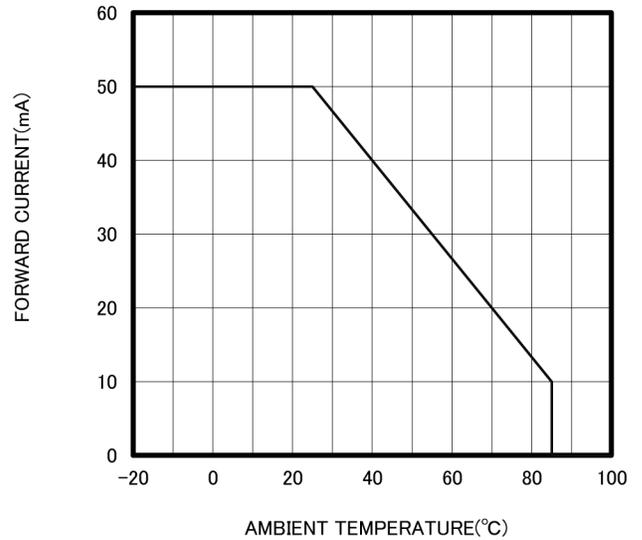


Unit: mm, Tolerance: ± 0.2

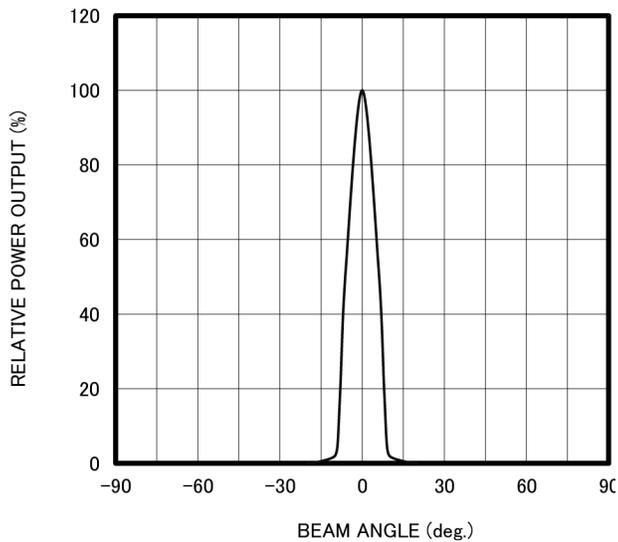
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



The information contained herein is subject to change without notice.

2018-01-08

Peak Emission Wavelength: 450nm

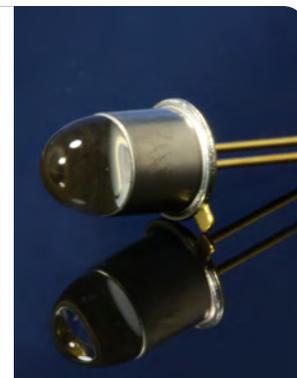
The 450nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle
- > Using Cree EZ950 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Emitters



Absolute Maximum Ratings (Ta=25°C)



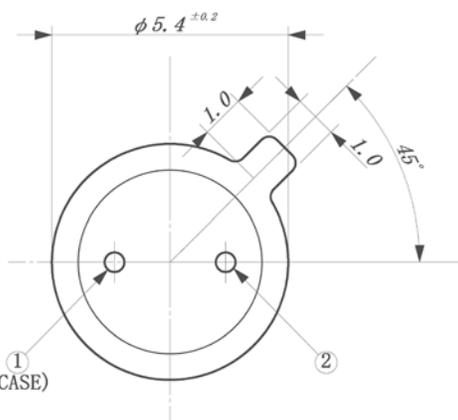
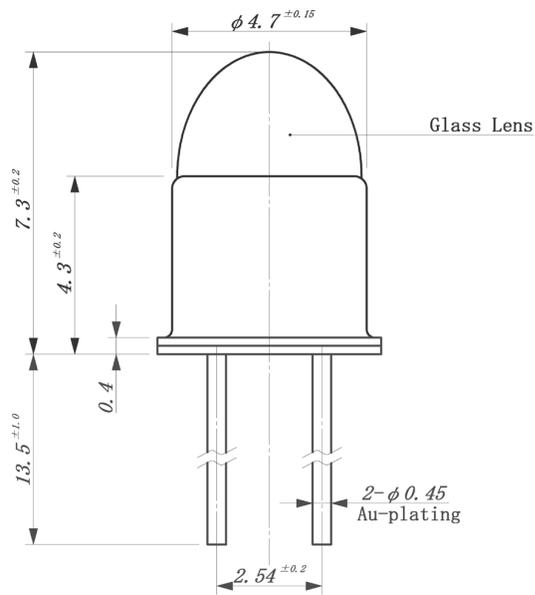
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	38.9	--	mW
Forward Voltage	VF	IF=50mA	--	2.8	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	447	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	452	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±5	--	deg

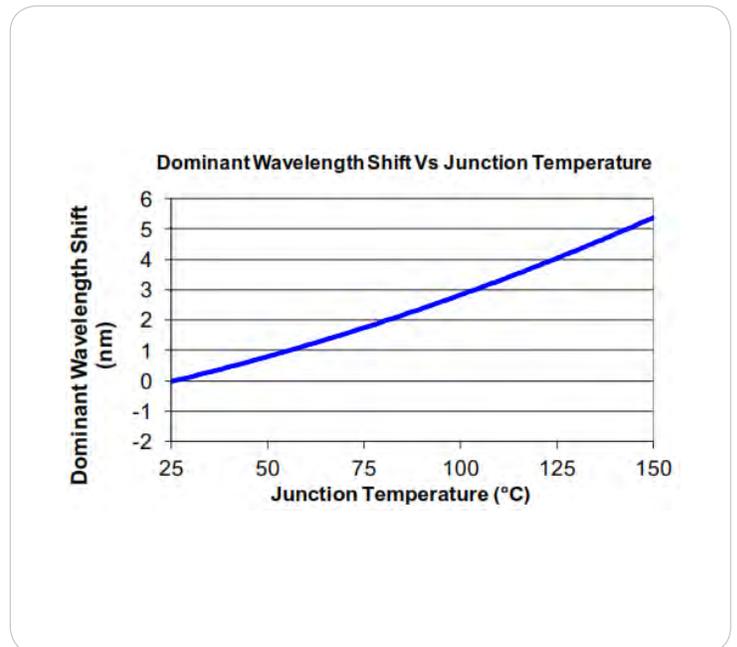
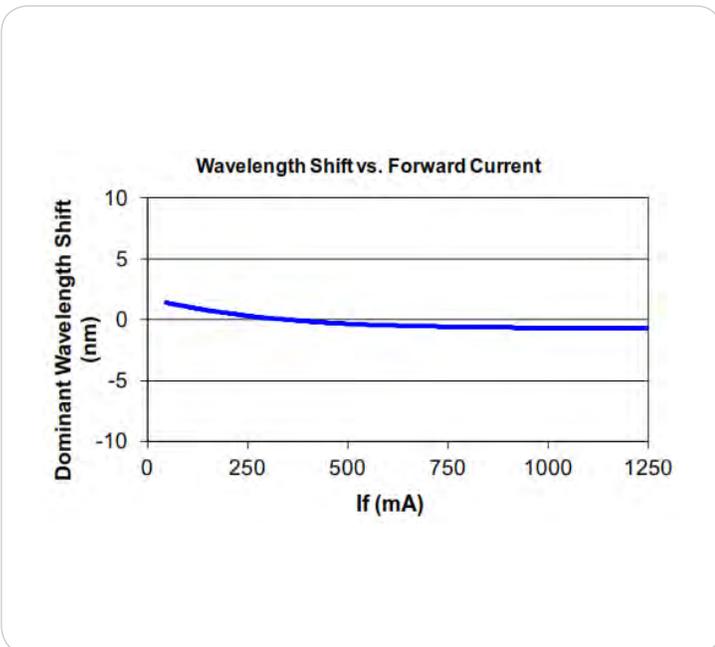
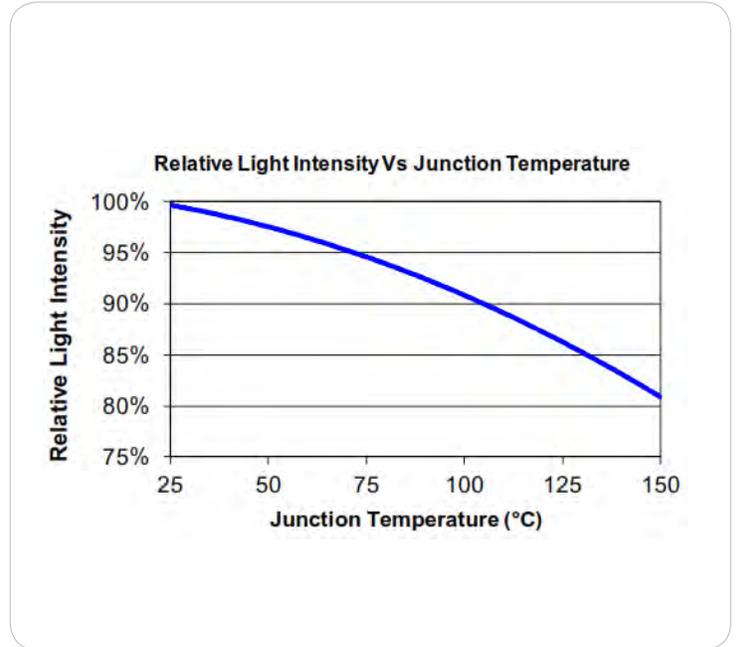
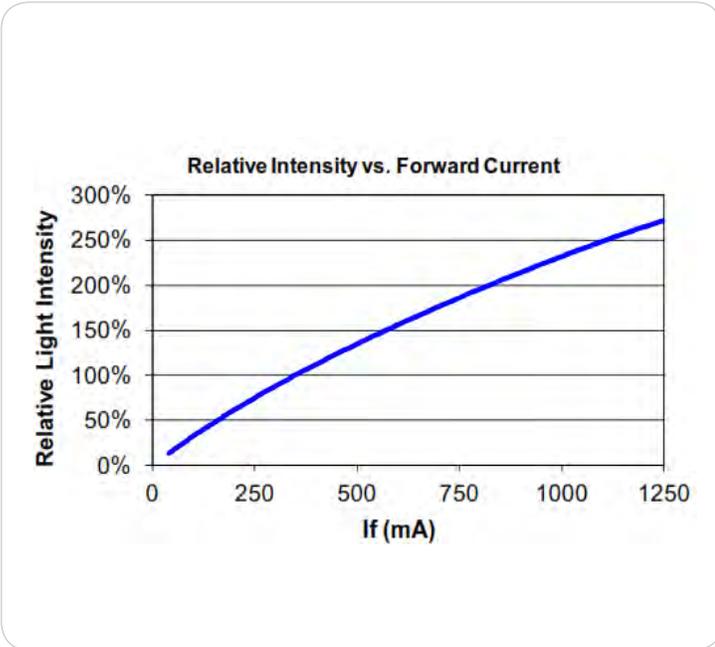
Package Dimensions



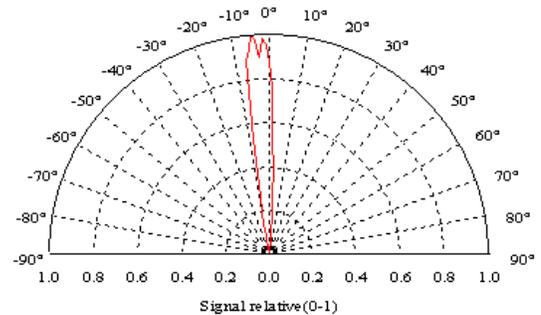
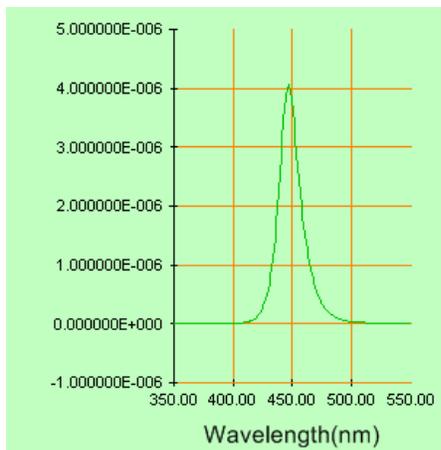
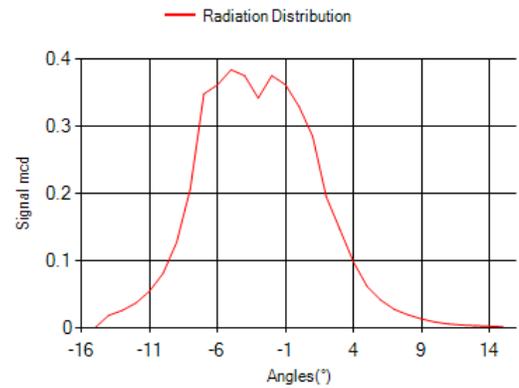
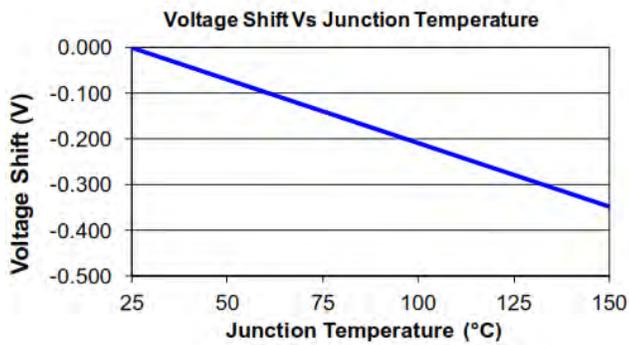
- ①. Cathode
- ②. Anode

Unit: mm, Tolerance: ±0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2018-02-27

Peak Emission Wavelength: 460nm

The 460nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Emitters



Absolute Maximum Ratings (Ta=25°C)



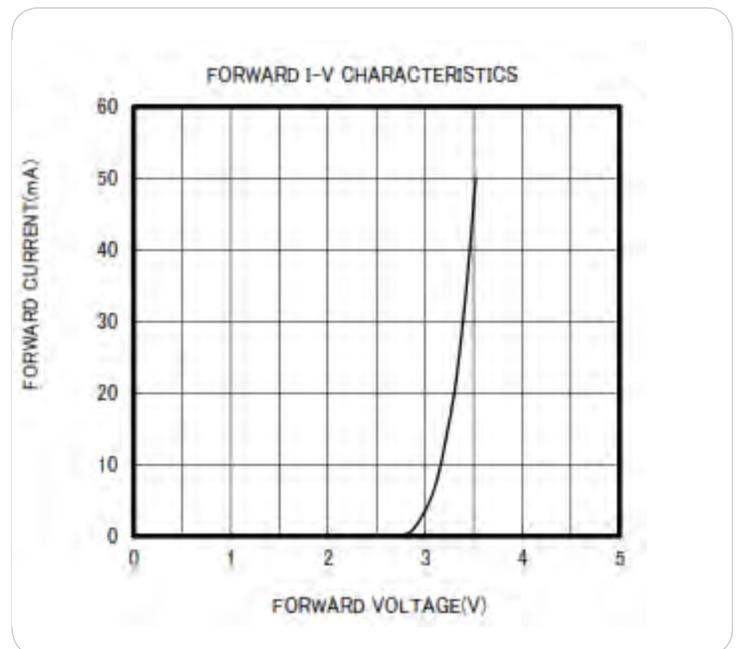
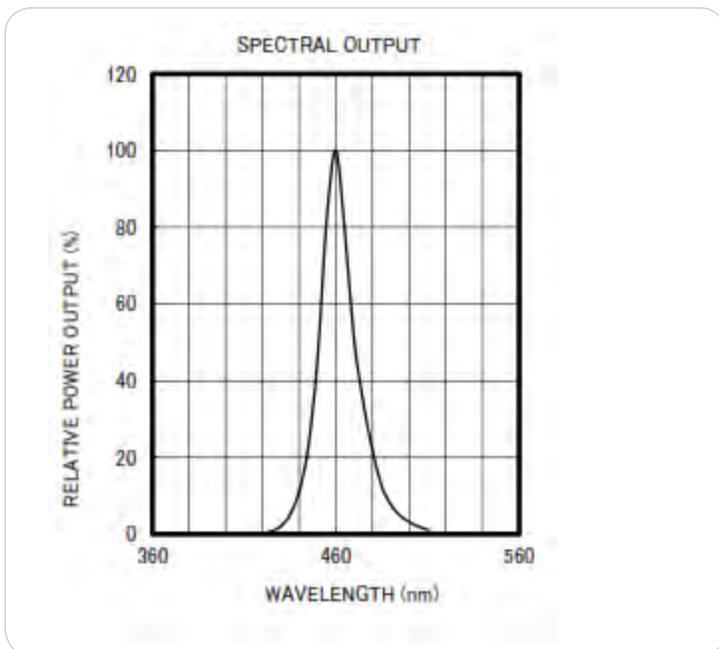
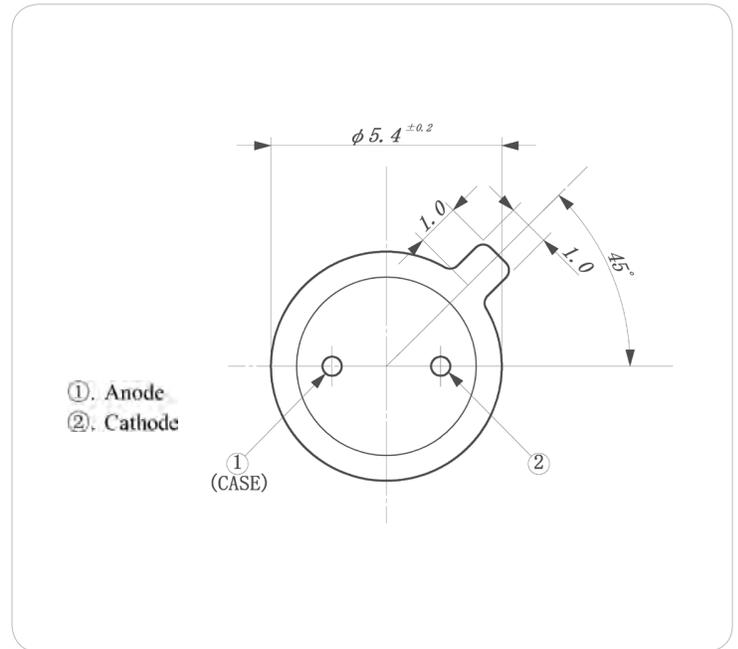
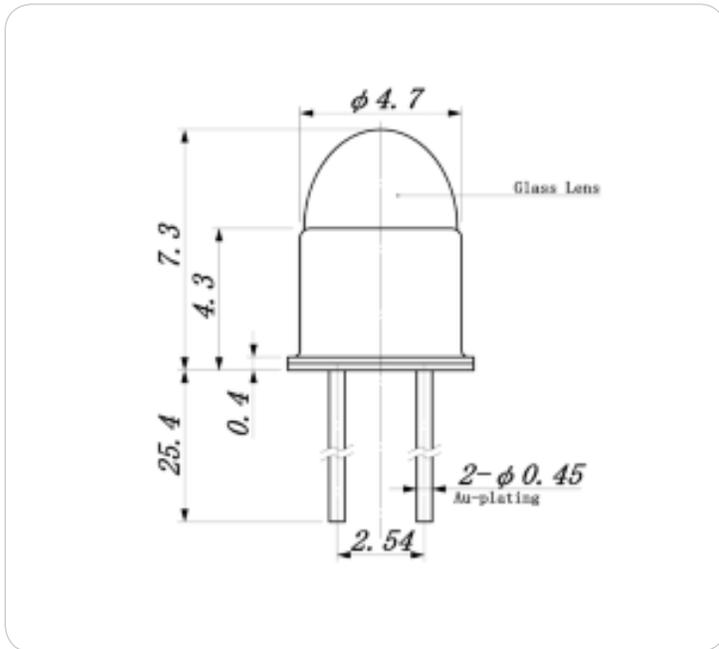
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse) *1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr-	-20 ~ +85	°C
Storage Temperature	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body

Electrical & Optical Characteristics (Ta = 25°C)

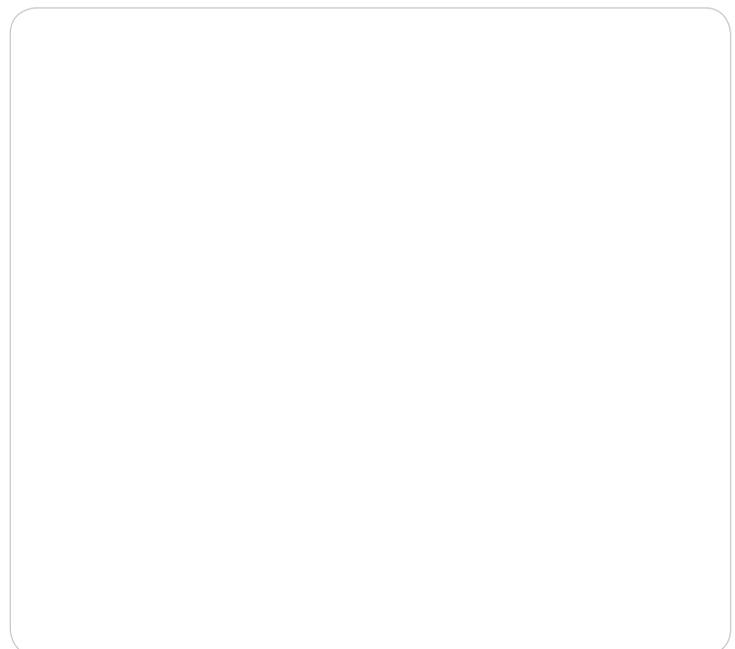
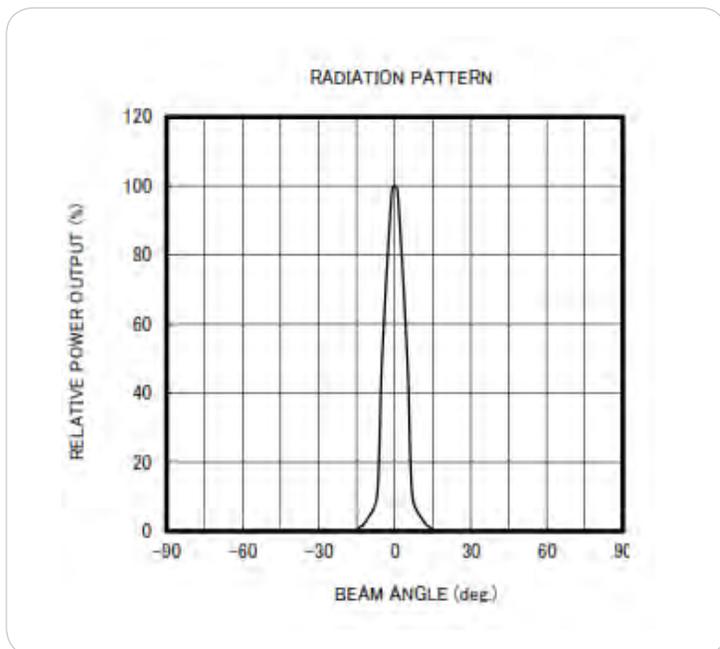
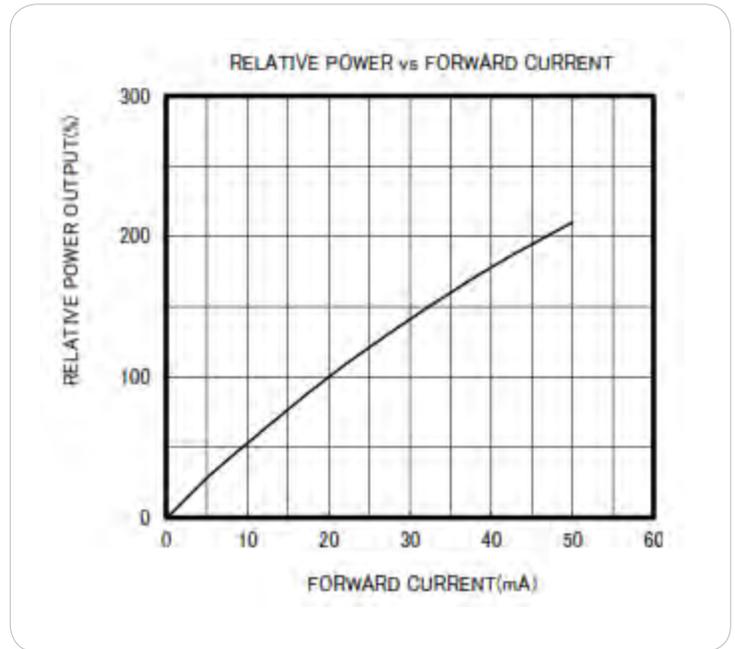
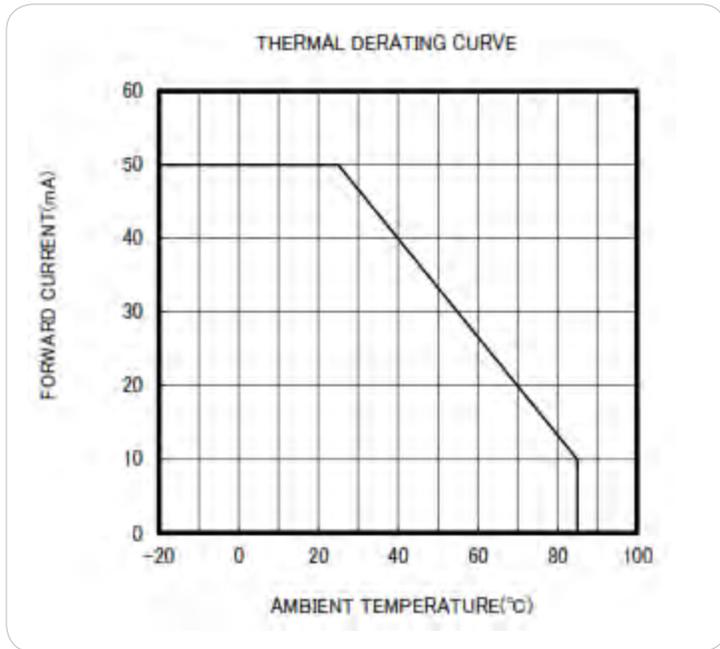
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	9.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.3	3.8	V
Reverse Current	IR	IF=20mA	--	--	100	µA
Peak Emission Wavelength	λp	IF=20mA	--	460	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±5	--	deg

Package Dimensions



Unit: mm, Tolerance: ± 0.2

Characteristic Curves (Ta = 25°C)



Peak Emission Wavelength: 525nm

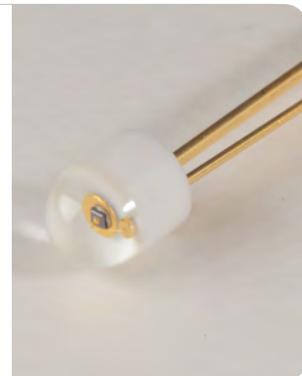
The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

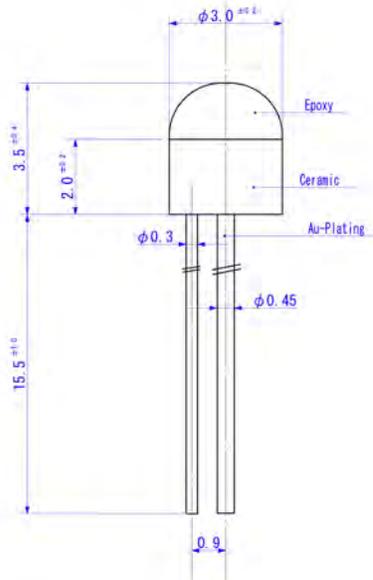


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	20	mA
Forward Current (Pulse)*1	IFP	0.2	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mW
Operating Temperature Range	ToPr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

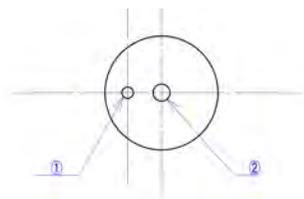
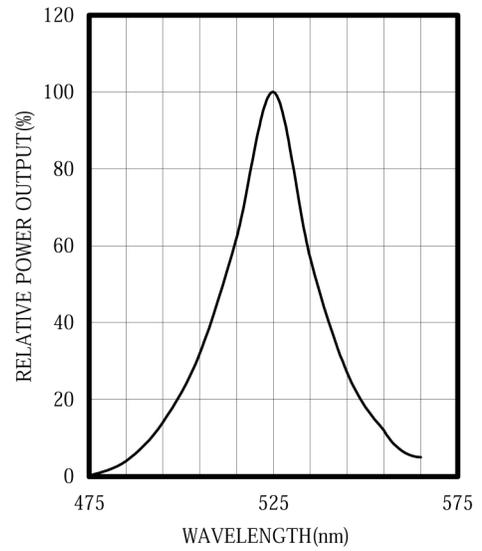
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.8	1.5	--	mW
Forward Voltage	VF	IF=20mA	--	3.5	4.0	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	45	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	25	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-4.0	--	mV/°C

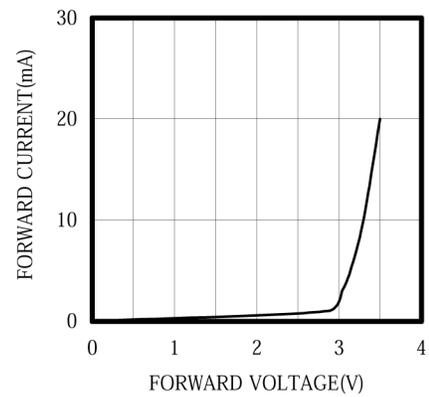


SPECTRAL OUTPUT

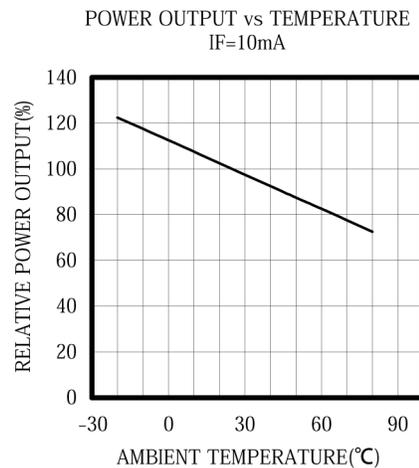
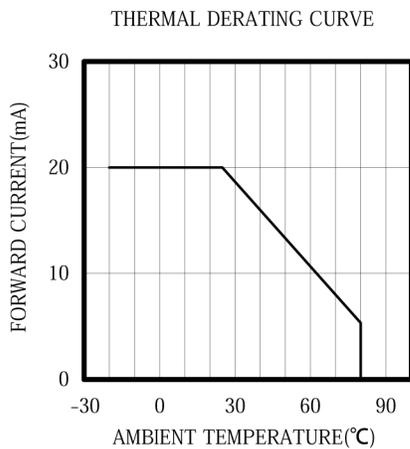
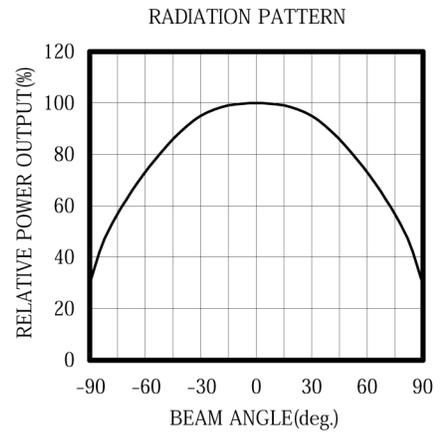
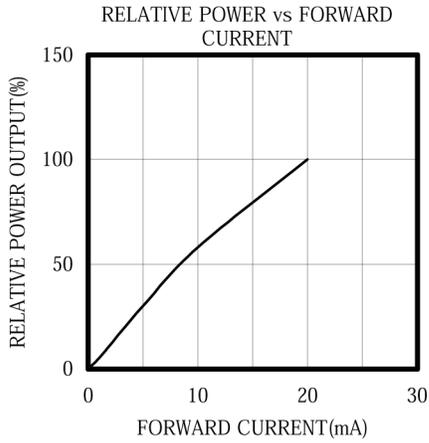


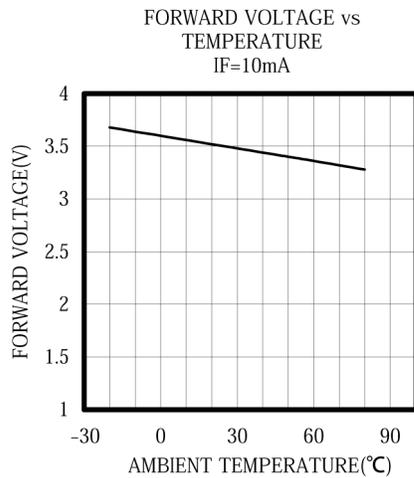
① Anode ② Cathode

FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 525nm

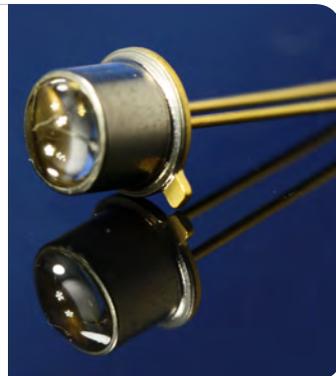
The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader



Absolute Maximum Ratings (Ta=25°C)

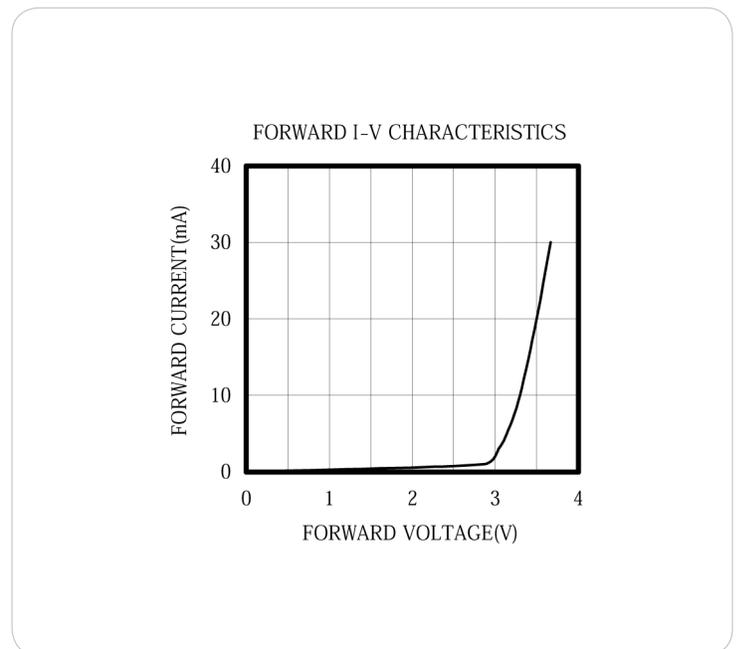
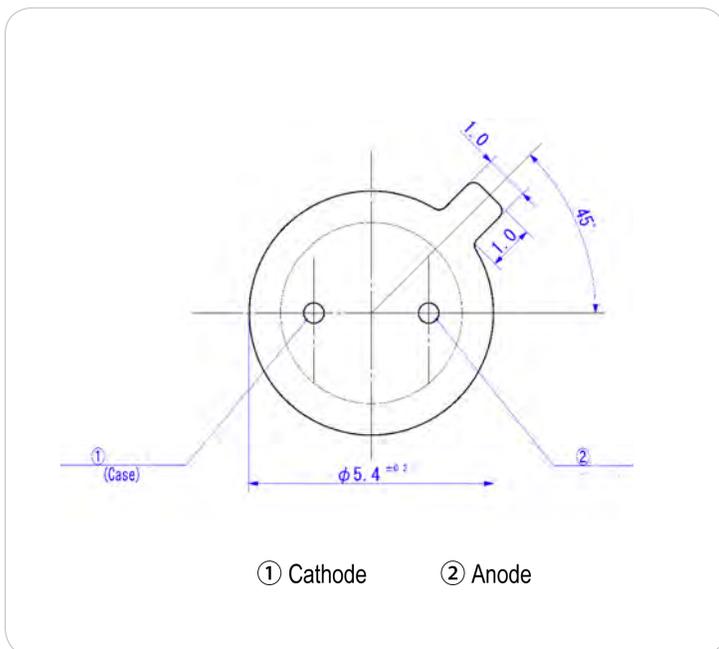
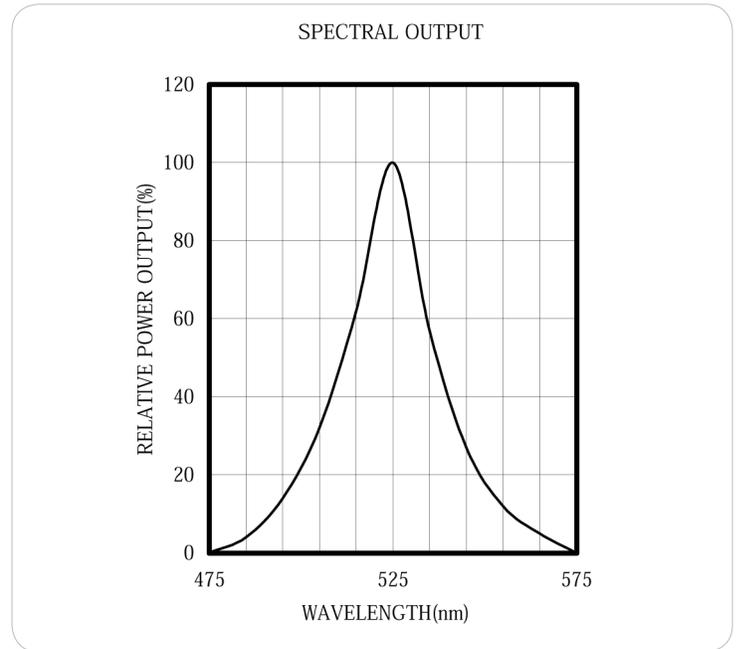
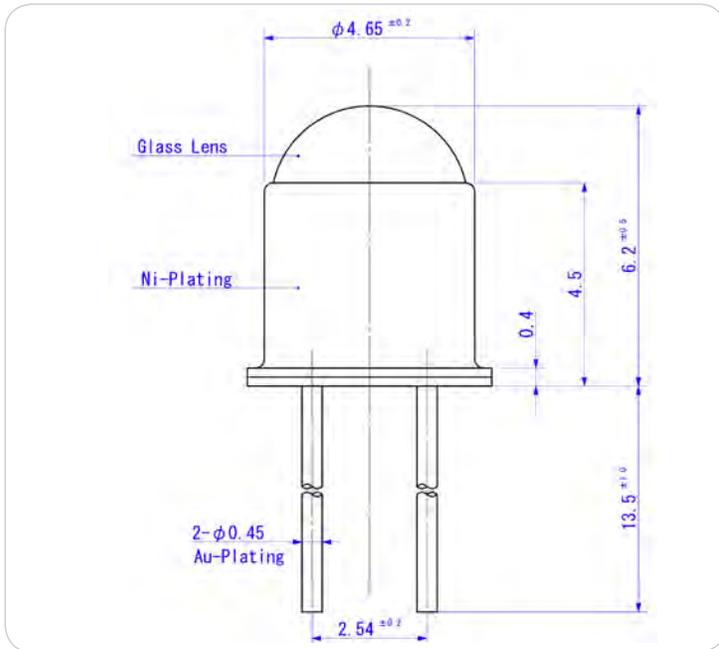


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

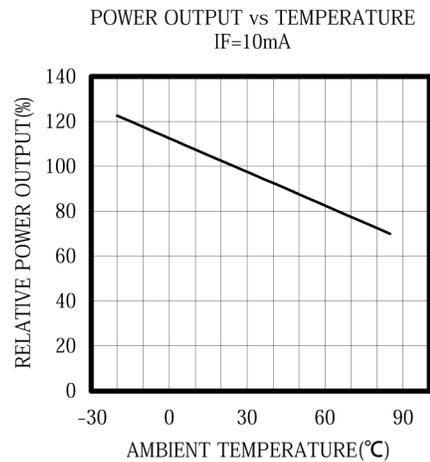
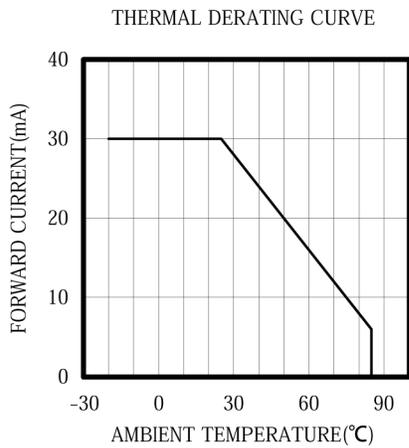
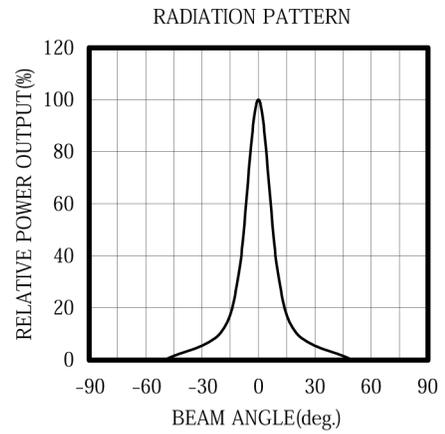
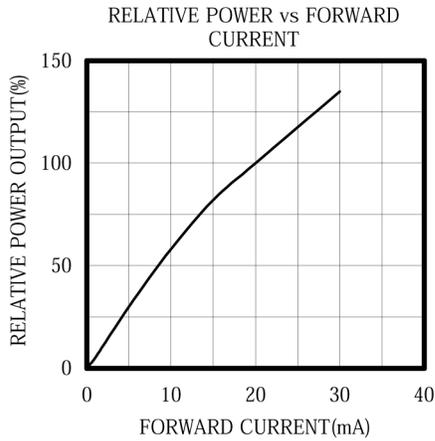
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

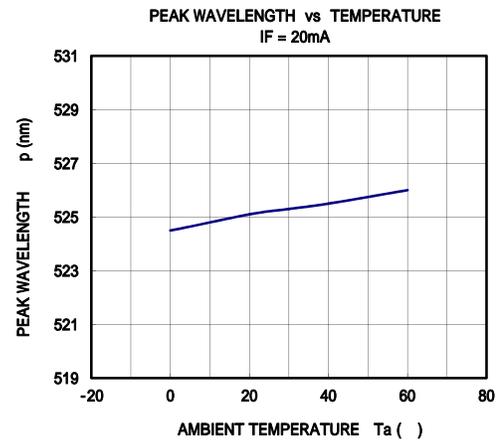
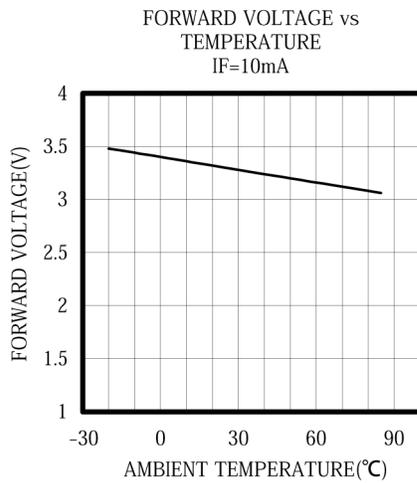
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.5	0.9	--	mW
Forward Voltage	VF	IF=20mA	--	3.5	4.0	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	45	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	25	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-4.0	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 525nm

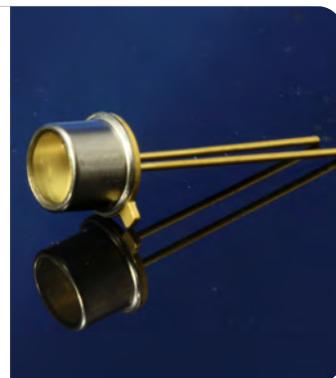
The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

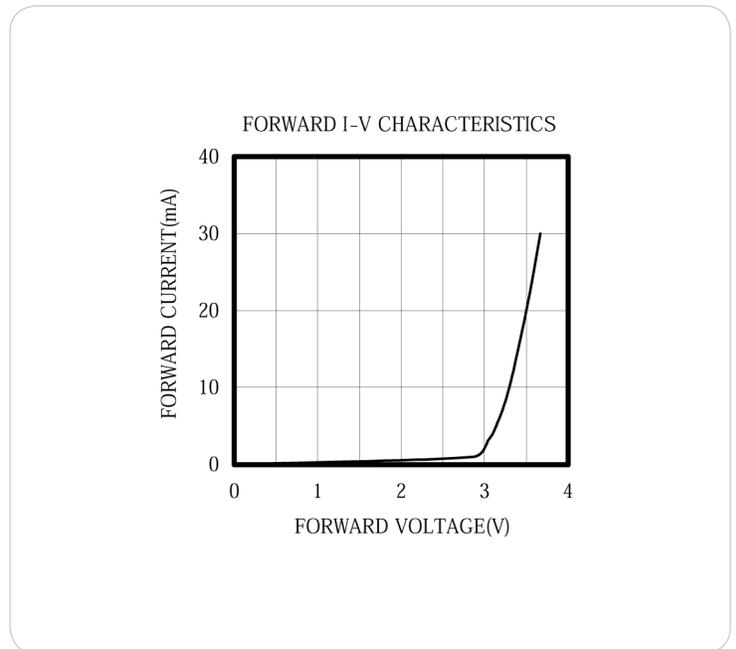
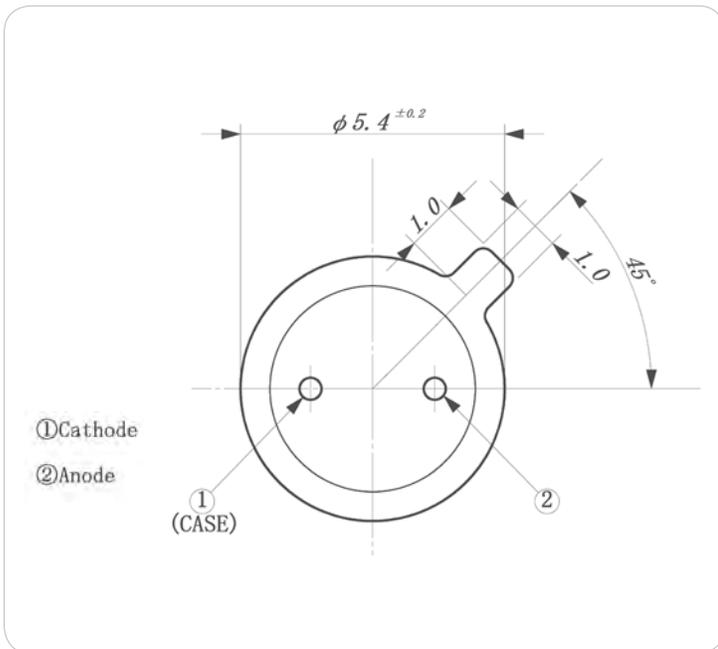
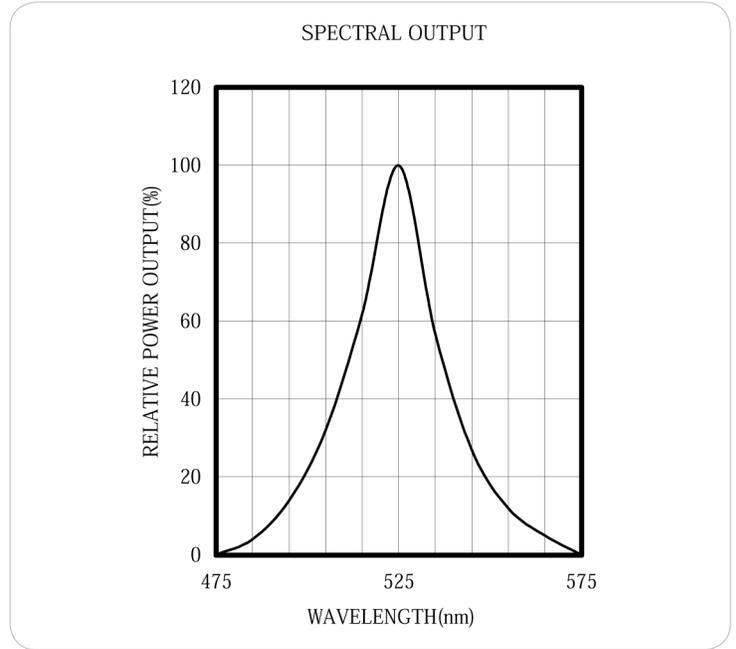
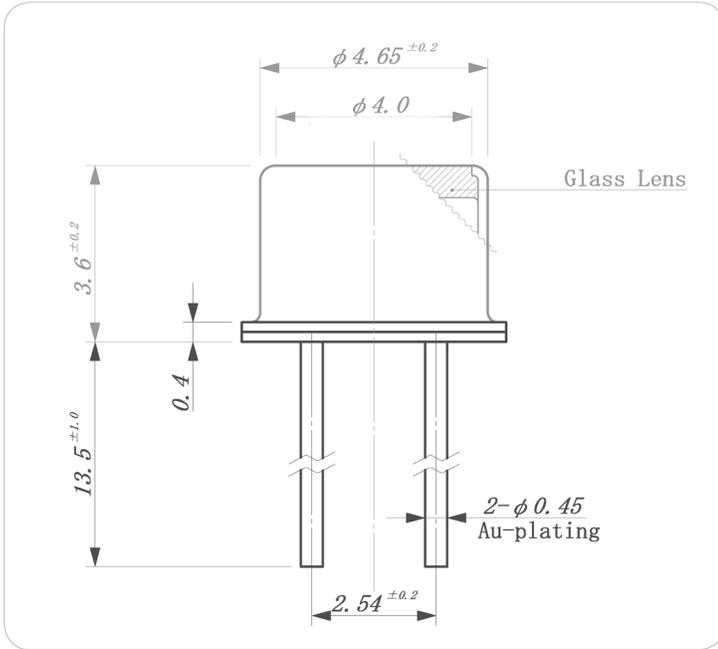


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

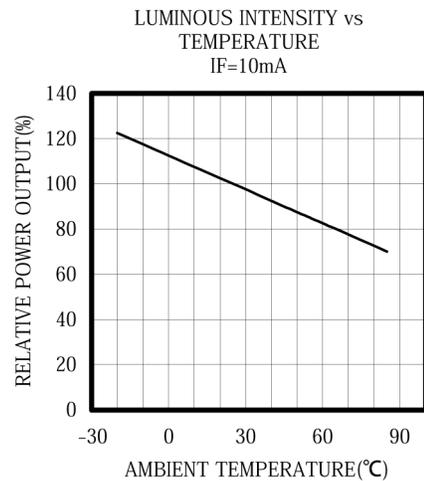
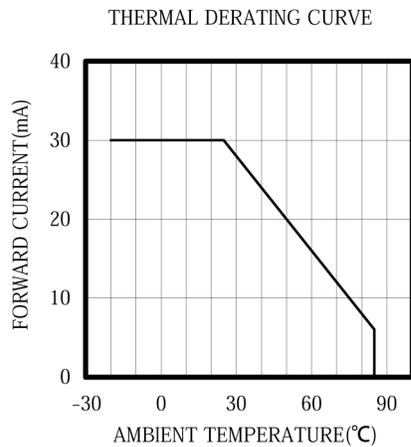
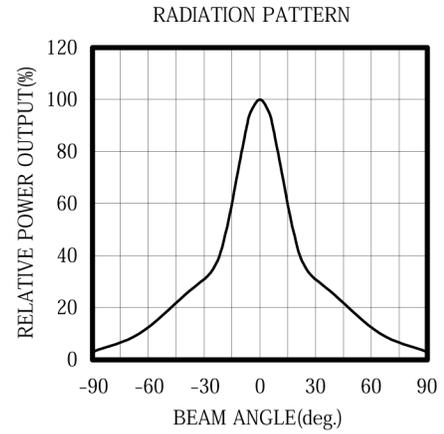
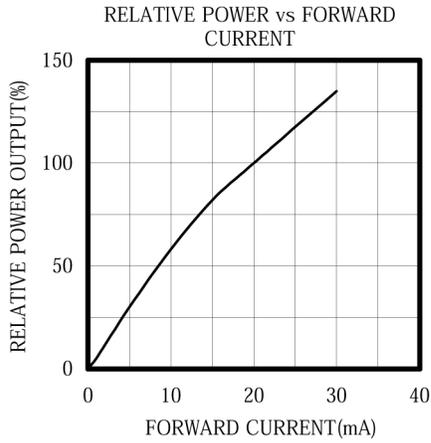
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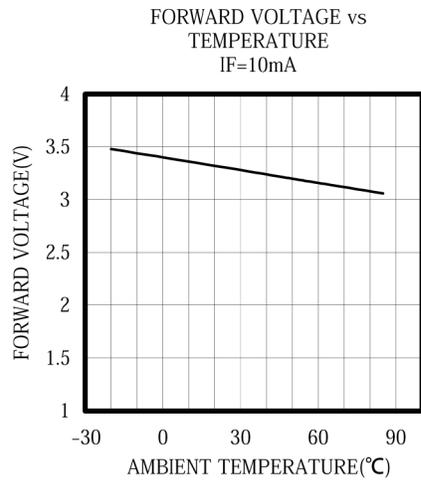
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.5	0.9	--	mW
Forward Voltage	VF	IF=20mA	--	3.5	4.0	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	45	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	μS
Fall Time	Tf	IFP=20mA	--	--	--	μS
Junction Capacitance	Cj	1MHz, V=0V	--	25	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-4.0	--	mV/°C



Unit: mm, Tolerance: ±0.2





Peak Emission Wavelength: 574nm

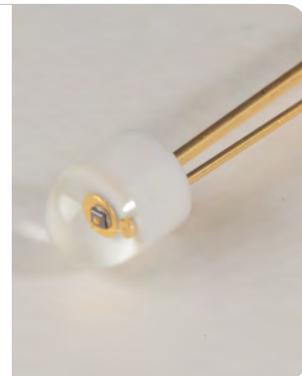
The 574nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

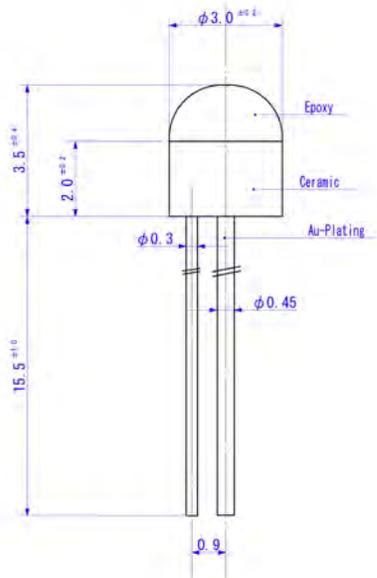


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mW
Operating Temperature Range	To _{opr}	-20 ~ +80	°C
Storage Temperature Range	T _{stg}	-30 ~ +100	°C
Junction Temperature	T _j	100	°C
Lead Soldering Temperature*2	T _{ls}	260	°C

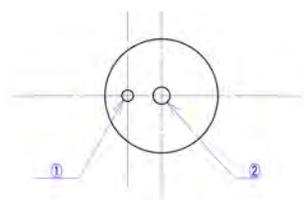
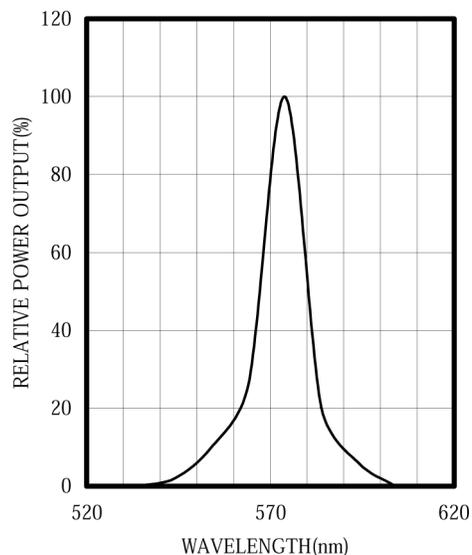
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.25	0.5	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	2.7	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λ _p	IF=20mA	--	574	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	11	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	C _j	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.6	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-2.4	--	mV/°C

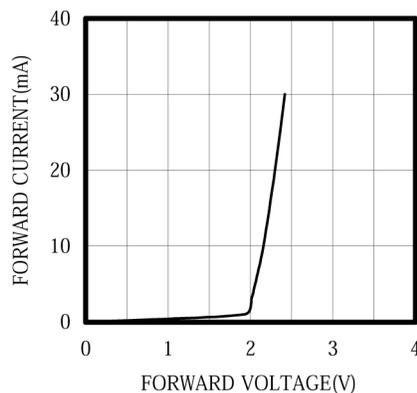


SPECTRAL OUTPUT

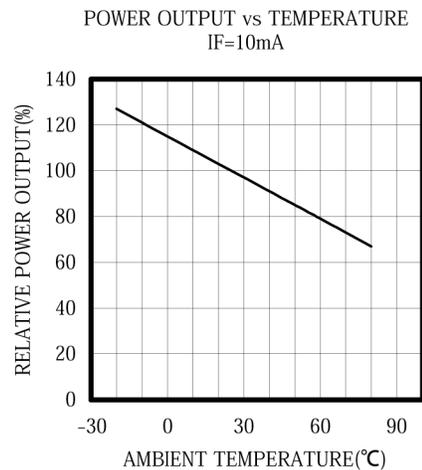
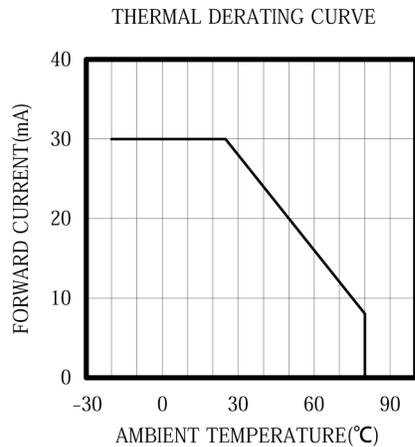
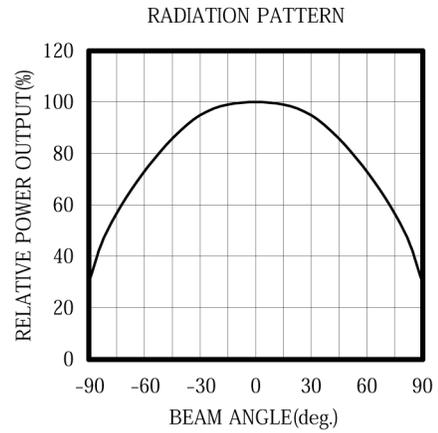
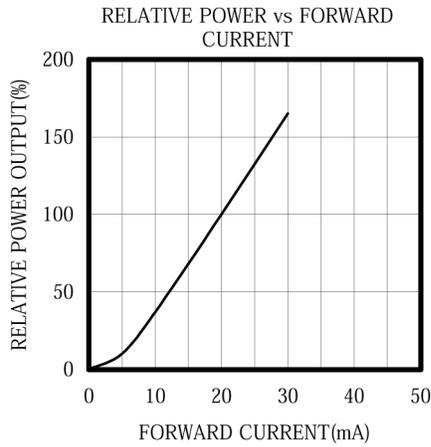


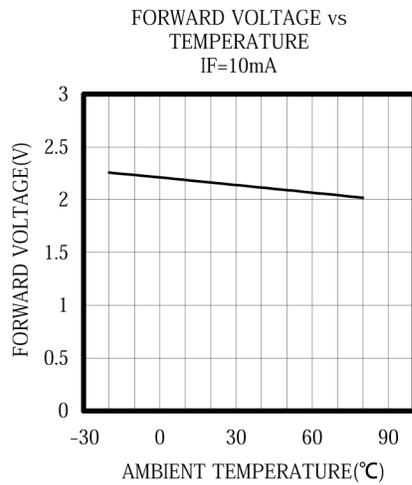
① Anode ② Cathode

FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 574nm

The 574nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

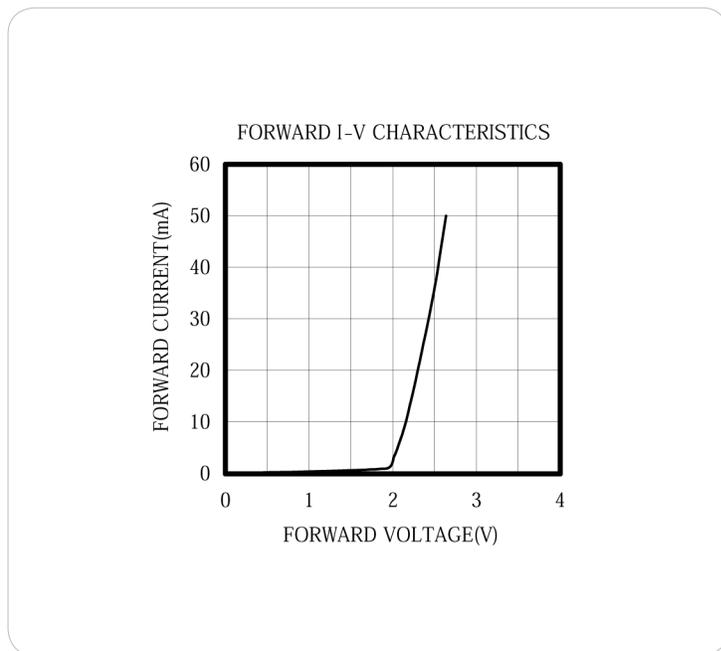
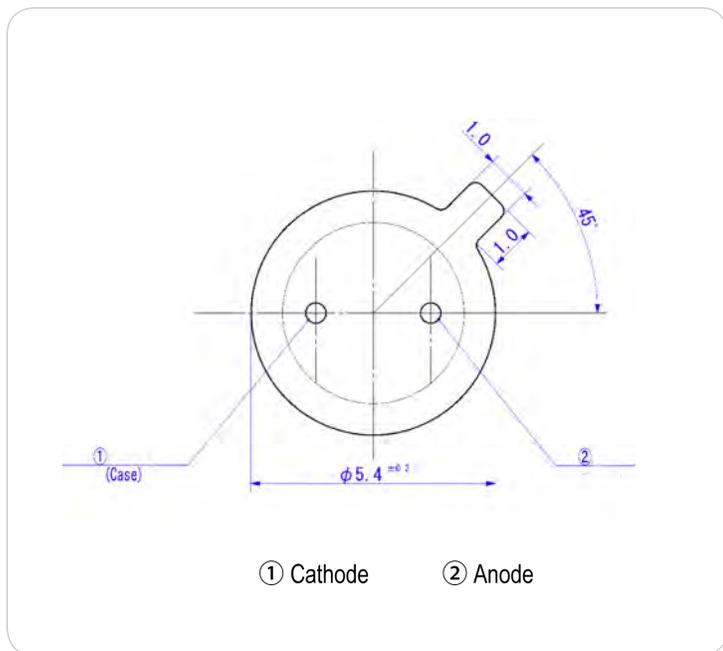
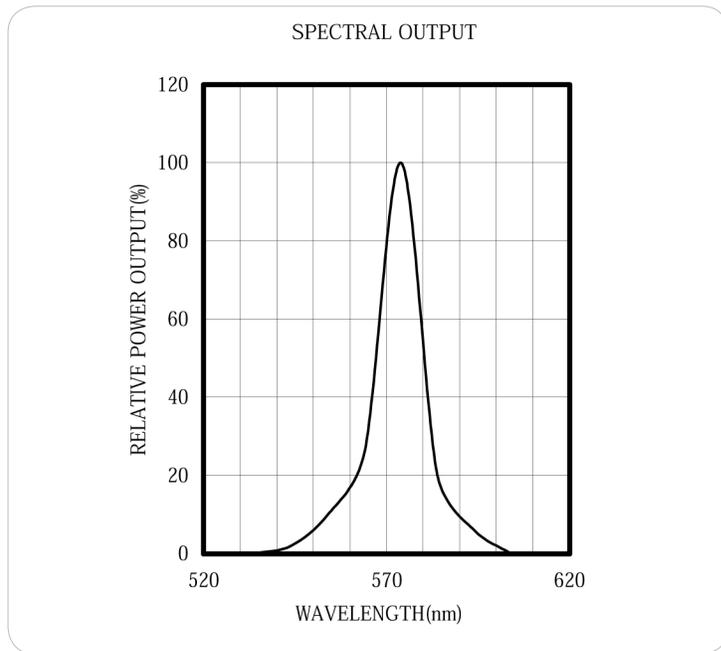
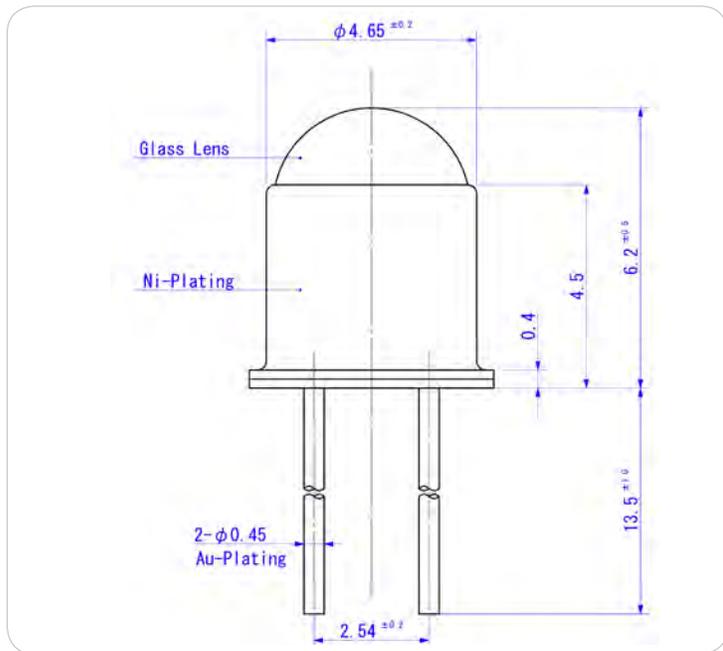


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	ToPr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

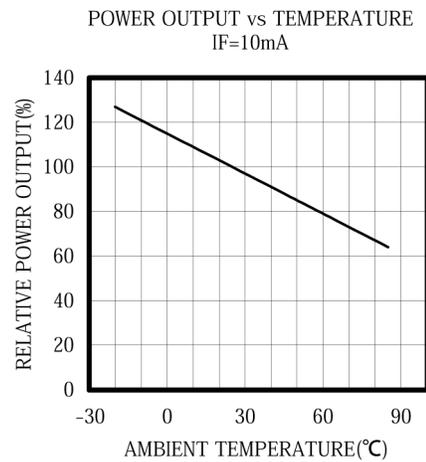
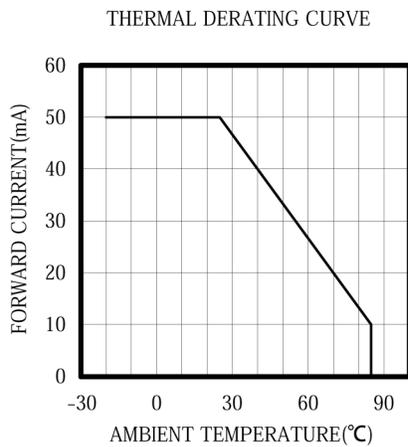
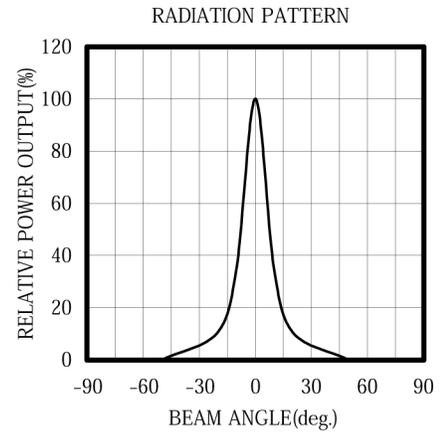
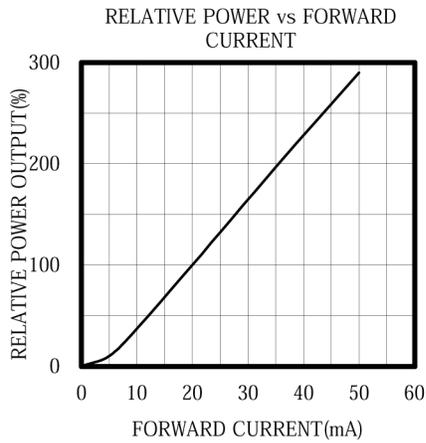
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

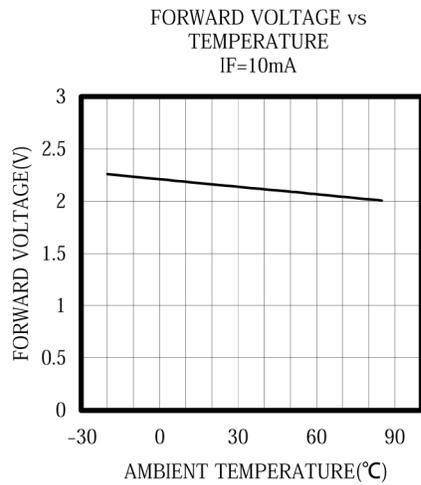
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.15	0.3	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	2.7	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	574	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	11	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.6	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-2.4	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 574nm

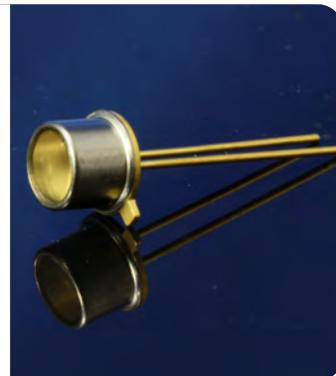
The 574nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

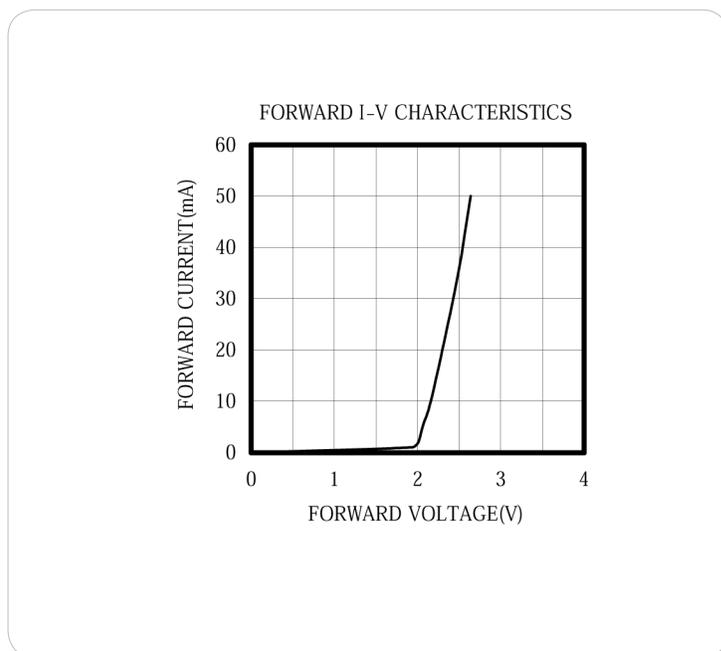
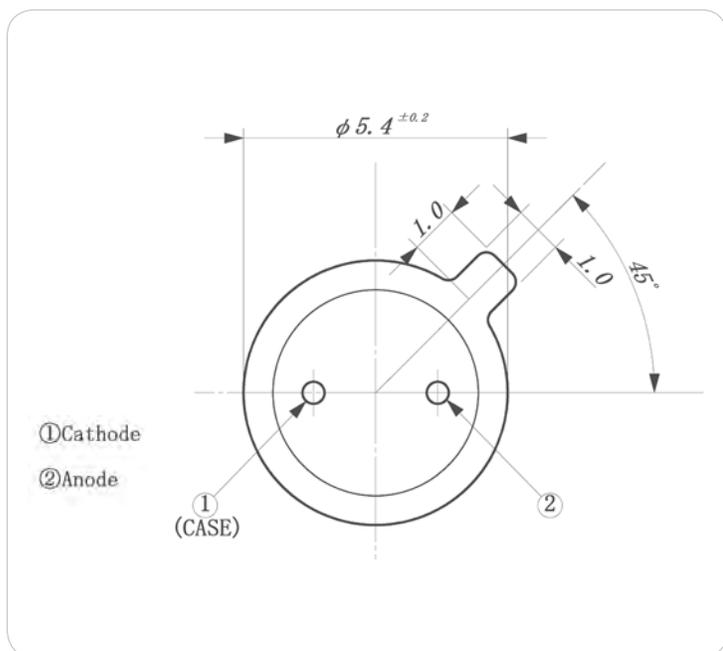
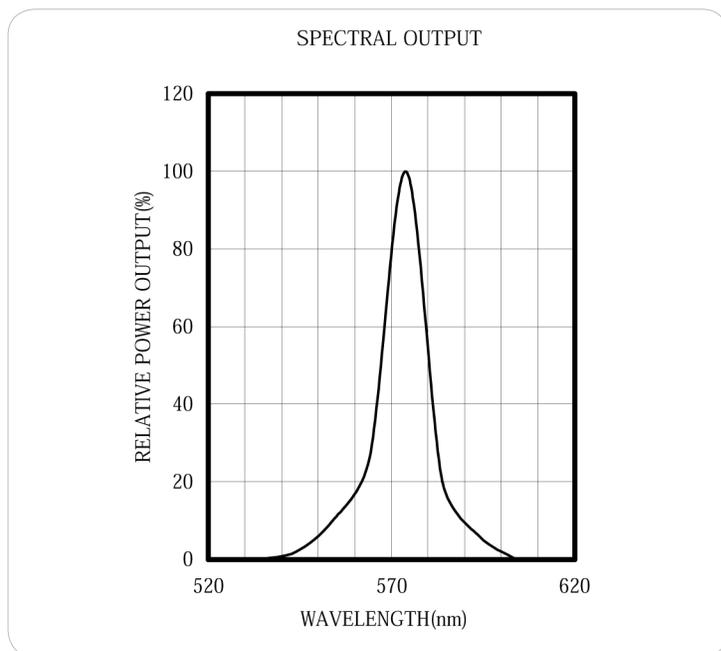
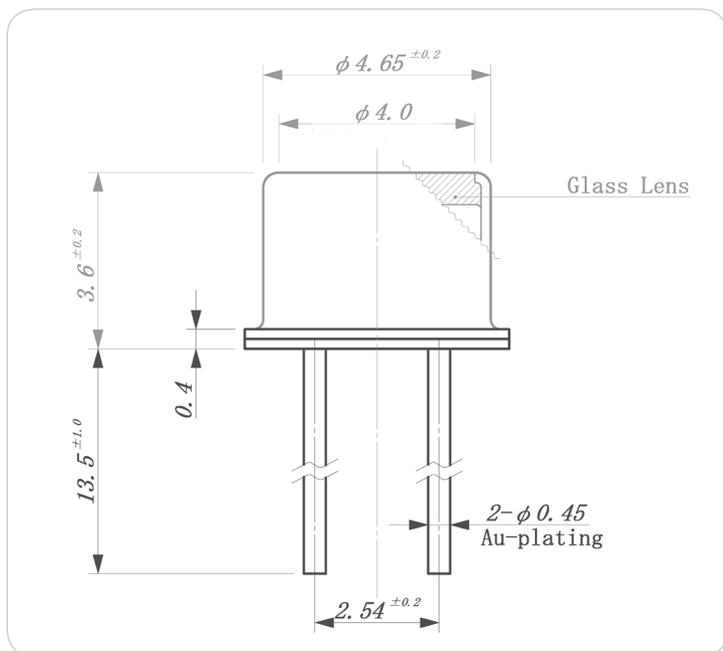


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

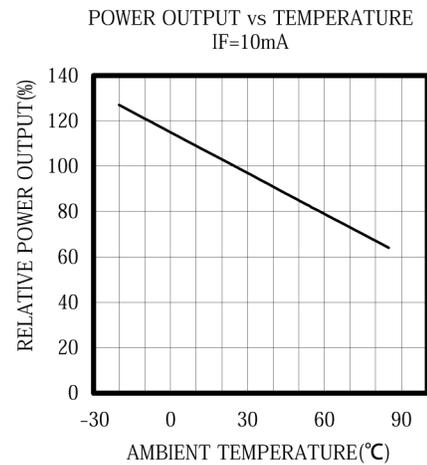
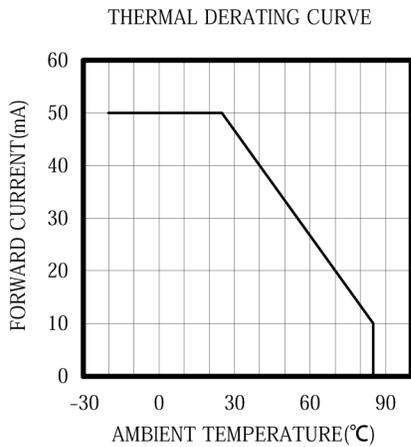
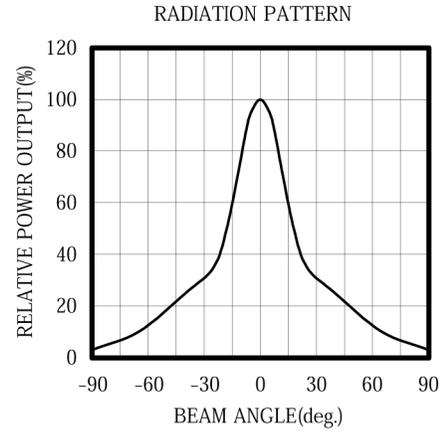
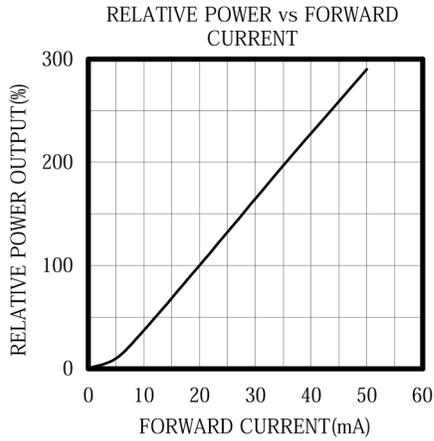
Electrical & Optical Characteristics (Ta = 25°C)

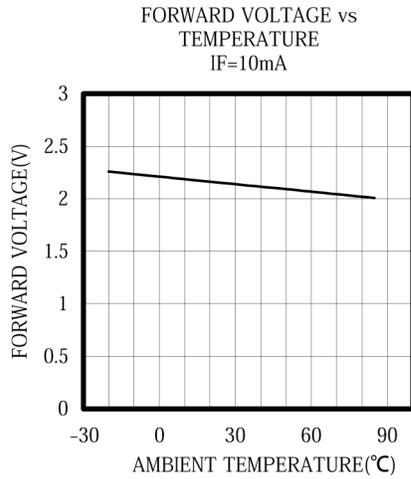
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.15	0.3	--	mW
Forward Voltage	VF	IF=20mA	--	2.3	2.7	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	574	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	11	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	μS
Fall Time	Tf	IFP=20mA	--	--	--	μS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.6	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-2.4	--	mV/°C



Unit: mm, Tolerance: ±0.2

2011-09-12





Peak Emission Wavelength: 635nm

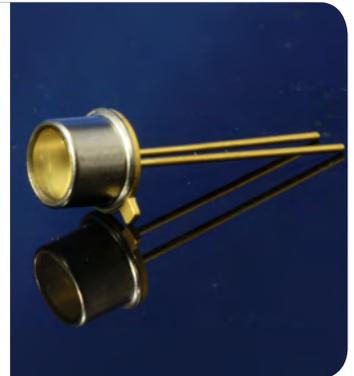
The 635nm visible emitter series is designed for applications requiring high output power. Custom package solutions and sorting are available.

FEATURES

- > Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Optical Switches
- > Optical Sensors
- > Optical Communications



Absolute Maximum Ratings (Ta=25°C)

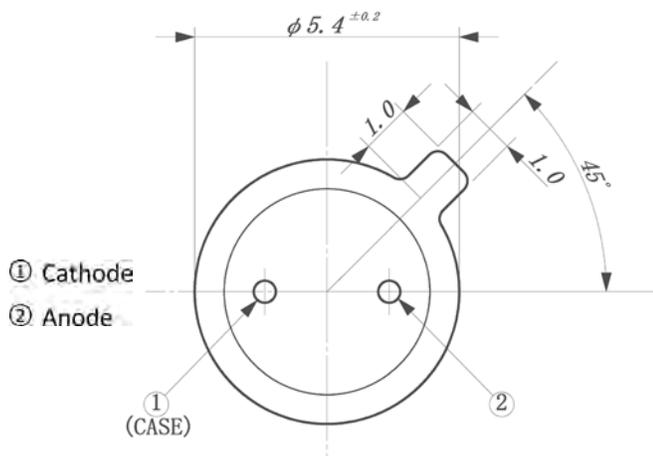
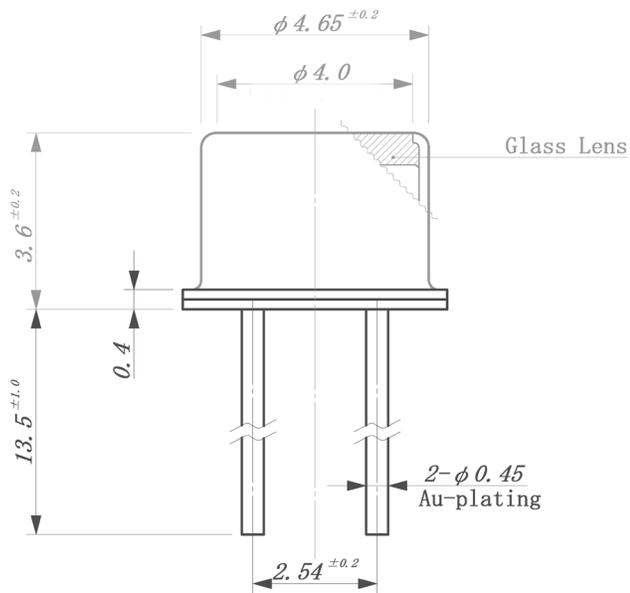


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.6	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	635	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	± 30	--	deg



Unit: mm, Tolerance: ±0.2

2018-06-01

Peak Emission Wavelength: 660nm

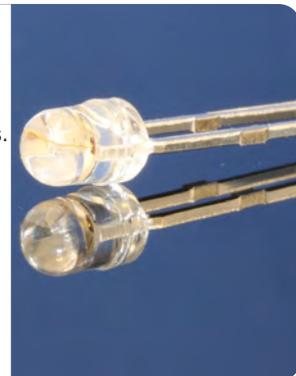
The MTE5066C-UR is a red T 1, 3mm water clear emitter designed for applications requiring high power output and high reliability in a narrow angle package. It can be custom sorted for specific power output ranges.

FEATURES

- > High Reliability
- > High Power Output
- > Compact

APPLICATIONS

- > Optical Sensing
- > Optical Instruments
- > Linear & Rotary Encoder
- > Machine Vision / CCD



Absolute Maximum Ratings (Ta=25°C)

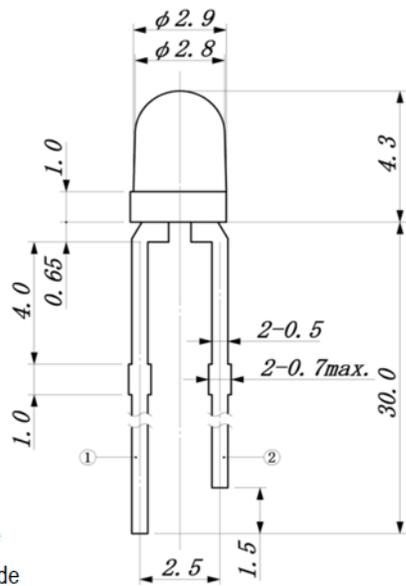


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

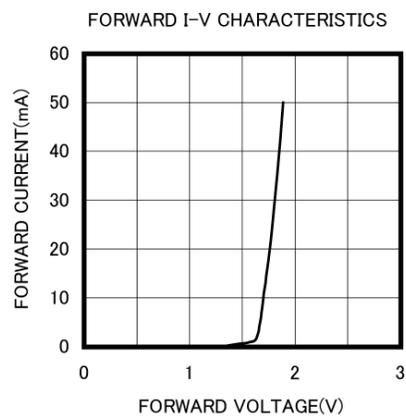
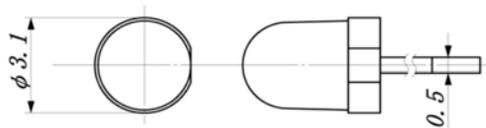
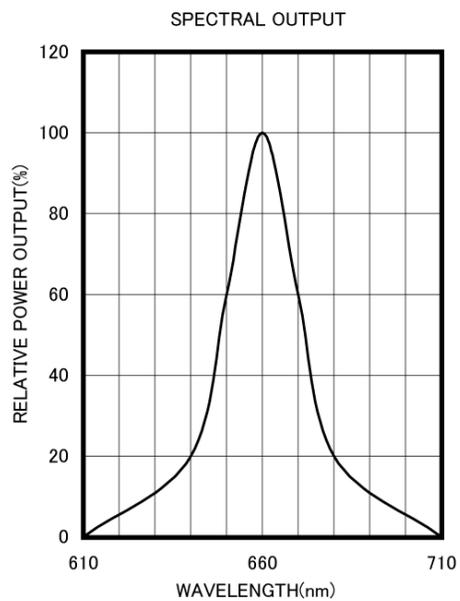
*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

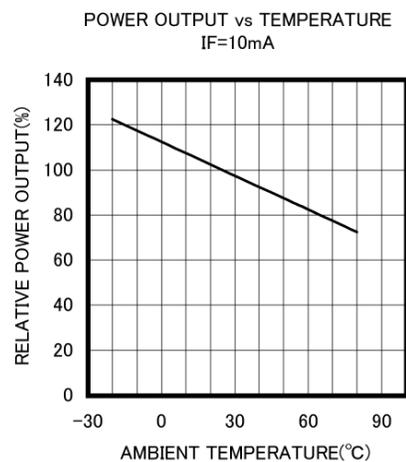
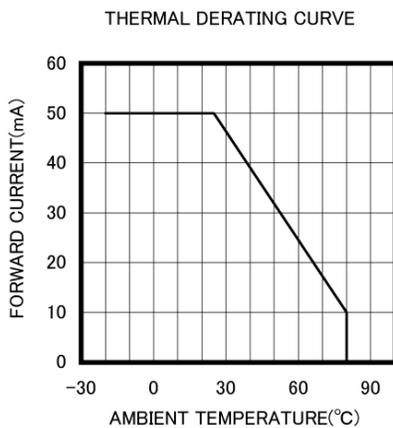
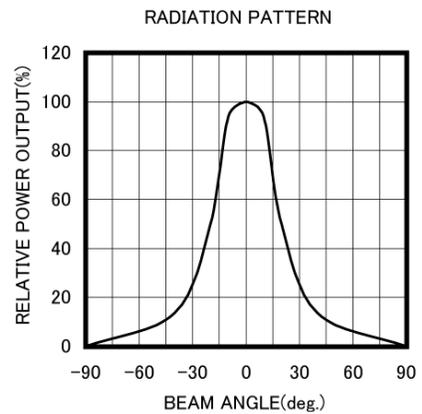
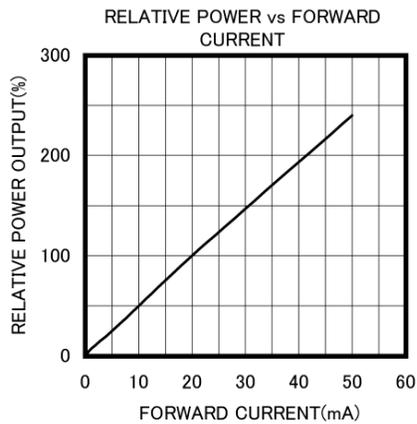
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	4.0	7.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±18	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C

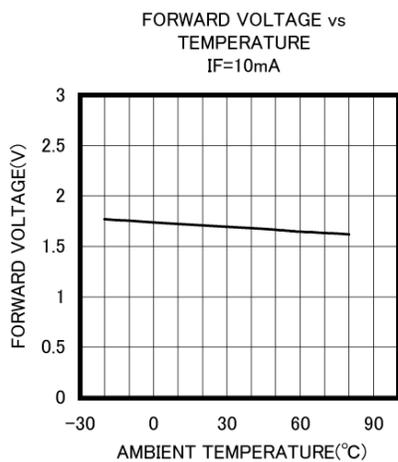


- ① Anode
- ② Cathode



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

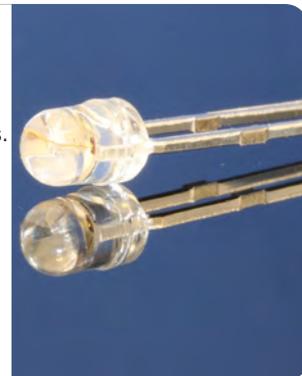
The MTE5066CJ-UR is a red T 1, 3mm water clear emitter designed for applications requiring high power output and high reliability in a narrow angle package. It can be custom sorted for specific power output ranges.

FEATURES

- > High Reliability
- > High Power Output
- > Compact

APPLICATIONS

- > Optical Sensing
- > Optical Instruments
- > Linear & Rotary Encoder
- > Machine Vision / CCD



Absolute Maximum Ratings (Ta=25°C)

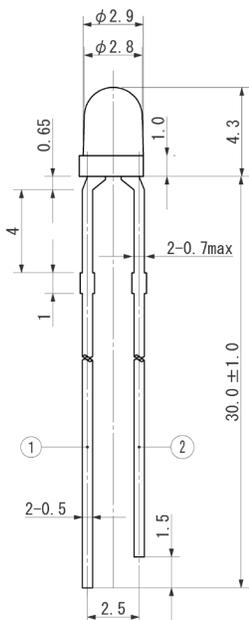


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

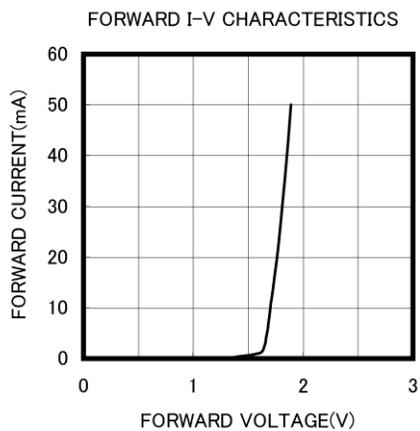
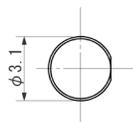
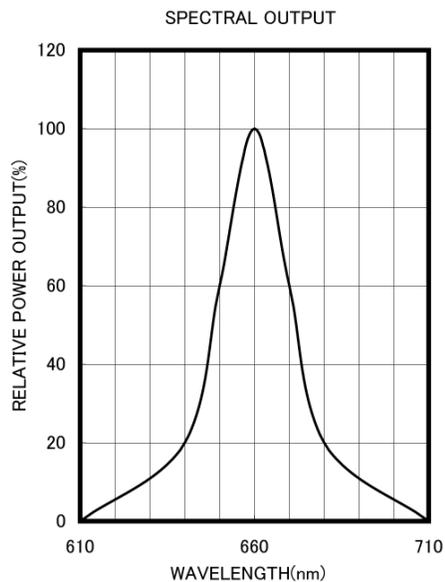
*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

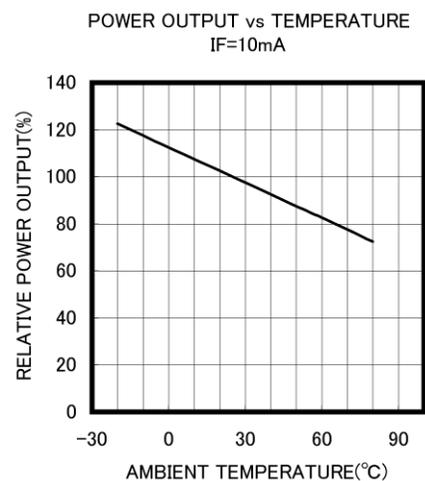
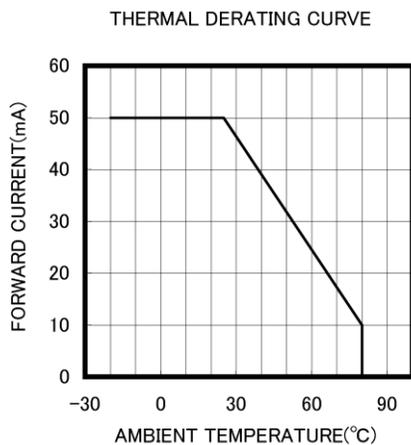
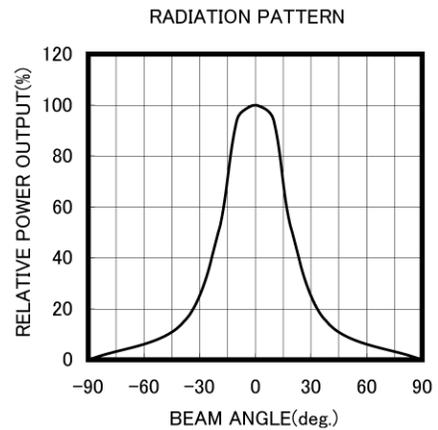
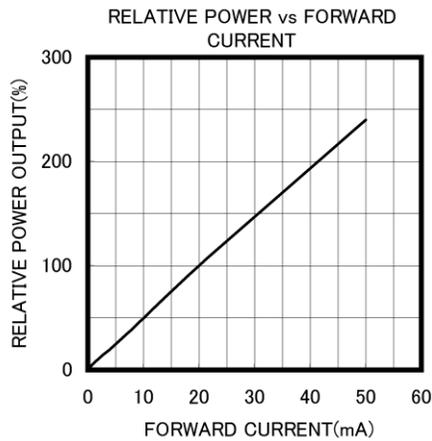
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	5.0	7.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±18	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C

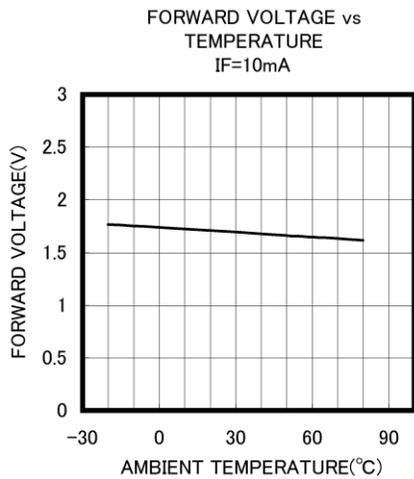


① Anode
② Cathode



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

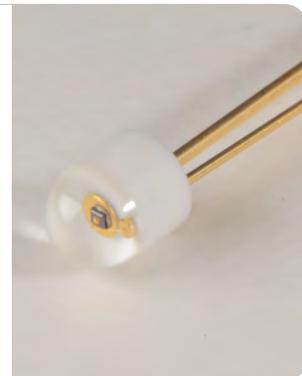
The 660nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

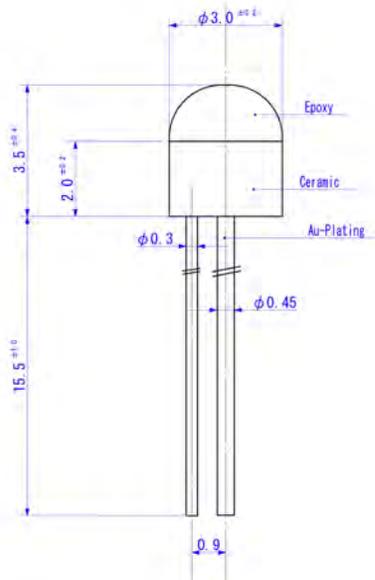


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	70	mW
Operating Temperature Range	To _{opr}	-20 ~ +80	°C
Storage Temperature Range	T _{stg}	-30 ~ +100	°C
Junction Temperature	T _j	100	°C
Lead Soldering Temperature*2	T _{ls}	260	°C

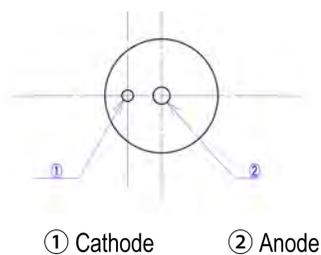
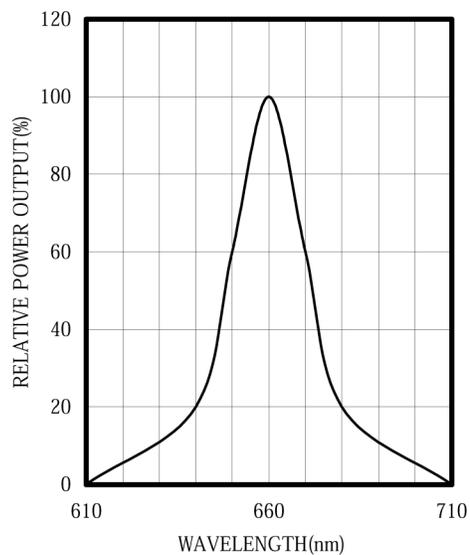
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

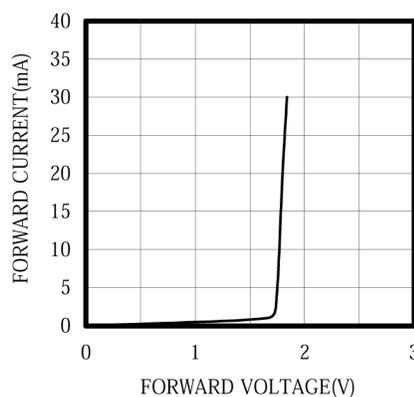
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	2.5	4.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λ _p	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



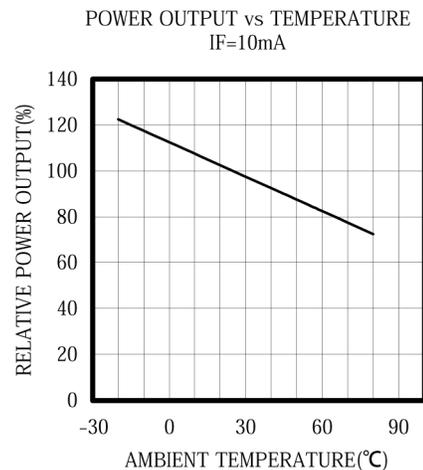
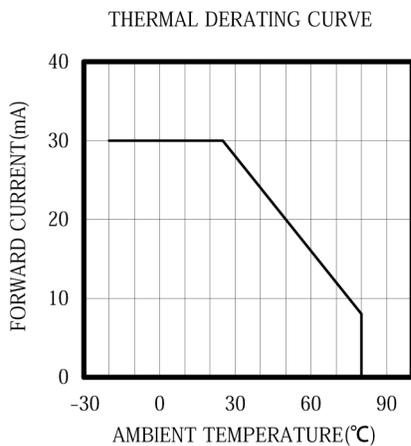
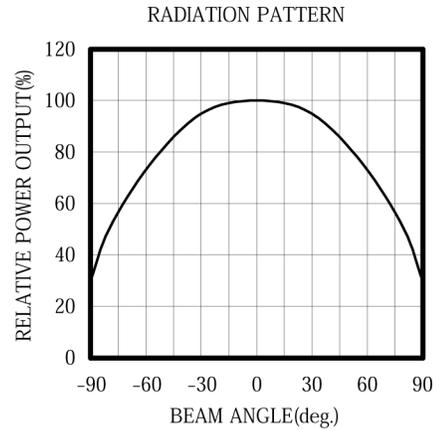
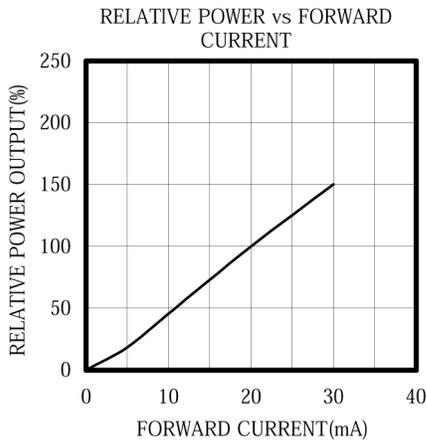
SPECTRAL OUTPUT

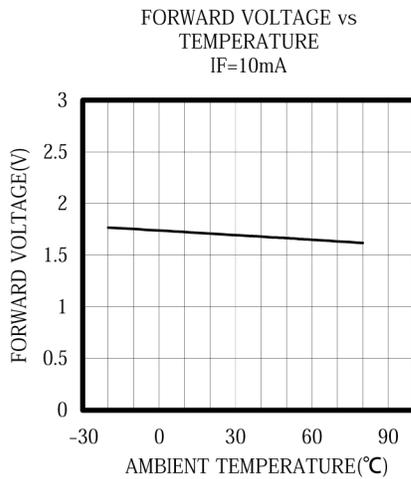


FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

The 660nm red LED Series is designed for applications requiring high accuracy and precision. Custom package solutions and sorting are available.

FEATURES

- > High Reliability
- > High Output Power
- > Narrow Radiation Pattern

APPLICATIONS

- > Optical Sensing
- > Optical Instruments
- > Linear & Rotary Encoder
- > Machine Vision / CCD



Absolute Maximum Ratings (Ta=25°C)

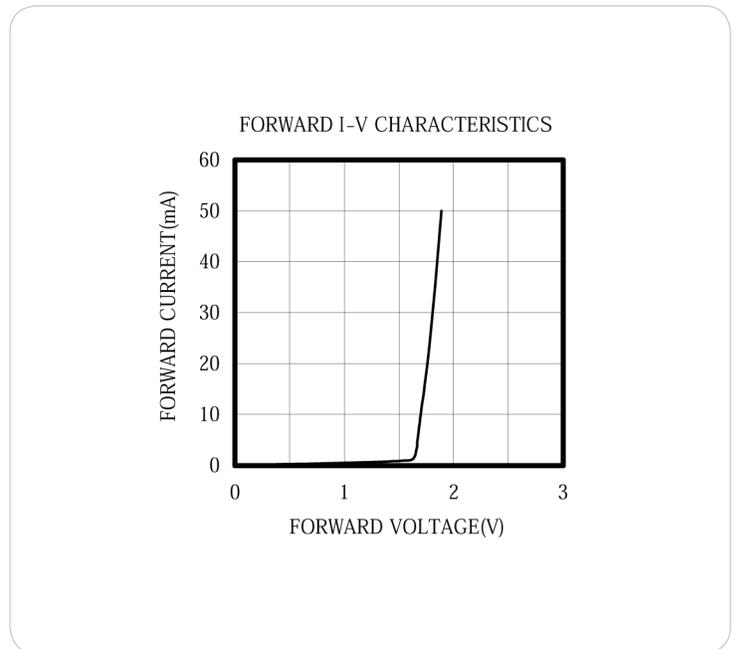
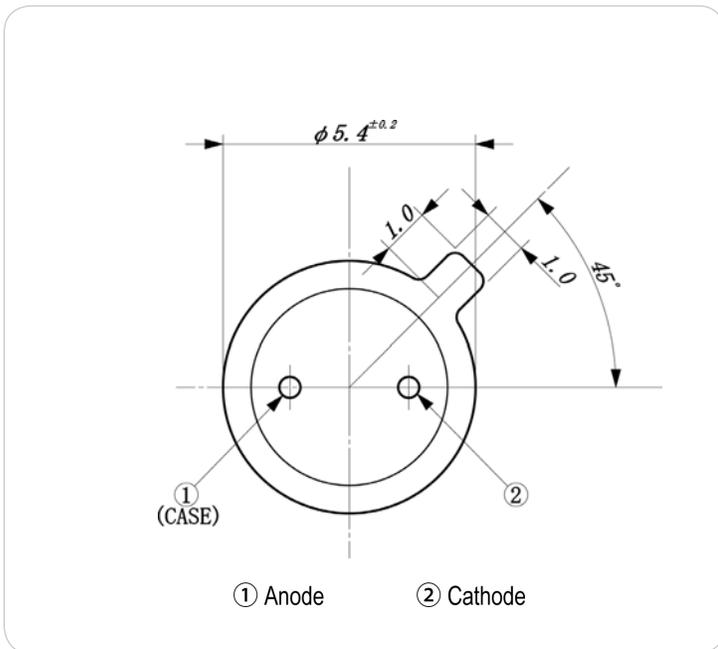
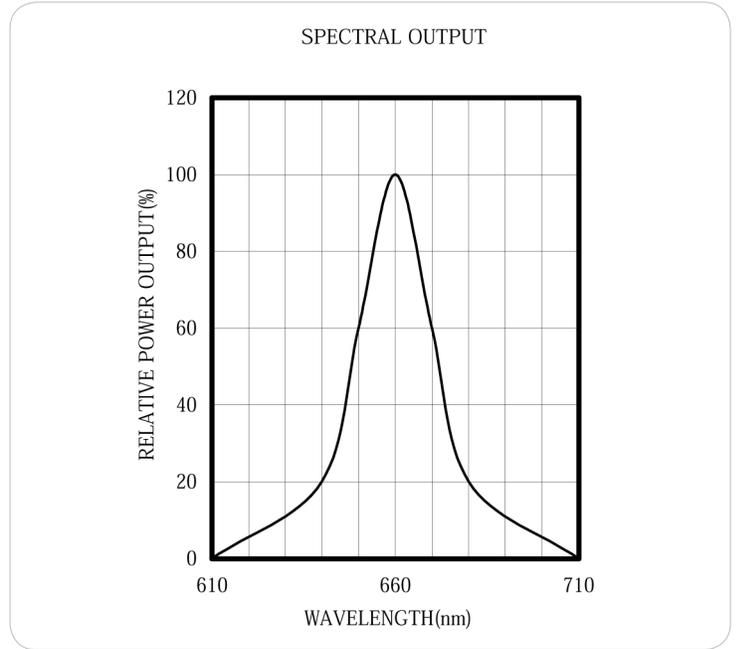
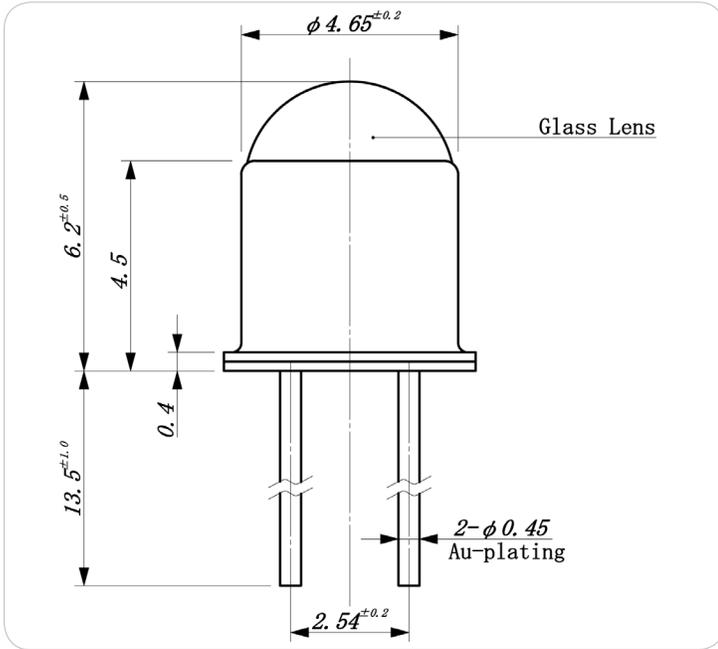


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

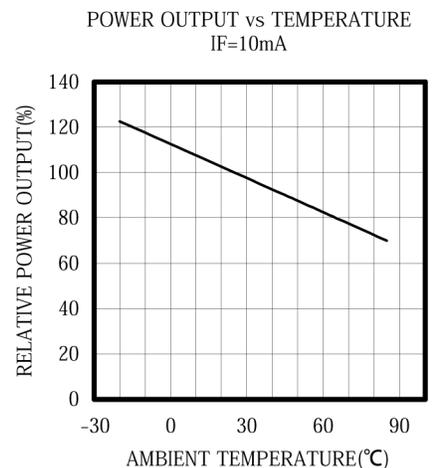
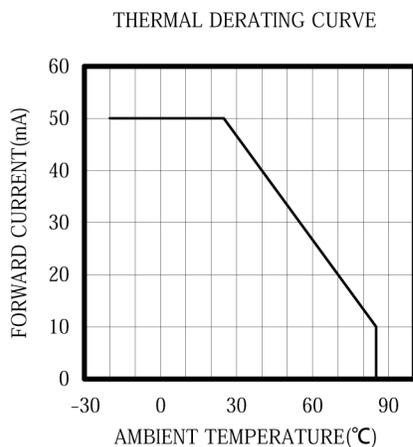
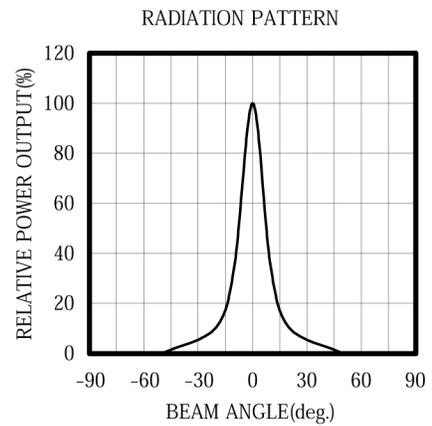
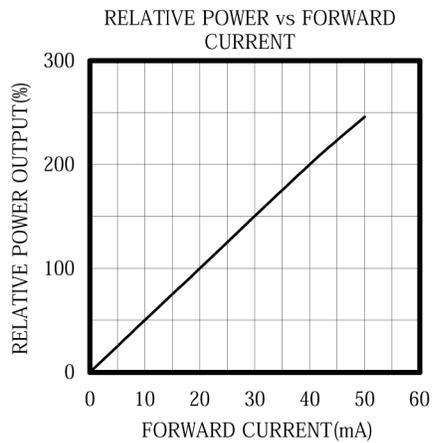
*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

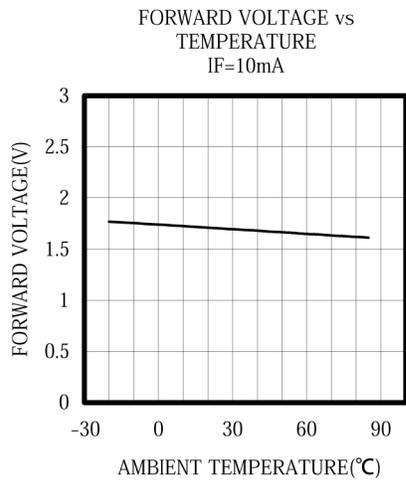
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	1.5	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

The MTE5066N2-UR consists of a 660nm high output visible die in a water-clear 5mm plastic molded flat top package. Custom package solutions and sorting are available.

FEATURES

- > High Luminous Intensity
- > High Output Power
- > Wide Beam Angle
- > High Reliability

APPLICATIONS

- > Optical Sensor
- > Indicators
- > Bar-code Reader
- > Edge Sensing (Coin Dispenser)



Absolute Maximum Ratings (Ta=25°C)

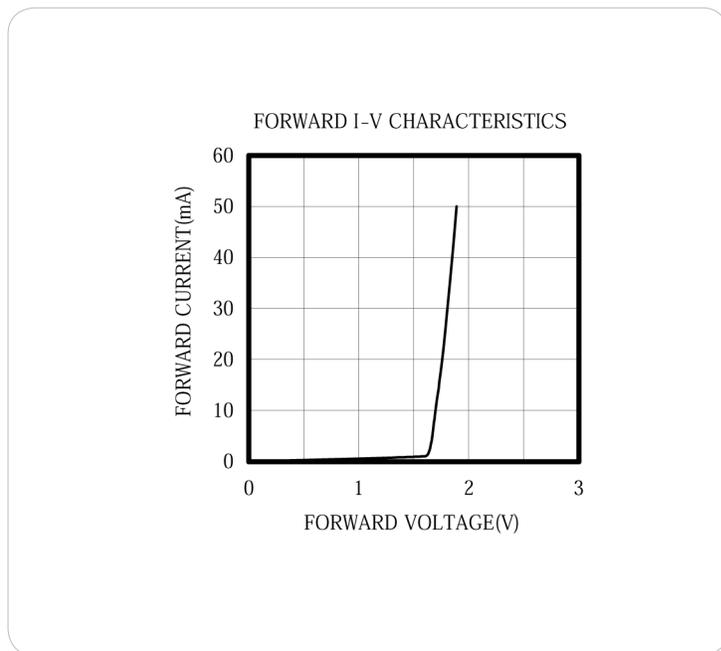
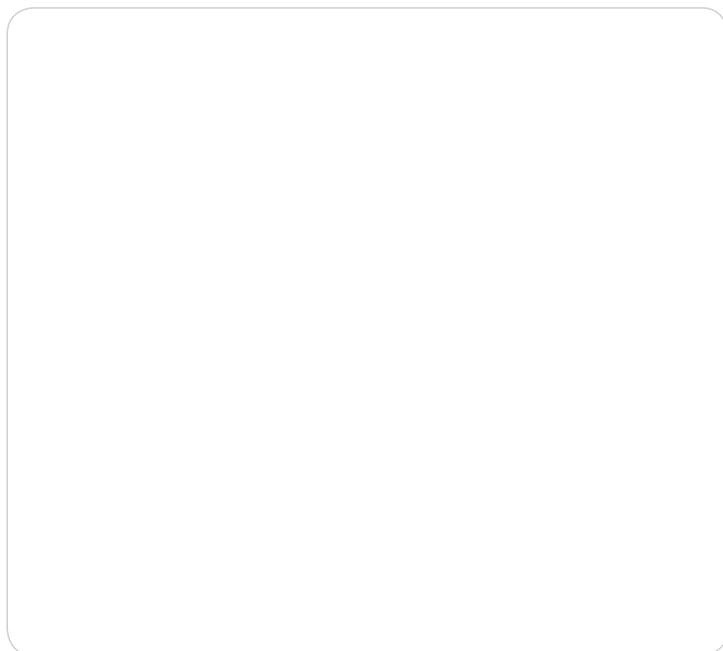
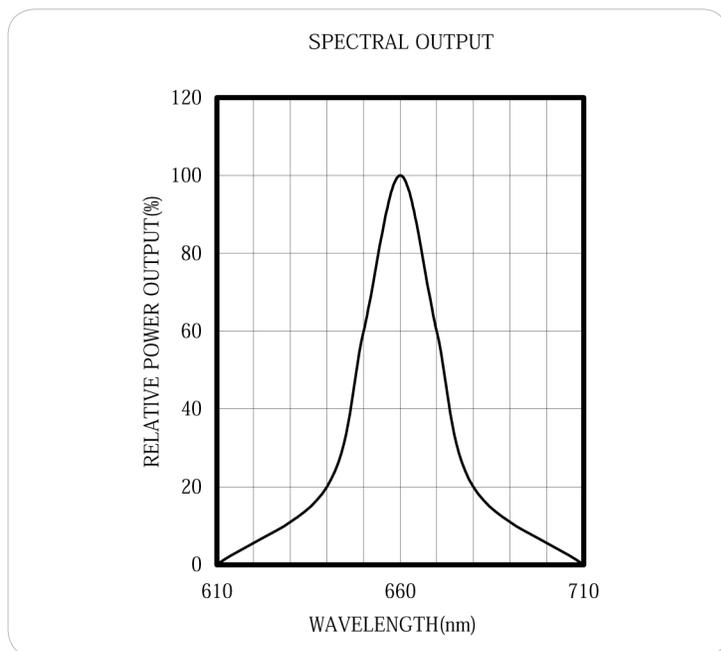
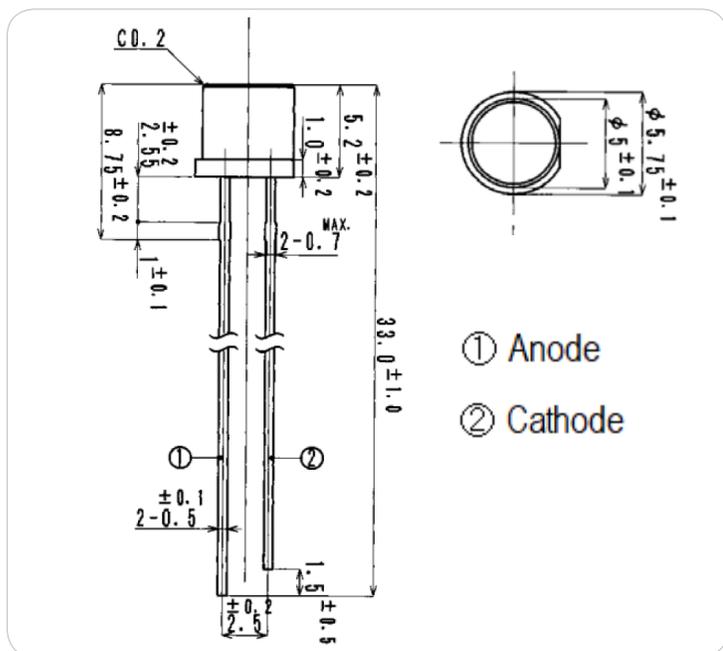


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

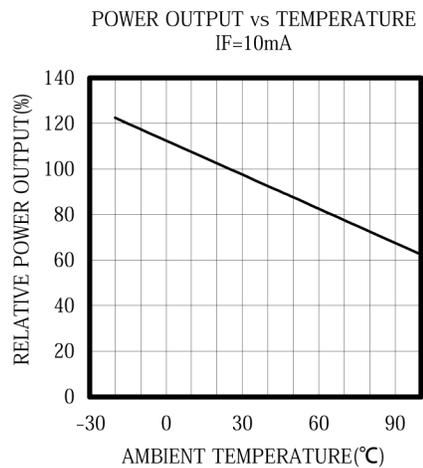
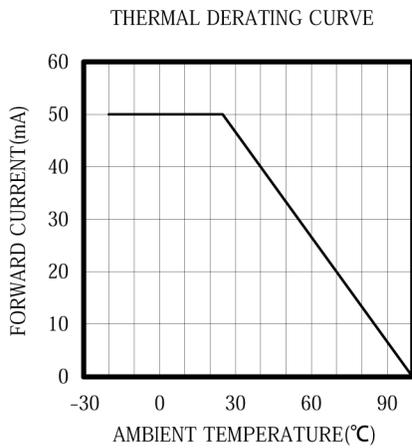
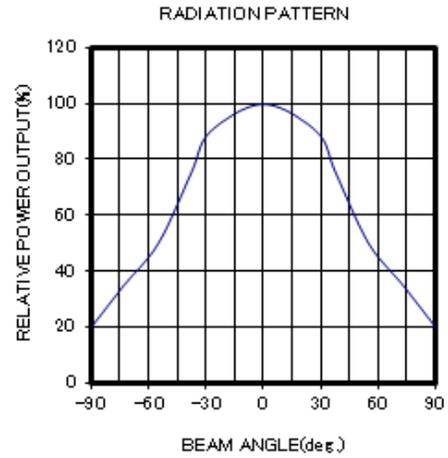
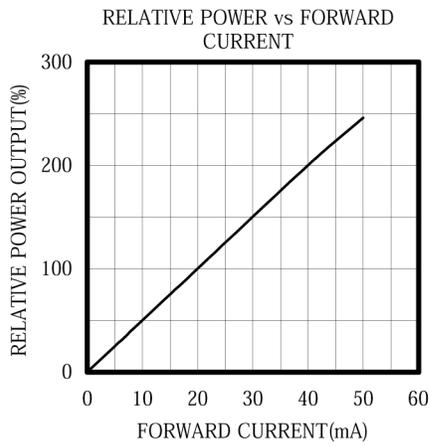
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

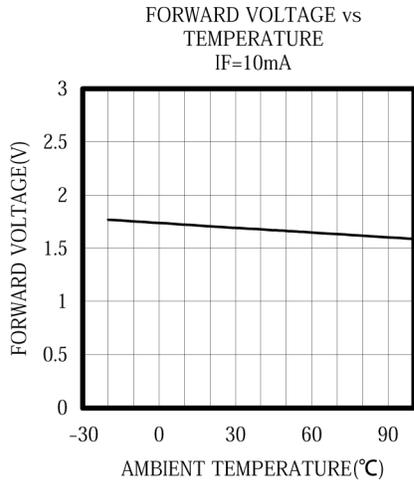
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±40	--	deg
Rise / Fall Time	Tr, Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	30	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ±0.2





Peak Emission Wavelength: 660nm

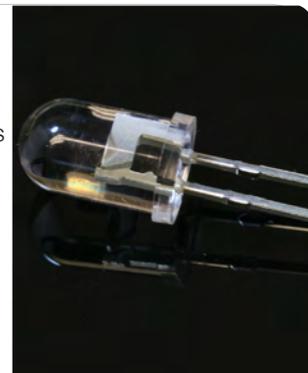
The MTE5066N5J-UR is a red T 1 3/4, 5mm water clear LED designed for applications requiring high power output and high reliability in a narrow angle package. It can be custom sorted for specific power output ranges

FEATURES

- > High Power Output
- > High Reliability
- > Narrow Beam Angle
- > Excellent Optical / Mechanical Axis Alignment

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

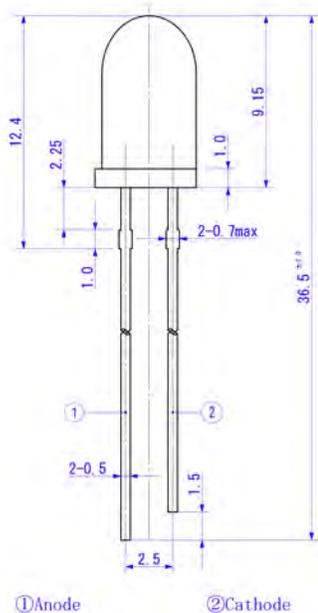


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

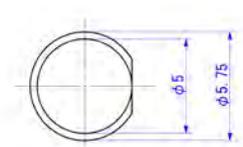
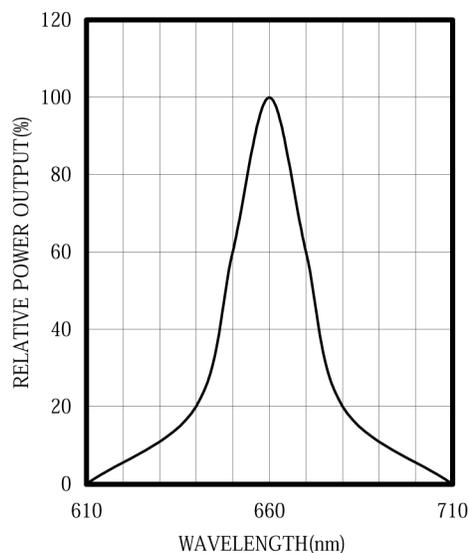
*1: Tw=10μsec, T=10msec. *2: Time 5Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

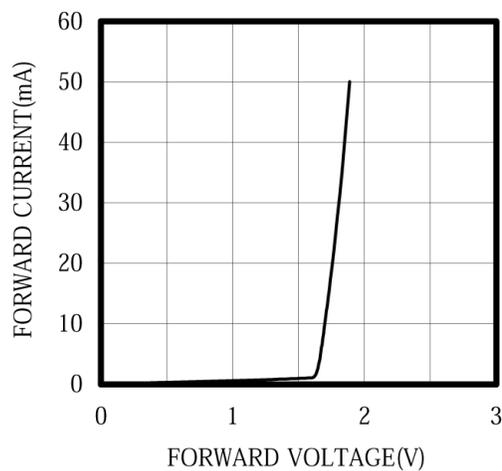
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	5.0	6.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±7	--	deg
Luminous Intensity	Iv	IF=20mA	1200	3000	--	mcd
Rise Time	Tr	IPF=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



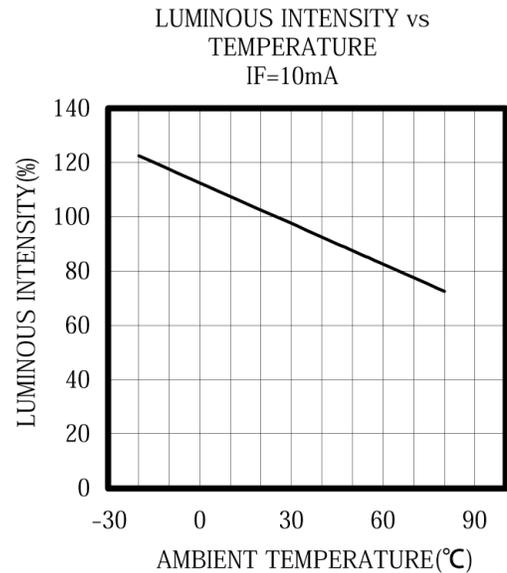
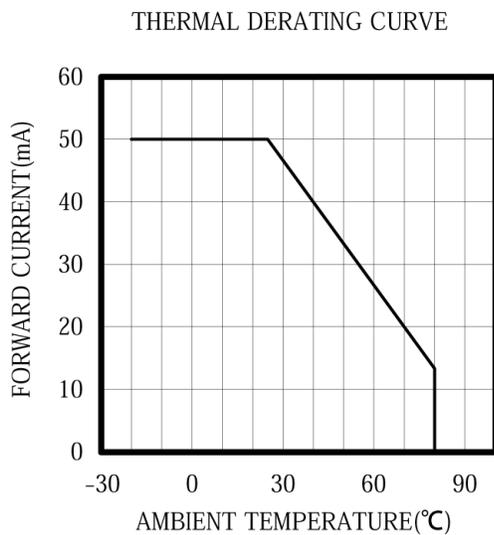
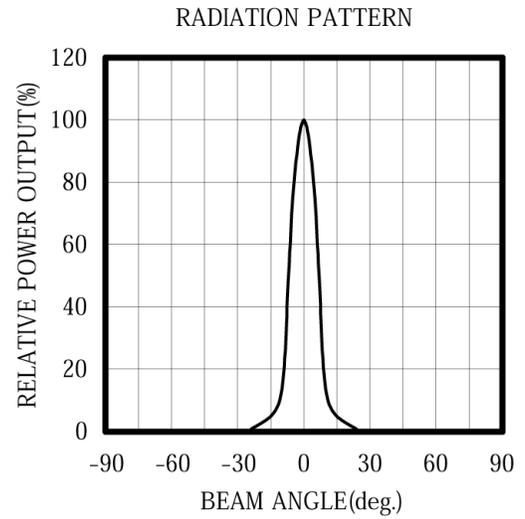
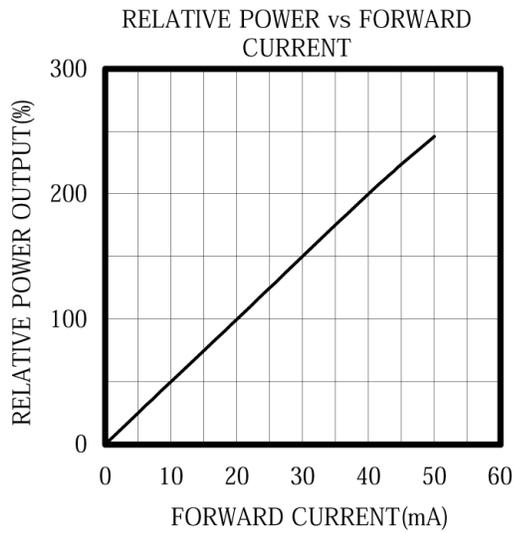
SPECTRAL OUTPUT

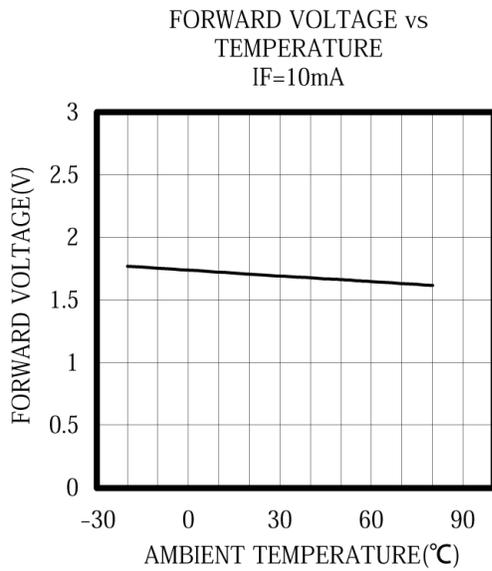


FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

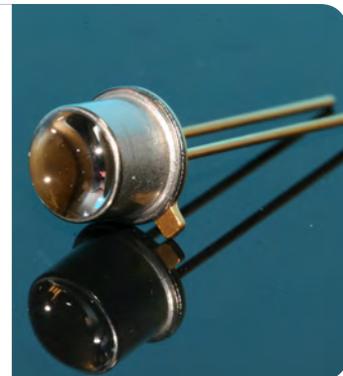
The 660nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed TO-46
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Optical Switches
- > Linear & Rotary Encoder



Absolute Maximum Ratings (Ta=25°C)

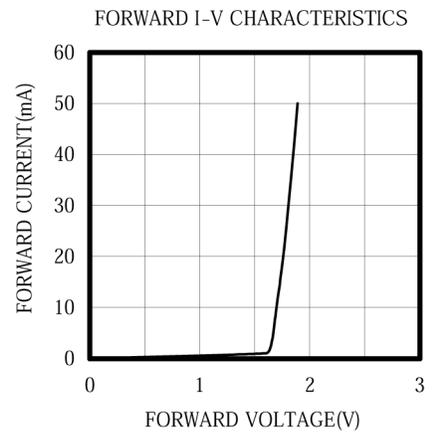
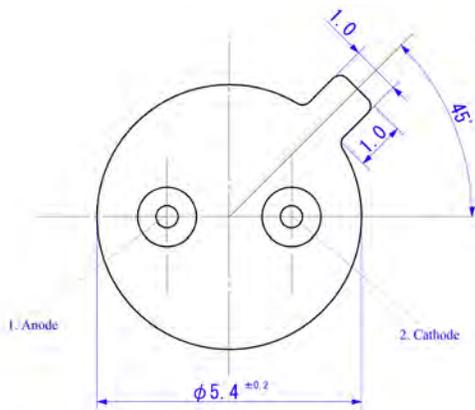
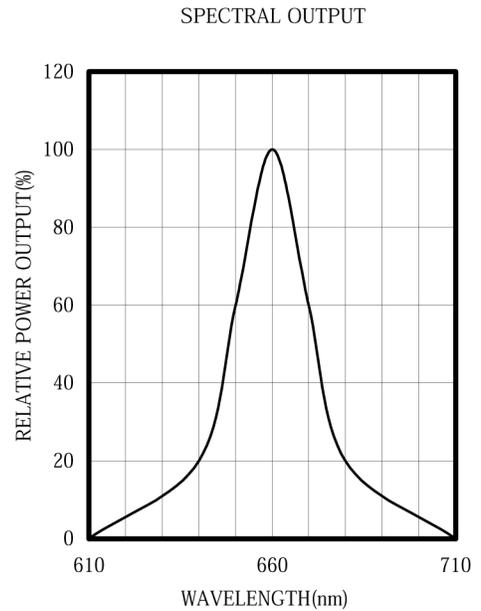
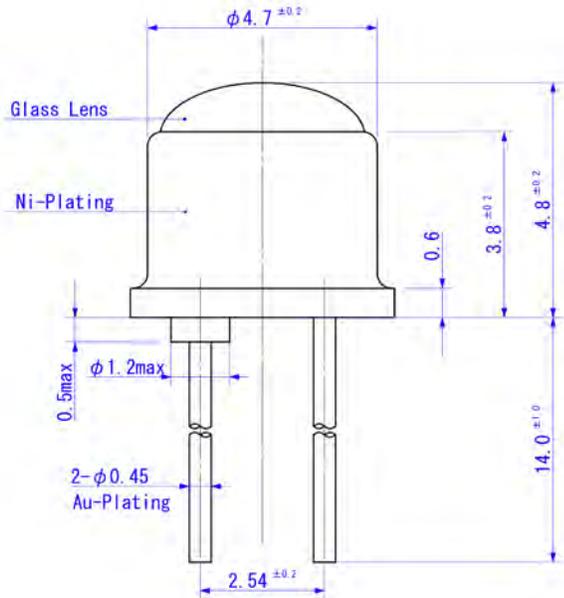


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	Topr	-20 ~ +100	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

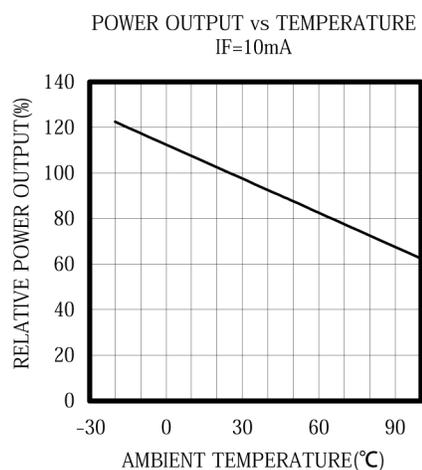
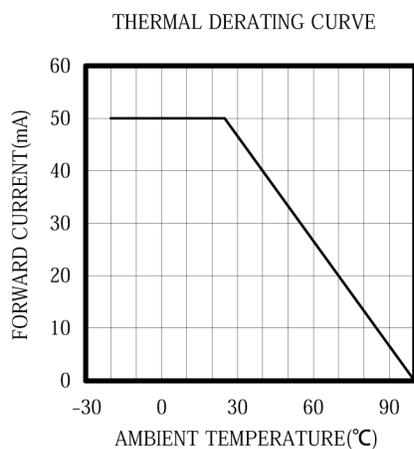
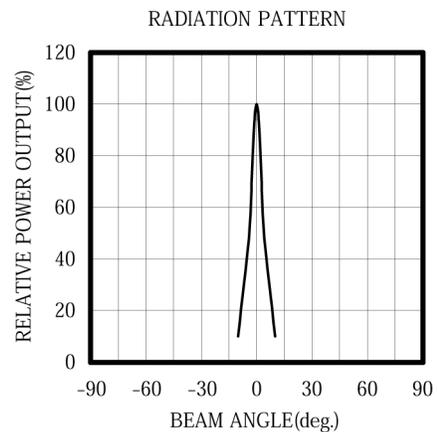
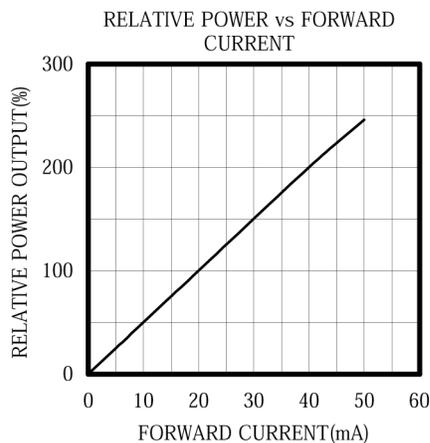
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

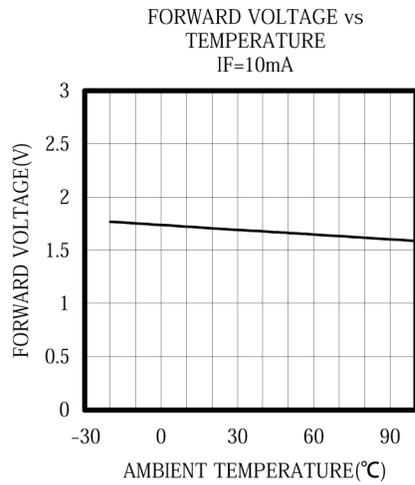
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	1.5	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±4	--	deg
Rise / Fall Time	Tr, Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

The MTE5066S1J-UR is a red T 1 3/4, 5mm water clear emitter designed for applications requiring high power output and high reliability in a wider angle package. It can be custom sorted for specific power output ranges.

FEATURES

- > High Power Output
- > High Reliability
- > Excellent Optical / Mechanical Axis Alignment
- > Stand-off Type

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

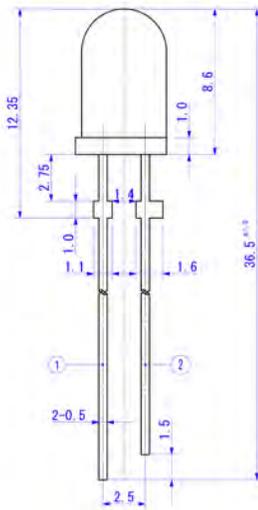


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	ToPr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5Sec max, Position: Up to 3mm from the body.

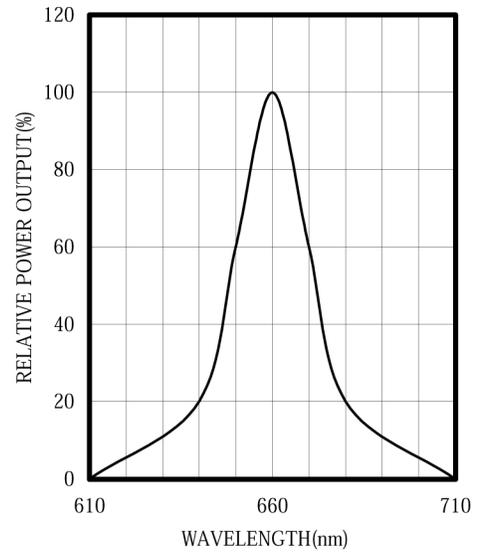
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	5.0	6.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±12	--	deg
Luminous Intensity	Iv	IF=20mA	600	1200	--	mcd
Rise Time	Tr	IPF=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C

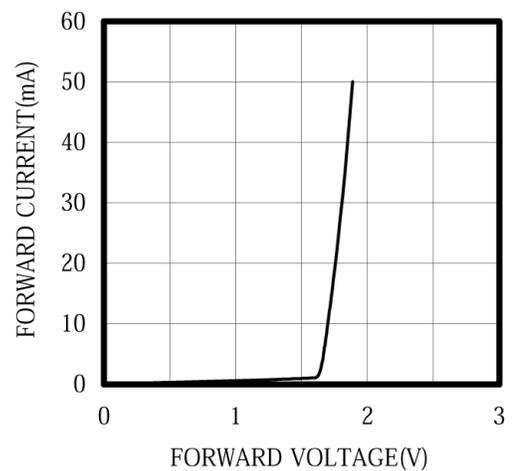


①Anode ②Cathode

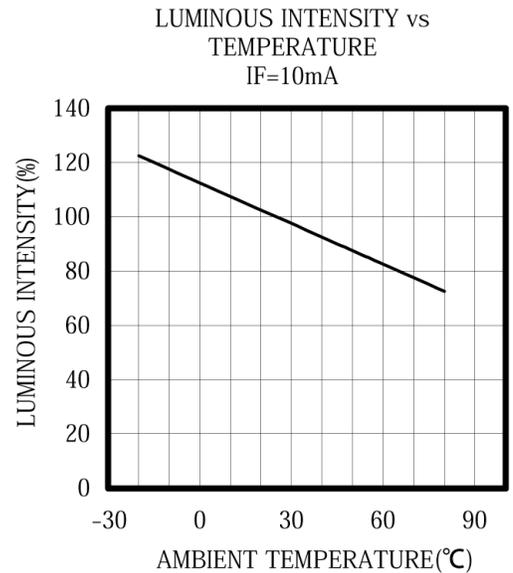
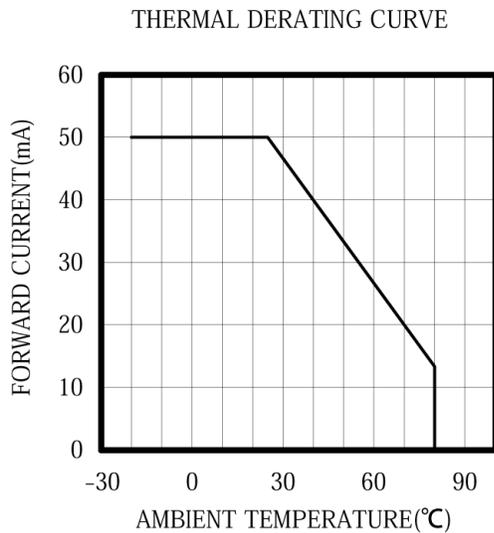
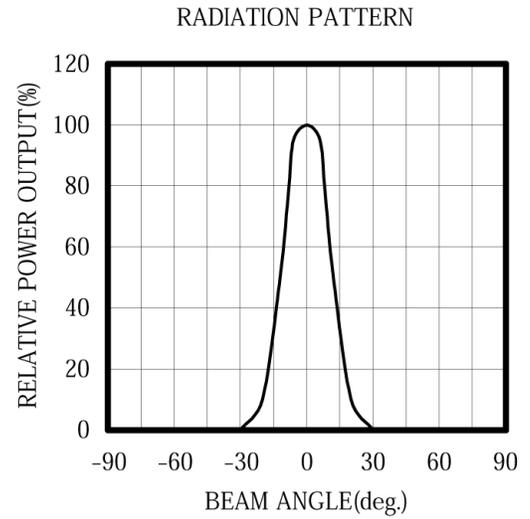
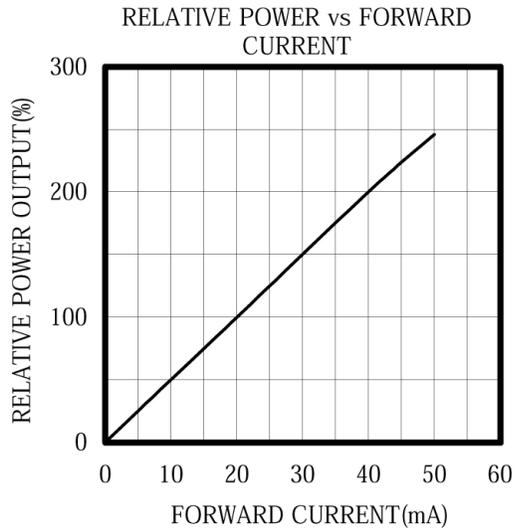
SPECTRAL OUTPUT

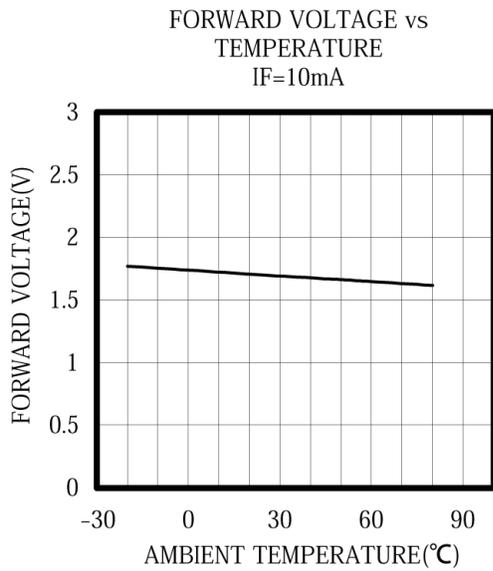


FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 660nm

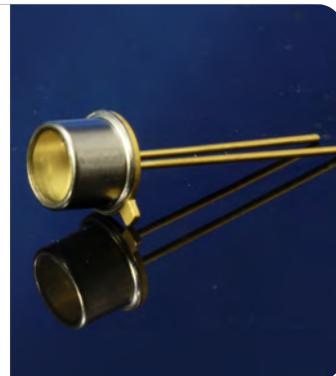
The 660nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

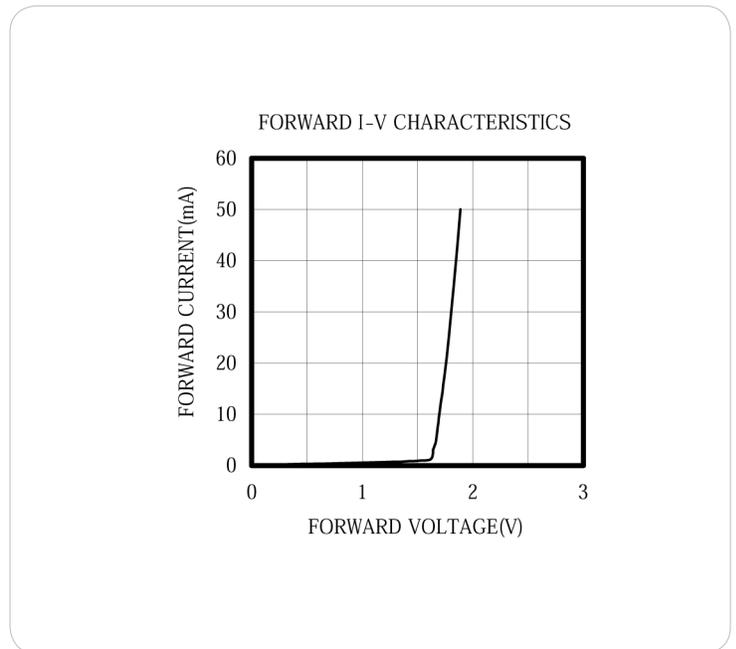
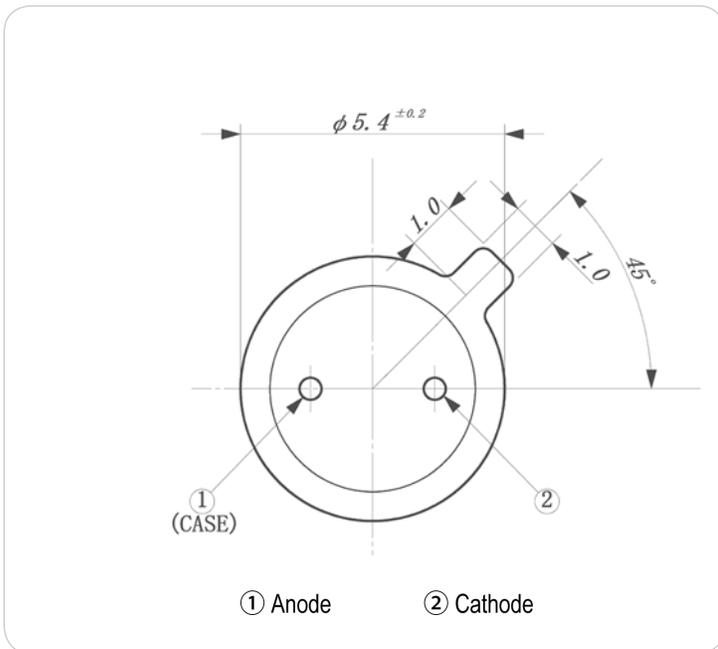
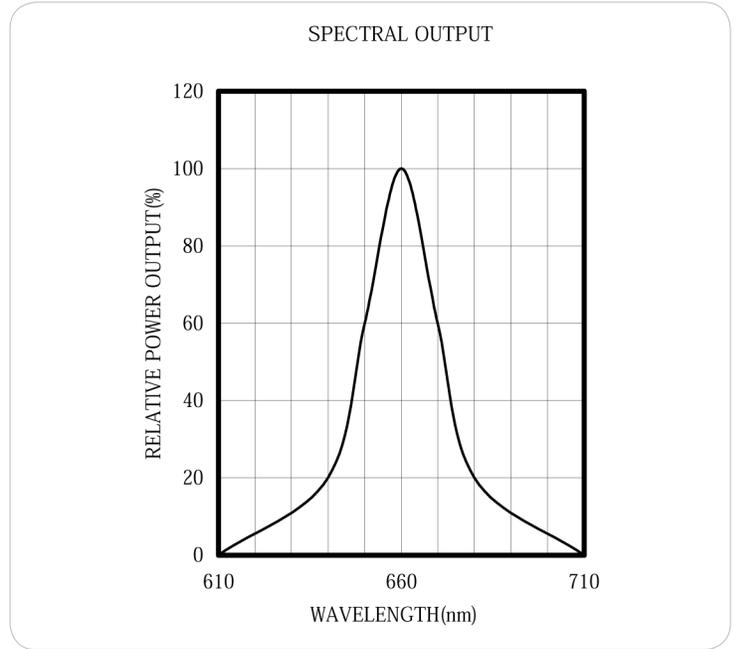
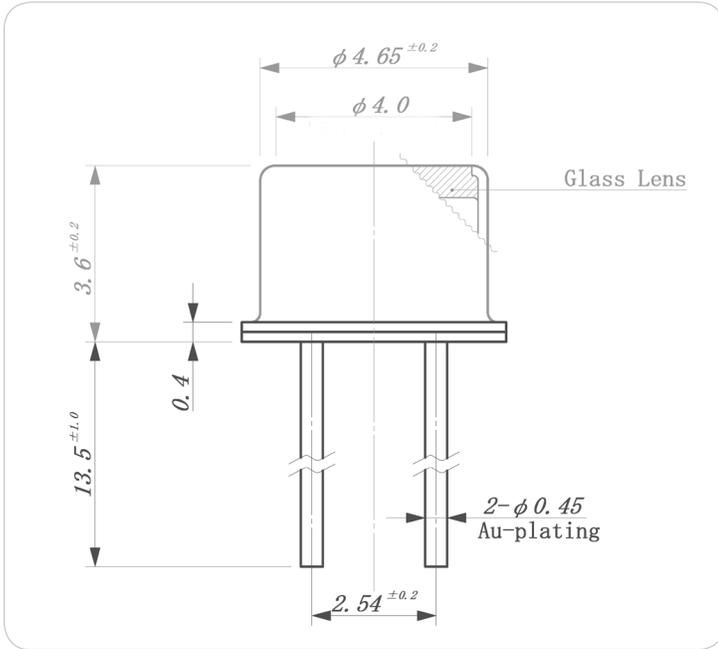


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

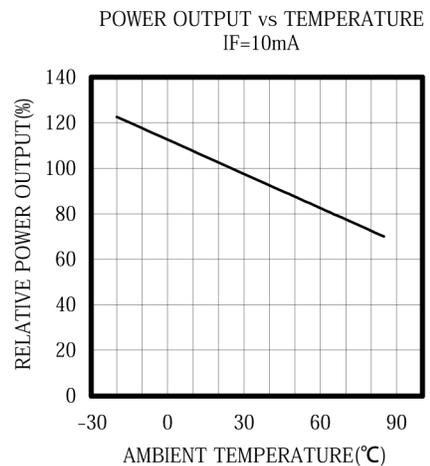
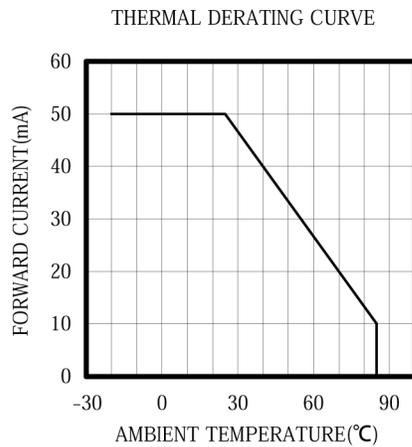
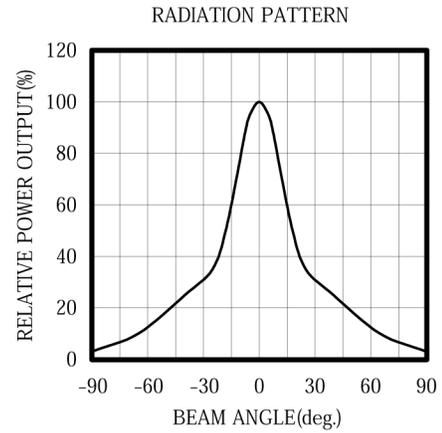
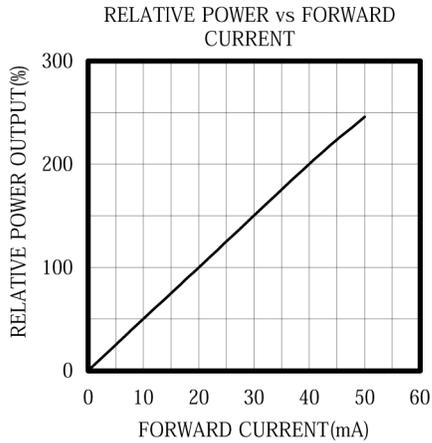
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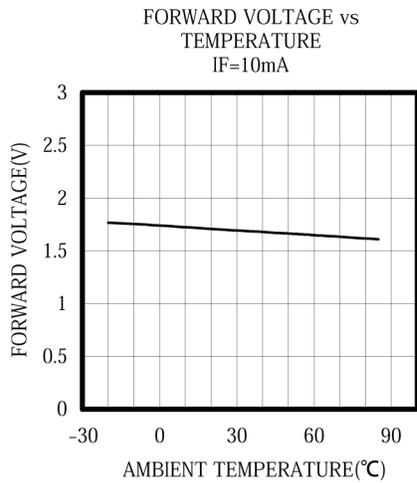
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	1.5	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 660nm

The 660nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability
- > Wide Beam Angle

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

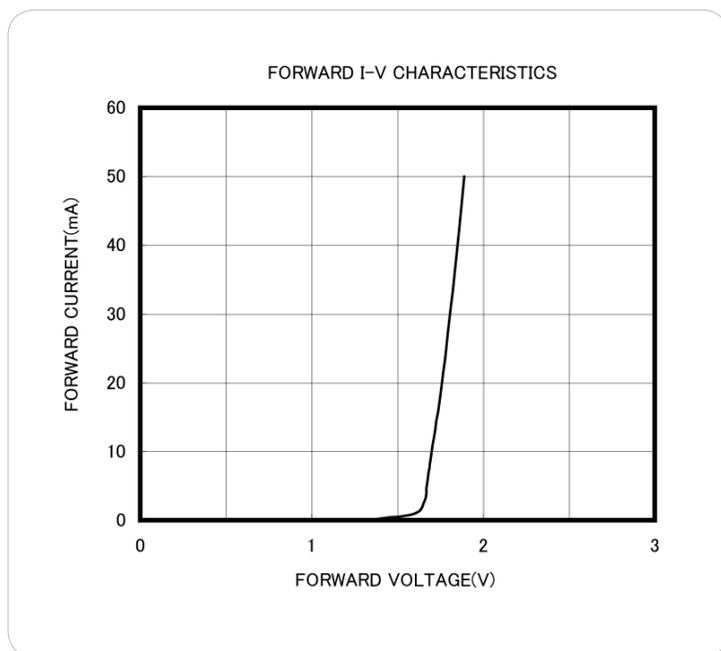
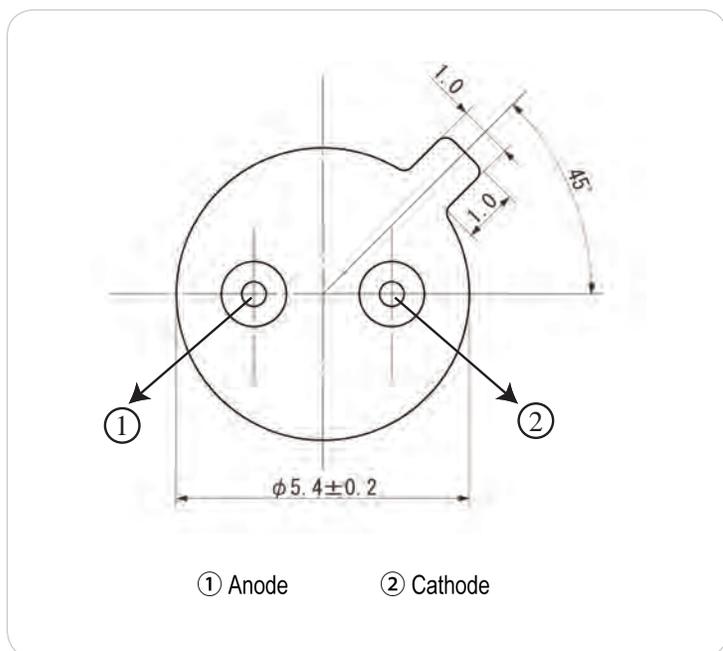
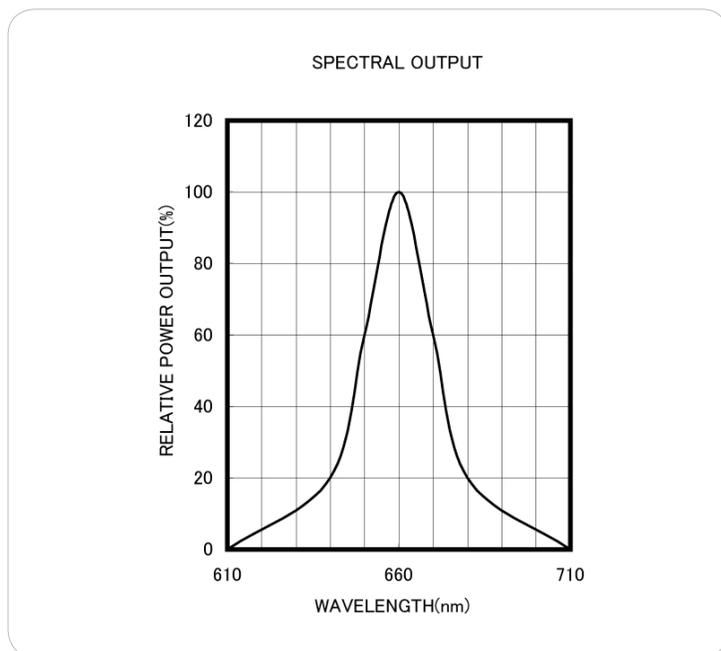
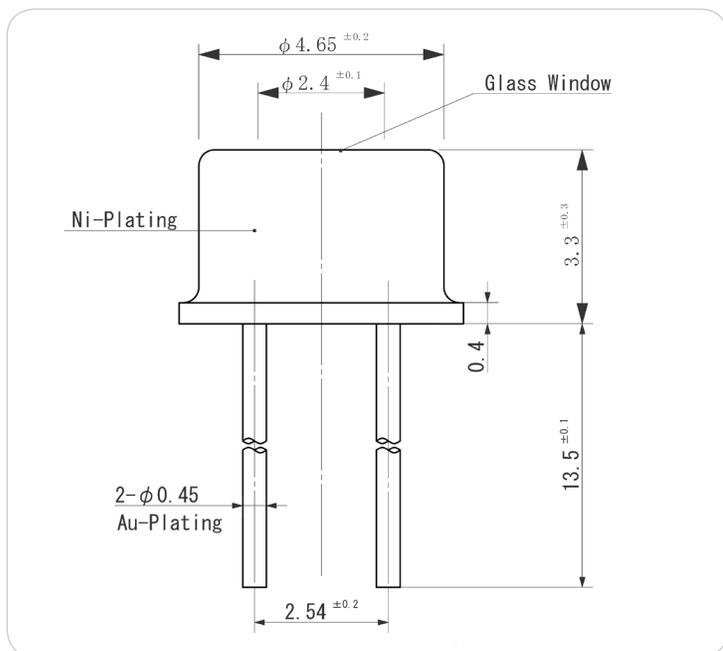


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

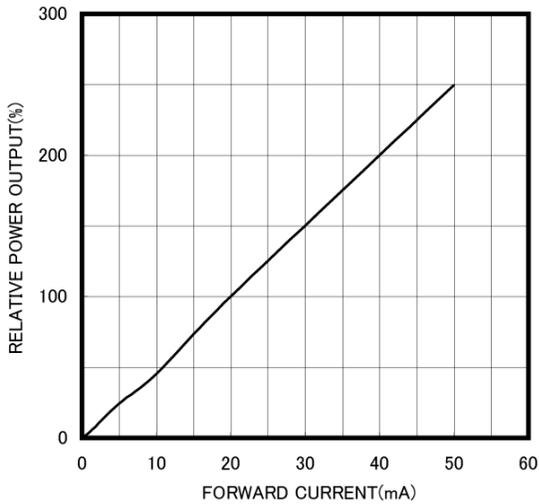
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	7.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±45	--	deg
Radiant Intensity	Ie	IF=20mA	--	3.0	--	mW/sr

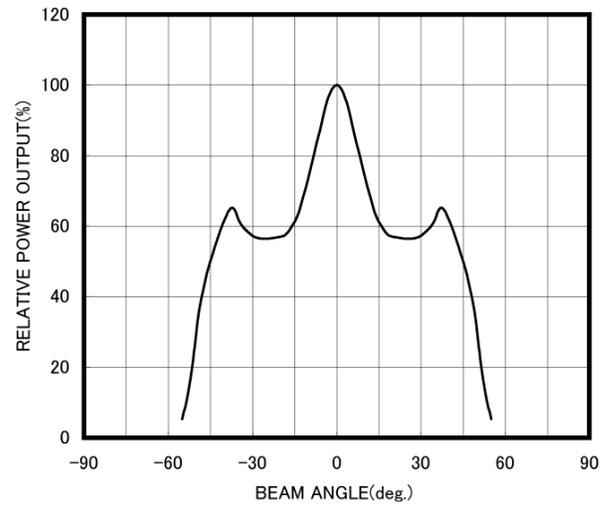


Unit: mm, Tolerance: ± 0.2

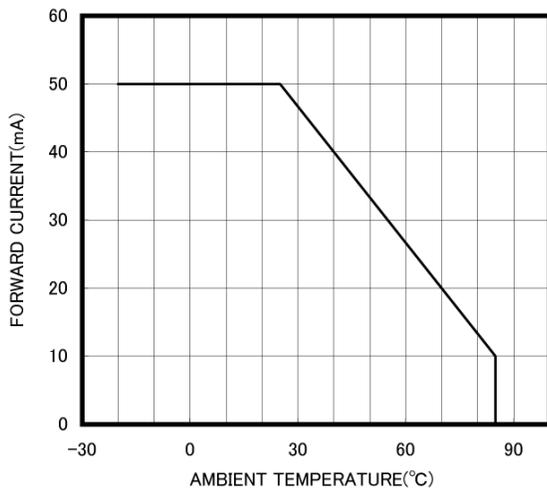
RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



THERMAL DERATING CURVE



The information contained herein is subject to change without notice.

2011-10-27

Peak Sensitivity Wavelength: 660nm

The 660nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability
- > Wide Beam Angle

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

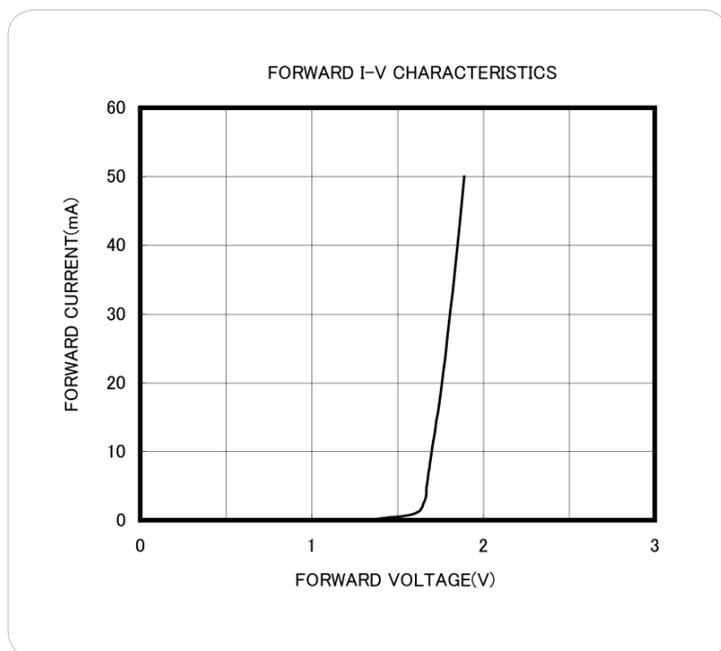
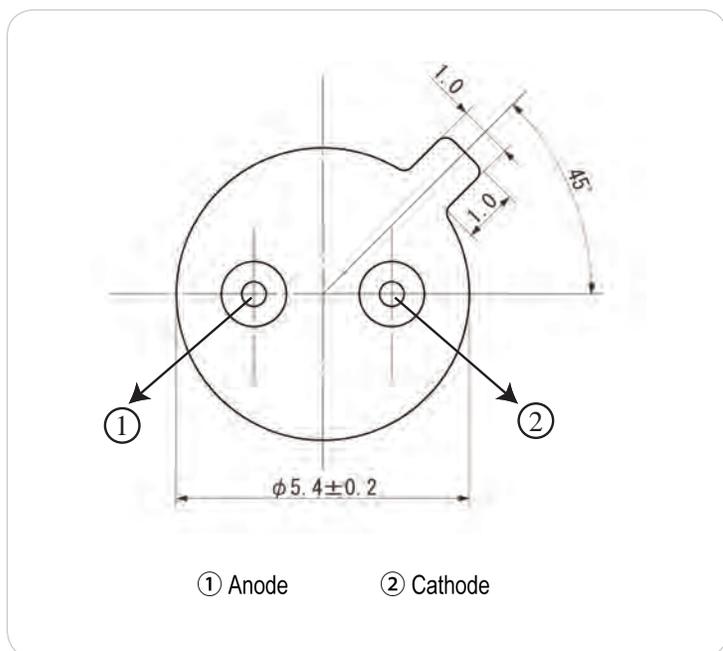
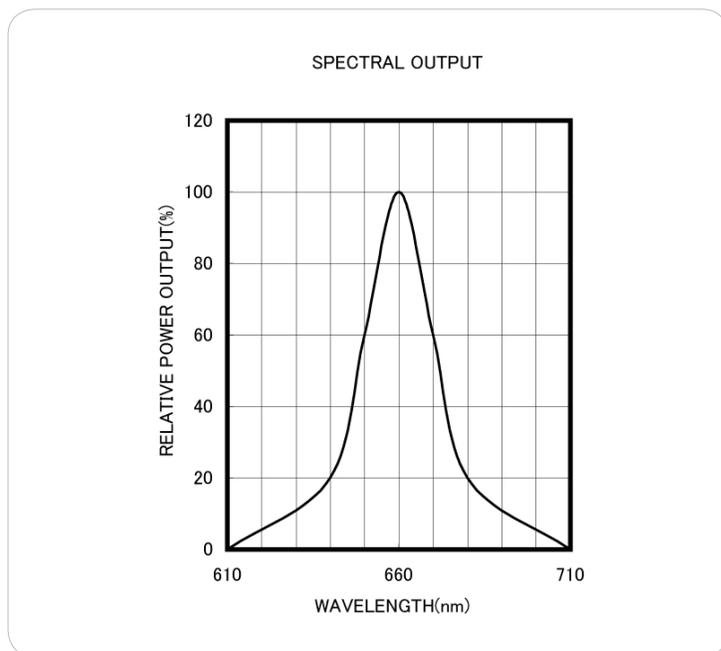
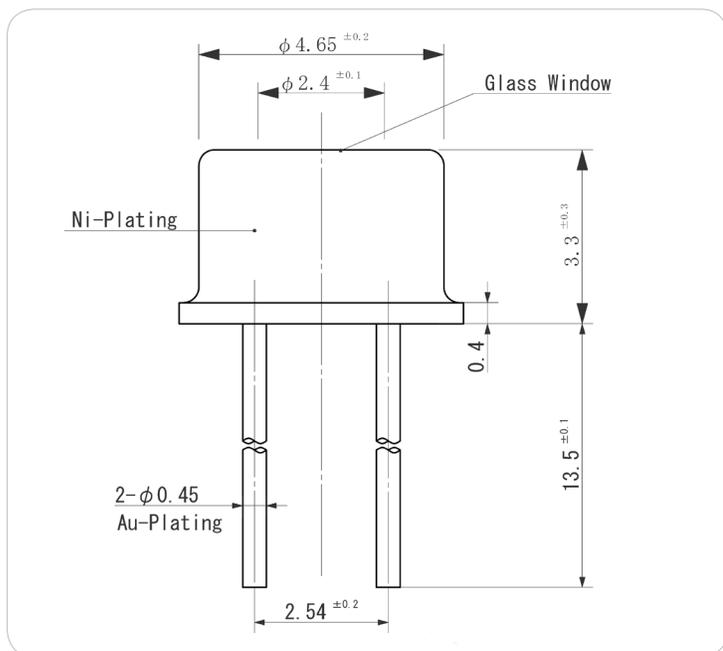


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	140	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

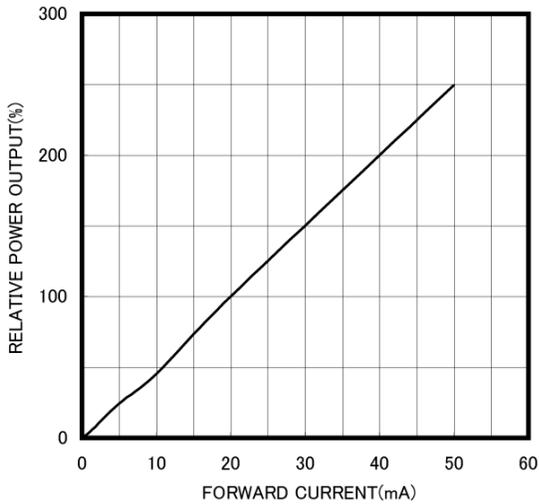
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±40	--	deg
Radiant Intensity	Ie	IF=20mA	--	2.0	--	mW/sr

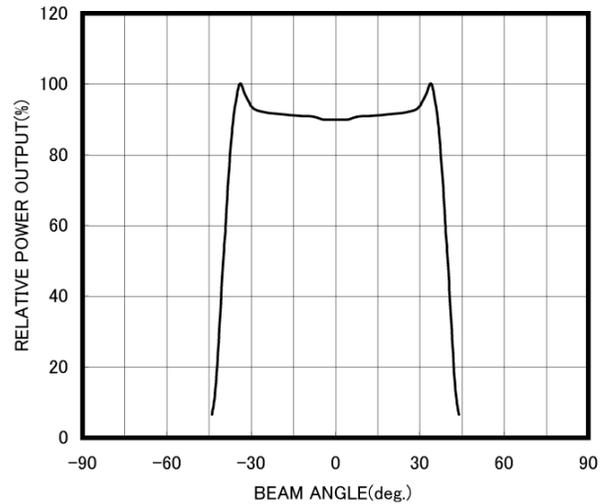


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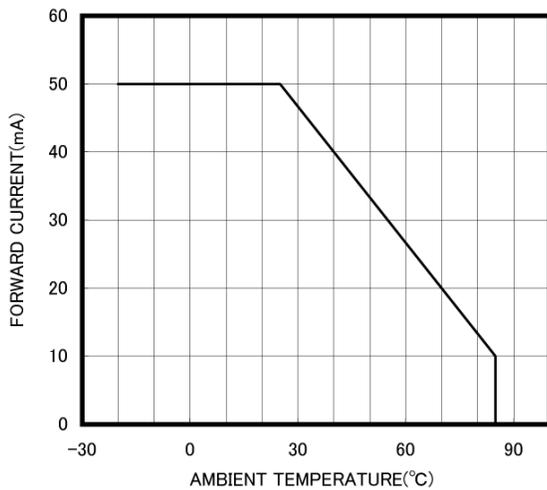
RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



THERMAL DERATING CURVE



The information contained herein is subject to change without notice.

2011-10-27

Peak Emission Wavelength: 770nm

The 770nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-5 Metal Can Package
- > High Output Power
- > High Reliability
- > Wide Beam Angle

APPLICATIONS

- > Optical Switches
- > Medical Application
- > Optical Sensor



Absolute Maximum Ratings (Ta=25°C)



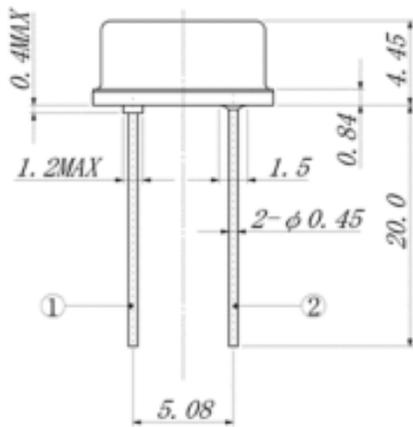
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	500	mA
Forward Current (Pulse) *1	IFP	1	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	1000	mW
Operating Temperature Range	Topr-	-20 ~ +85	°C
Storage Temperature	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

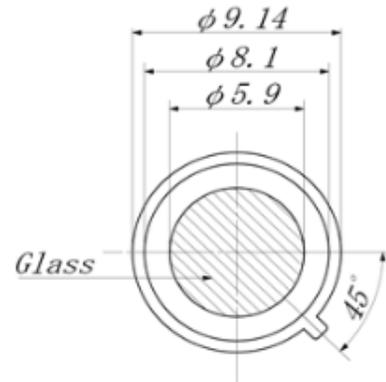
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=200mA	--	18.0	--	mW
Forward Voltage	VF	IF=200mA	--	1.7	2.0	V
Reverse Current	IR	VR=5V	--	--	10	µA
Peak Emission Wavelength	λp	IF=200mA	--	770	--	nm
Spectral Line Half Width	Δλ	IF=200mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=200mA	--	±45	--	deg

Package Dimensions

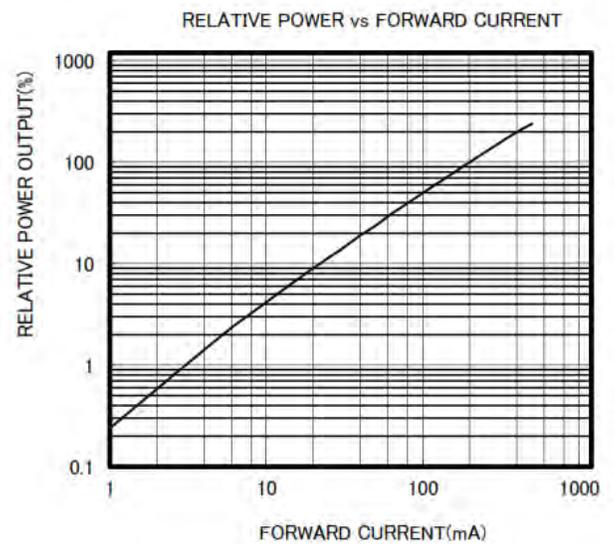
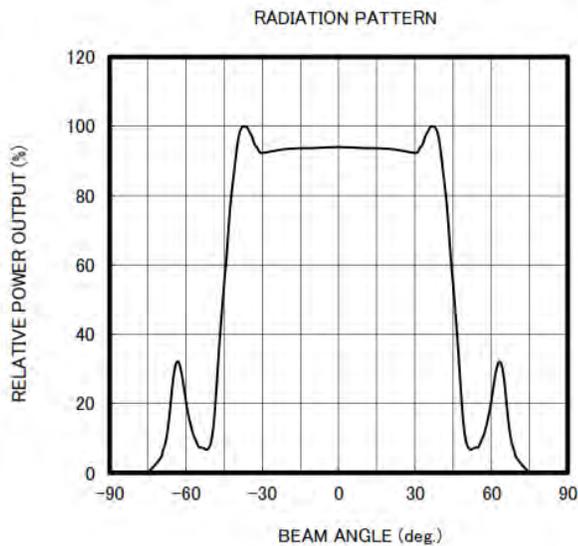
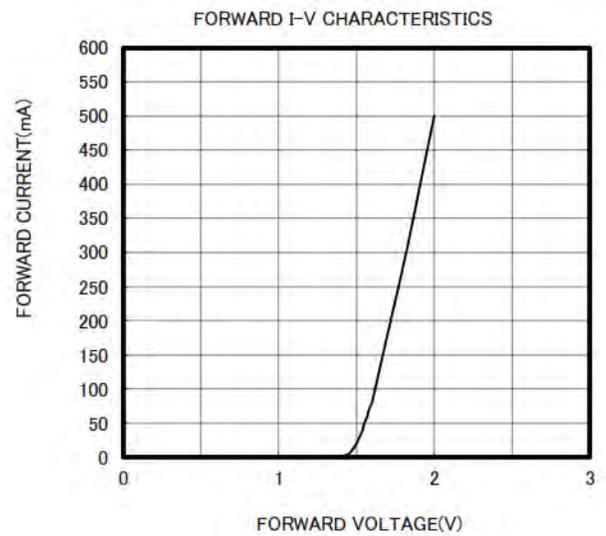
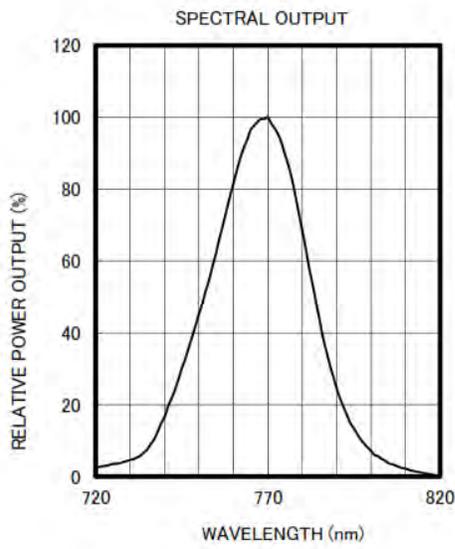


① Cathode ② Anode



Unit: mm, Tolerance: ± 0.2

Characteristic Curves (Ta = 25°C)



Peak Emission Wavelength: 525nm

The MTE5270C1 consists of a 525nm high output die in a water-clear plastic molded package. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > High Reliability
- > Compact

APPLICATIONS

- > Optical Switches
- > Optical Sensors
- > Fiber Optical Communication



Absolute Maximum Ratings (Ta=25°C)

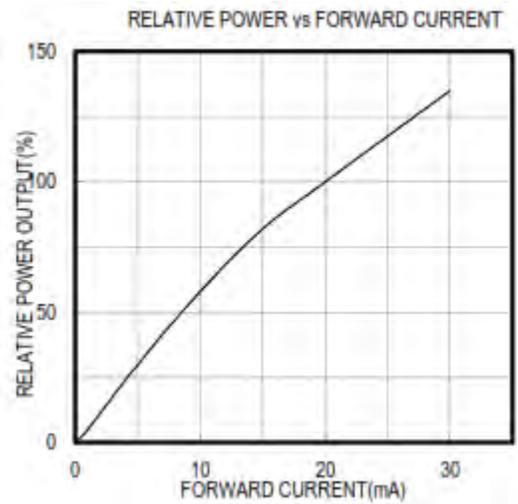
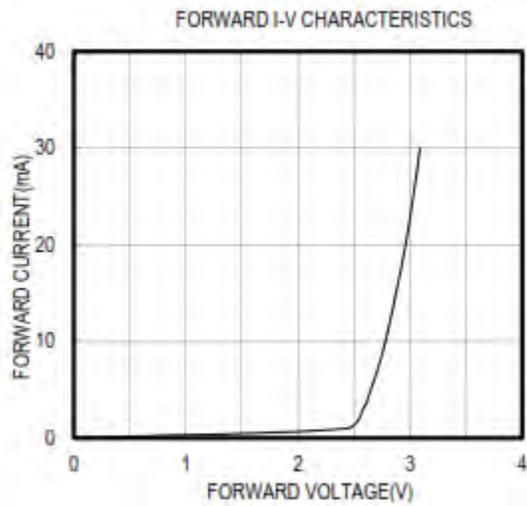
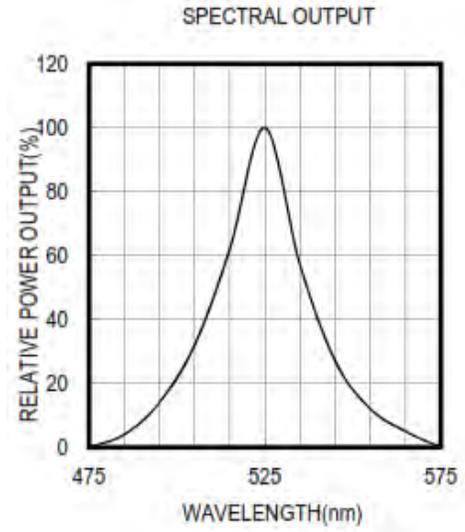
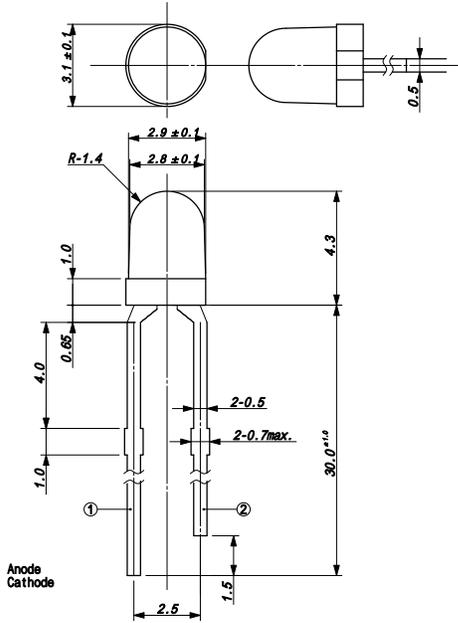


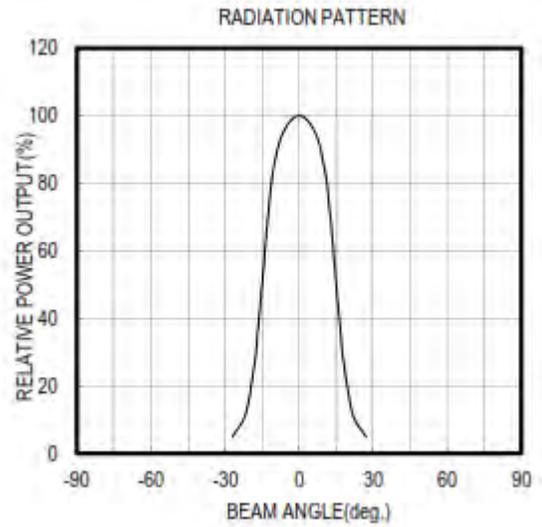
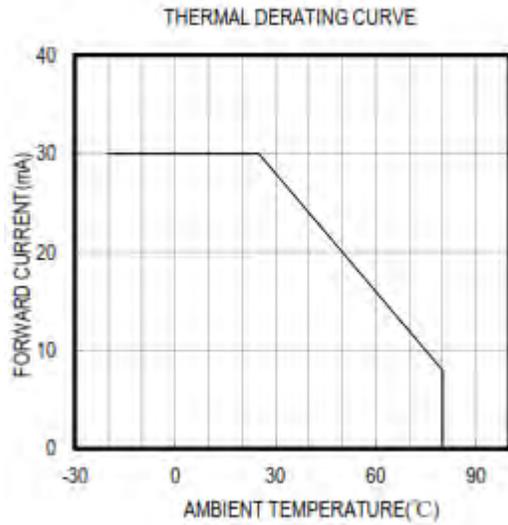
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10µsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	4.0	6.5	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.4	V
Reverse Current	IR	VR=5V	--	--	100	µA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±15	--	deg





The information contained herein is subject to change without notice.

2025-05-22

Peak Emission Wavelength: 525nm

The MTE5270C5 consists of a 525nm high output die in a water-clear plastic molded package. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > High Reliability
- > Compact

APPLICATIONS

- > Optical Switches
- > Optical Sensors
- > Fiber Optical Communication



Absolute Maximum Ratings (Ta=25°C)

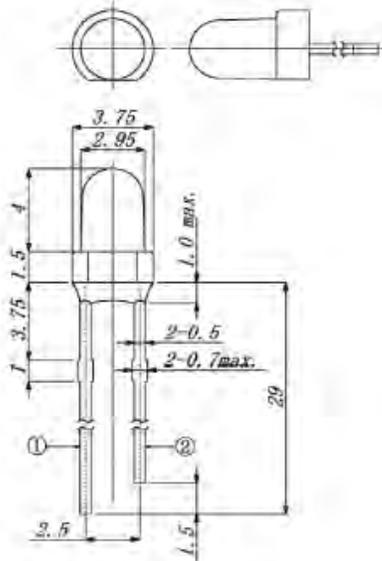


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

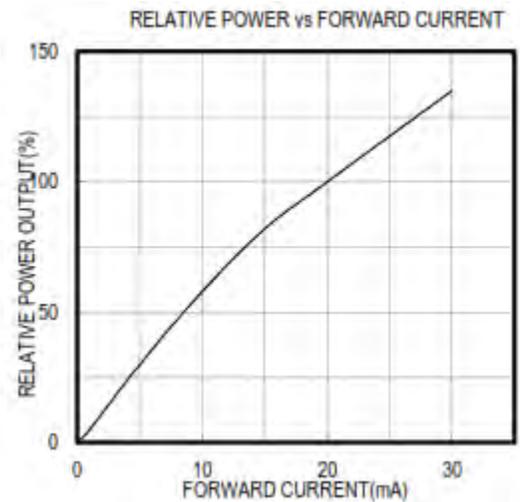
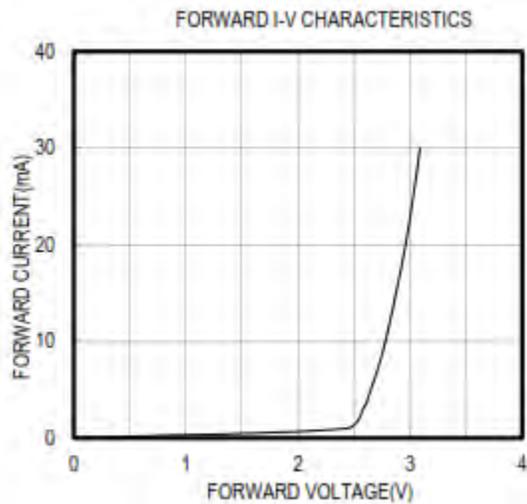
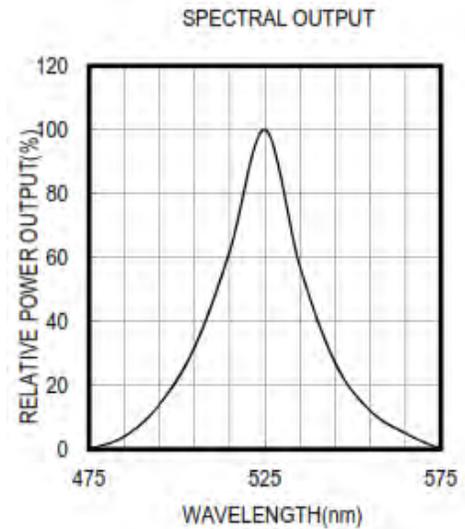
*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

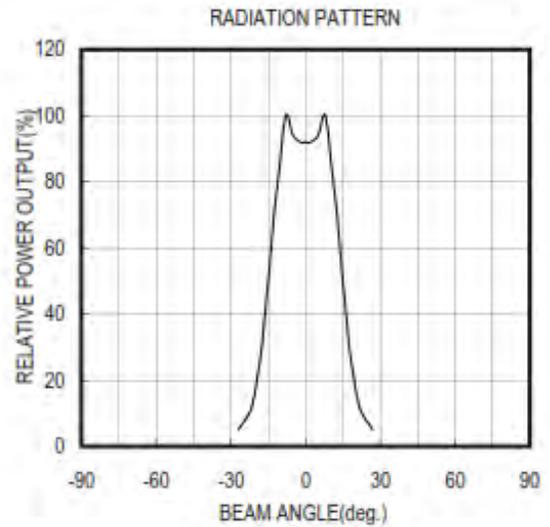
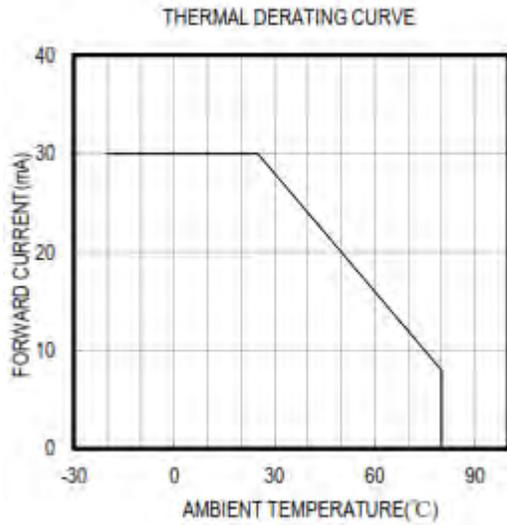
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	4.0	6.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.4	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	520	525	540	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±15	--	deg



① Anode ② Cathode





The information contained herein is subject to change without notice.

2024-03-12

Peak Emission Wavelength: 527nm

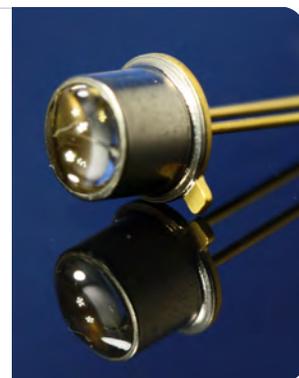
The 527nm visible emitter series is designed for applications requiring high output optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output
- > High Reliability
- > Narrow Beam Angle
- > Using Cree EZ950 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



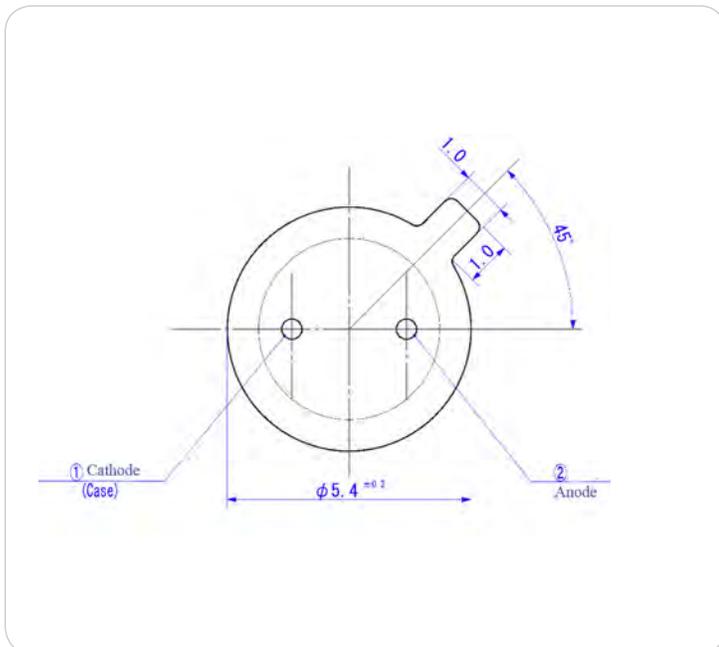
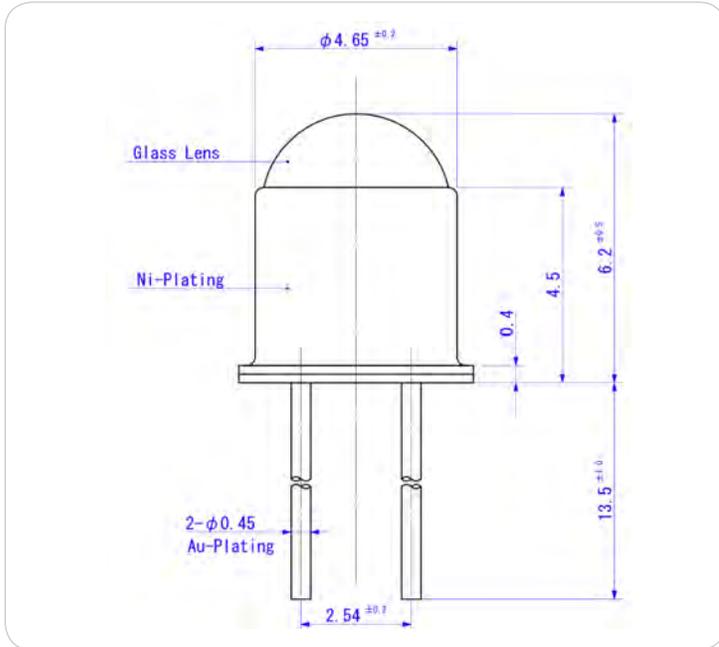
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +125	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

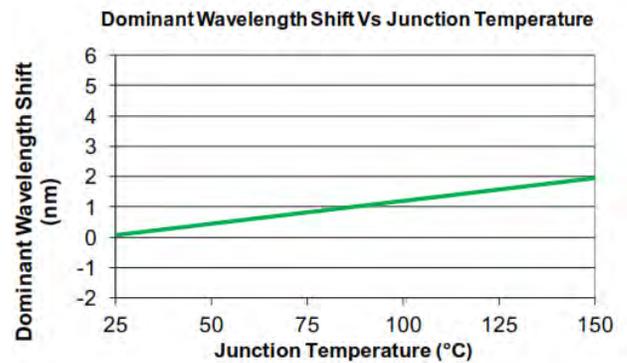
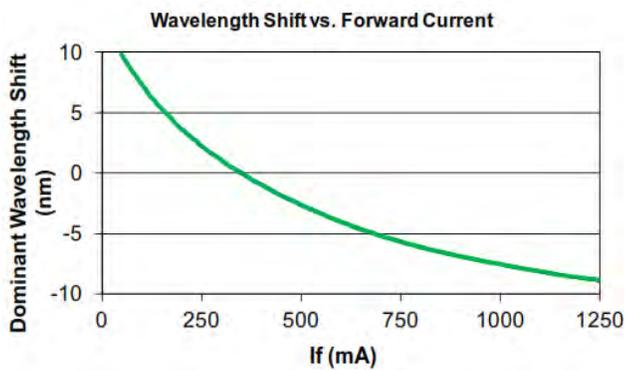
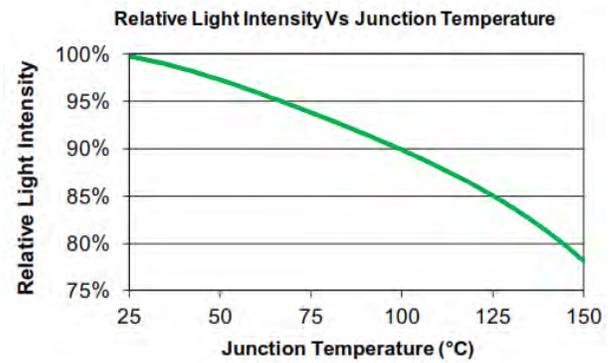
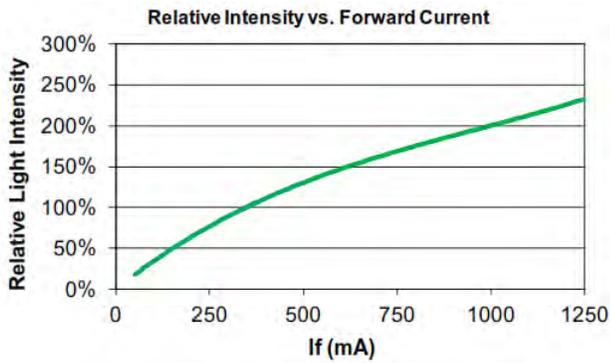
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	26.6	--	mW
Forward Voltage	VF	IF=50mA	--	2.7	--	V
Reverse Current	IR	IF=50mA	--	2	--	µA
Peak Emission Wavelength	λp	IF=50mA	--	527	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	535	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±9	--	deg

Package Dimensions

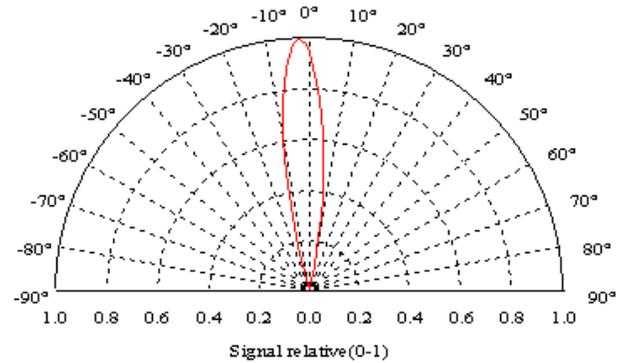
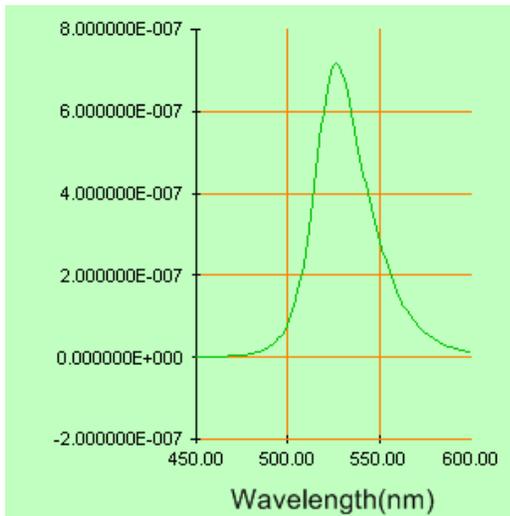
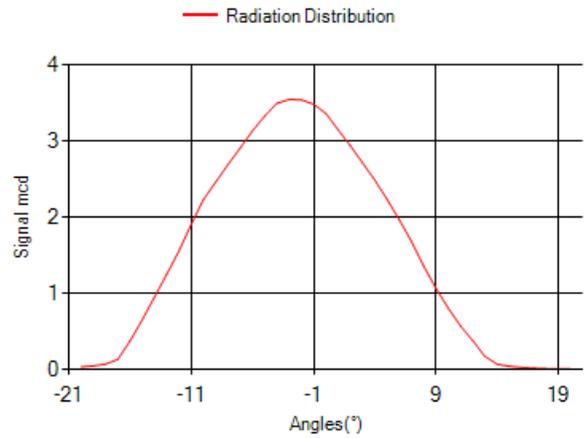
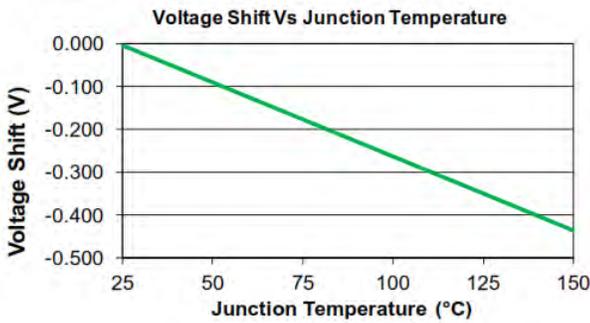


Unit: mm, Tolerance: ±0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2024-09-04

Peak Emission Wavelength: 527nm

The 527nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle
- > Using Cree EZ950 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



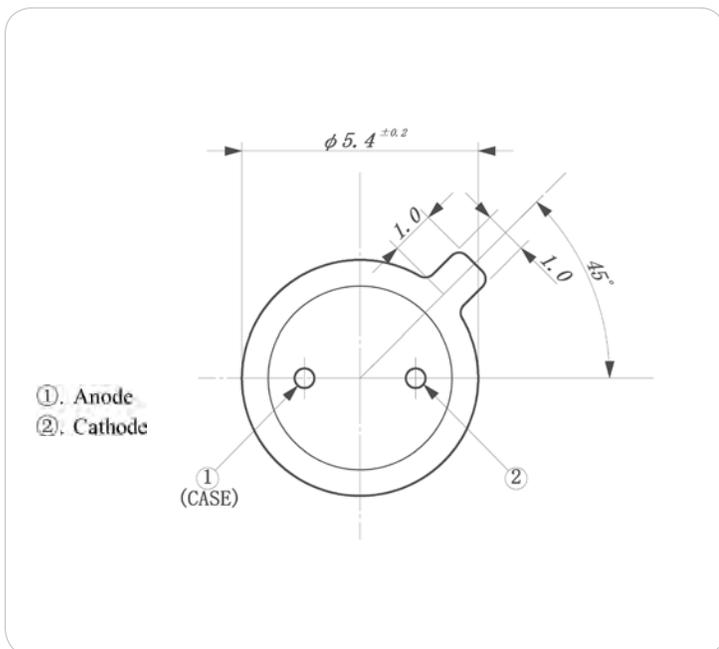
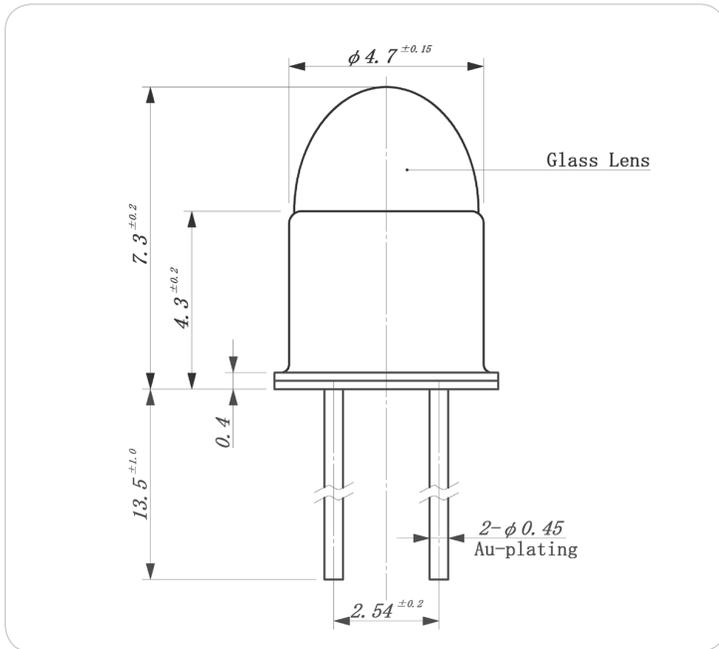
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

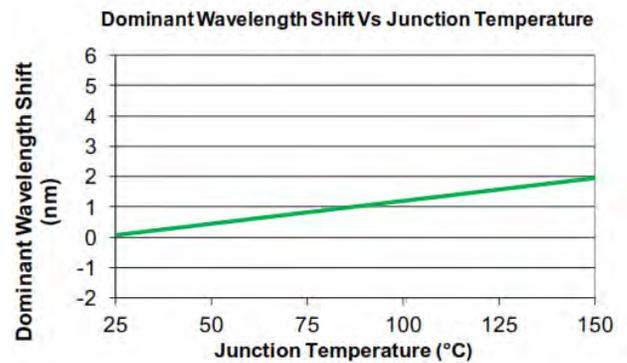
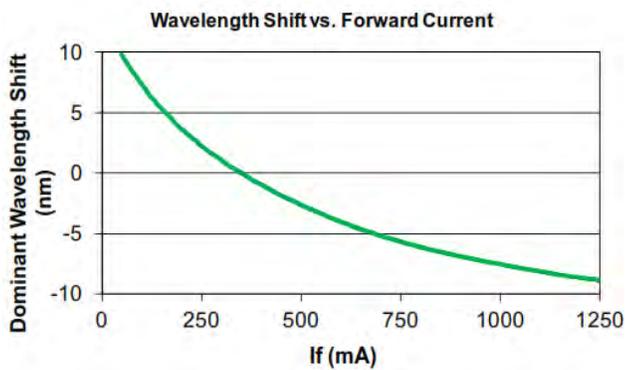
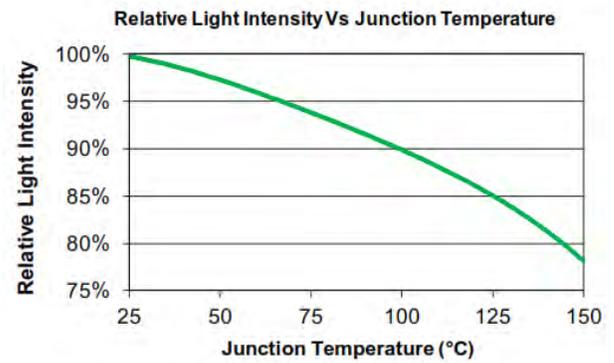
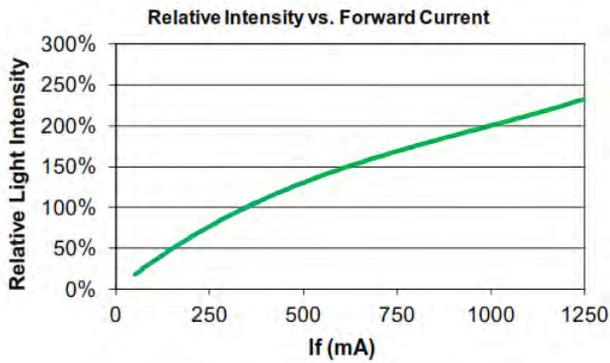
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	23.9	--	mW
Forward Voltage	VF	IF=50mA	--	2.7	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	527	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	535	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±6	--	deg

Package Dimensions

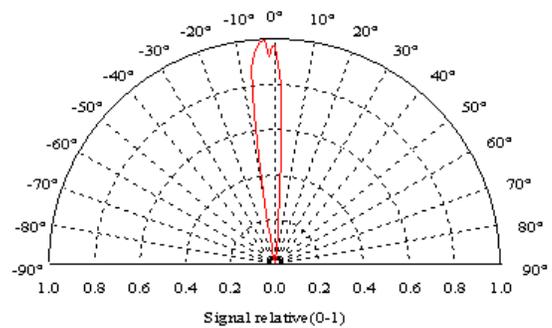
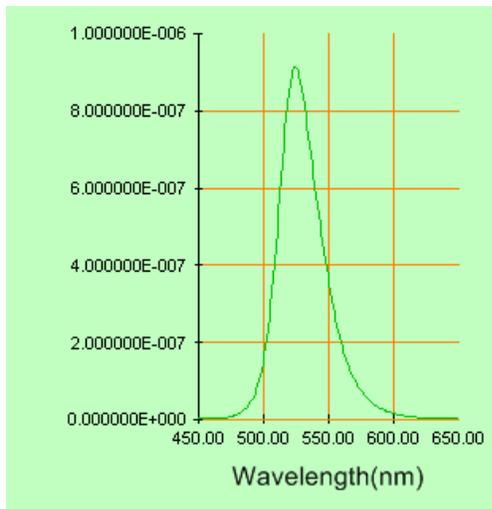
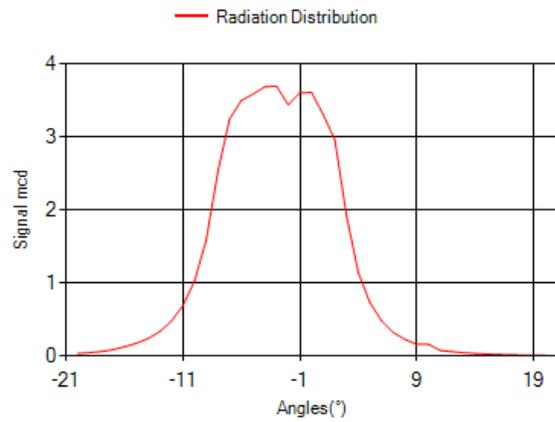
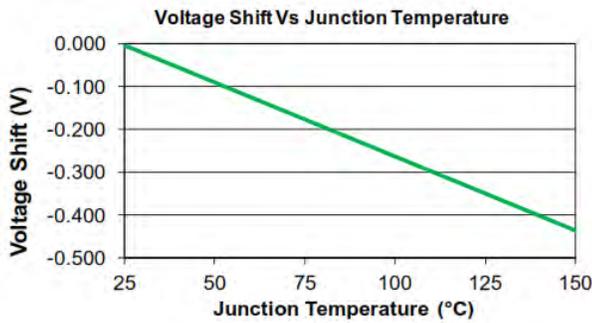


Unit: mm, Tolerance: ±0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2016-09-01

Peak Emission Wavelength: 527nm

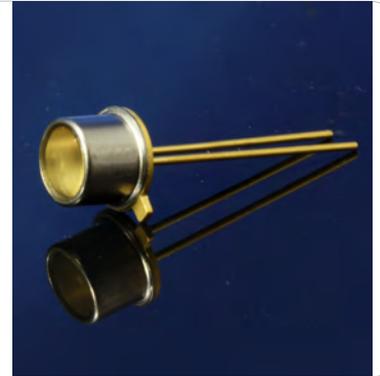
The MTE5270W-UBG visible emitter is designed for applications requiring high output power. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output
- > High Reliability
- > Wide Beam Angle
- > Using Cree EZ950 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



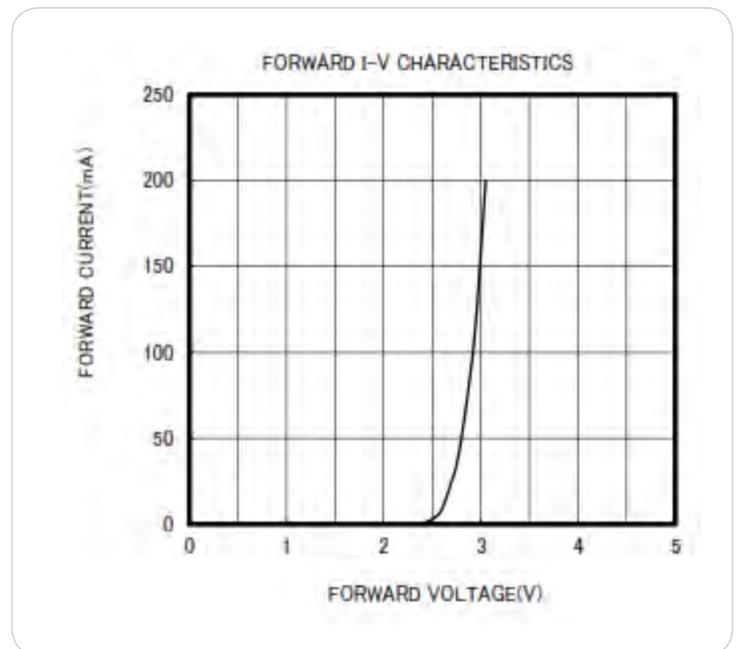
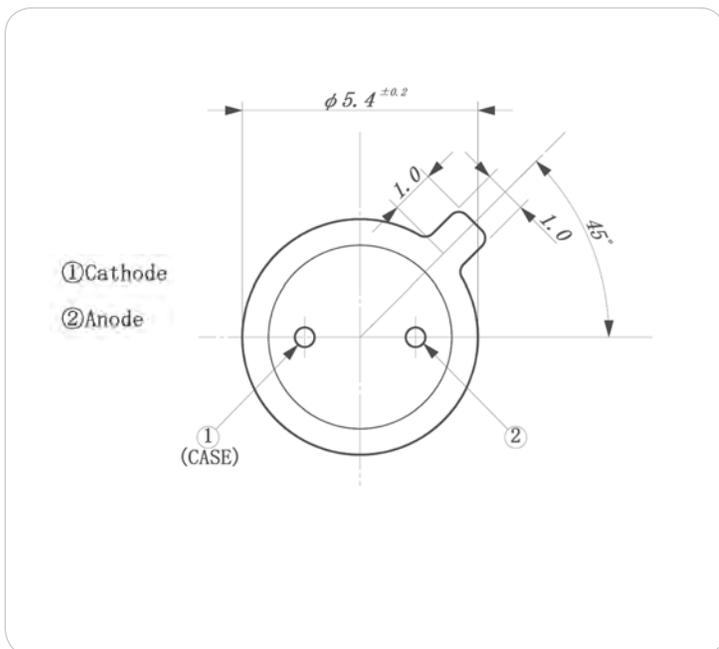
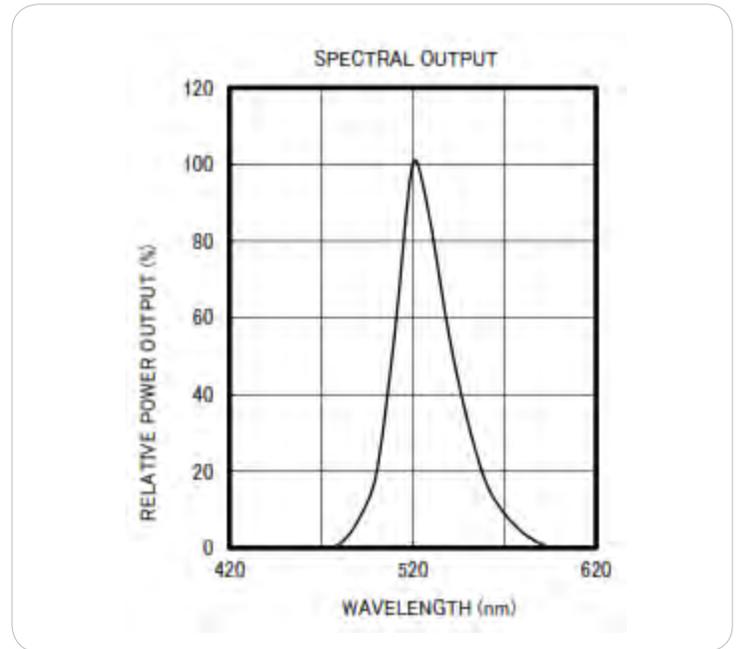
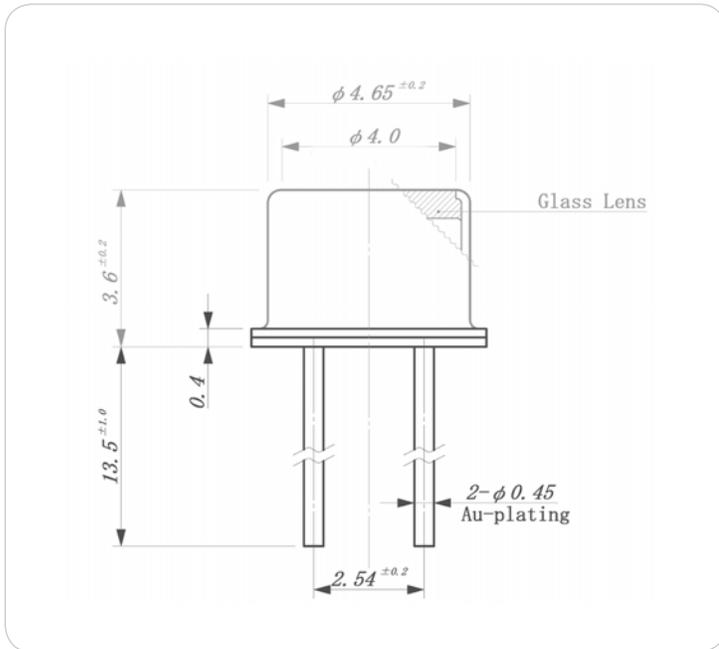
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	200	mA
Forward Current (Pulse) *1	IFP	2	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	700	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature	Tstg	-30 ~ +100	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

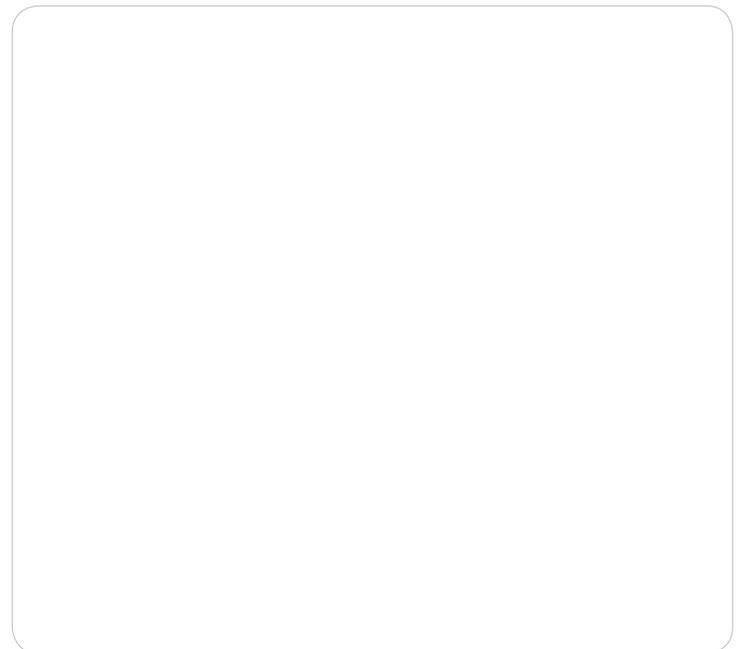
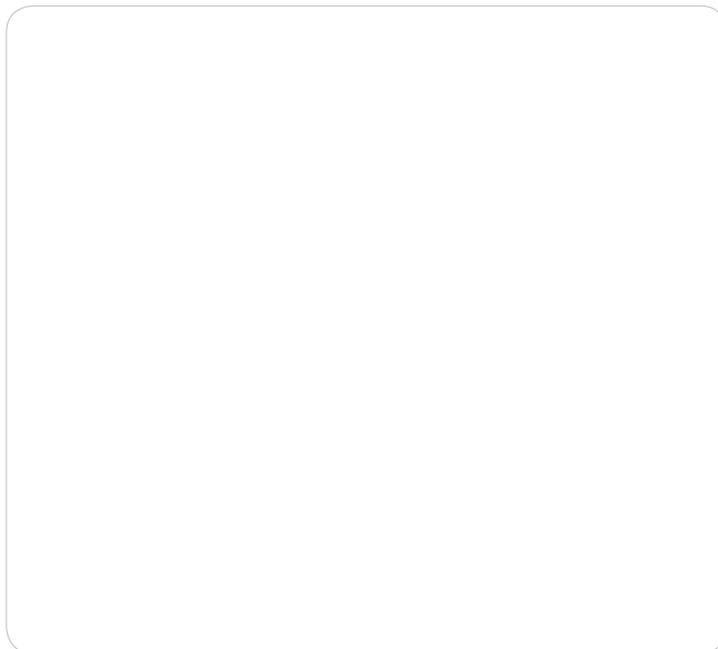
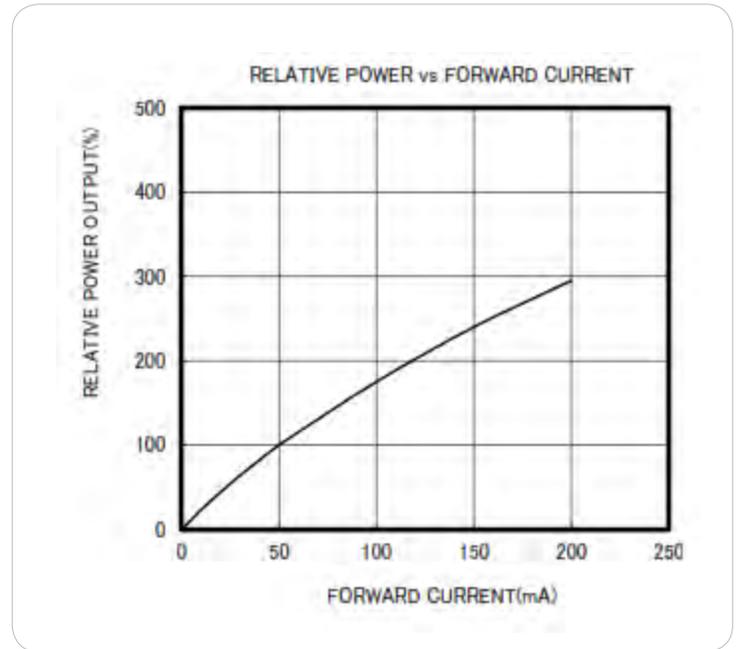
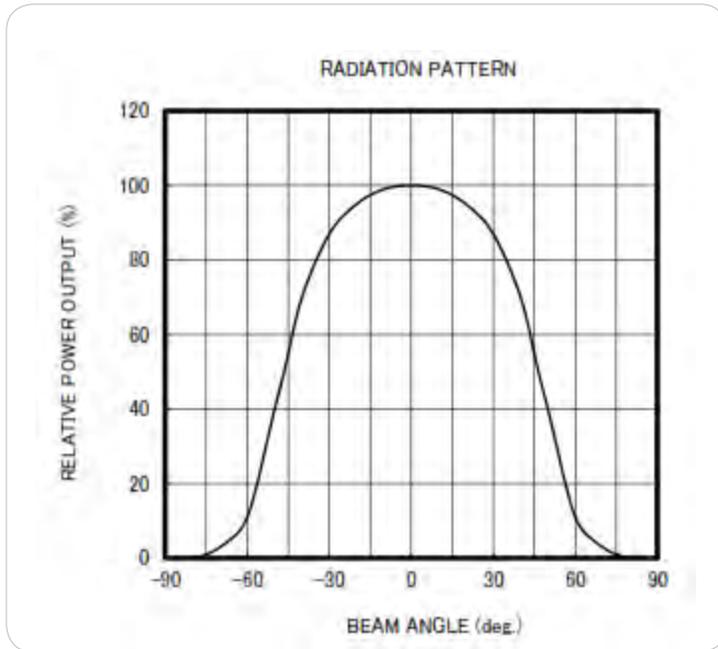
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	30	--	mW
Power Output	PO	IF=100mA	--	50	--	mW
Forward Voltage	VF	IF=50mA	--	2.8	3.5	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=50mA	--	520	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	530	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±50	--	deg

Package Dimensions



Unit: mm, Tolerance: ± 0.2

Characteristic Curves (Ta = 25°C)



Peak Emission Wavelength: 590nm

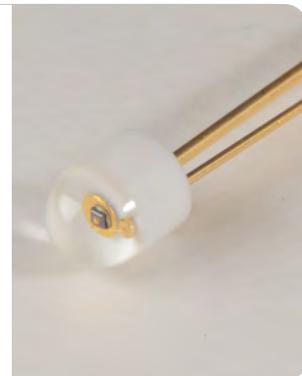
The 590nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

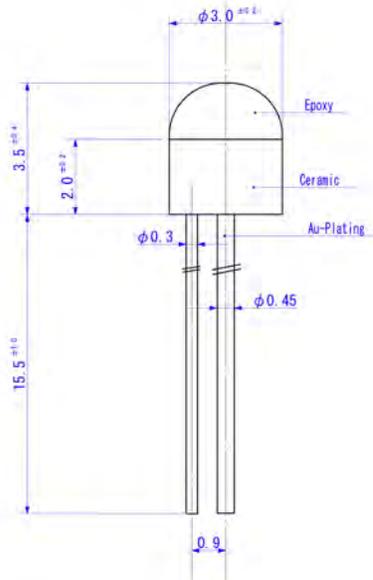


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

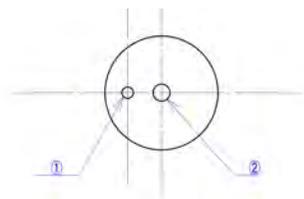
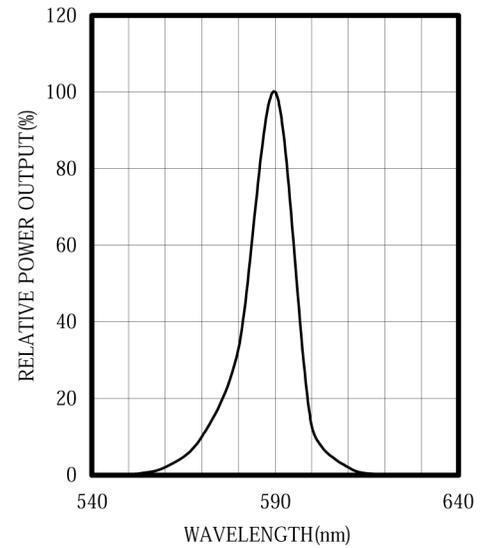
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.5	0.9	--	mW
Forward Voltage	VF	IF=20mA	--	2.1	2.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	590	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±80	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	μS
Fall Time	Tf	IFP=20mA	--	--	--	μS
Junction Capacitance	Cj	1MHz, V=0V	--	10	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.7	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.8	--	mV/°C

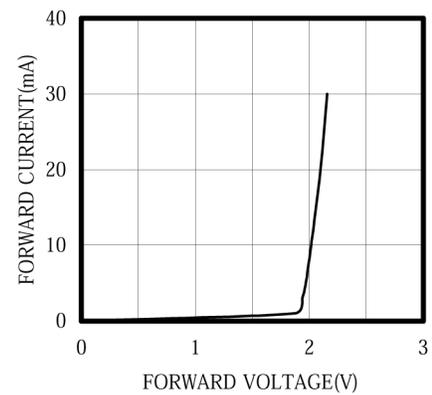


SPECTRAL OUTPUT

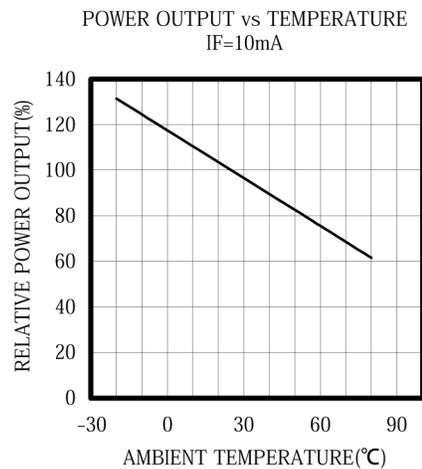
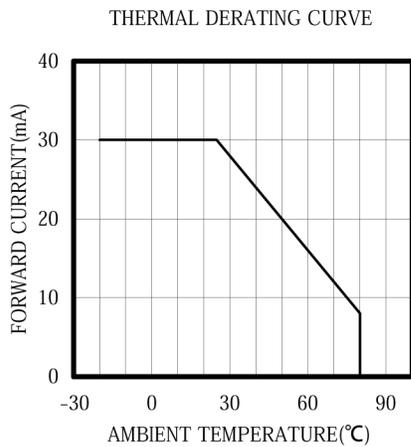
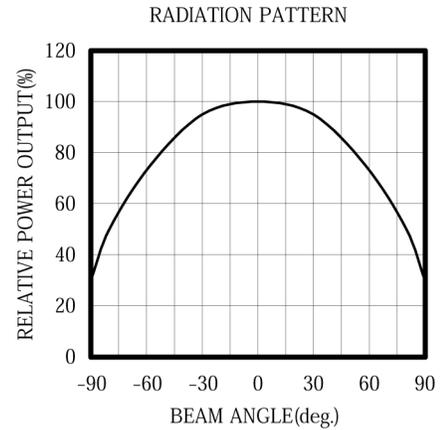
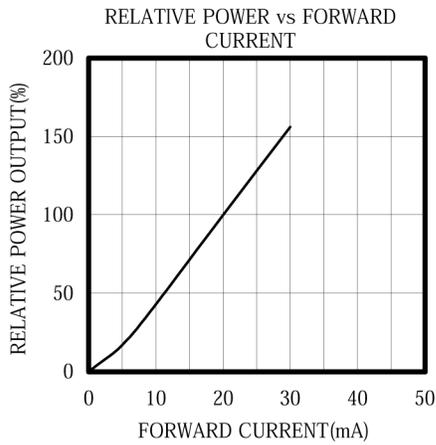


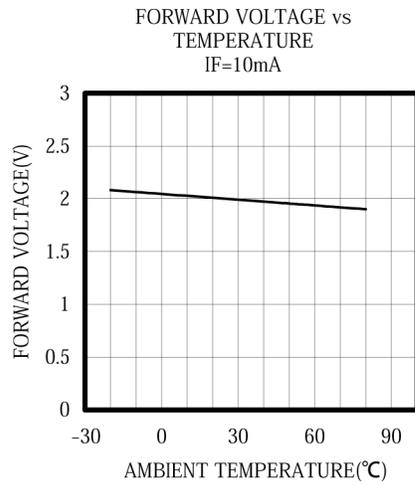
① Anode ② Cathode

FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 590nm

The 590nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > Narrow Beam Angle
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

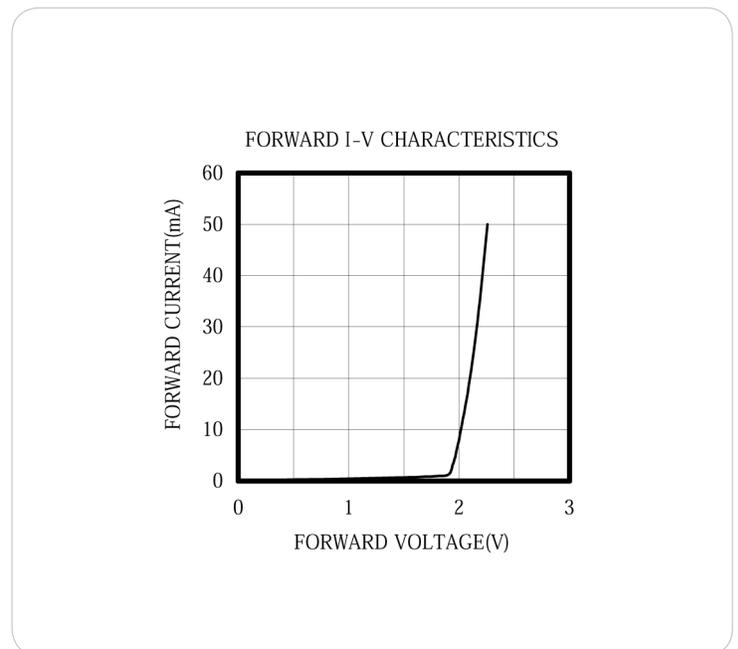
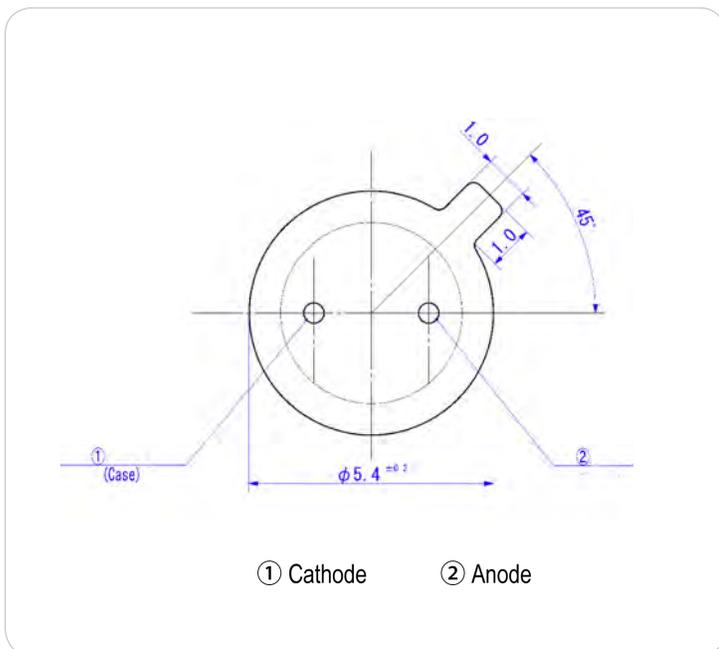
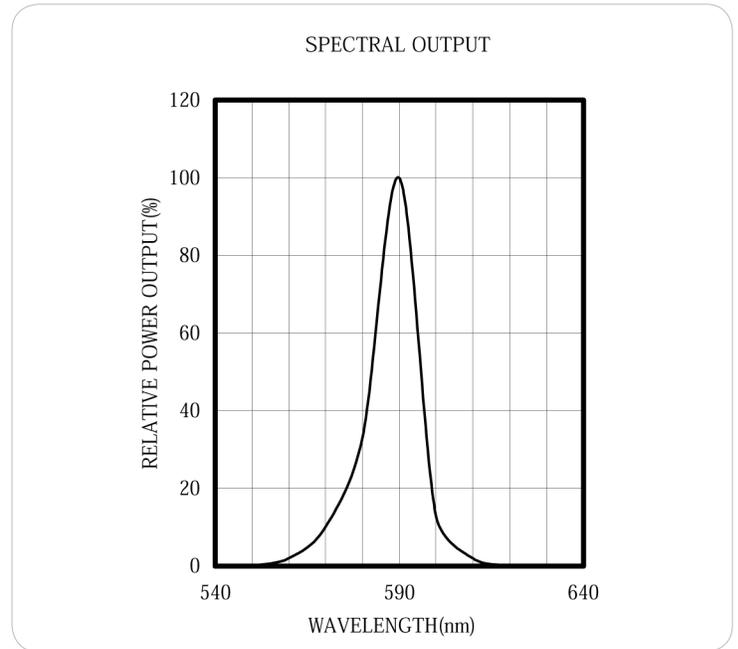
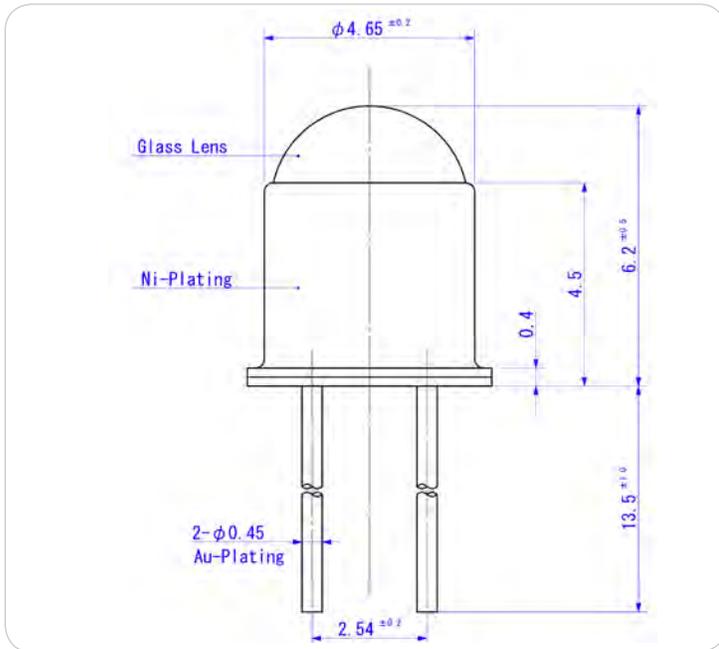


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

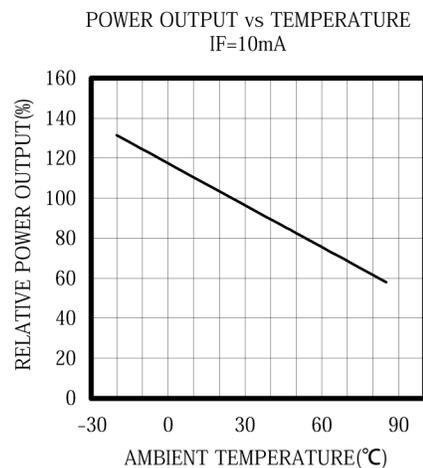
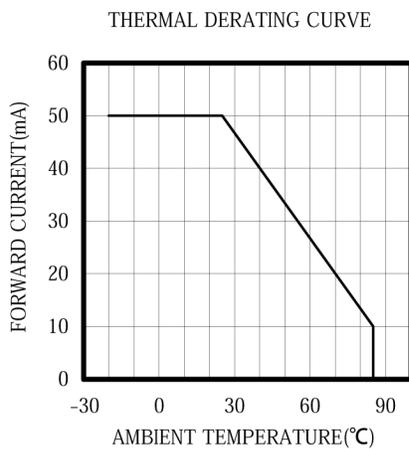
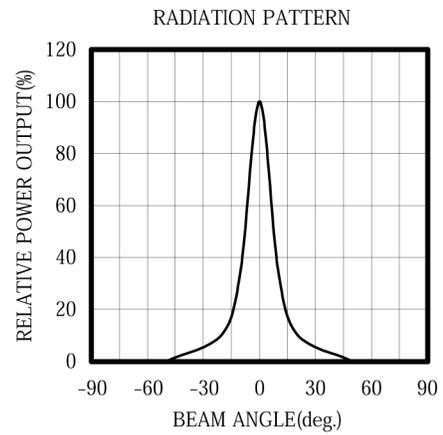
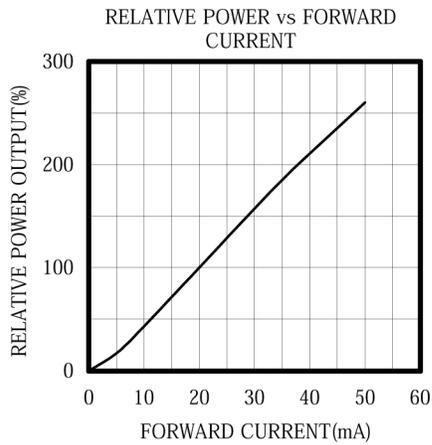
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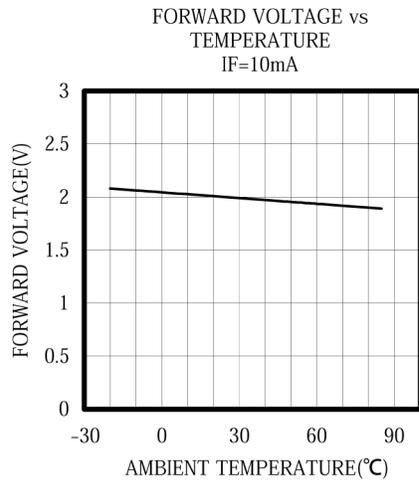
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.3	0.5	--	mW
Forward Voltage	VF	IF=20mA	--	2.1	2.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	590	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±6	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	nS
Fall Time	Tf	IFP=20mA	--	--	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	10	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.7	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.8	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Sensitivity Wavelength: 590nm

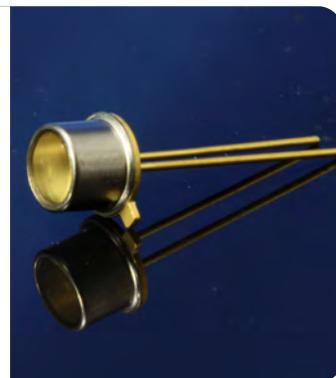
The 590nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

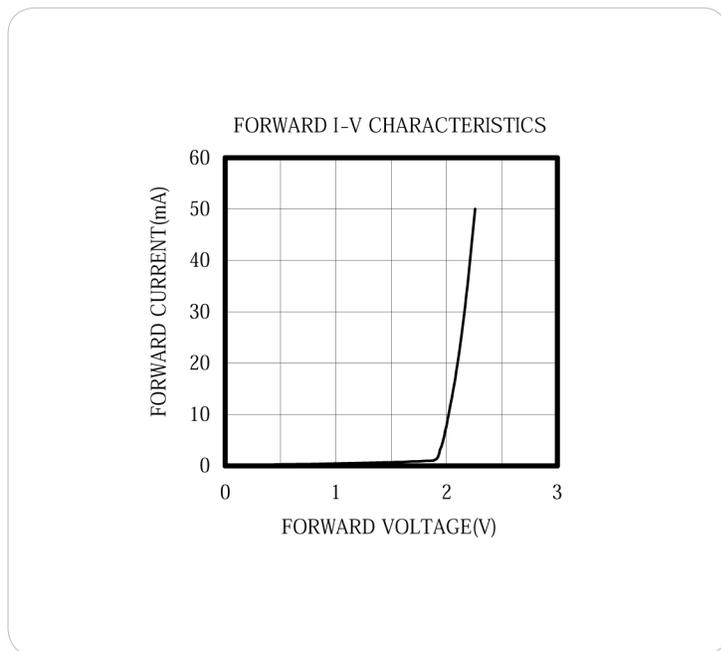
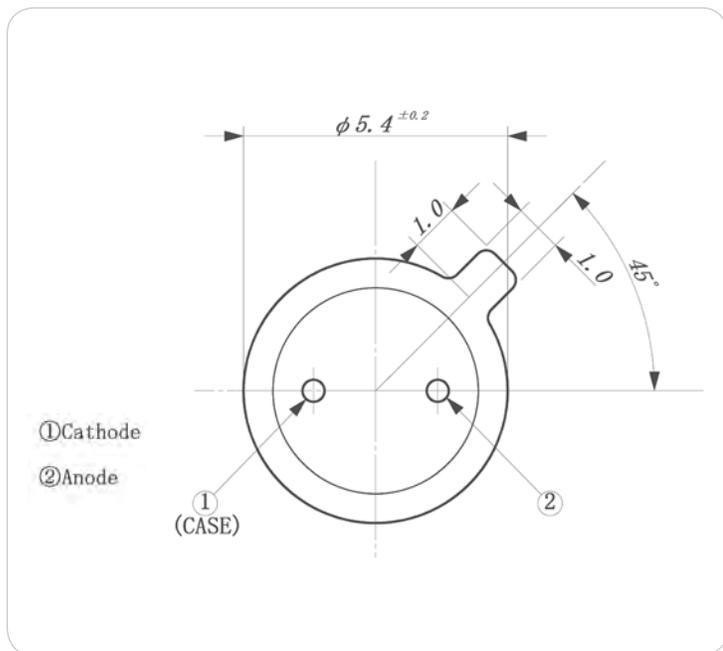
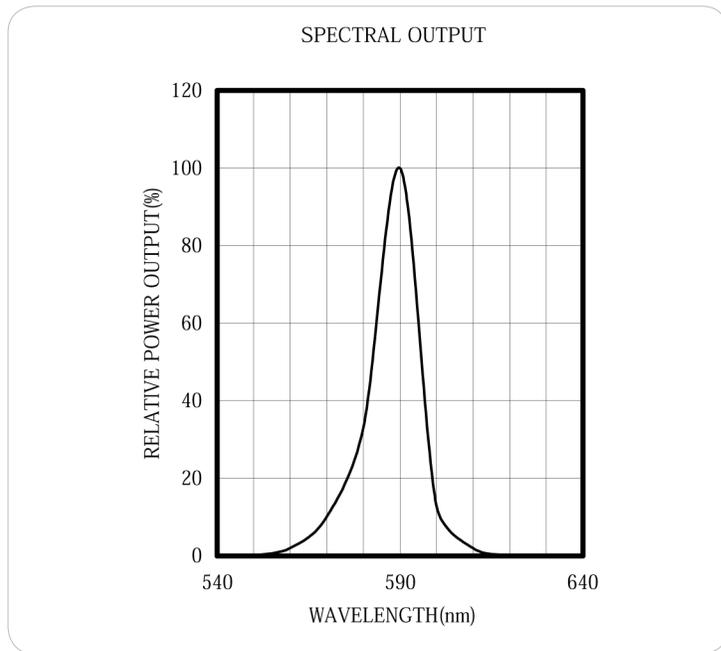
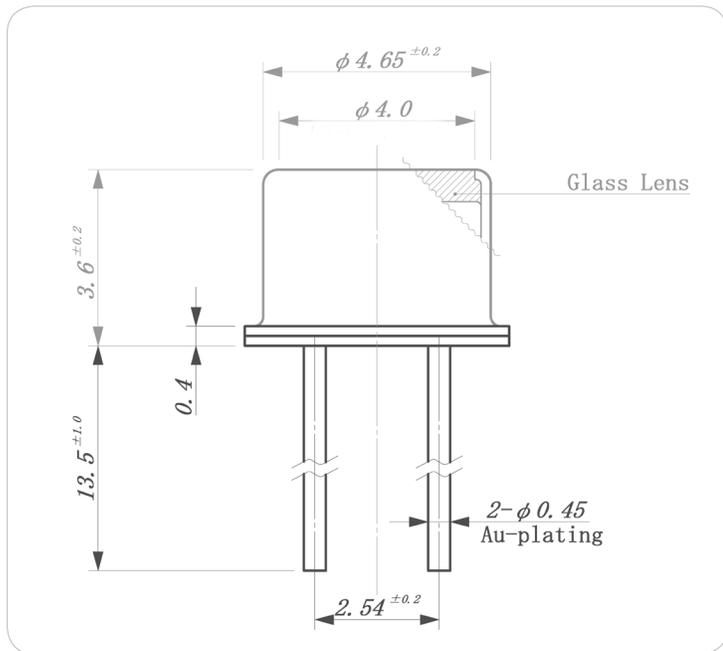


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

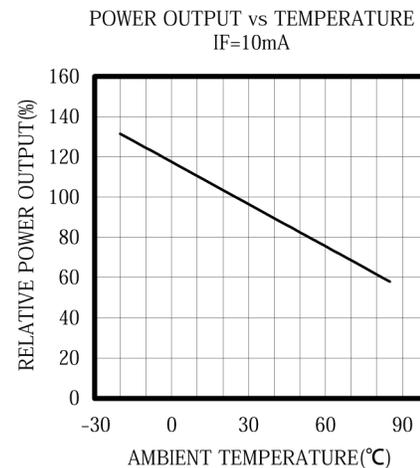
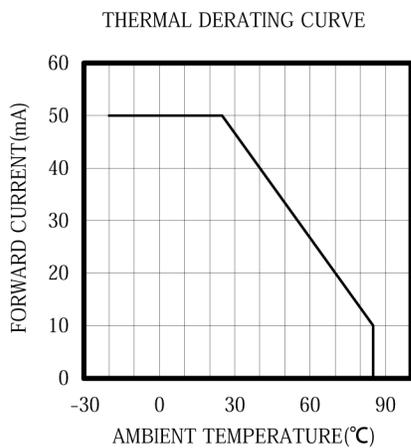
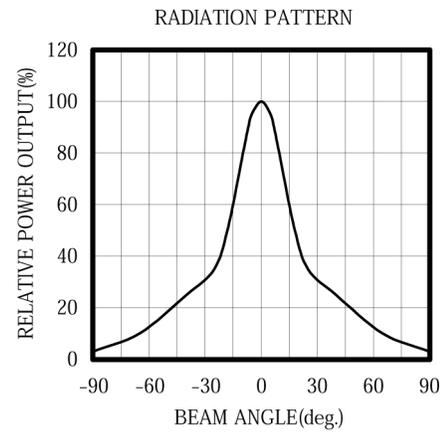
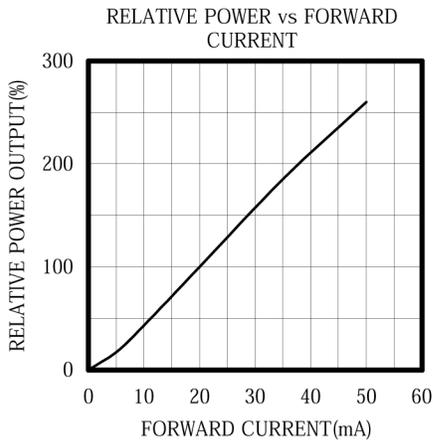
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

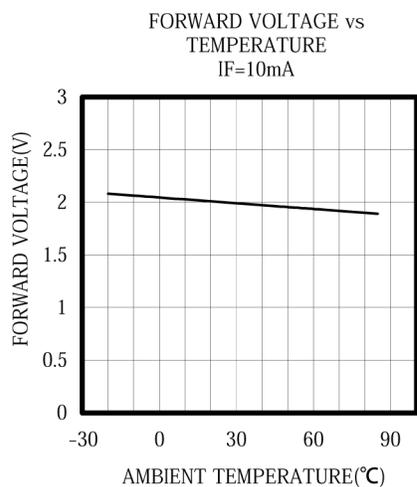
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	0.3	0.5	--	mW
Forward Voltage	VF	IF=20mA	--	2.1	2.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	590	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IFP=20mA	--	--	--	μS
Fall Time	Tf	IFP=20mA	--	--	--	μS
Junction Capacitance	Cj	1MHz, V=0V	--	10	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.7	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.8	--	mV/°C



Unit: mm, Tolerance: ±0.2





Peak Emission Wavelength: 600nm

The MTE5901SL-WRC visible emitter is designed for applications requiring high output power. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output
- > High Reliability
- > Wide Beam Angle

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation



Absolute Maximum Ratings (Ta=25°C)



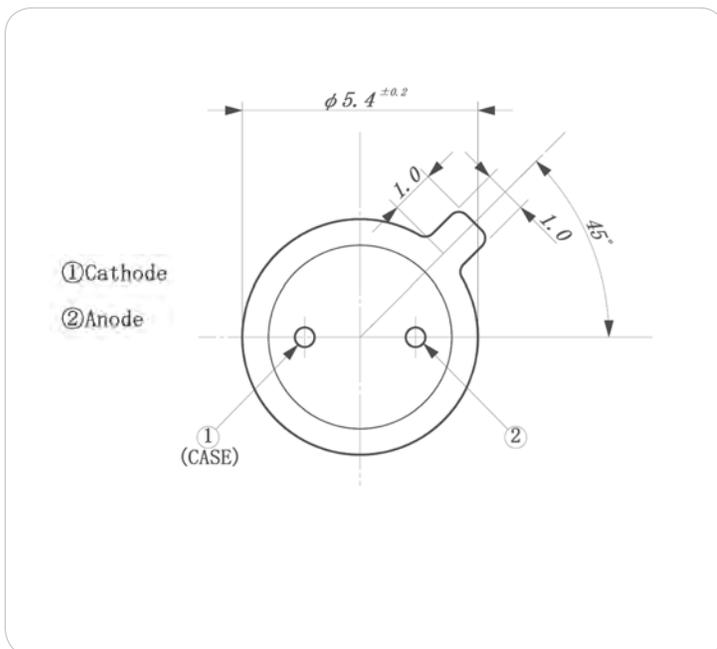
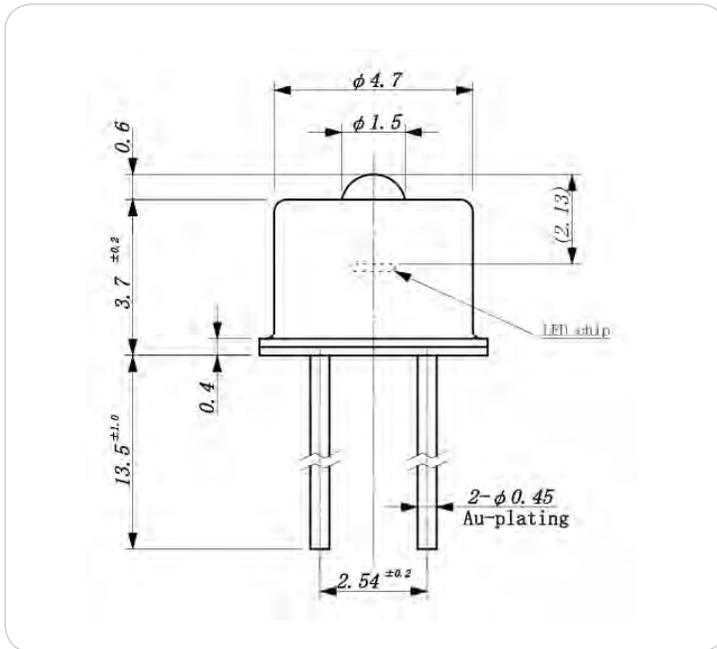
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	100	mA
Forward Current (Pulse) *1	IFP	1	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	300	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature	Tstg	-30 ~ +100	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	2.24	--	mW
Forward Voltage	VF	IF=20mA	--	2.75	--	V
Reverse Current	IR	VR=5V	--	--	10	µA
Peak Emission Wavelength	λp	IF=20mA	--	600	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	590	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	85	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±15	--	deg

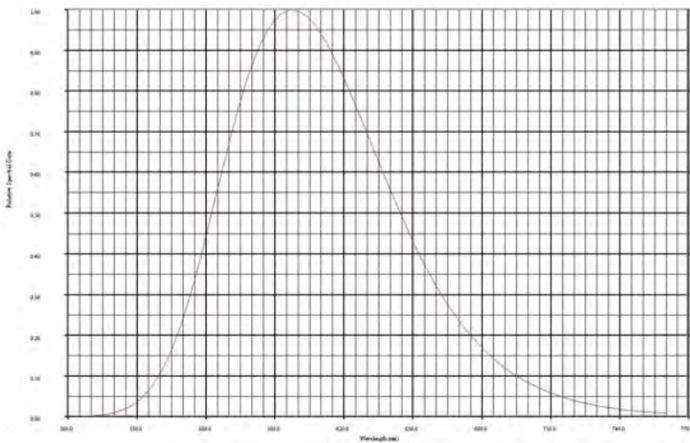
Package Dimensions



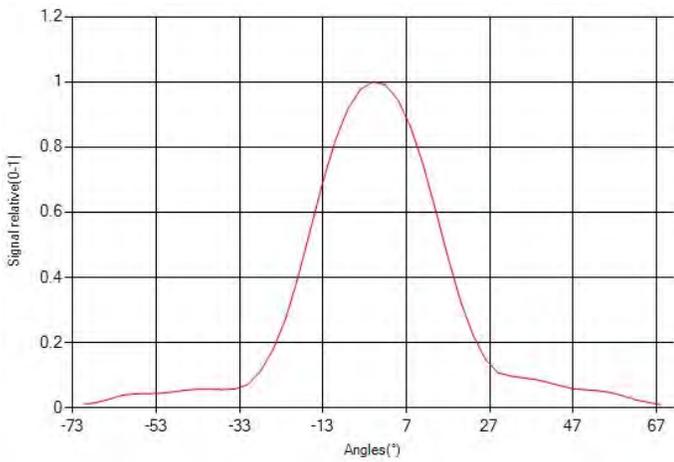
Unit: mm, Tolerance: ±0.2

Characteristic Curves (Ta = 25°C)

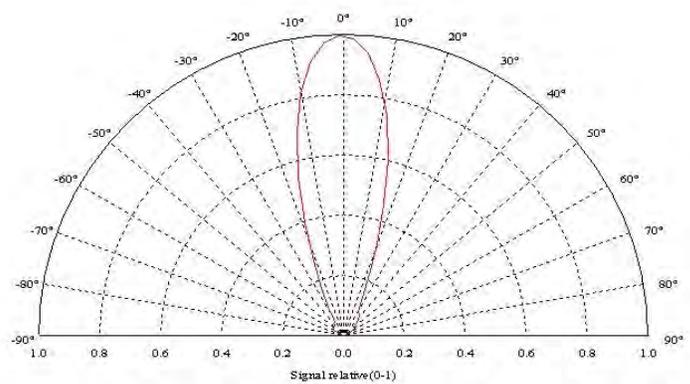
Spectral Responsivity



Radiation Distribution



View Angle



Peak Emission Wavelength: 600nm

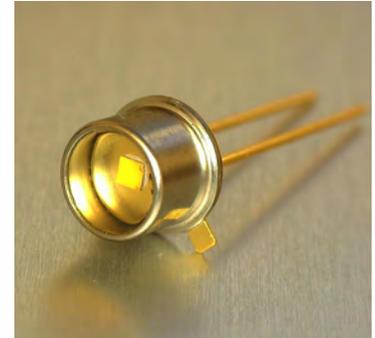
The MTE5901W-WRC visible emitter is designed for applications requiring high output power. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output
- > High Reliability
- > Wide Beam Angle

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation



Absolute Maximum Ratings (Ta=25°C)



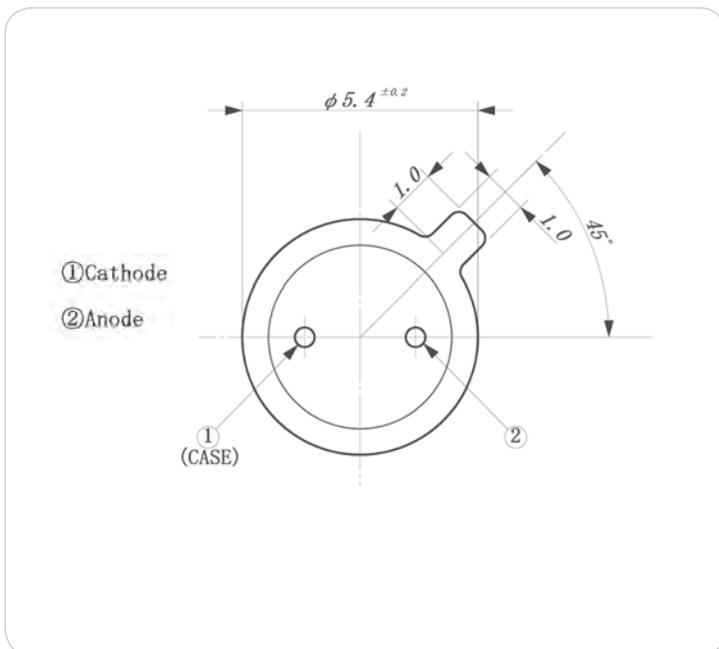
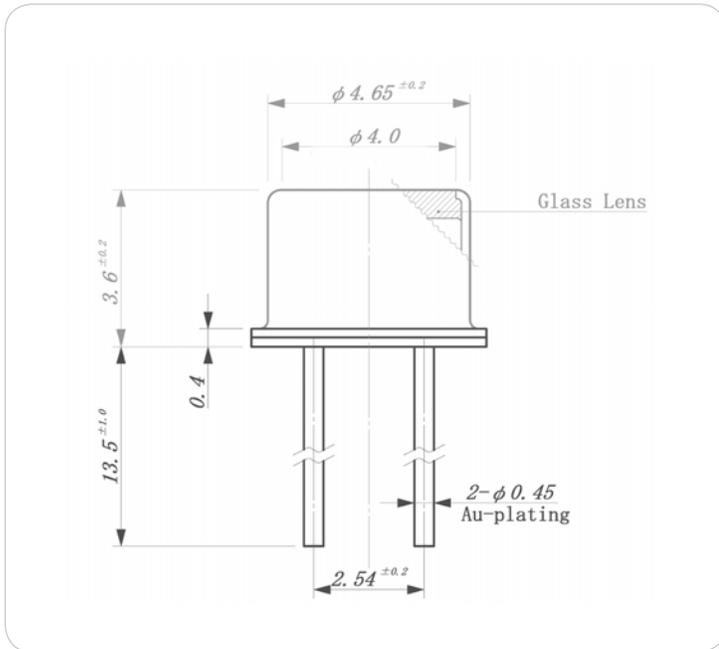
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	100	mA
Forward Current (Pulse) *1	IFP	1	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	300	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature	Tstg	-30 ~ +100	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	10.3	--	mW
Forward Voltage	VF	IF=20mA	--	2.75	--	V
Reverse Current	IR	VR=5V	--	--	10	µA
Peak Emission Wavelength	λp	IF=20mA	--	600	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	590	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	80	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±50	--	deg

Package Dimensions

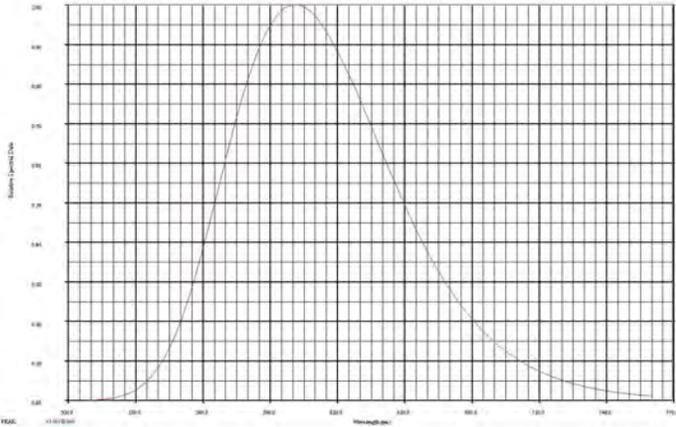


Unit: mm, Tolerance: ±0.2

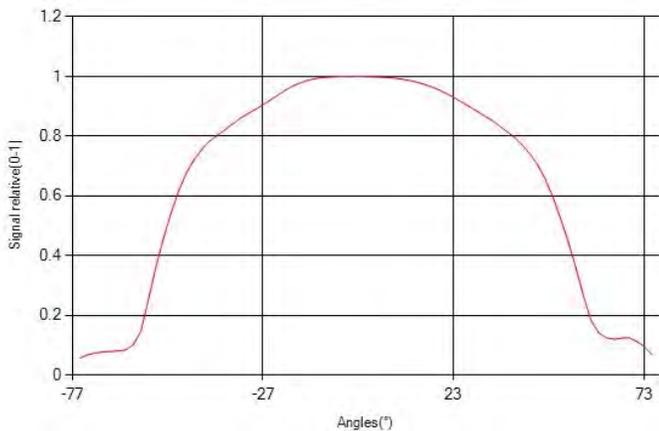
2023-11-3 0

Characteristic Curves (Ta = 25°C)

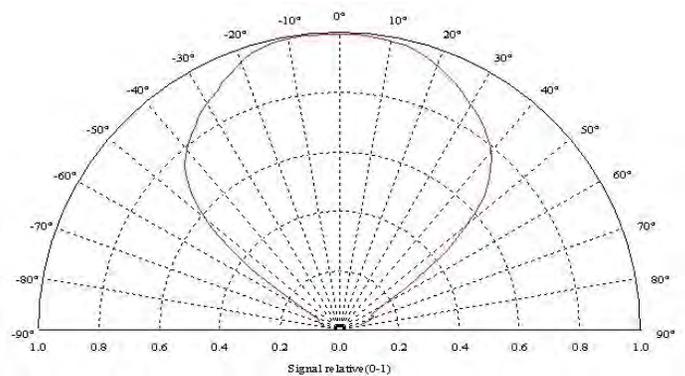
Spectral Responsivity



Radiation Distribution



View Angle



Peak Emission Wavelength: 600nm

The 600nm visible emitter series is designed for applications requiring high output optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-39 Metal Can Package
- > High Output
- > High Reliability
- > Wide Beam Angle
- > Using Cree WZ135 0 Amber Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



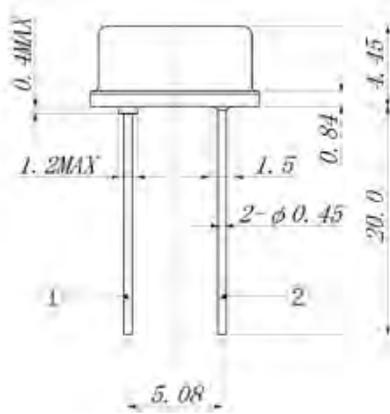
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

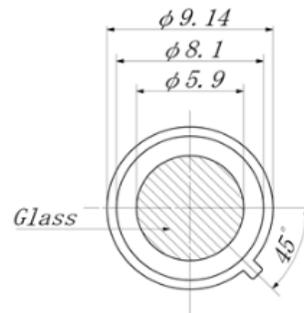
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	20.5	--	mW
Forward Voltage	VF	IF=50mA	--	2.8	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	597	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	589	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	80	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±50	--	deg

Package Dimensions



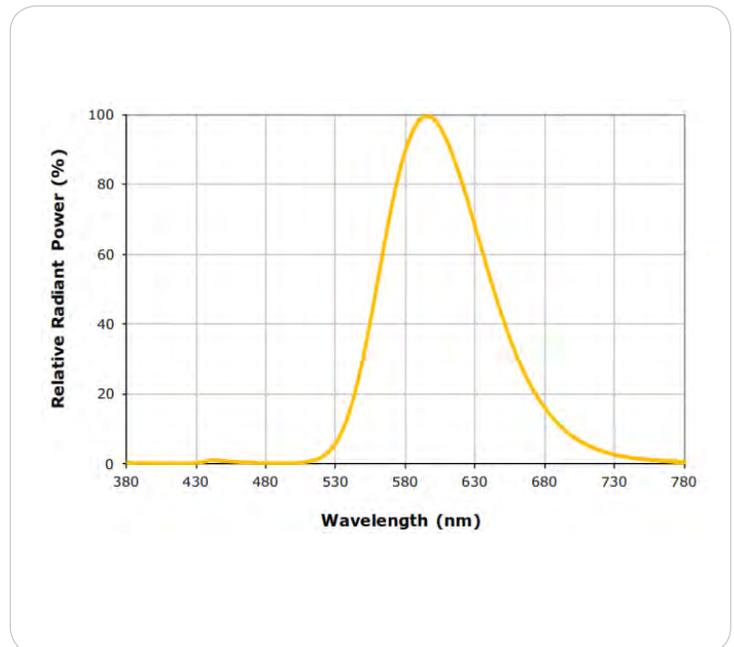
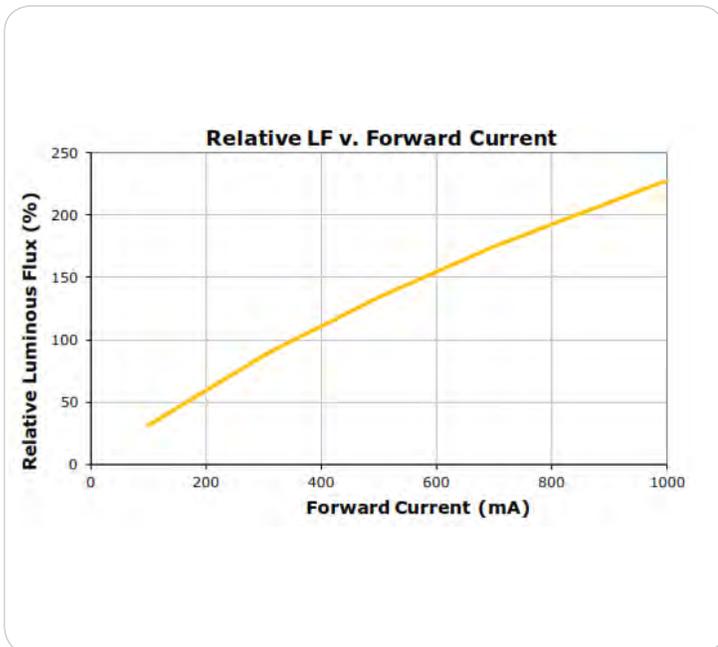
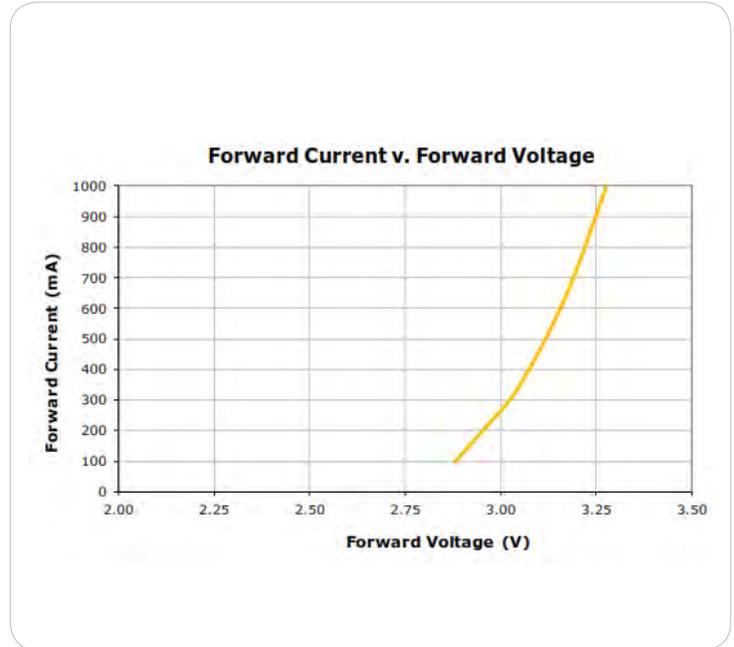
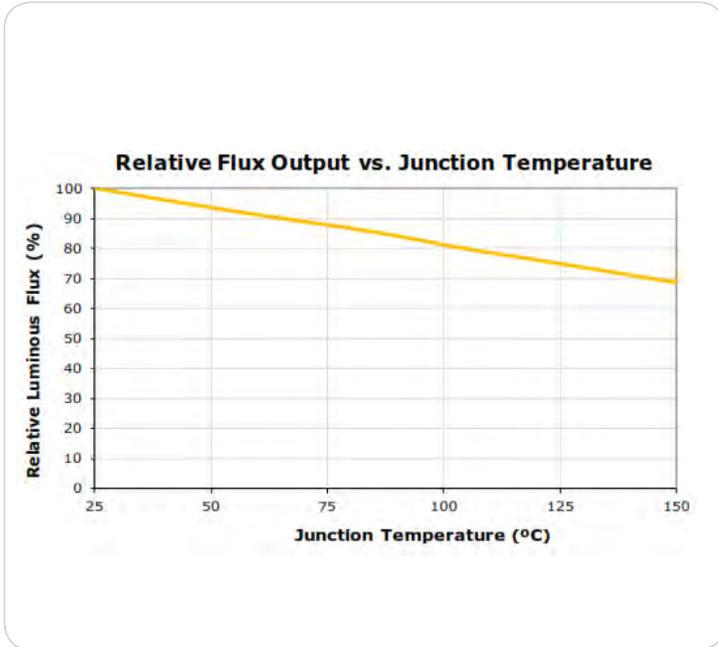
① Anode ② Cathode



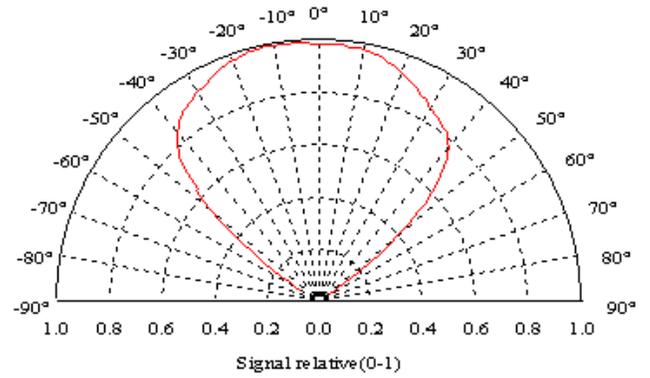
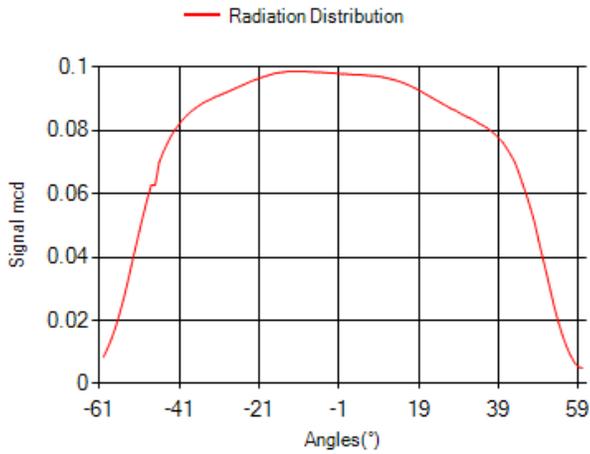
Unit: mm, Tolerance: ±0.2

2016-05-04

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



Peak Emission Wavelength: 600nm

The 600nm visible emitter series is designed for applications requiring high output optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output
- > High Reliability
- > Narrow Beam Angle
- > Using Cree WZ1050 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



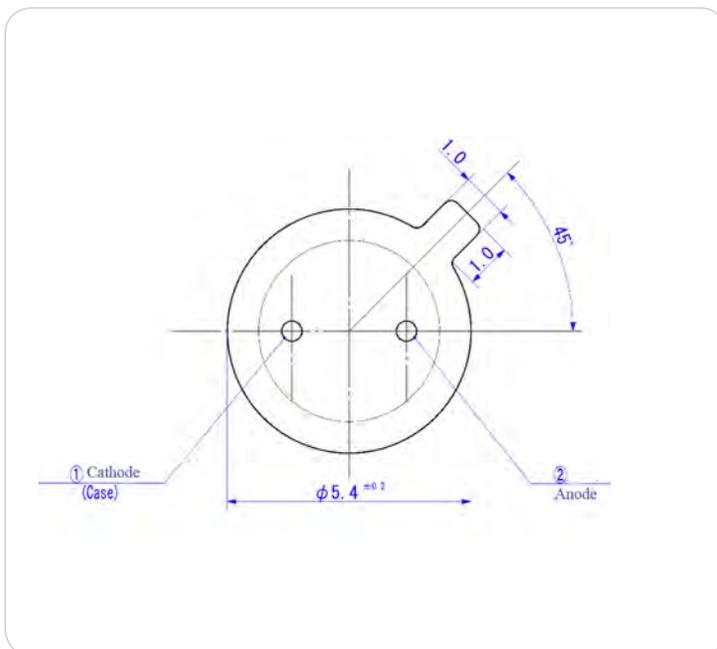
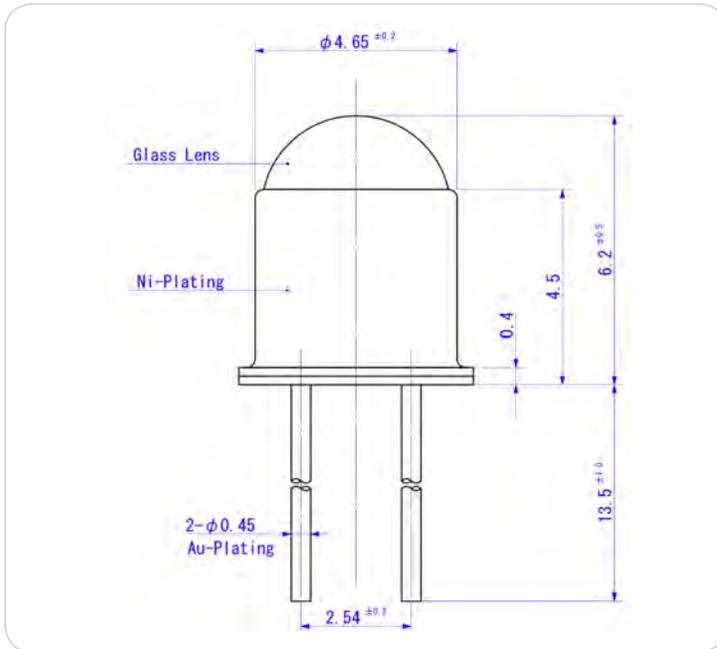
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

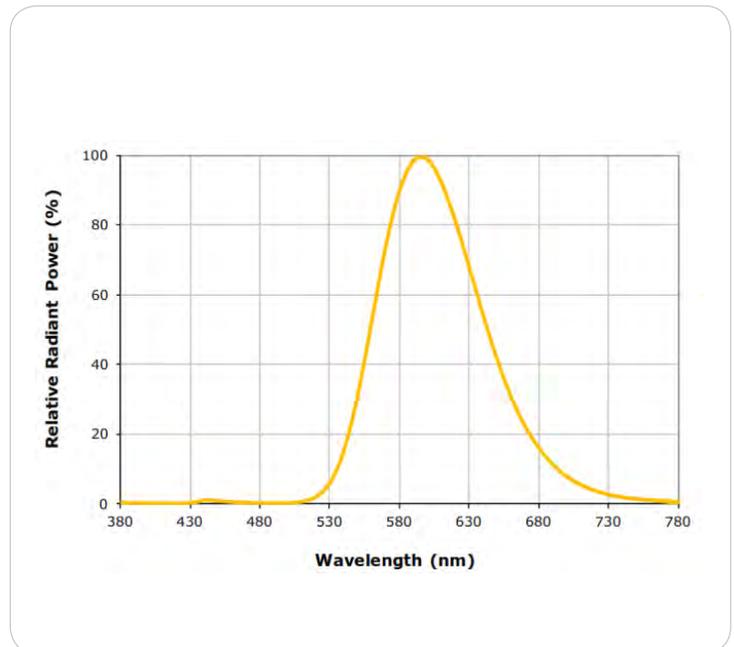
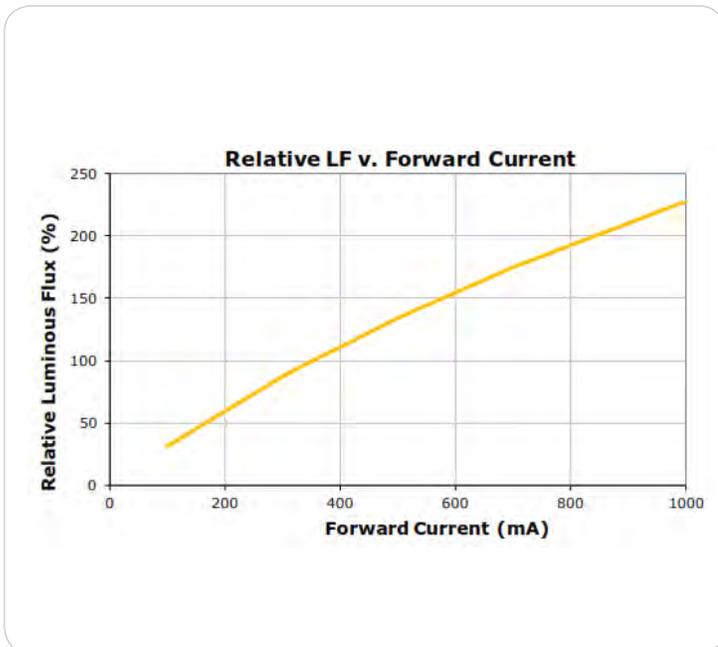
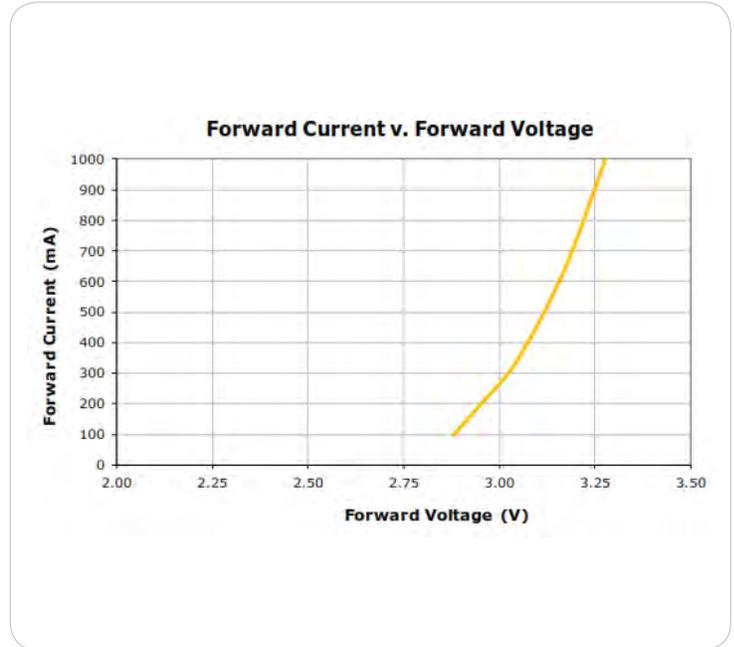
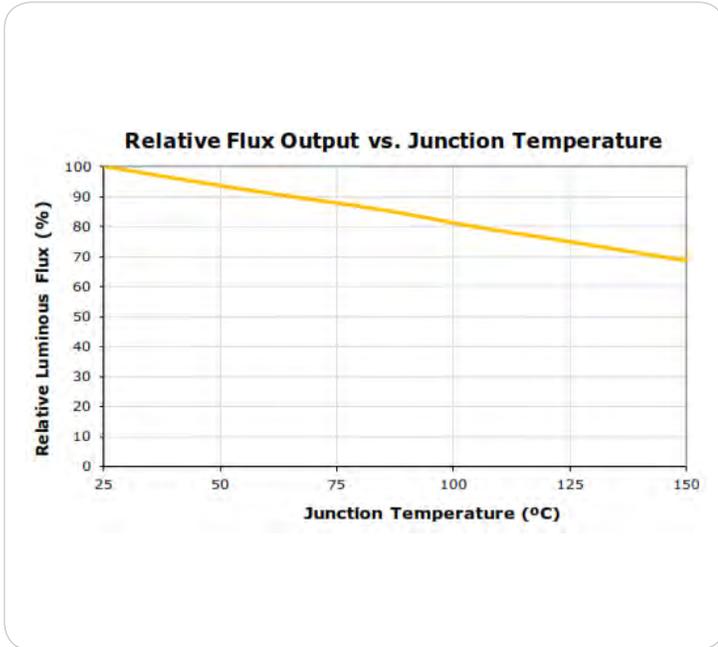
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	20.4	--	mW
Forward Voltage	VF	IF=50mA	--	2.8	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	597	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	589	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	80	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±10	--	deg

Package Dimensions

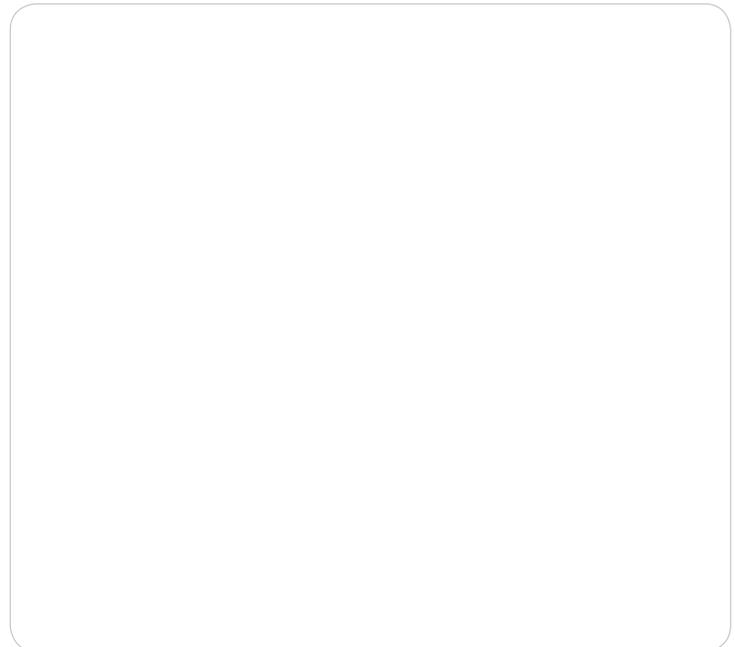
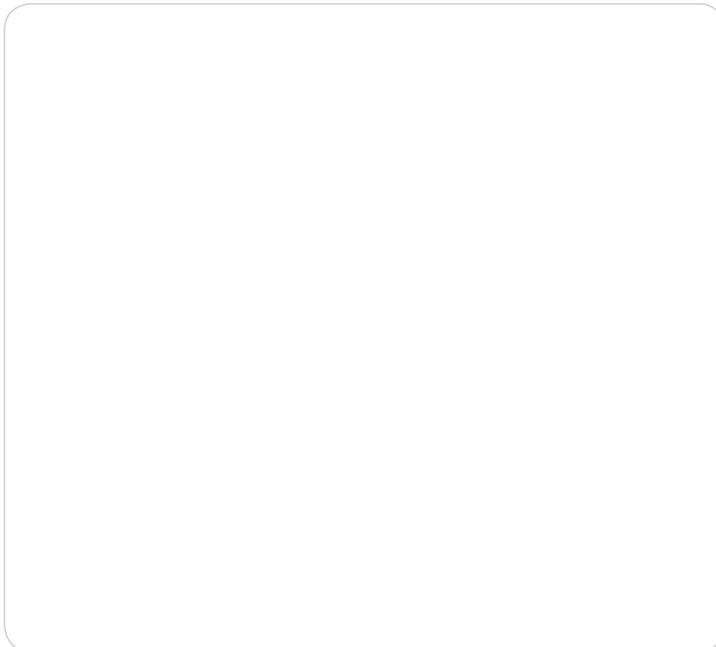
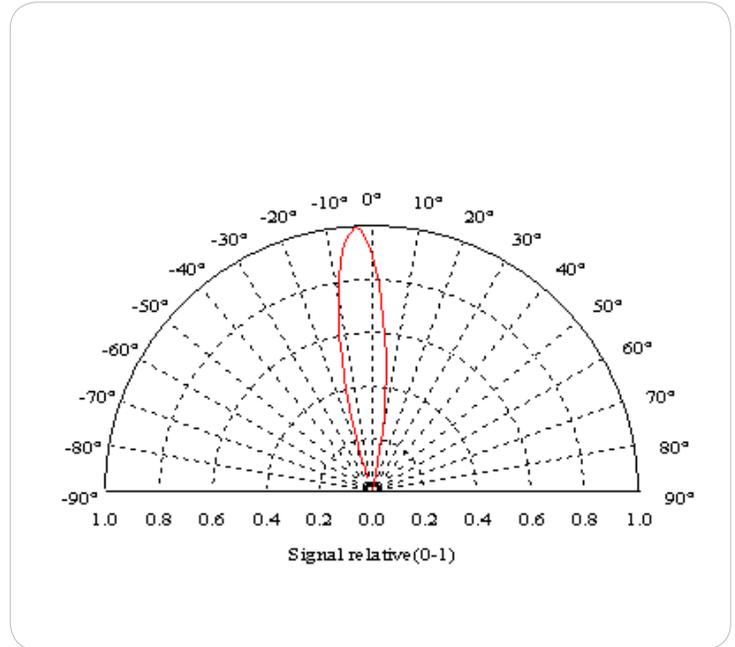
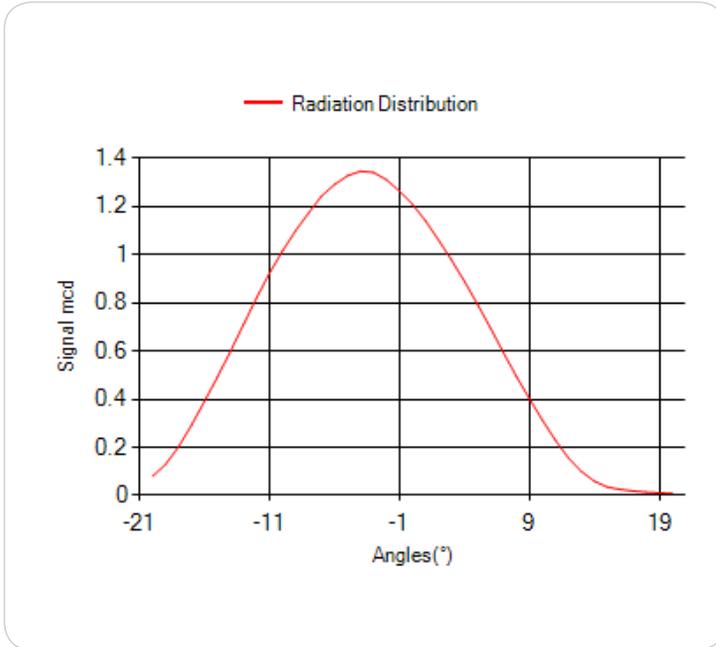


Unit: mm, Tolerance: ± 0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2015-04-09

Peak Emission Wavelength: 600nm

The 600nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Domed Package
- > High Output Power
- > High Reliability
- > Narrow Beam Angle
- > Using Cree WZ1050 Series Die

APPLICATIONS

- > Industrial Equipment
- > Medical
- > Machine Vision
- > Currency Validation
- > Light Source For Sensors



Absolute Maximum Ratings (Ta=25°C)



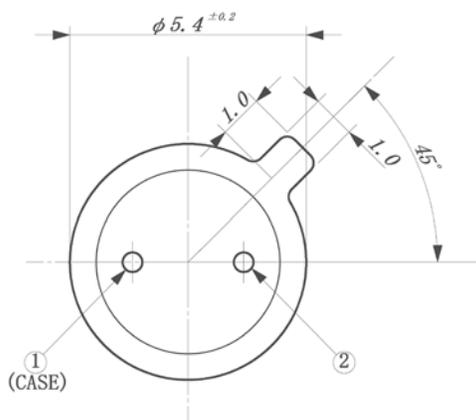
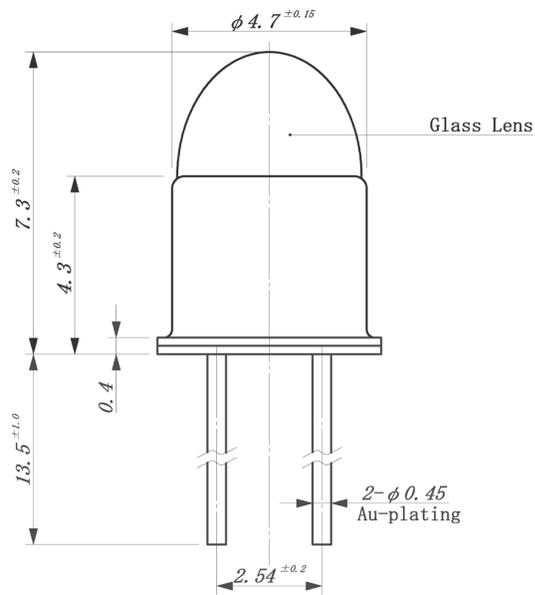
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC) *3	IF	150	mA
Forward Current (Pulse) *1	IFP	--	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	480	mW
Operating Temperature Range	Topr-	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +120	°C
Junction Temperature	Tj	150	°C
Lead Soldering Temperature *2	Tls	260	°C

*1: Tw=10usec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body *3: Proper heat sink required.

Electrical & Optical Characteristics (Ta = 25°C)

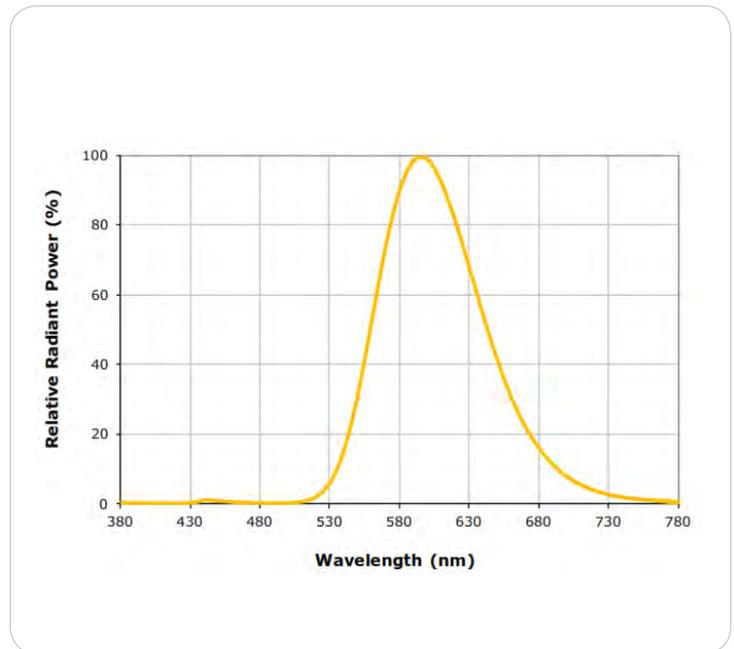
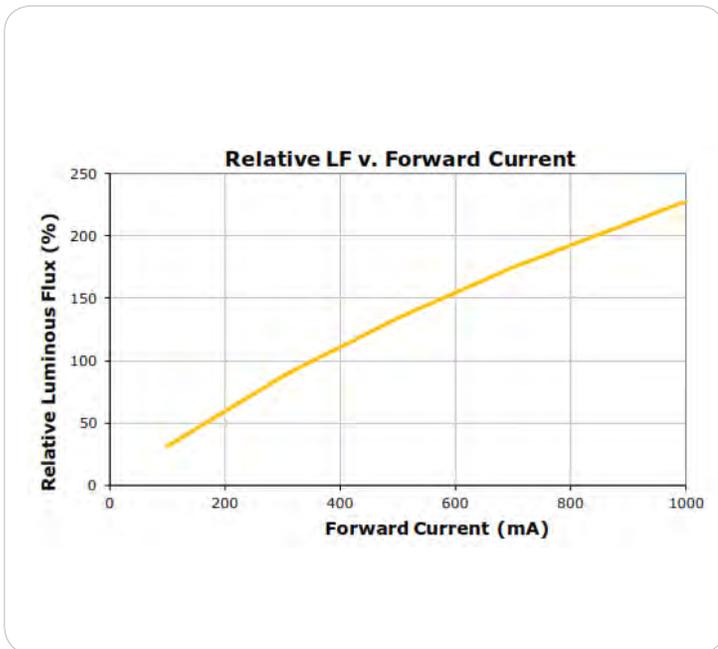
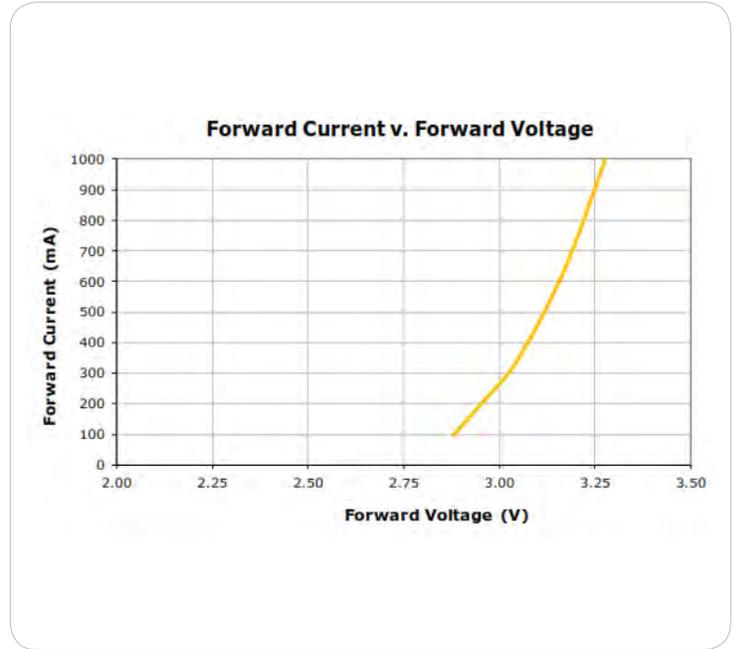
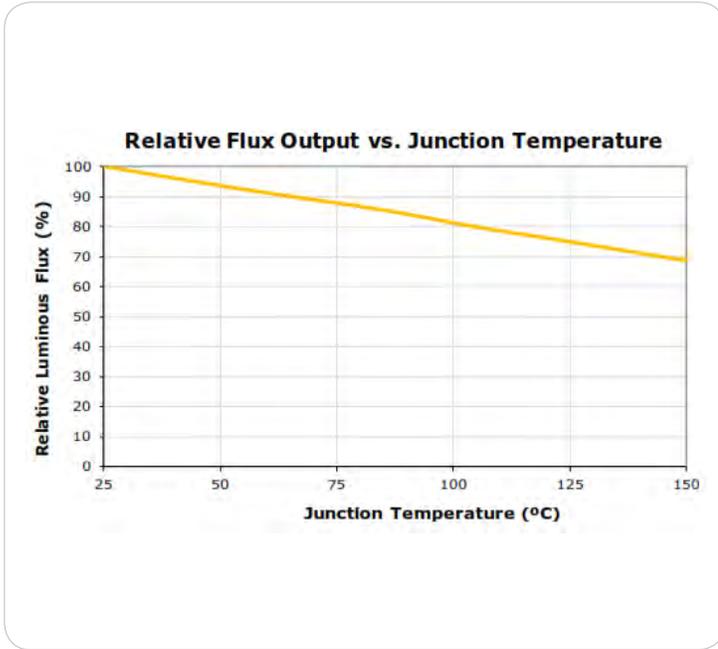
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	18.8	--	mW
Forward Voltage	VF	IF=50mA	--	2.8	--	V
Reverse Current	IR	IF=50mA	--	2	--	μA
Peak Emission Wavelength	λp	IF=50mA	--	597	--	nm
Dominant Emission Wavelength	λd	IF=50mA	--	589	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	80	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±6	--	deg

Package Dimensions

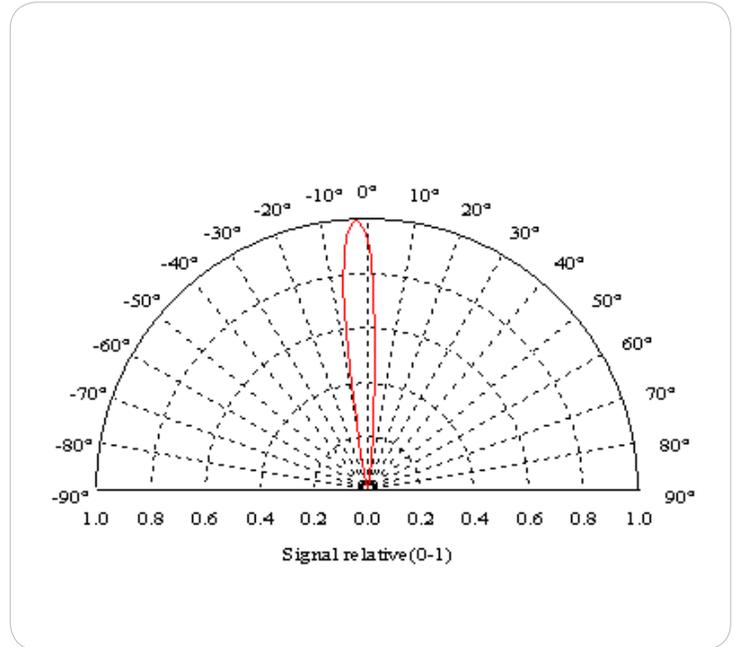
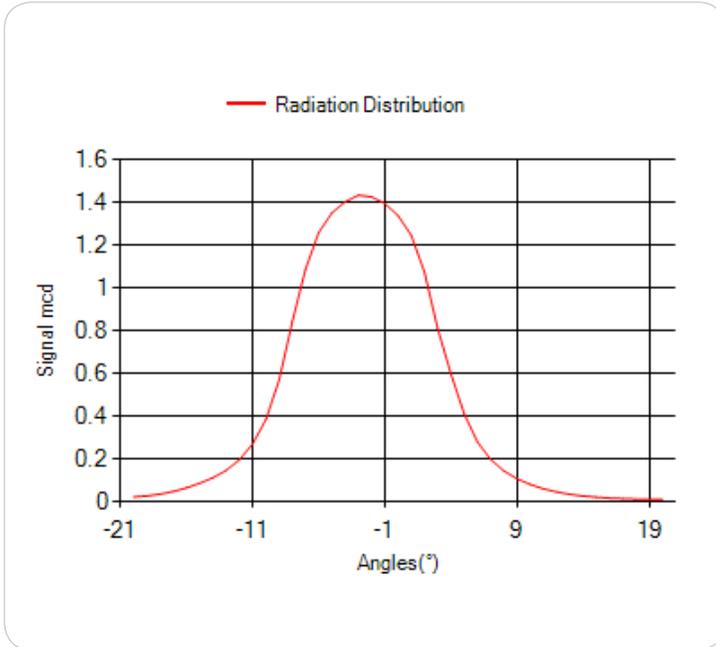


Unit: mm, Tolerance: ± 0.2

Characteristic Curves (Ta = 25°C)



Characteristic Curves (Ta = 25°C)



The information contained herein is subject to change without notice.

2018-08-30

Peak Emission Wavelength: 520nm

The 520nm visible emitter is designed for applications requiring high accuracy and precision. Custom package solutions and sorting are available.

FEATURES

- > Hermetically Sealed Pigtail Package
- > Narrow Beam Angle
- > Gold Plated Dome Lens
- > Compact

APPLICATIONS

- > Optical Switches
- > Edge Sensing / Coin Dispenser



Absolute Maximum Ratings (Ta=25°C)

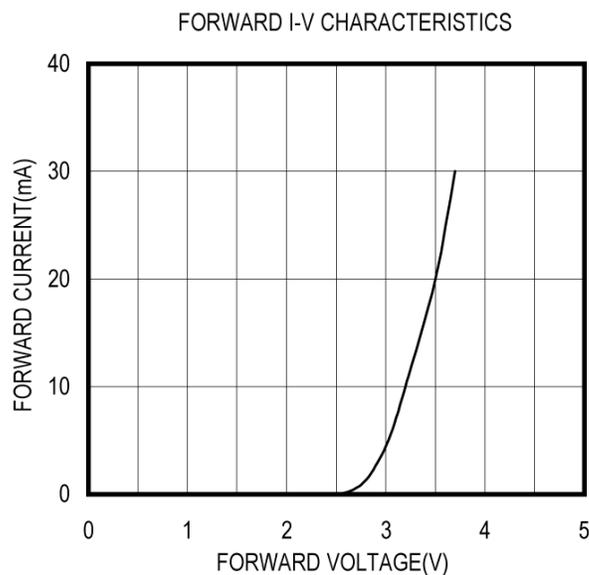
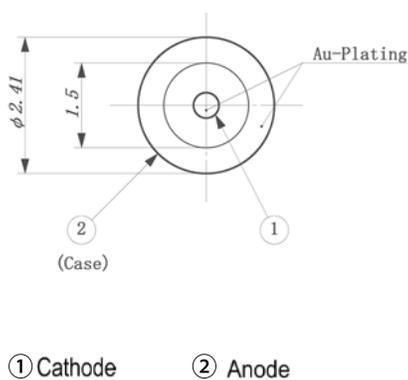
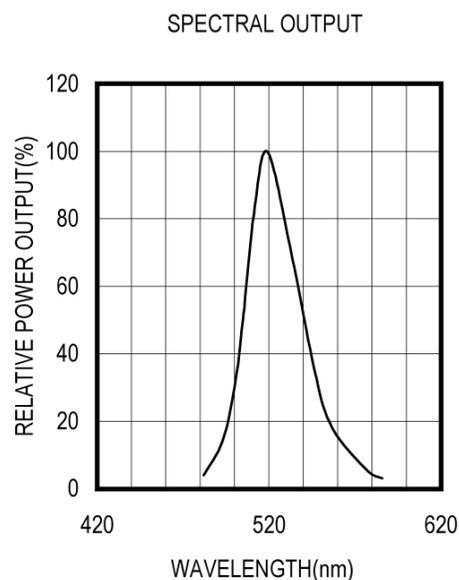
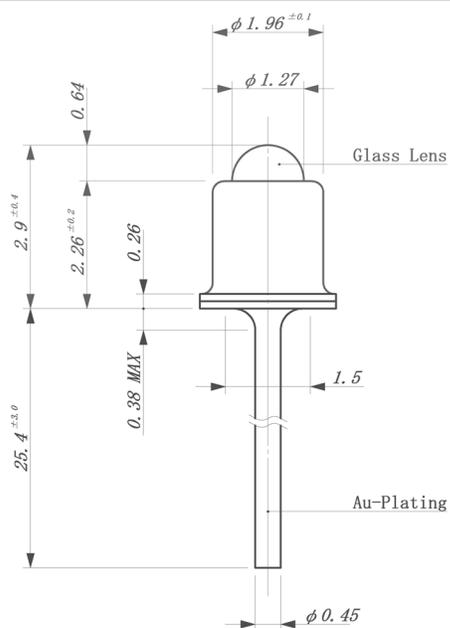


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

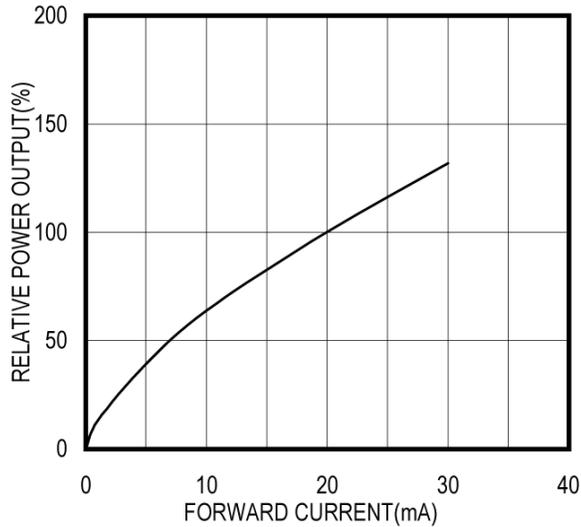
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	0.6	--	mW
Forward Voltage	VF	IF=20mA	--	3.5	4.0	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	520	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±3	--	deg

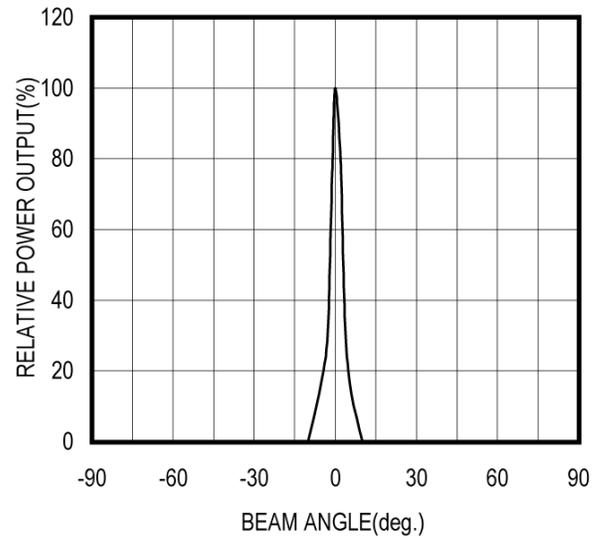


Unit: mm, Tolerance: ± 0.2

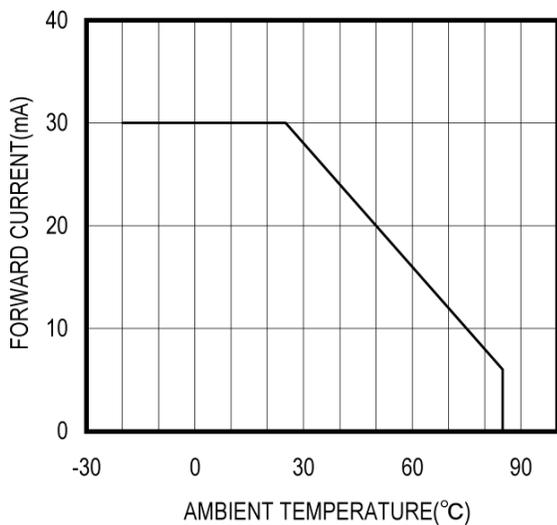
RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



THERMAL DERATING CURVE



The information contained herein is subject to change without notice.

2023-11-13

Peak Emission Wavelength: 640nm

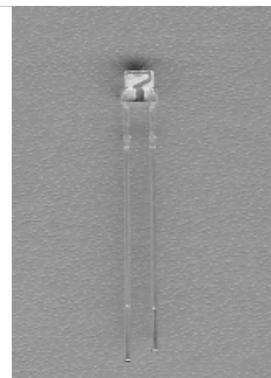
The MTE6063C2-UR is a red 3mm water clear emitter designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Wide Beam Angle

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning / Edge Sensing
- > Fiber Optical Communications



Absolute Maximum Ratings (Ta=25°C)

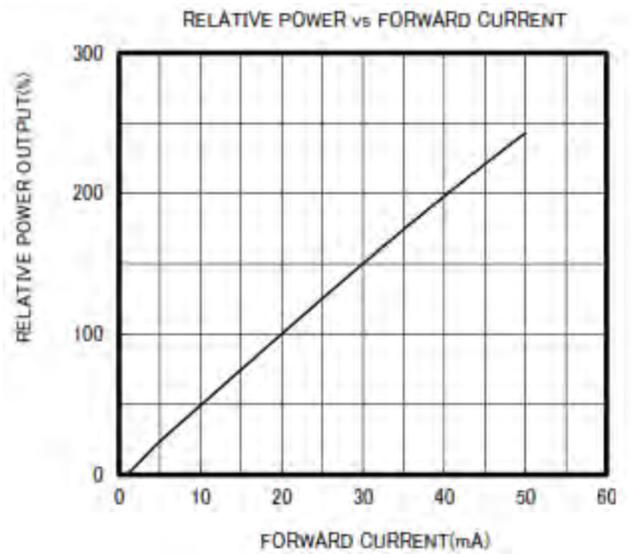
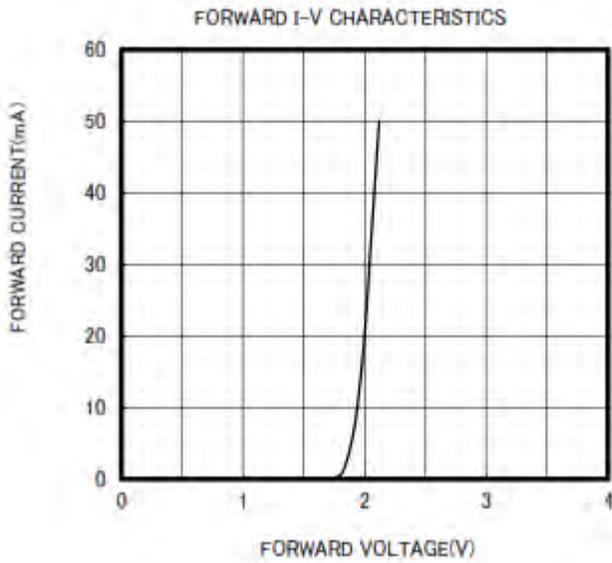
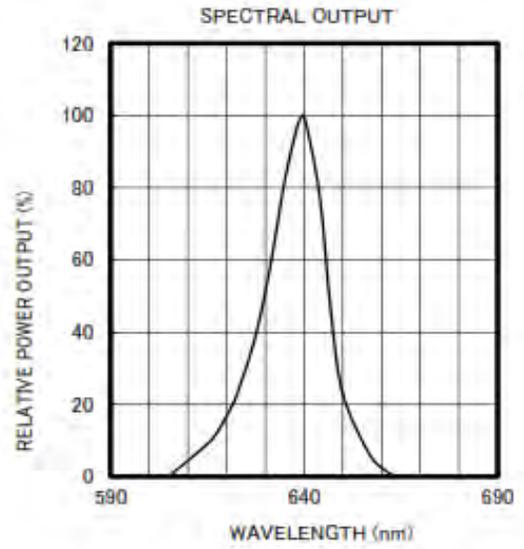
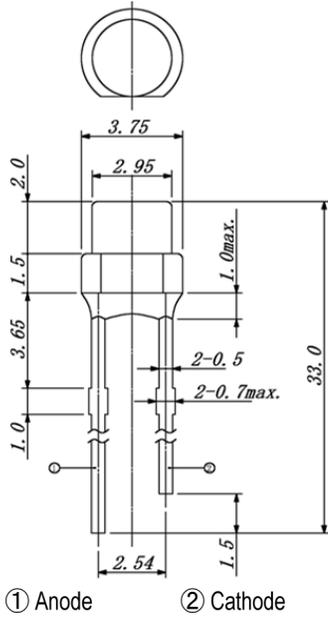


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

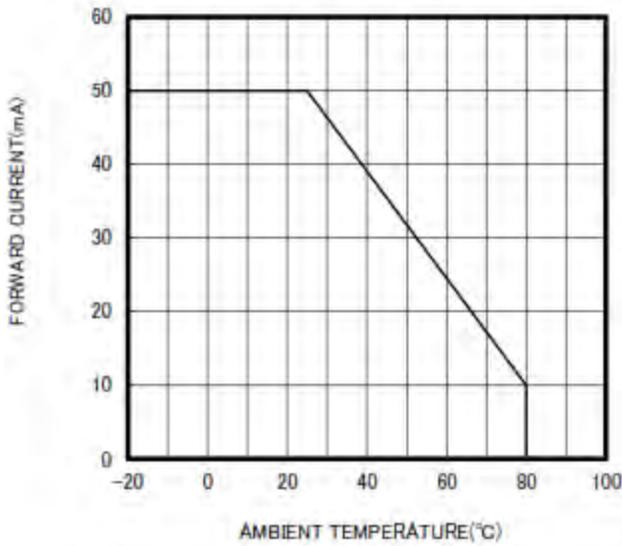
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	5.0	7.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	640	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	20	--	nm
Half Intensity Beam Angle	θ	IF=20mA	--	+/-40	--	deg.

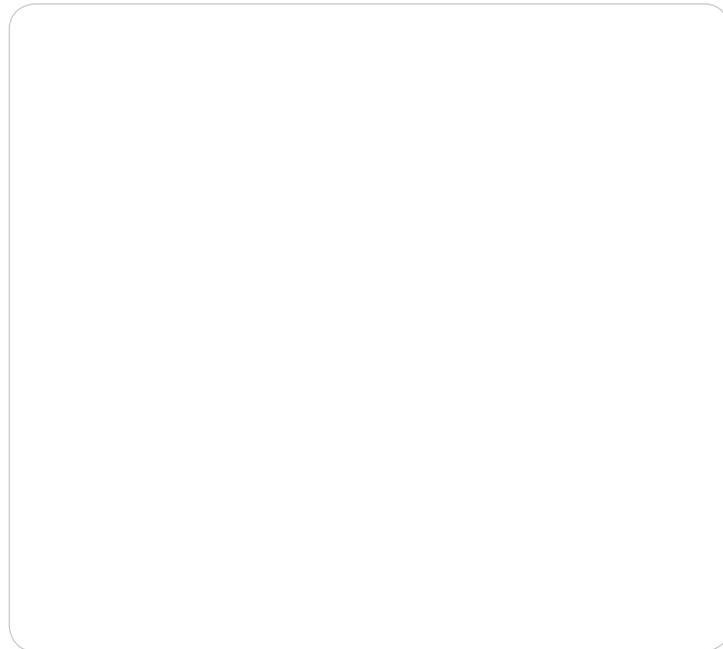
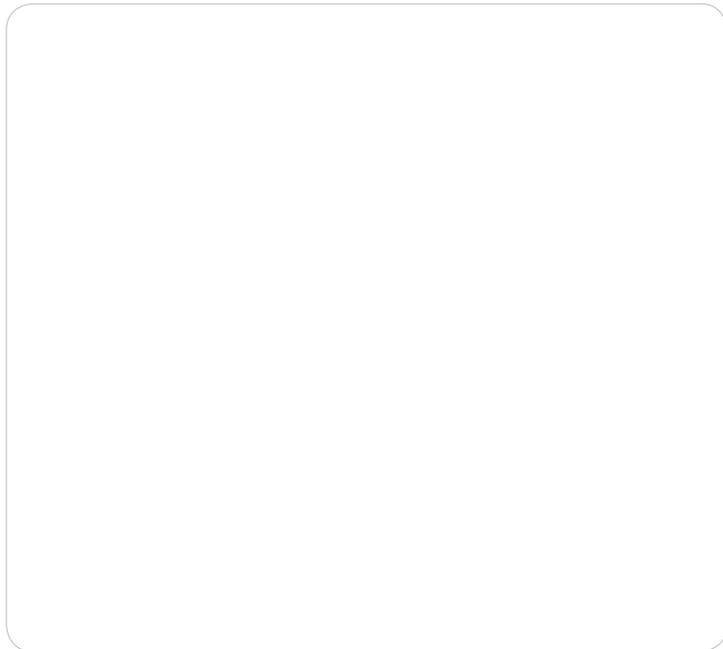
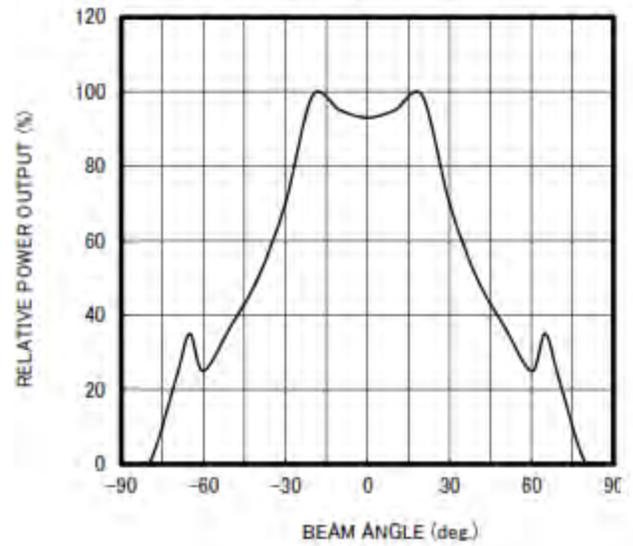


Unit: mm, Tolerance: ± 0.2

THERMAL DERATING CURVE



RADIATION PATTERN



Peak Emission Wavelength: 660nm

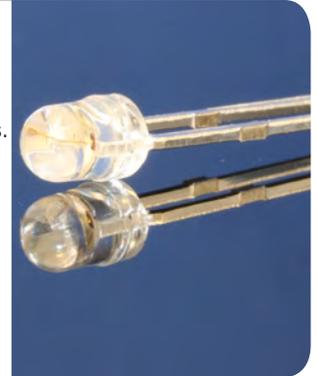
The MTE6066C-UR is a red T 1, 3mm water clear emitter designed for applications requiring high power output and high reliability in a narrow angle package. It can be custom sorted for specific power output ranges.

FEATURES

- > High Reliability
- > High Power Output
- > Compact

APPLICATIONS

- > Optical Sensing
- > Optical Instruments
- > Linear & Rotary Encoder
- > Machine Vision / CCD



Absolute Maximum Ratings (Ta=25°C)

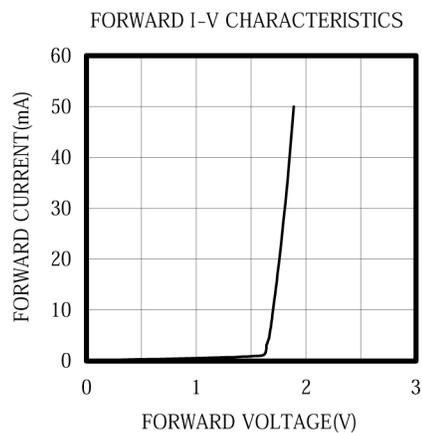
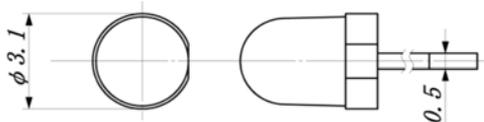
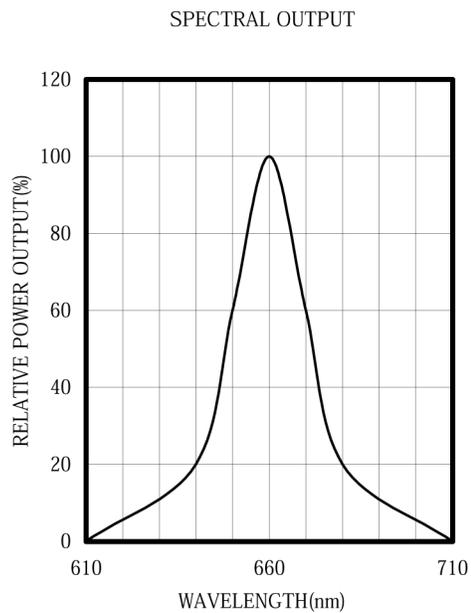
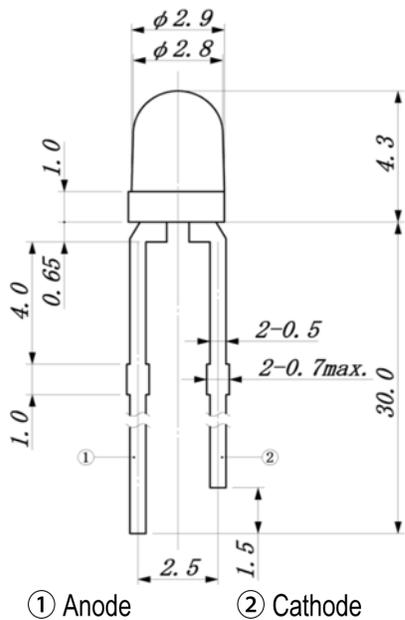


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

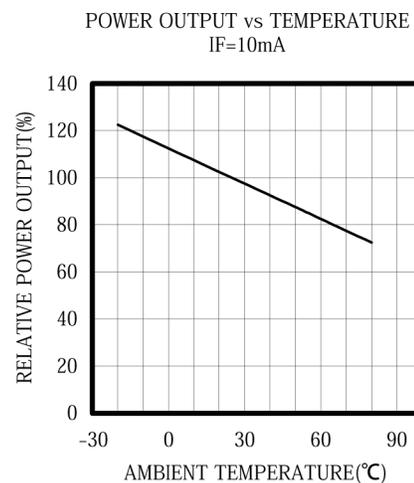
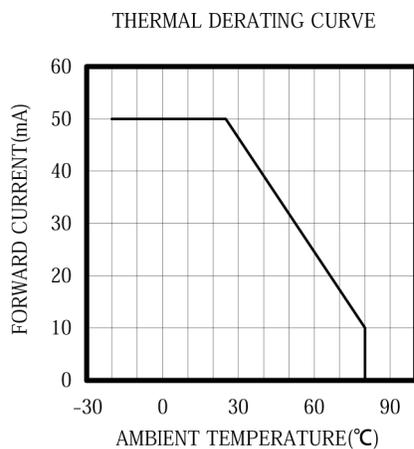
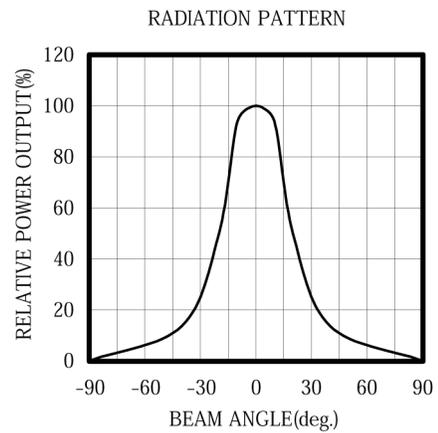
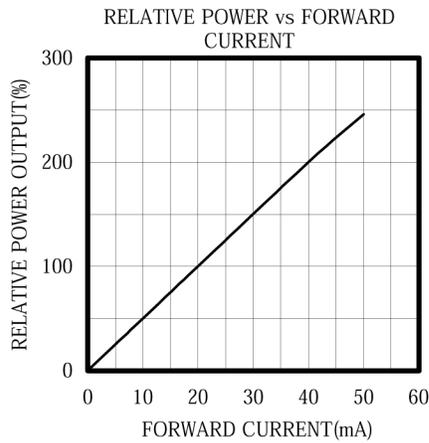
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

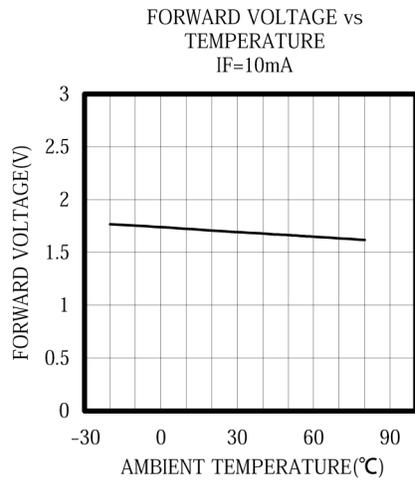
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	2.5	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±20	--	deg
Rise Time	Tr	IPF=20mA	--	30	--	nS
Fall Time	Tf	IPF=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

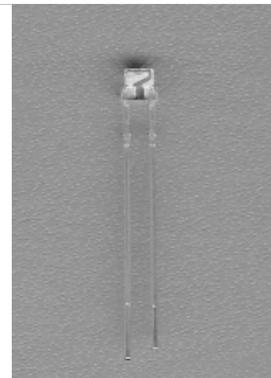
The MTE6066C2-UR is a red 3mm water clear emitter designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Wide Beam Angle

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning / Edge Sensing
- > Fiber Optical Communications



Absolute Maximum Ratings (Ta=25°C)

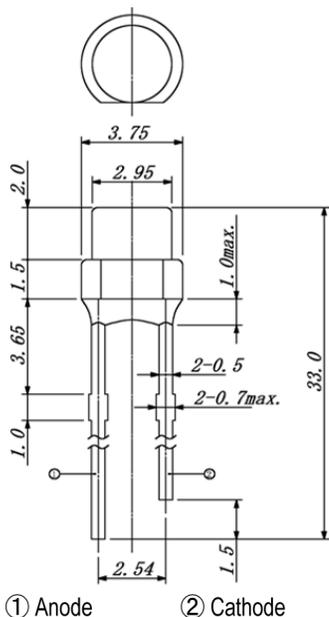


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

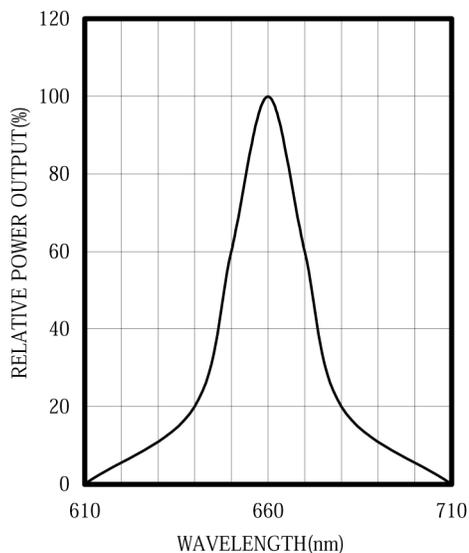
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

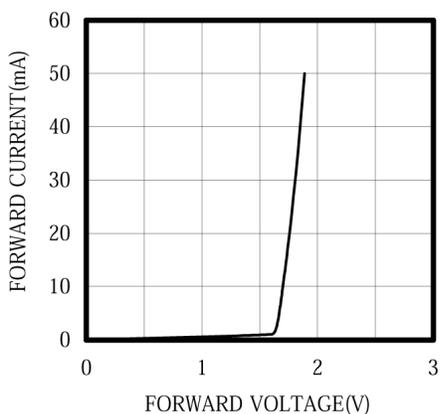
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	2.5	4.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Half Intensity Beam Angle		IF=20mA	--	+/-40	--	deg.



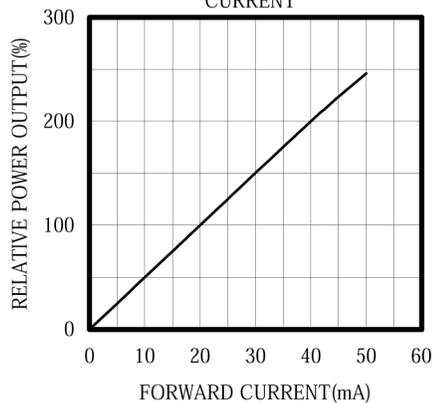
SPECTRAL OUTPUT



FORWARD I-V CHARACTERISTICS

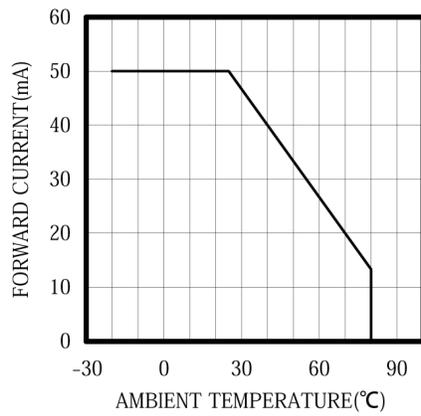


RELATIVE POWER vs FORWARD CURRENT

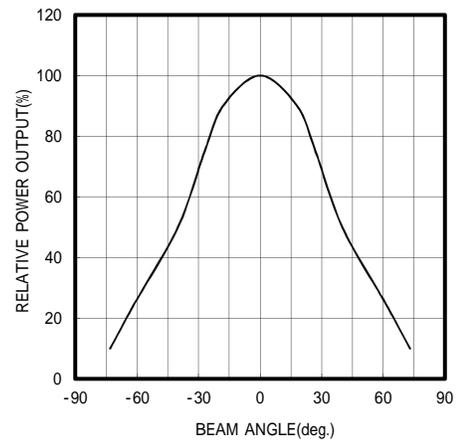


Unit: mm, Tolerance: ± 0.2

THERMAL DERATING CURVE



RADIATION PATTERN



Peak Emission Wavelength: 660nm

The MTE6066C5-UR consists of a 660nm high output visible die in a wafer-clear 5mm plastic molded flat top package. Custom package solutions and sorting are available.

FEATURES

- > High Luminous Intensity
- > High Output Power
- > Compact
- > High Reliability

APPLICATIONS

- > Optical Sensor
- > Indicators
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

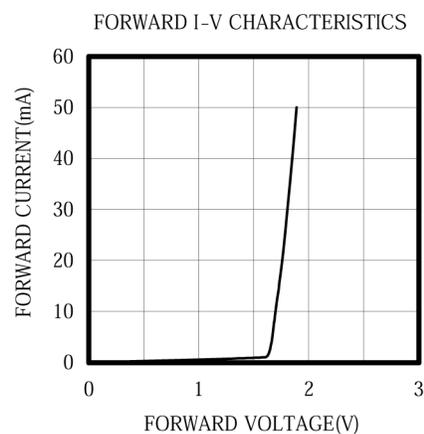
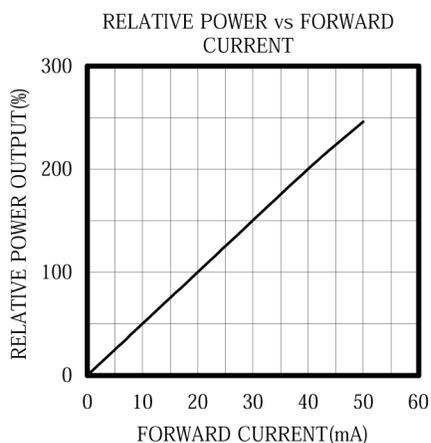
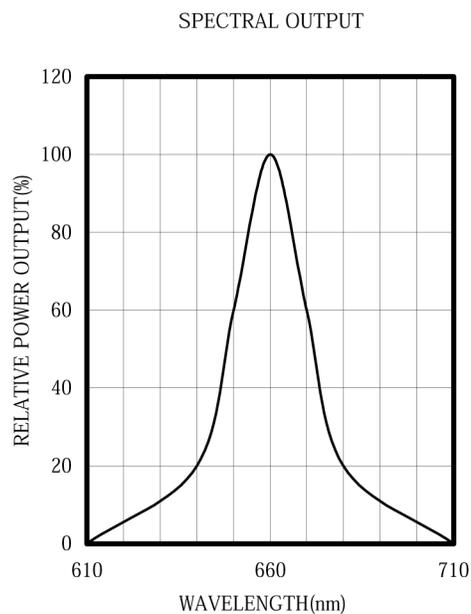
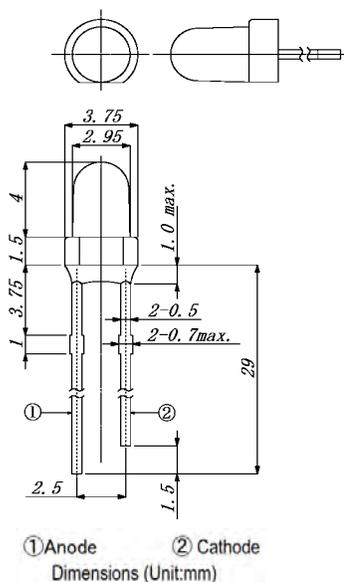


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

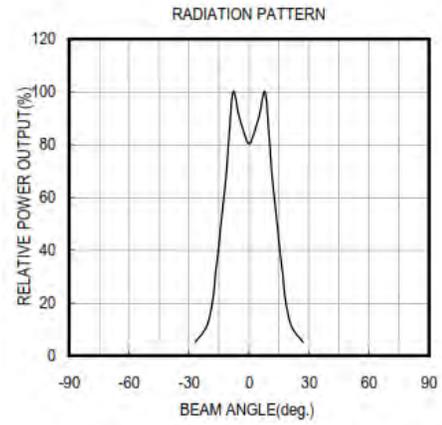
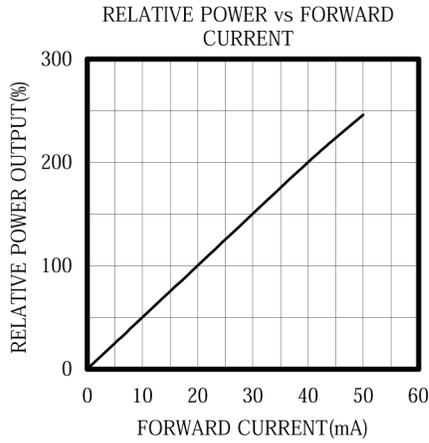
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±14	--	deg
Luminous Intensity	IV	IF=20mA	--	300	--	mcd



Unit: mm, Tolerance: ± 0.2



Peak Emission Wavelength: 660nm

The MTE6066D3-UR is a red 3mm water clear emitter designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Wide Beam Angle

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning / Edge Sensing
- > Fiber Optical Communications



Absolute Maximum Ratings (Ta=25°C)

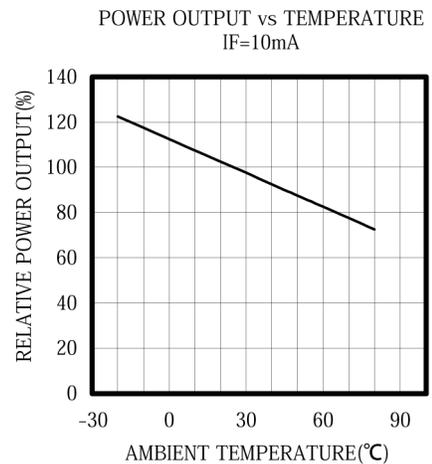
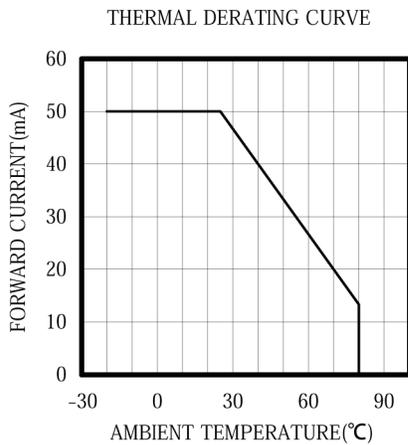
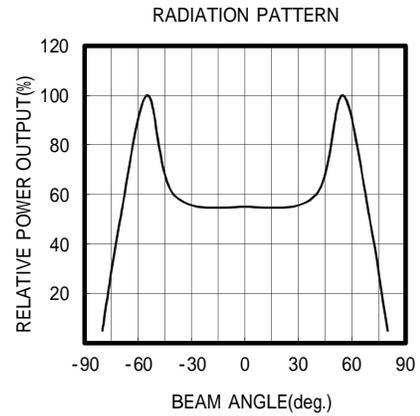
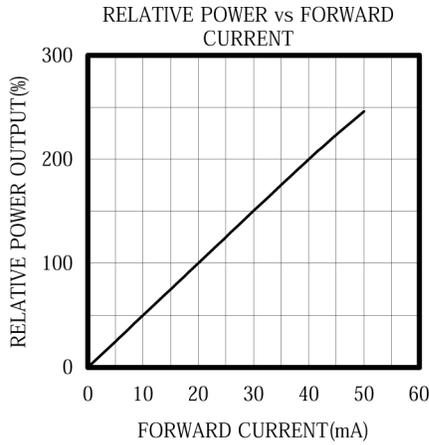


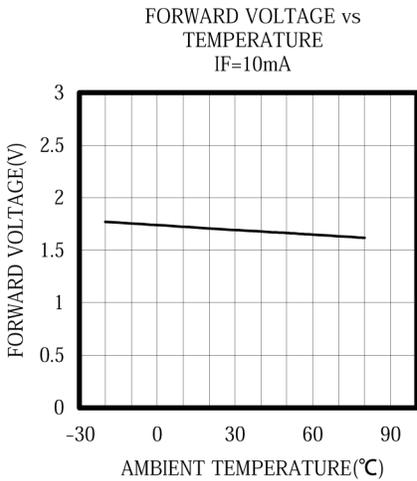
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	ToPr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	4.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±70	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C





Peak Sensitivity Wavelength: 660nm

The 660nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Wide Beam Angle
- > High Output Power
- > High Reliability

APPLICATIONS

- > Optical Switches
- > Optical Sensors



Absolute Maximum Ratings (Ta=25°C)

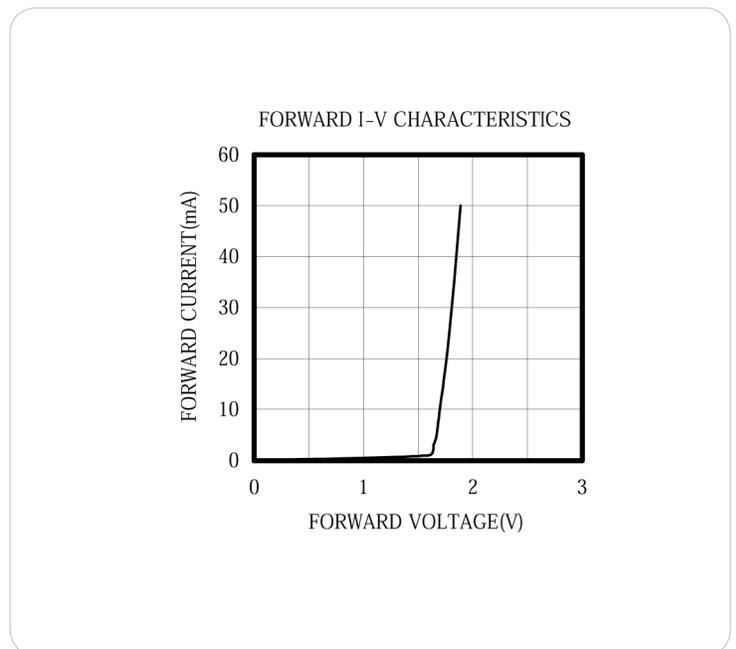
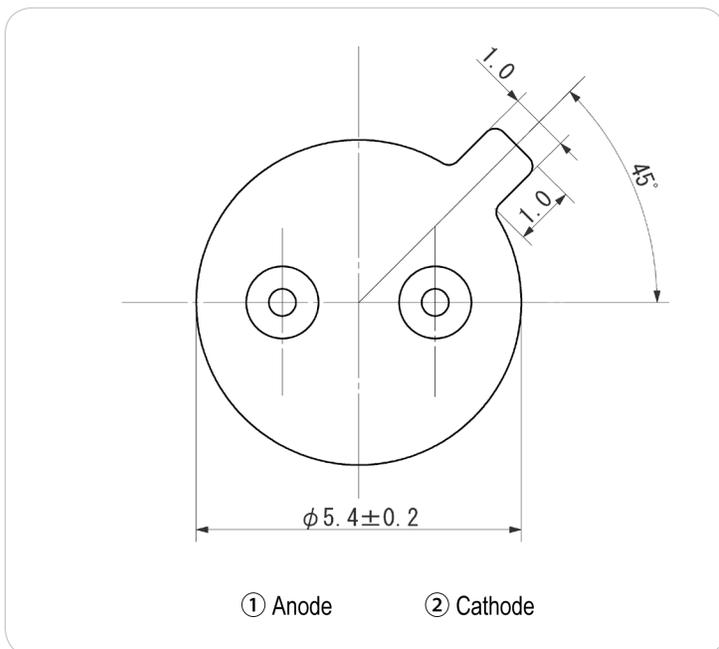
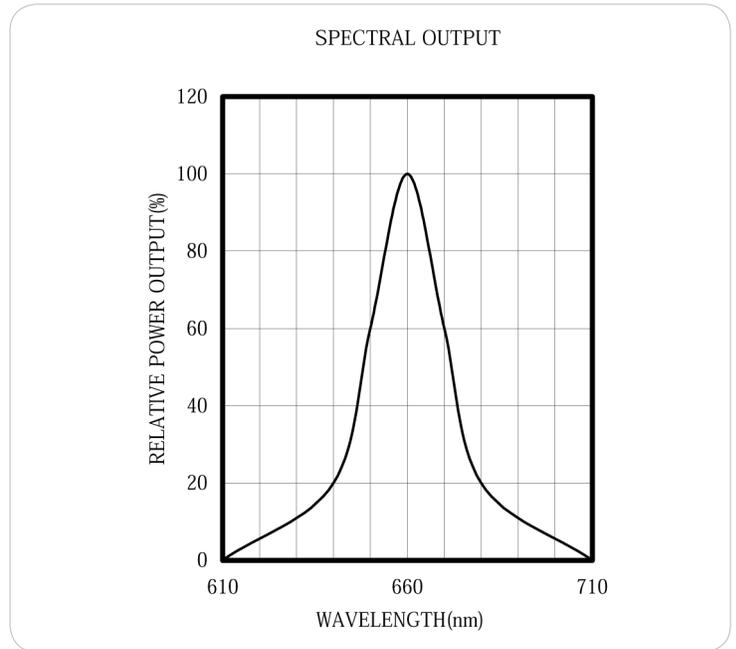
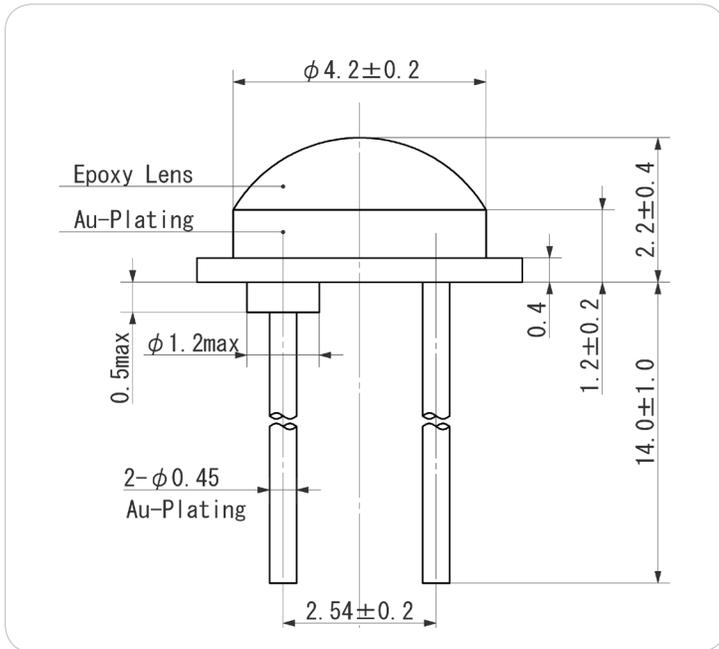


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

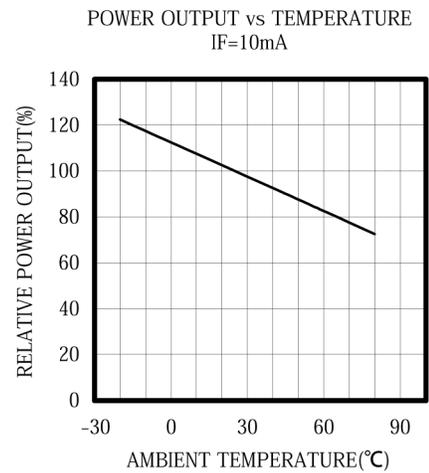
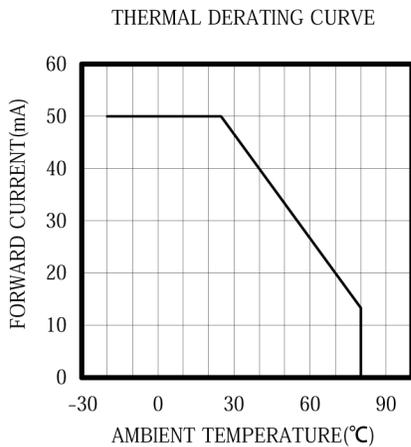
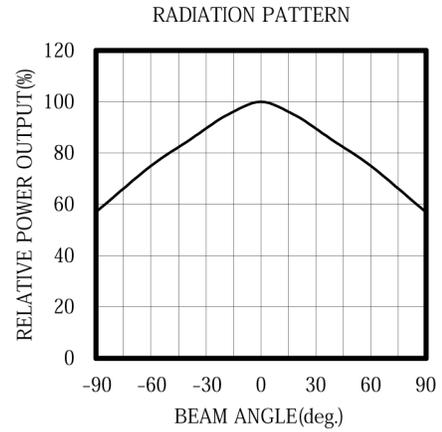
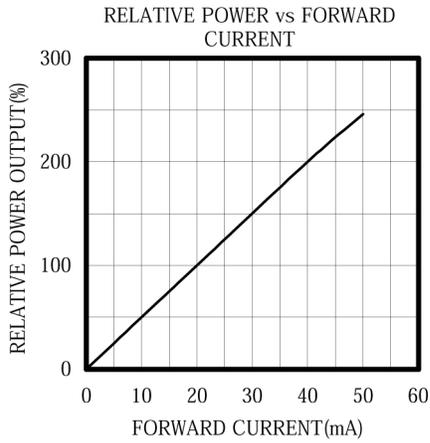
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

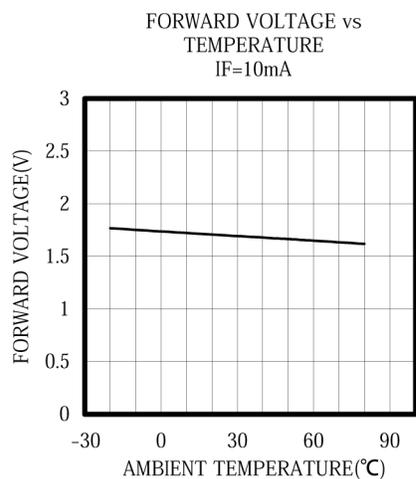
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	3.0	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±90	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

The MTE6066N1-UR is a red T 1 3/4, 5mm water clear LED designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

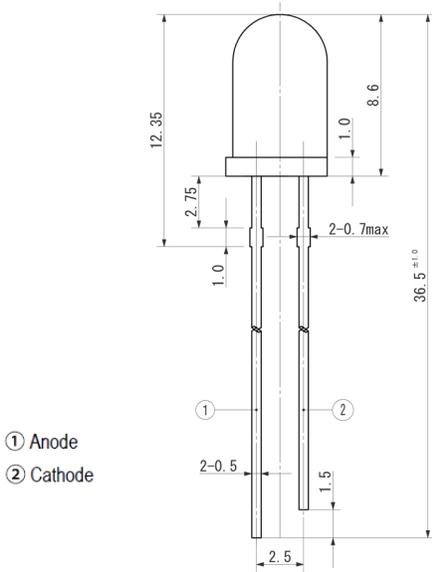


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topt	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

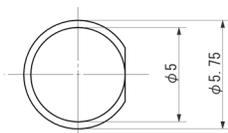
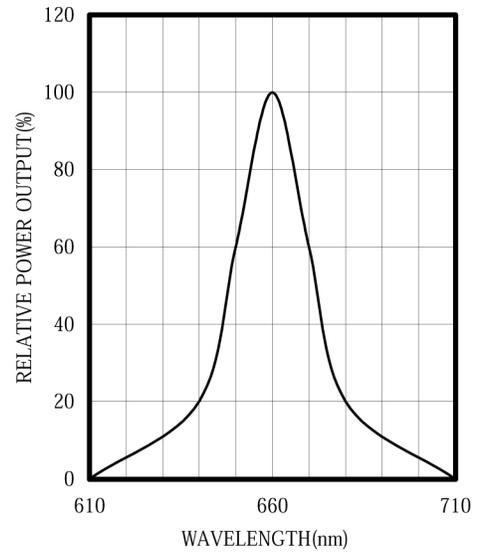
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Electrical & Optical Characteristics (Ta = 25°C)

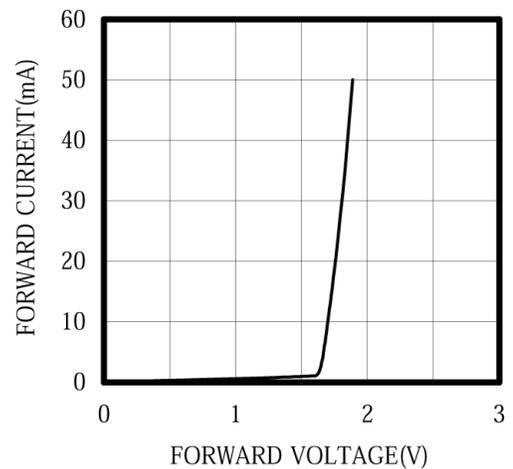
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	4.0	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±12	--	deg
Luminous Intensity	Iv	IF=20mA	600	1500	--	mcd
Rise Time	Tr	IPF=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



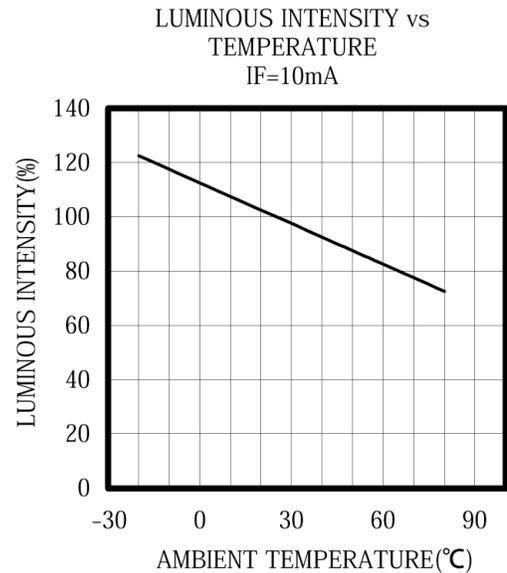
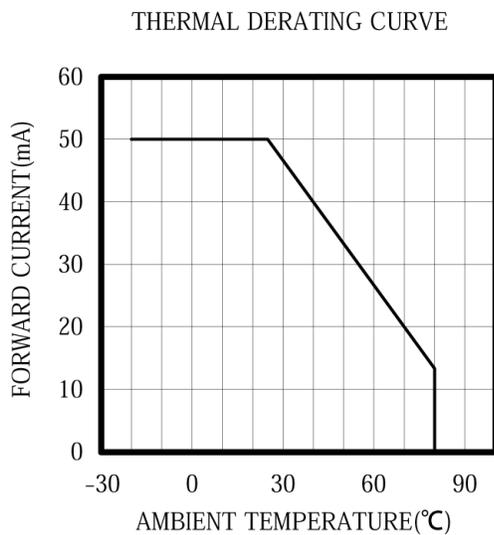
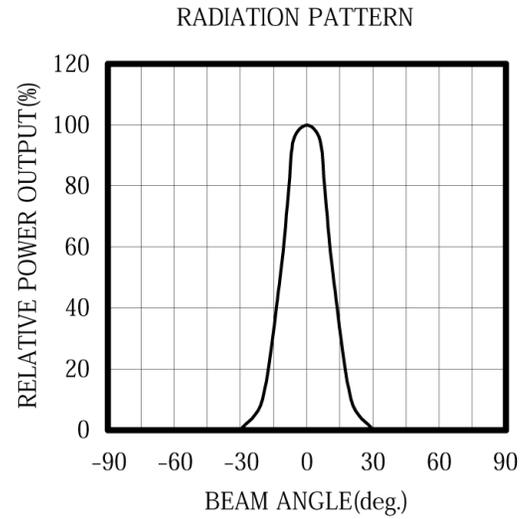
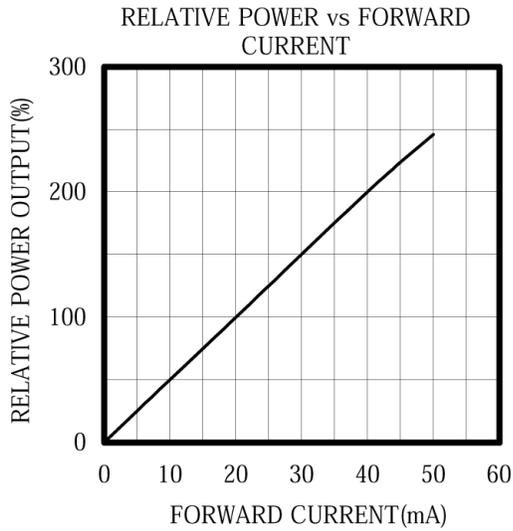
SPECTRAL OUTPUT

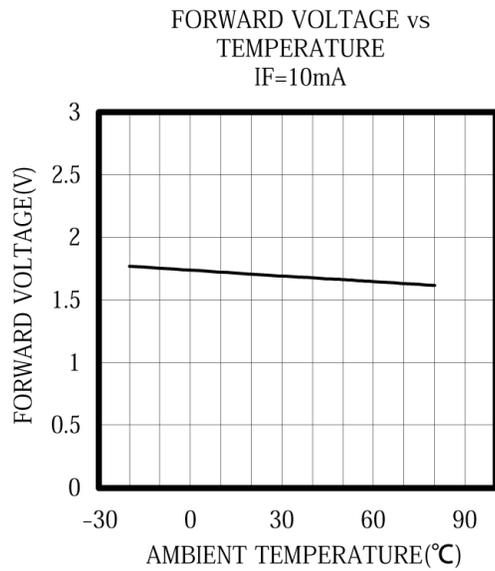


FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 660nm

The MTE6066N3-UR is a red 5mm water clear emitter designed for applications requiring high brightness and high reliability in a wider angle package with straight leads.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Wide Beam Angle

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning / Edge Sensing
- > Fiber Optical Communications



Absolute Maximum Ratings (Ta=25°C)

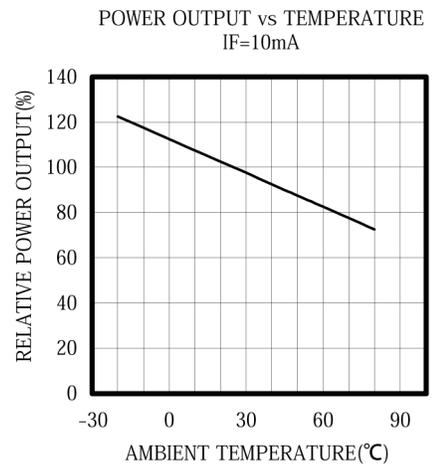
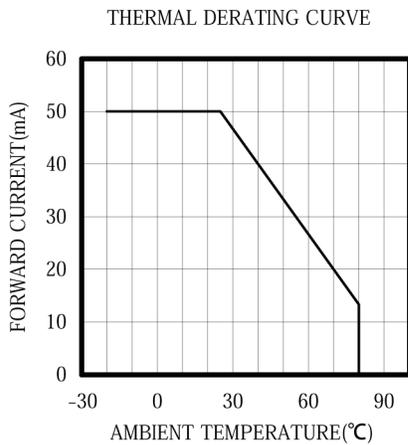
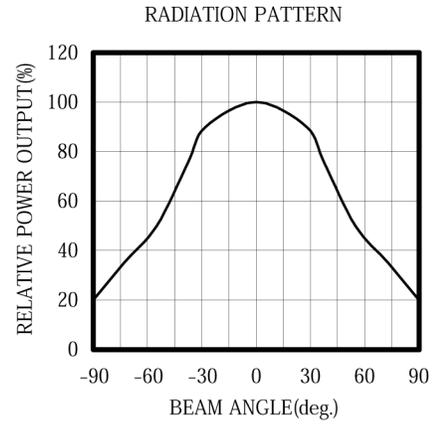
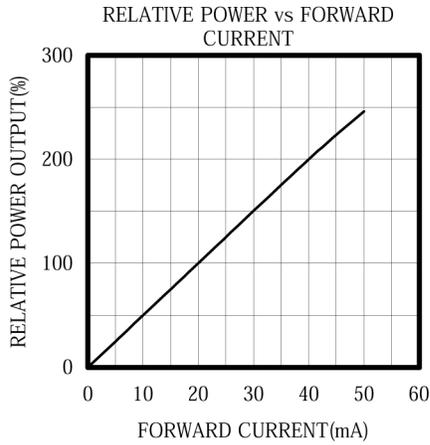


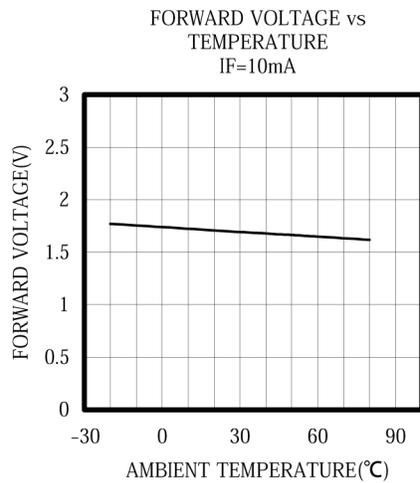
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10µsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	3.0	5.0	6.0	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	µA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±55	--	deg
Rise Time	Tr	IFP=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C





Peak Emission Wavelength: 660nm

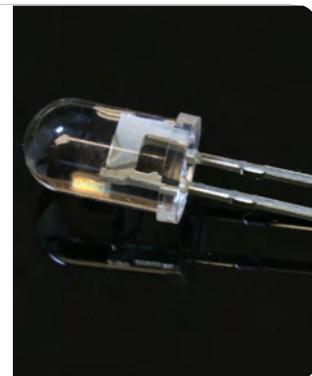
The MTE6066N5-UR is a red T 1 3/4, 5mm water clear LED designed for applications requiring high brightness and high reliability in a wider angle package.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Narrow Beam Angle
- > Excellent Optical / Mechanical Axis Alignment

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

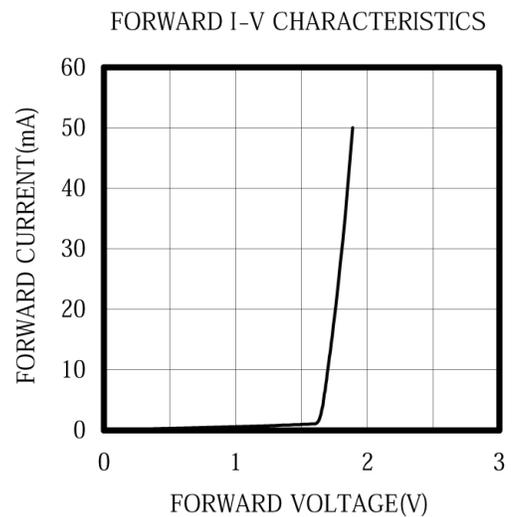
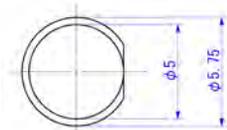
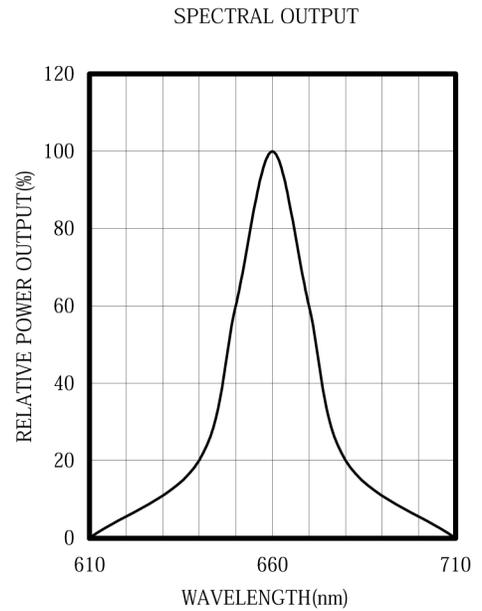
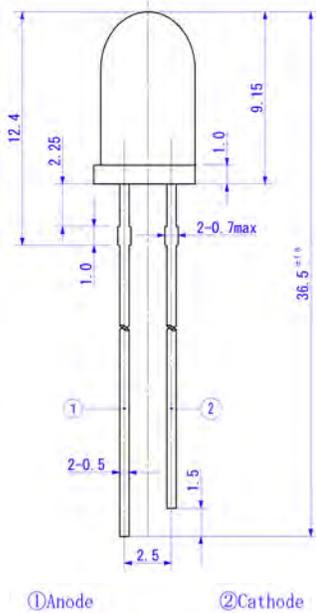


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

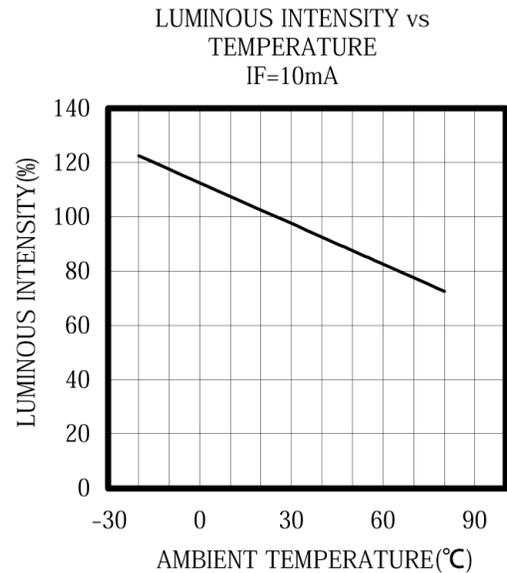
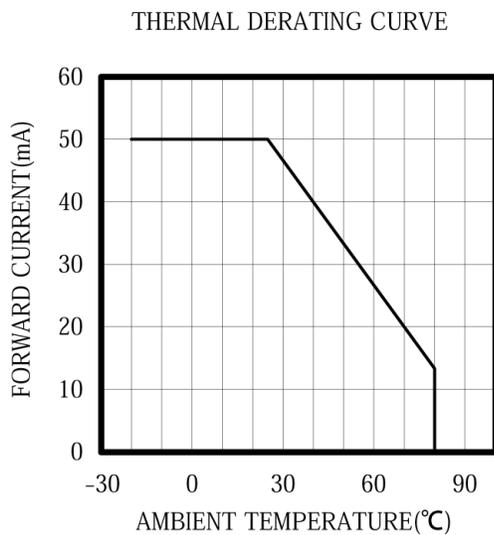
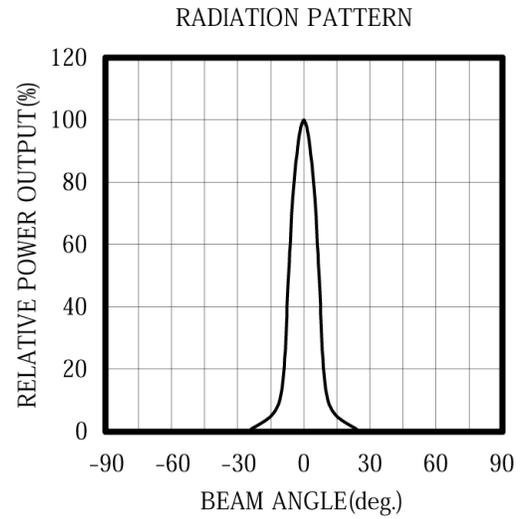
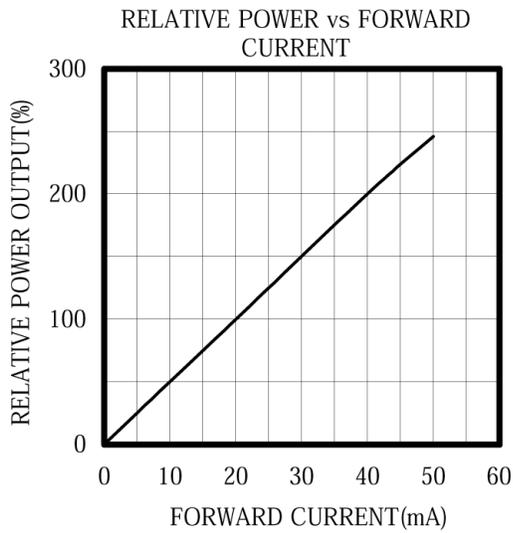
*1: Tw=10μsec, T=10msec. *2: Time 5Sec max, Position: Up to 3mm from the body.

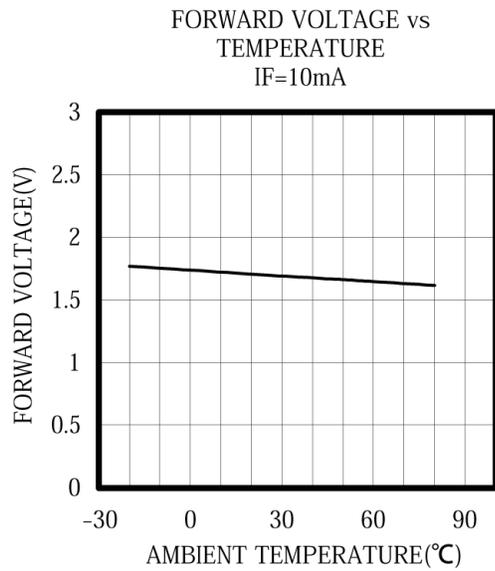
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	4.0	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±7	--	deg
Luminous Intensity	Iv	IF=20mA	1200	3000	--	mcd
Rise Time	Tr	IPF=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



Unit: mm, Tolerance: ±0.2





Peak Emission Wavelength: 660nm

The MTE6066S1-UR is a red T 1 3/4, 5mm water clear LED designed for applications requiring high brightness and high reliability in a wider angle package.

FEATURES

- > High Luminous Intensity
- > High Reliability / High Power Output
- > Excellent Optical / Mechanical Axis Alignment
- > Stand-off Type

APPLICATIONS

- > Optical Sensing
- > Machine Vision
- > Bar Code Scanning
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

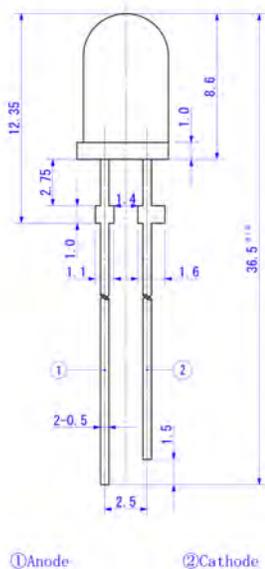


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	ToPr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

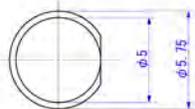
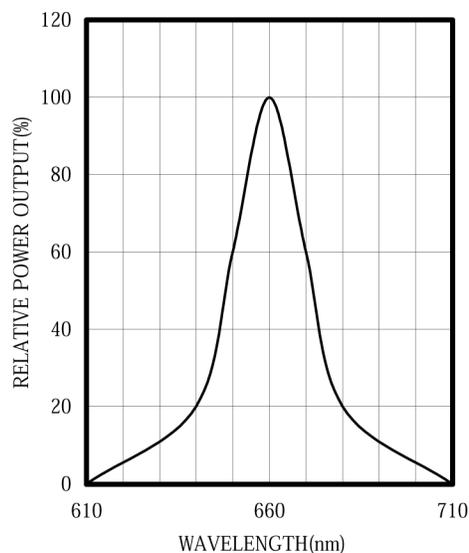
*1: Tw=10μsec, T=10msec. *2: Time 5Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

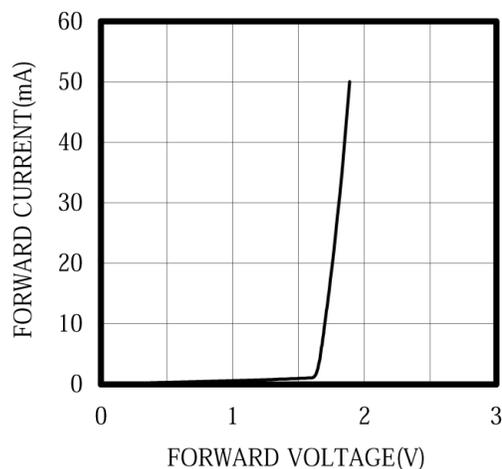
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	4.0	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±12	--	deg
Luminous Intensity	Iv	IF=20mA	600	1500	--	mcd
Rise Time	Tr	IPF=20mA	--	30	--	nS
Fall Time	Tf	IFP=20mA	--	30	--	nS
Junction Capacitance	Cj	1MHz, V=0V	--	20	--	pF
Temperature Coefficient of PO	P/T	IF=10mA	--	-0.5	--	%/°C
Temperature Coefficient of VF	V/T	IF=10mA	--	-1.5	--	mV/°C



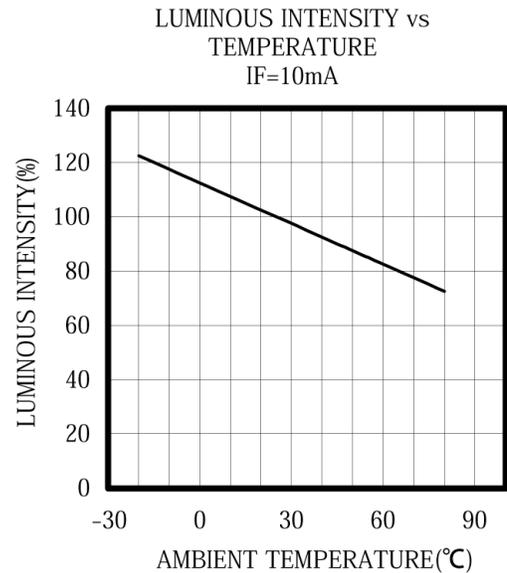
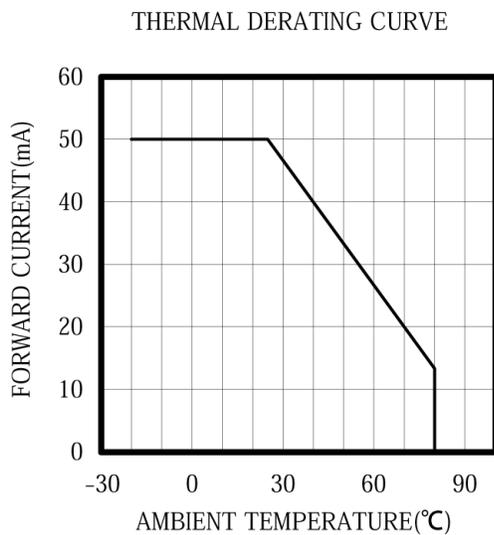
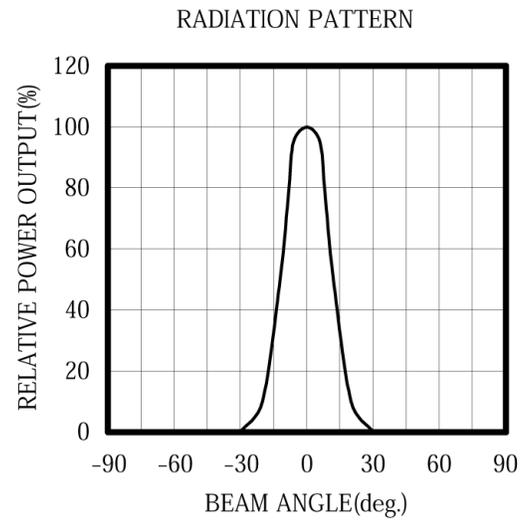
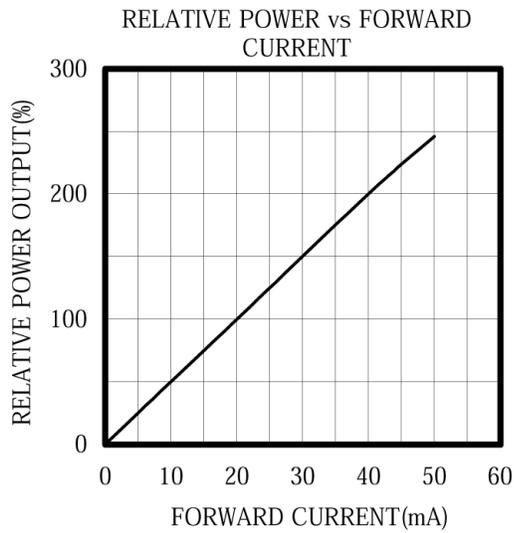
SPECTRAL OUTPUT

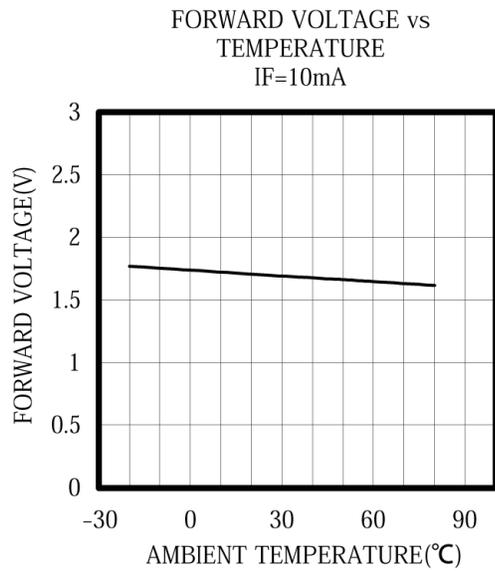


FORWARD I-V CHARACTERISTICS



Unit: mm, Tolerance: ± 0.2





Peak Emission Wavelength: 630nm

The 630nm red LED Series is designed for applications requiring high accuracy and precision. Custom package solutions and sorting are available.

FEATURES

- > High Reliability
- > High Output Power
- > Narrow Radiation Pattern

APPLICATIONS

- > Optical Sensing
- > Optical Instruments
- > Linear & Rotary Encoder
- > Machine Vision / CCD



Absolute Maximum Ratings (Ta=25°C)

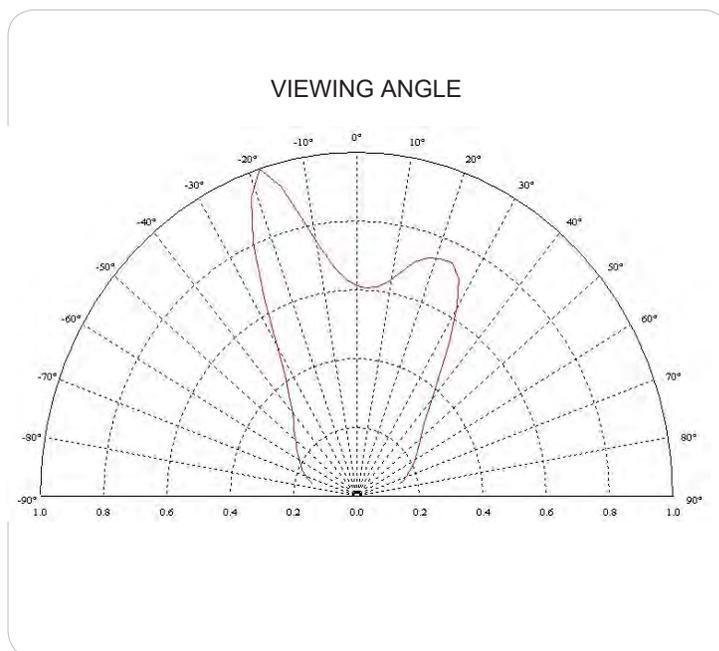
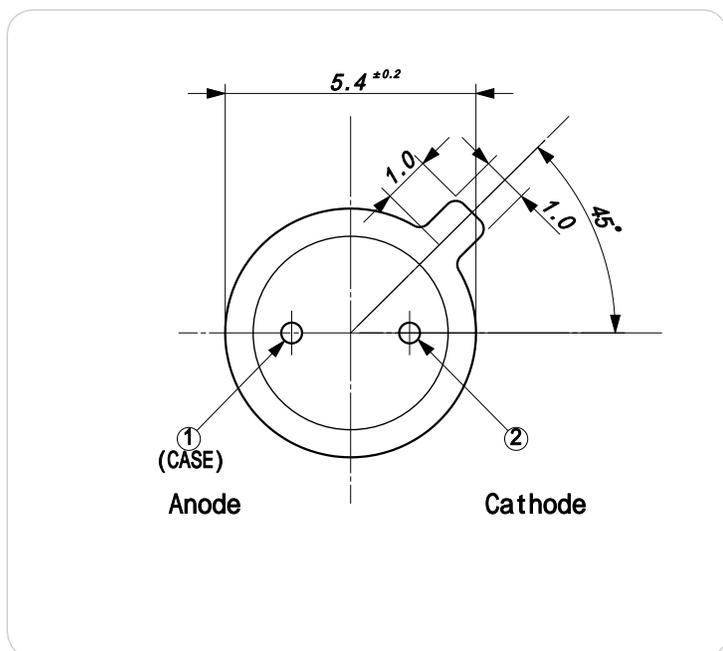
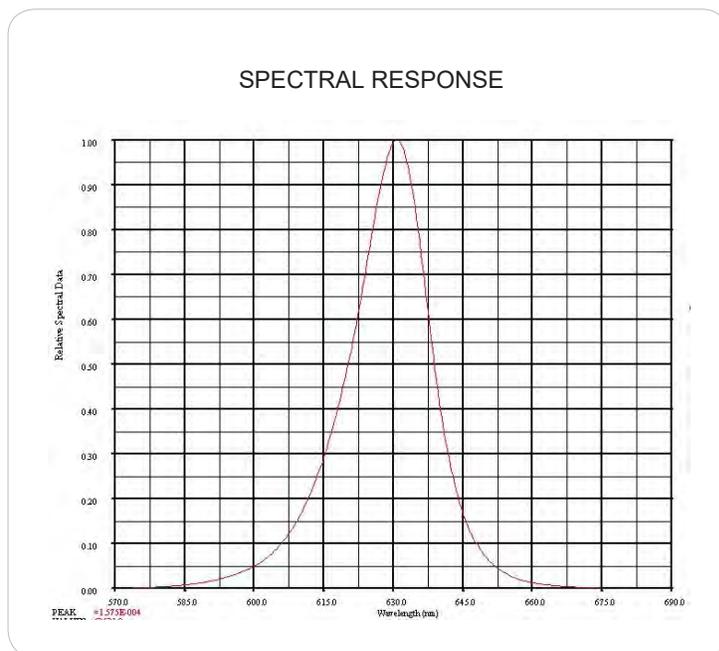
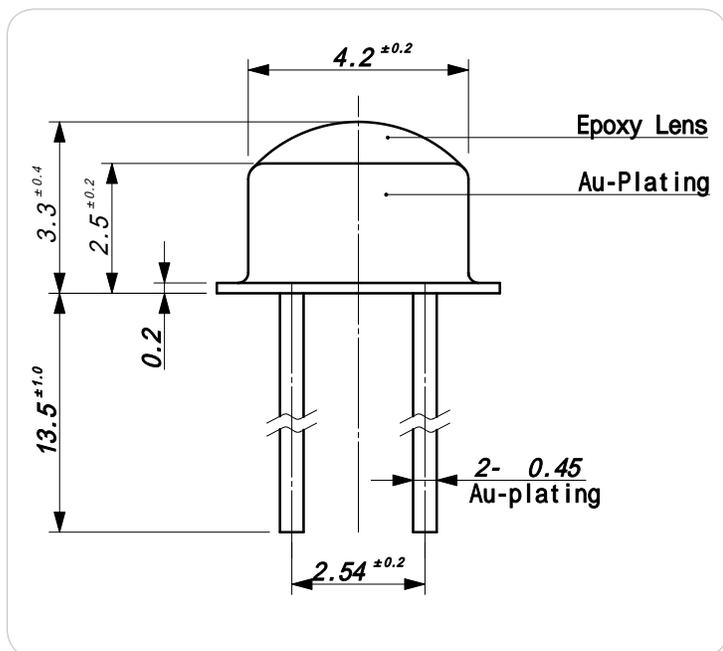


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	125	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10µsec, T=10msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

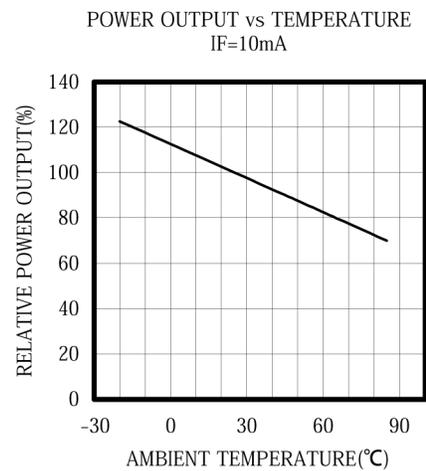
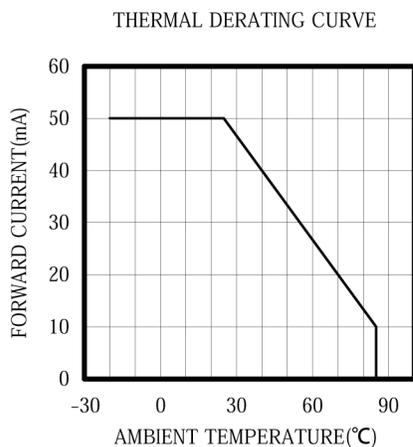
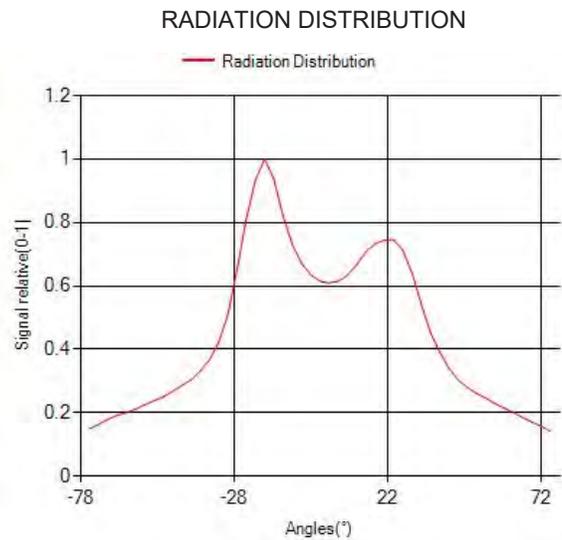
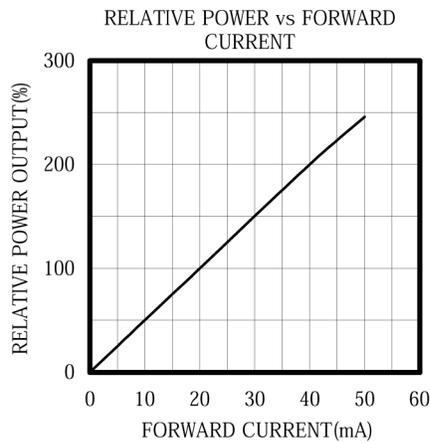
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=50mA	--	27.5	--	mW
Forward Voltage	VF	IF=50mA	--	2.20	--	V
Reverse Current	IR	VR=5V	--	--	100	µA
Peak Emission Wavelength	λp	IF=50mA	--	630	--	nm
Spectral Line Half Width	Δλ	IF=50mA	--	19	--	nm
Half Intensity Beam Angle	Θ	IF=50mA	--	±55	--	deg
Rise Time	Tr	IFP=50mA	--	--	--	nS
Fall Time	Tf	IFP=50mA	--	--	--	nS



Unit: mm, Tolerance: ± 0.2

2020-08-04



Peak Emission Wavelength: 680nm

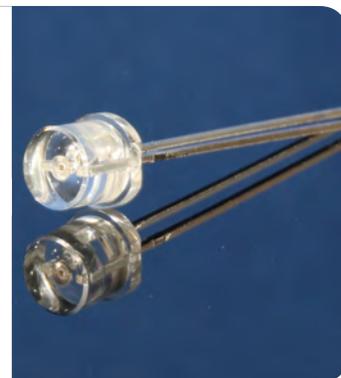
The MTE6800N2-UR is a red, 5mm water clear emitter designed for applications requiring flat top, high power output and high reliability in a wide angle package.

FEATURES

- > High Reliability
- > High Output Power

APPLICATIONS

- > Optical Sensors
- > Optical Switches
- > Medical Application



Absolute Maximum Ratings (Ta=25°C)

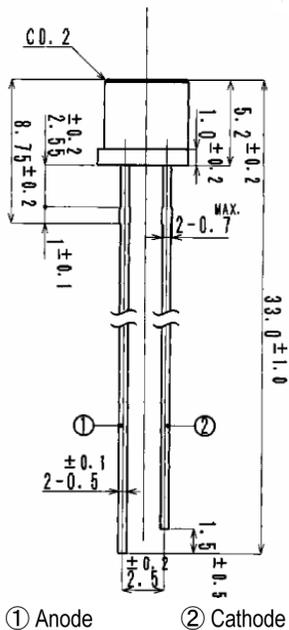


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	110	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

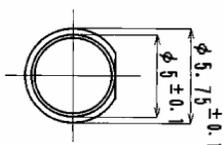
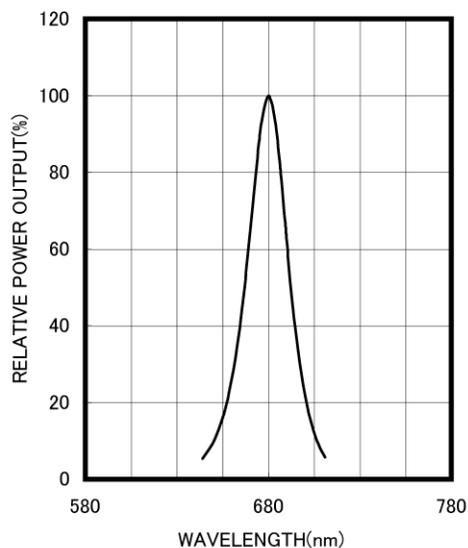
*1: Tw=10μsec, T=10msec; *2: Time 3 Sec max, Position: Up to 2mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

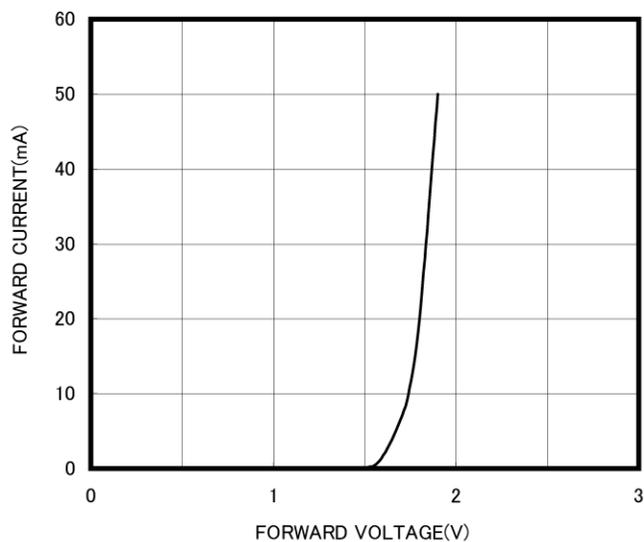
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.5	--	mW
Forward Voltage	VF	IF=20mA	--	1.8	1.95	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	680	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	30	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±35	--	deg



SPECTRAL OUTPUT

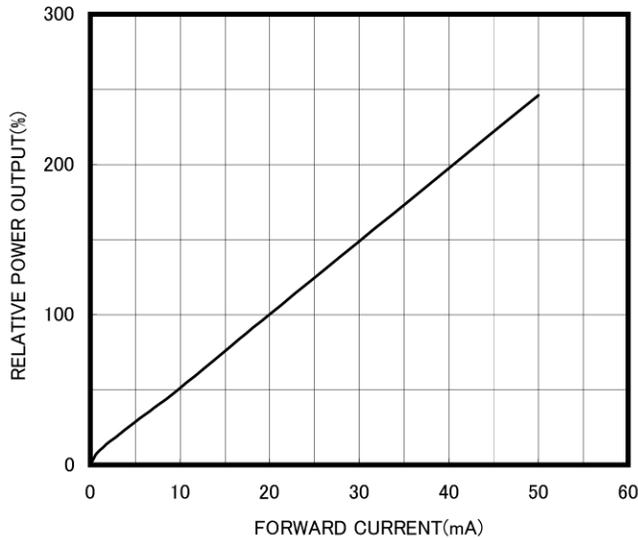


FORWARD I-V CHARACTERISTICS

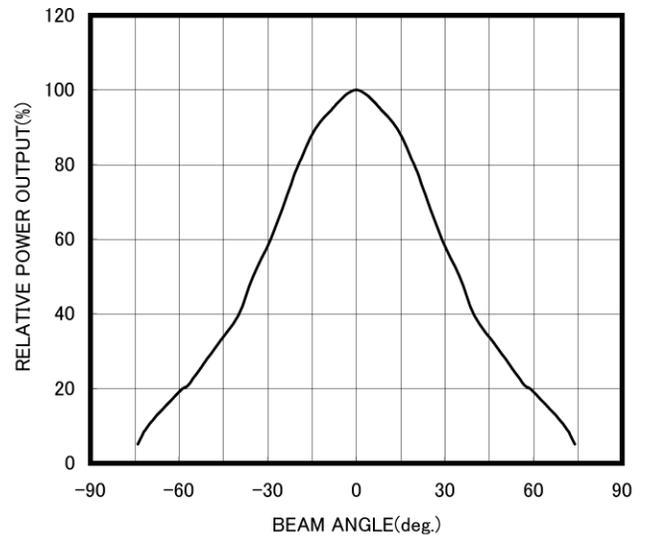


Unit: mm, Tolerance: ± 0.2

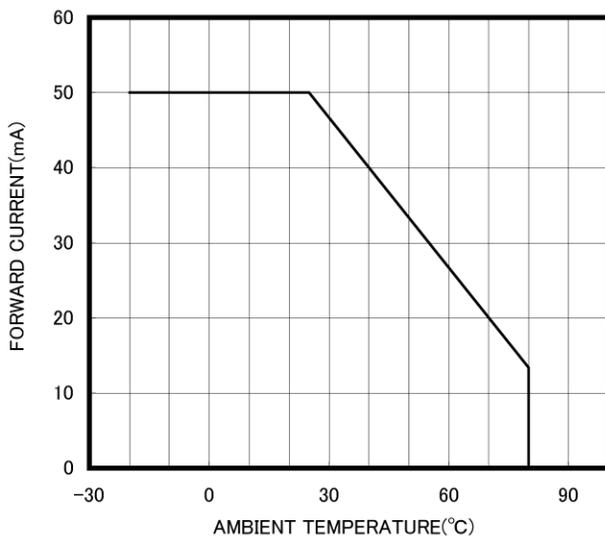
RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



THERMAL DERATING CURVE



The information contained herein is subject to change without notice.

2012-05-17

Peak Emission Wavelength: 525nm

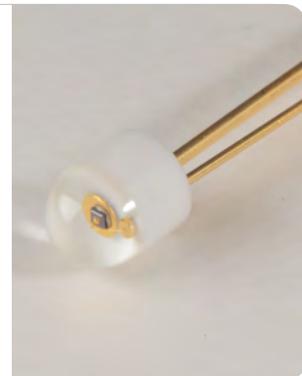
The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Wide Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

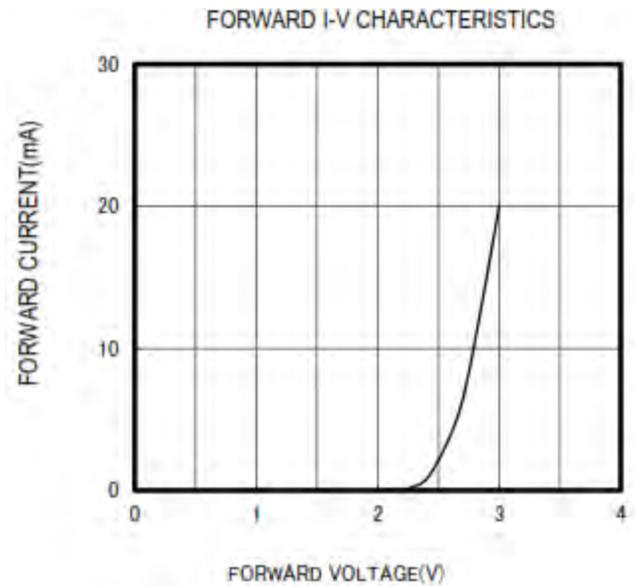
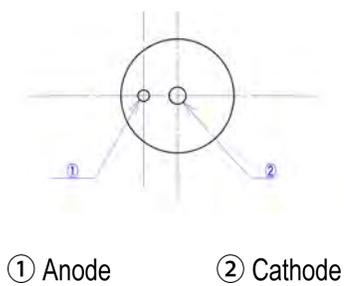
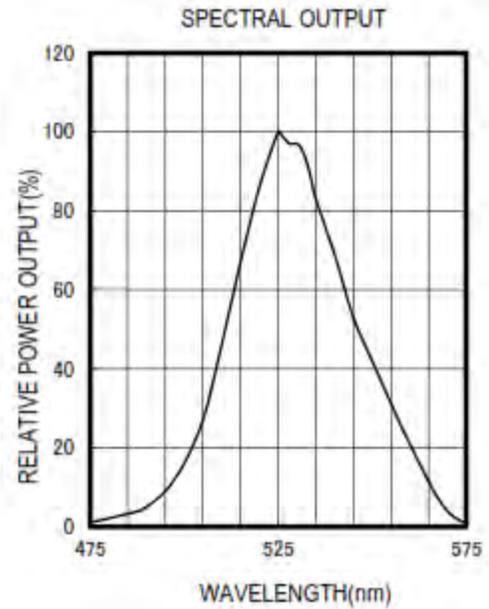
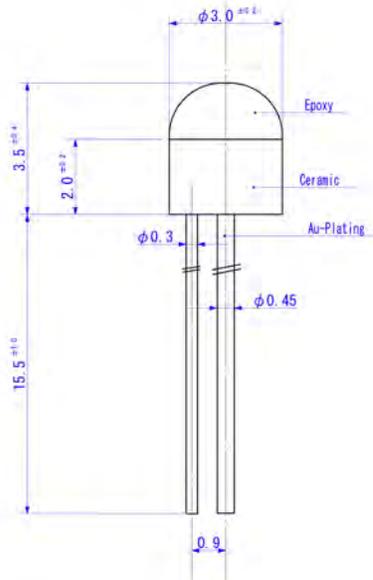


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	20	mA
Forward Current (Pulse)*1	IFP	100	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

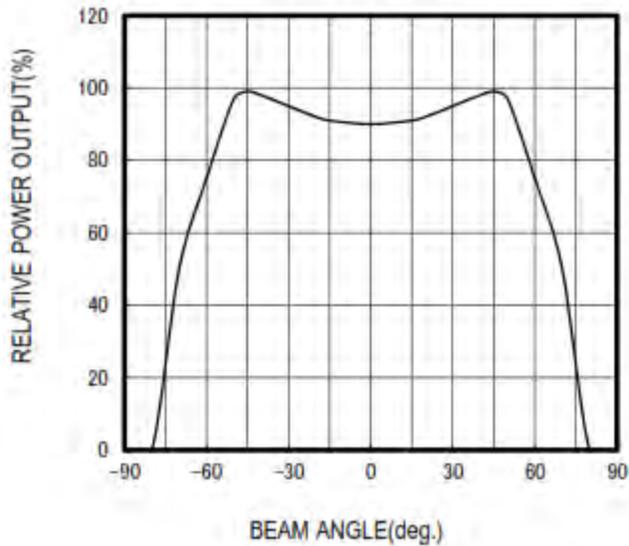
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±70	--	deg

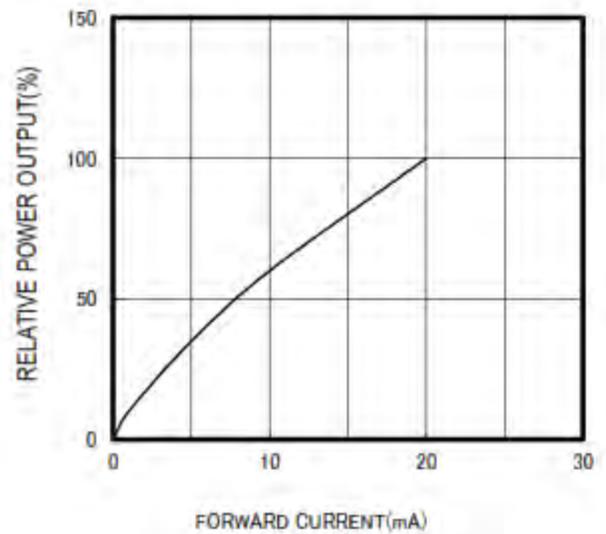


Unit: mm, Tolerance: ± 0.2

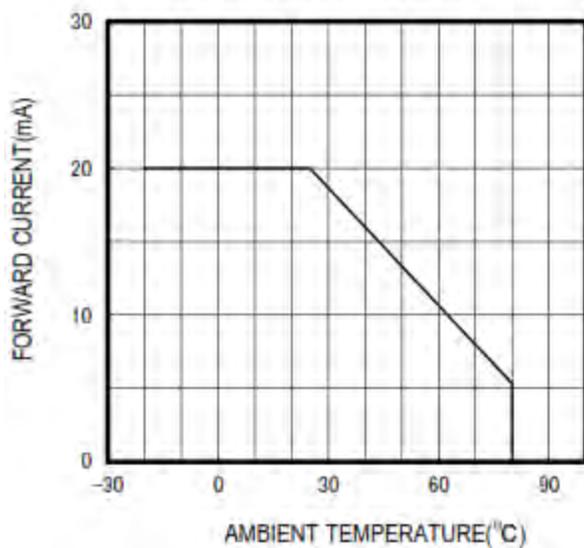
RADIATION PATTERN



RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



Peak Emission Wavelength: 525nm

The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Ceramic Package
- > High Output Power
- > Compact
- > Narrow Viewing Angle

APPLICATIONS

- > Display
- > Indicators
- > Light Source for Sensor
- > Optical Switches



Absolute Maximum Ratings (Ta=25°C)

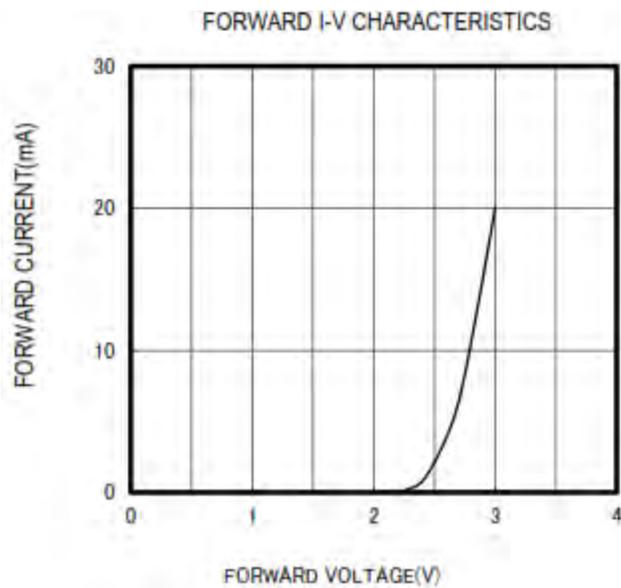
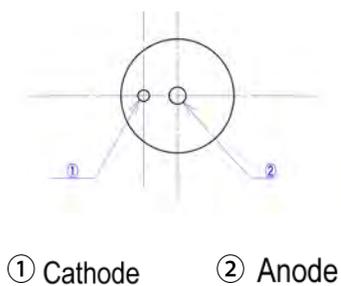
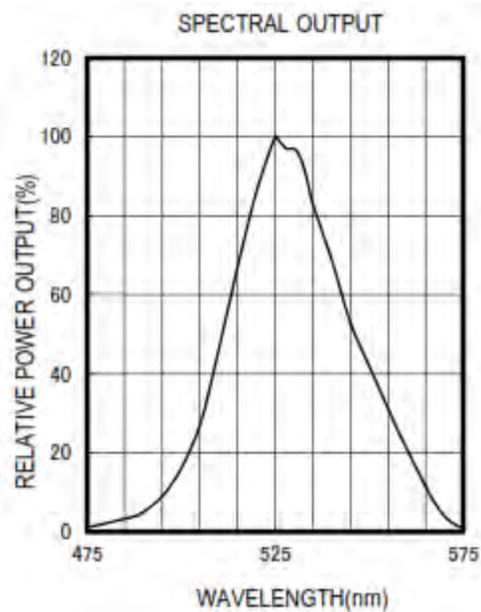
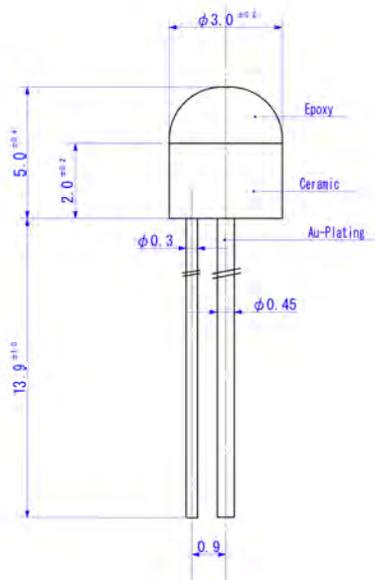


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	20	mA
Forward Current (Pulse)*1	IFP	100	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	80	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

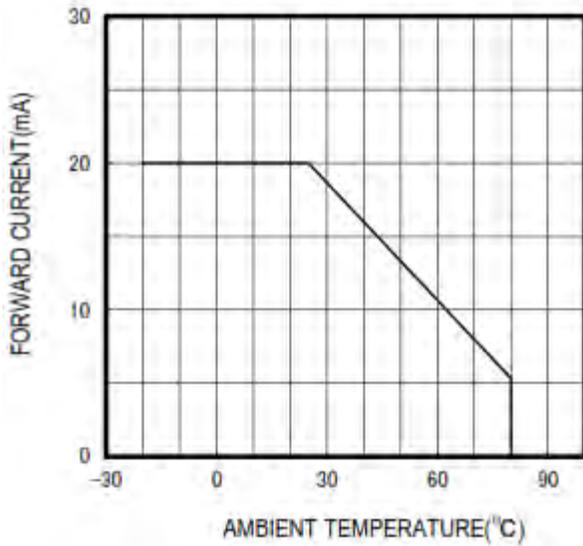
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±3	--	deg

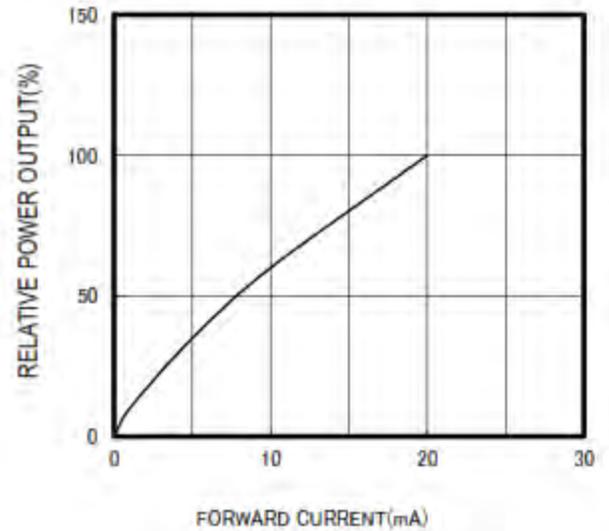


Unit: mm, Tolerance: ± 0.2

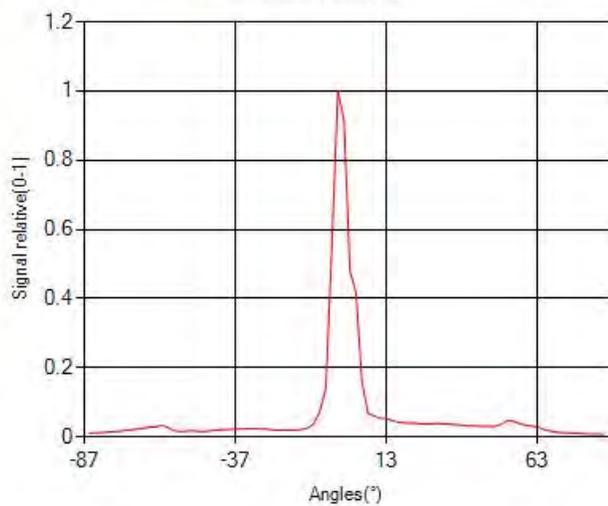
THERMAL DERATING CURVE



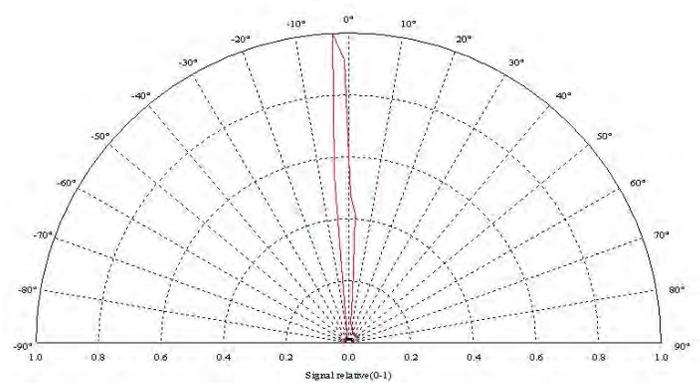
RELATIVE POWER vs FORWARD CURRENT



RADIATION DISTRIBUTION



VIEW ANGLE



Peak Emission Wavelength: 525nm

The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Water-clear 5mm plastic molded flat top package
- > High Output Power
- > High Reliability

APPLICATIONS

- > Fiber Optical Communications
- > Indicators



Absolute Maximum Ratings (Ta=25°C)

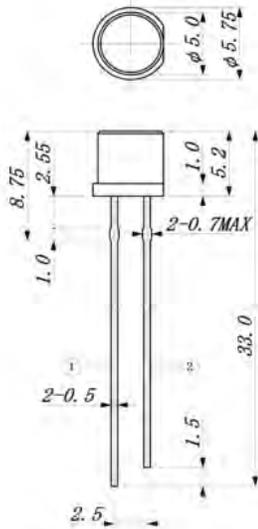


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

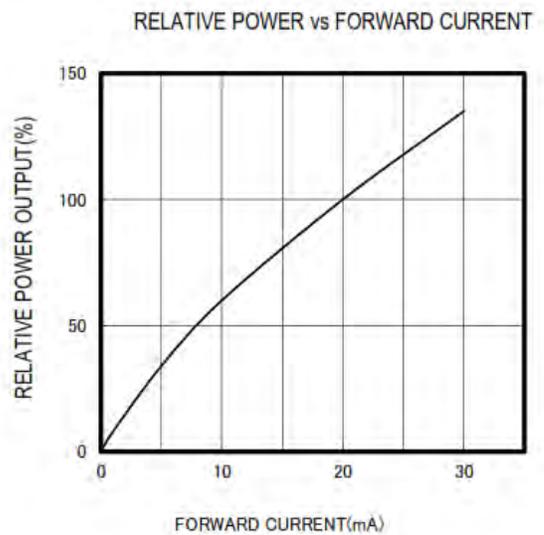
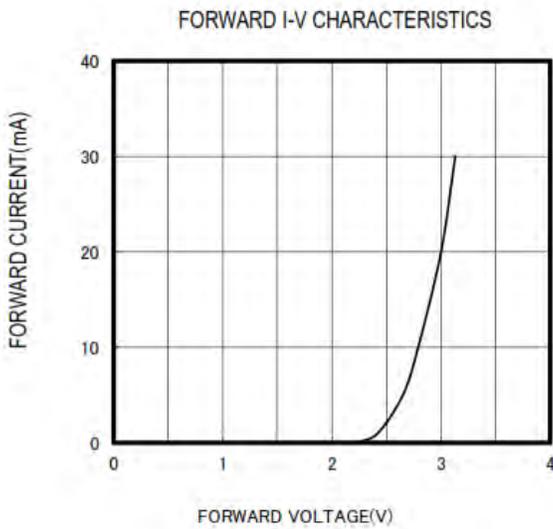
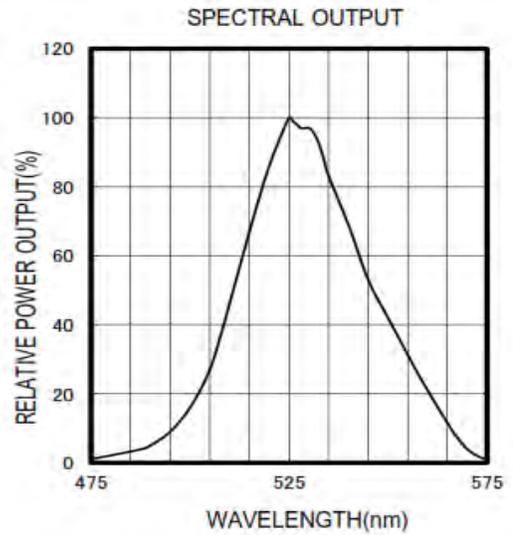
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	5.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±40	--	deg

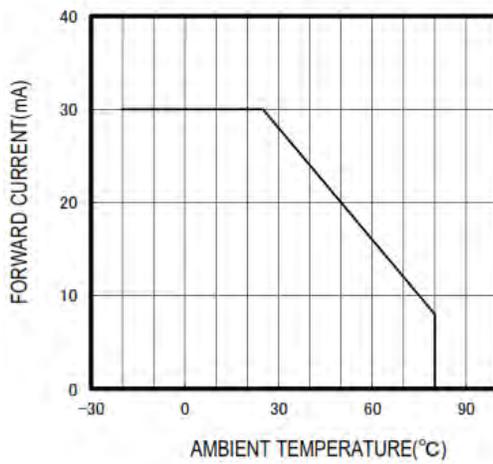


① Anode ② Cathode

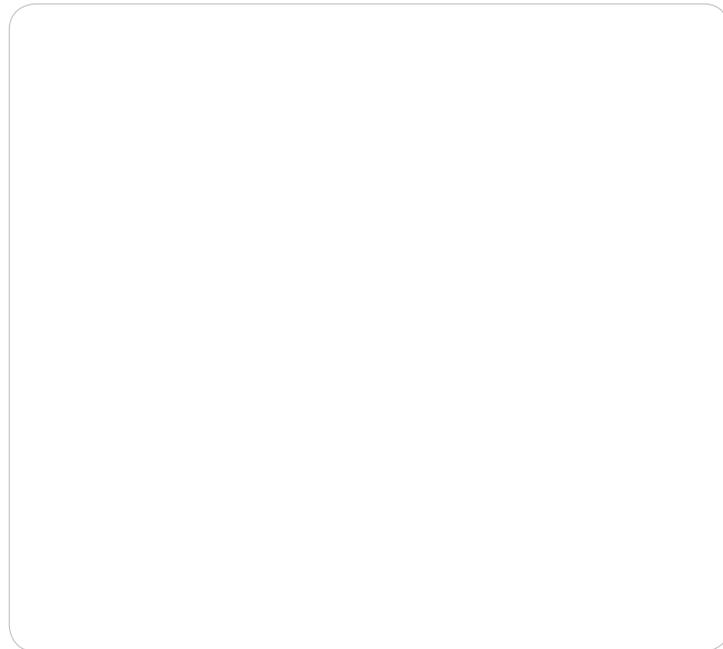
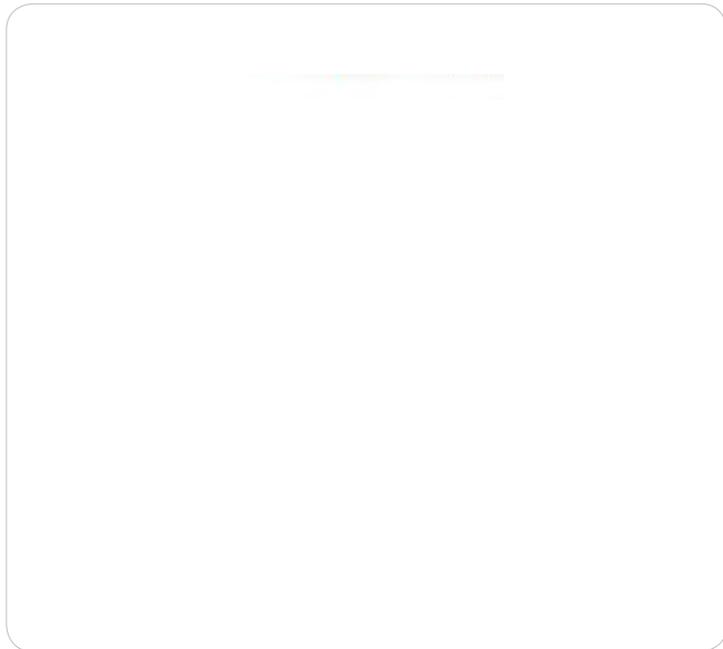
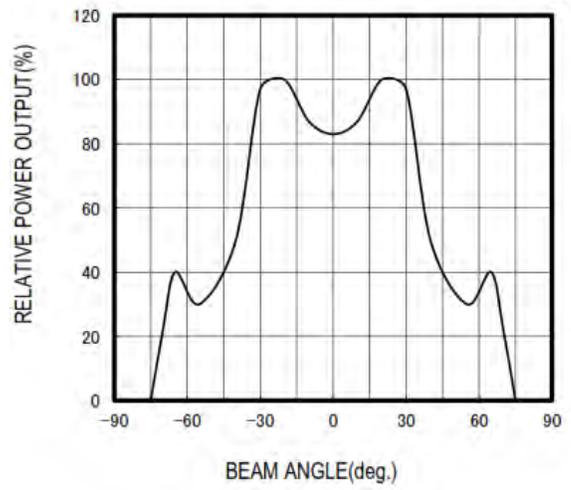


Unit: mm, Tolerance: ± 0.2

THERMAL DERATING CURVE



RADIATION PATTERN



Peak Sensitivity Wavelength: 525nm

The 525nm visible emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > TO-18 Metal Can Package
- > High Output Power
- > High Reliability
- > Wide Beam Angle

APPLICATIONS

- > Color Sensor / Money Bill
- > Paper Sensor / Money Bill
- > Bar-code Reader
- > Fiber Applications



Absolute Maximum Ratings (Ta=25°C)

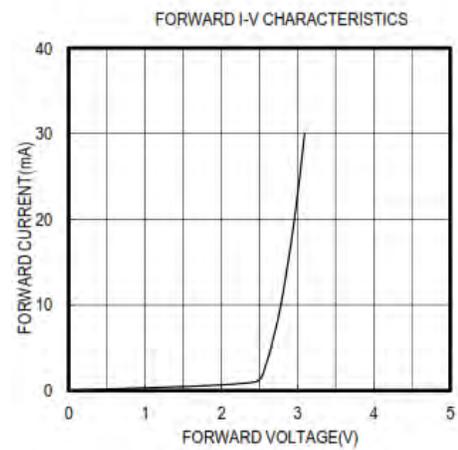
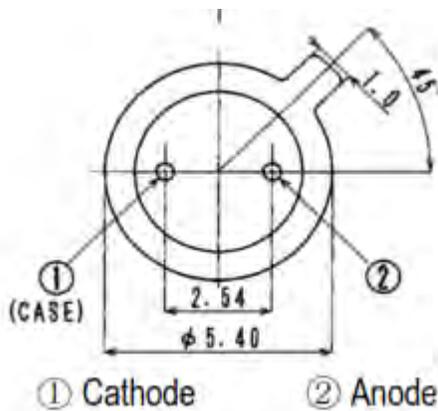
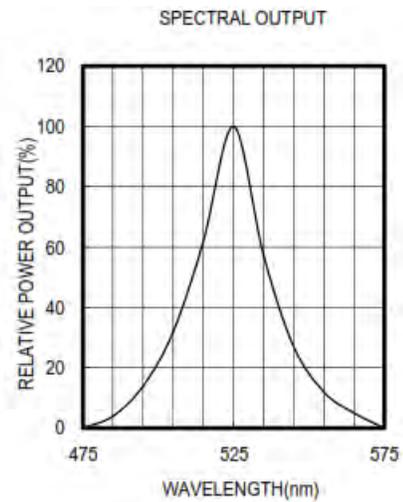
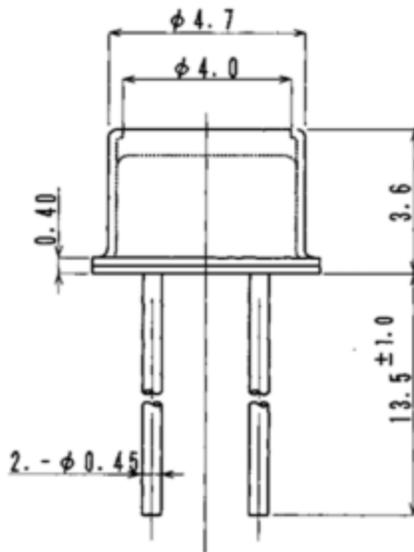


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	30	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +125	°C
Lead Soldering Temperature*2	Tls	260	°C
Junction Temperature	Tj	100	°C

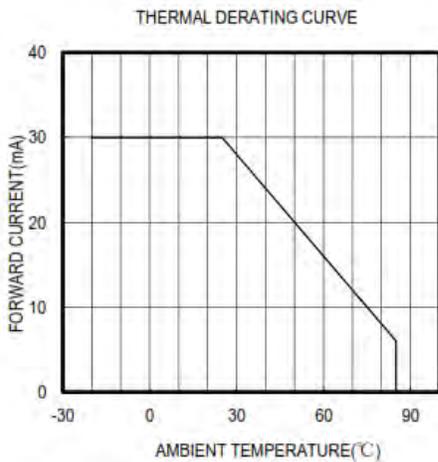
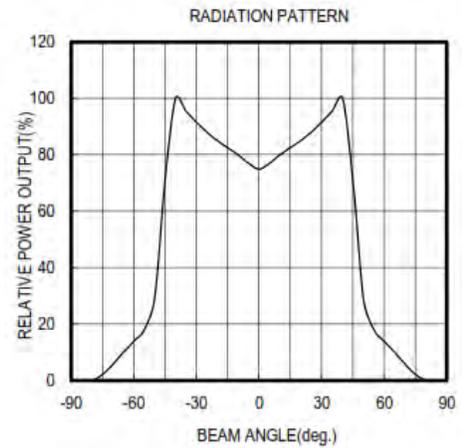
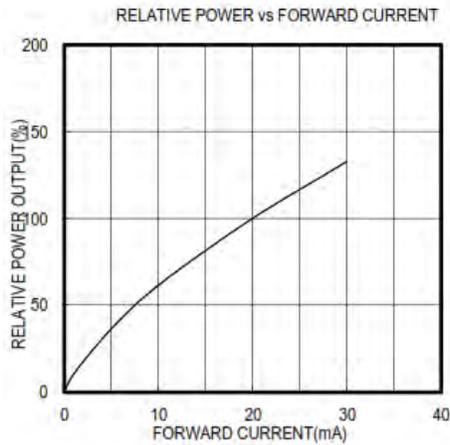
*1: Tw=10μsec, T=10msec. *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	3.0	--	mW
Forward Voltage	VF	IF=20mA	--	3.0	3.5	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	35	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±45	--	deg



Unit: mm, Tolerance: ± 0.2



The information contained herein is subject to change without notice.

2024-09-04

Peak Emission Wavelength: 640nm

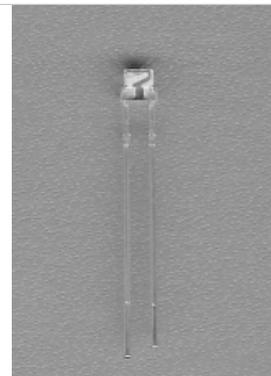
The 640nm Visible Red Emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > High Output Power
- > High Reliability

APPLICATIONS

- > Optical Switches
- > Optical Sensor



Absolute Maximum Ratings (Ta=25°C)

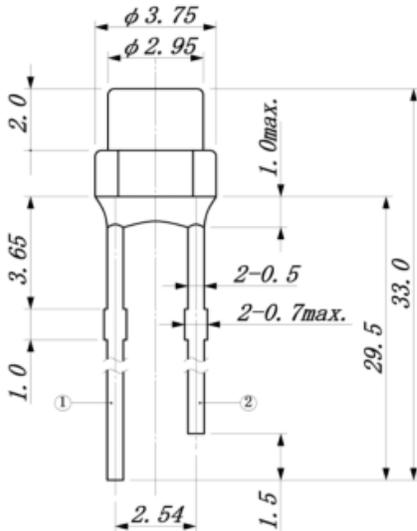


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	130	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

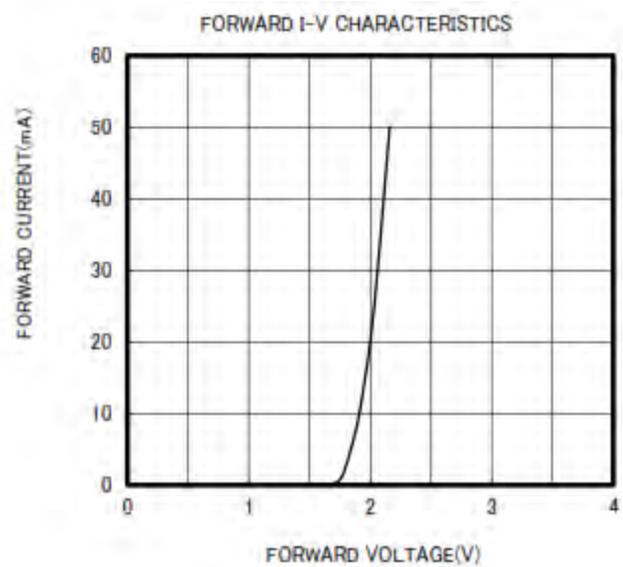
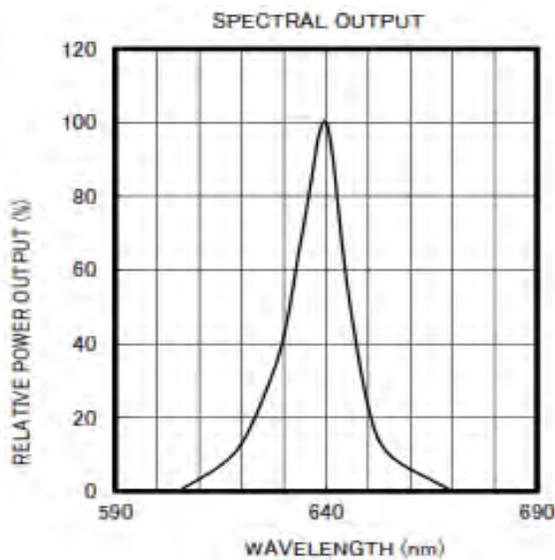
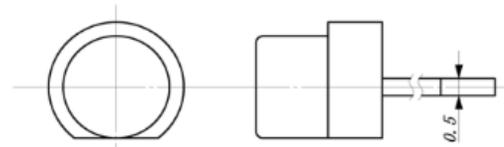
*1: Tw=10μsec, T=1msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	7.0	--	mW
Forward Voltage	VF	IF=20mA	--	2.0	2.8	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	640	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±50	--	deg

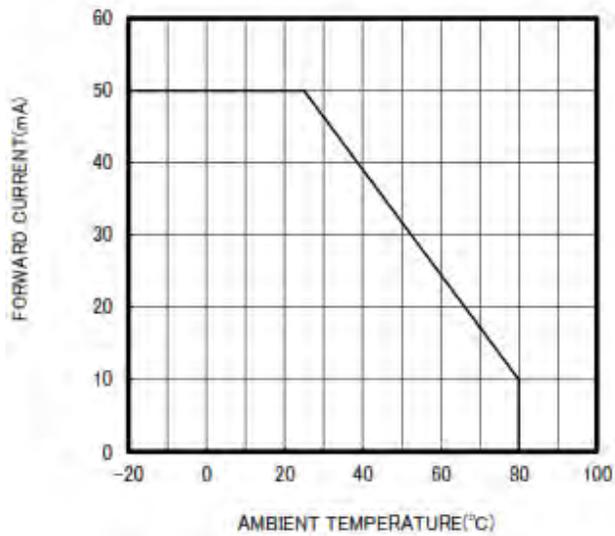


① Anode ② Cathode

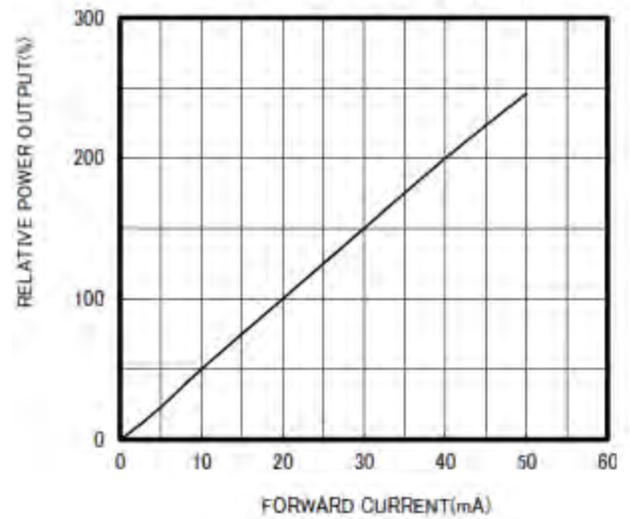


Unit: mm, Tolerance: ± 0.2

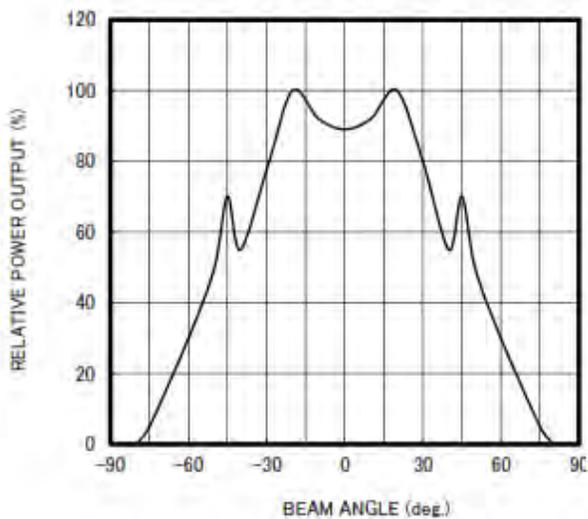
THERMAL DERATING CURVE



RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



The information contained herein is subject to change without notice.

2016-10-13

Peak Emission Wavelength: 630nm

The 630nm Visible Red Emitter series is designed for applications requiring high output and precise optical / mechanical axis alignment. Custom package solutions and sorting are available.

FEATURES

- > Parallel Rays (Excellent)
- > High Output Power
- > High Reliability

APPLICATIONS

- > Optical Switches
- > Linear & Rotary Encoder



Absolute Maximum Ratings (Ta=25°C)

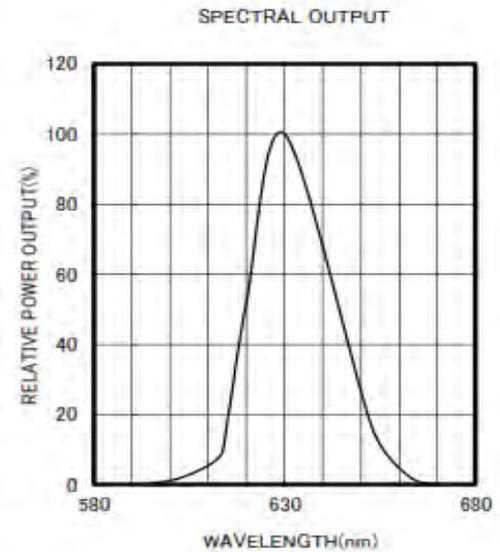
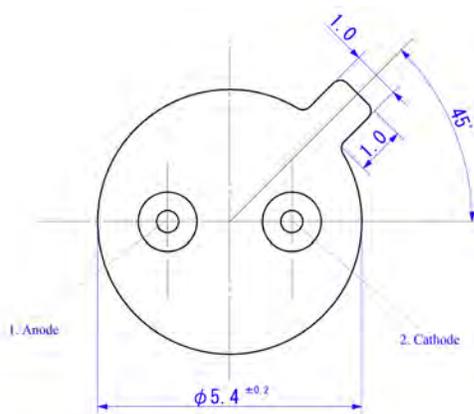
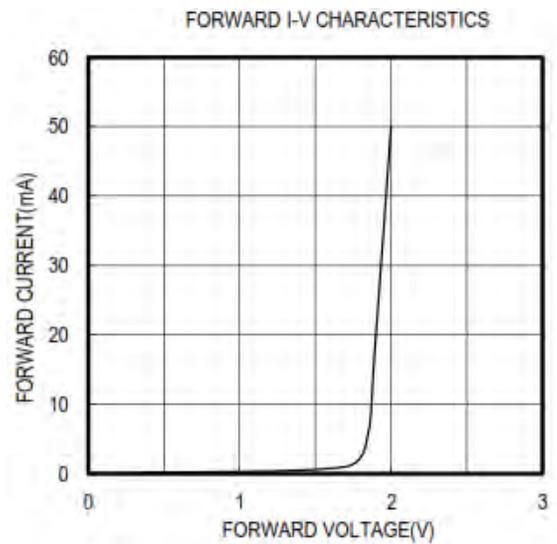
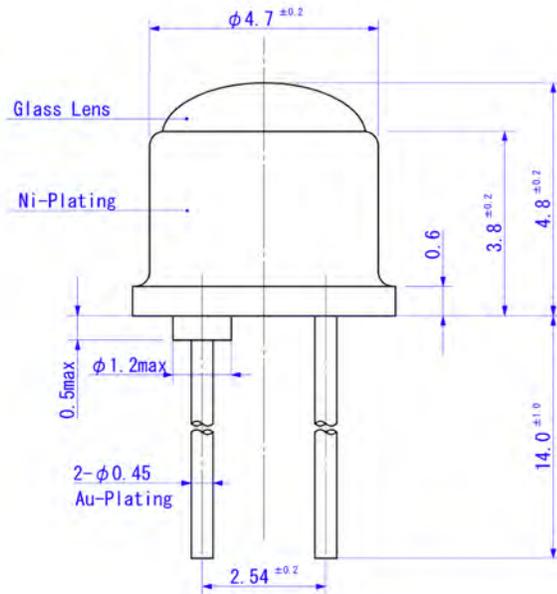


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	50	mA
Forward Current (Pulse)*1	IFP	0.3	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	120	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C
Junction Temperature	Tj	100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Tw=10μsec, T=1msec; *2: Time 5 Sec max, Position: Up to 3mm from the body.

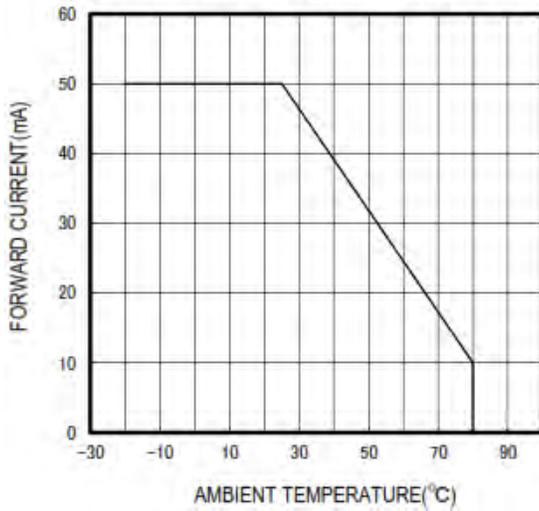
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	IF=20mA	--	4.0	--	mW
Forward Voltage	VF	IF=20mA	--	1.9	2.2	V
Reverse Current	IR	VR=5V	--	--	100	μA
Peak Emission Wavelength	λp	IF=20mA	--	630	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	15	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	±2.5	--	deg

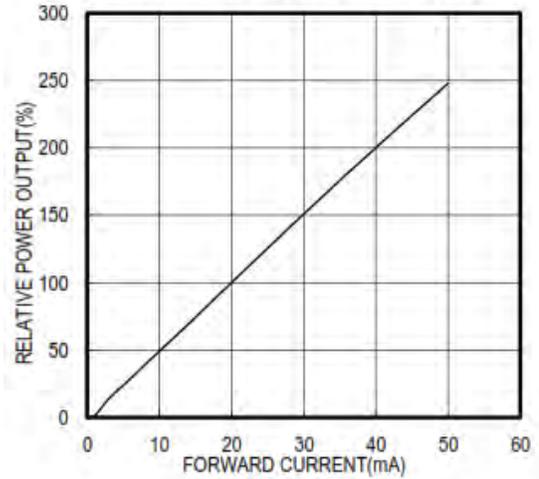


Unit: mm, Tolerance: ± 0.2

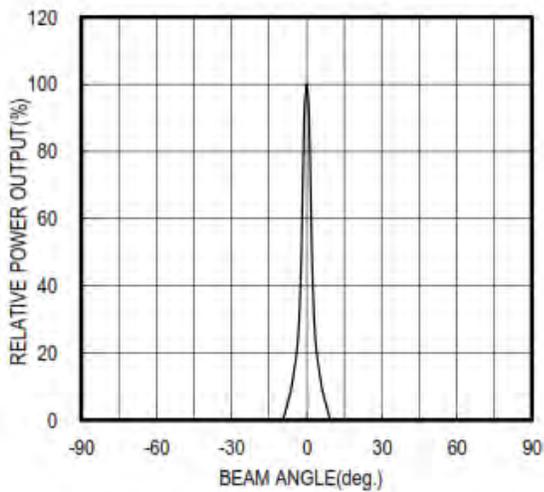
THERMAL DERATING CURVE



RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



The information contained herein is subject to change without notice.

2016-10-27

Peak Emission Wavelength: 660nm

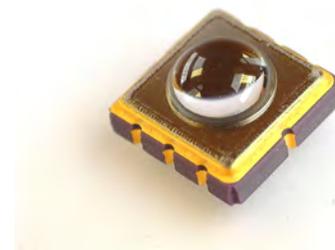
The MTSM3466SMR2-UR is a Red Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



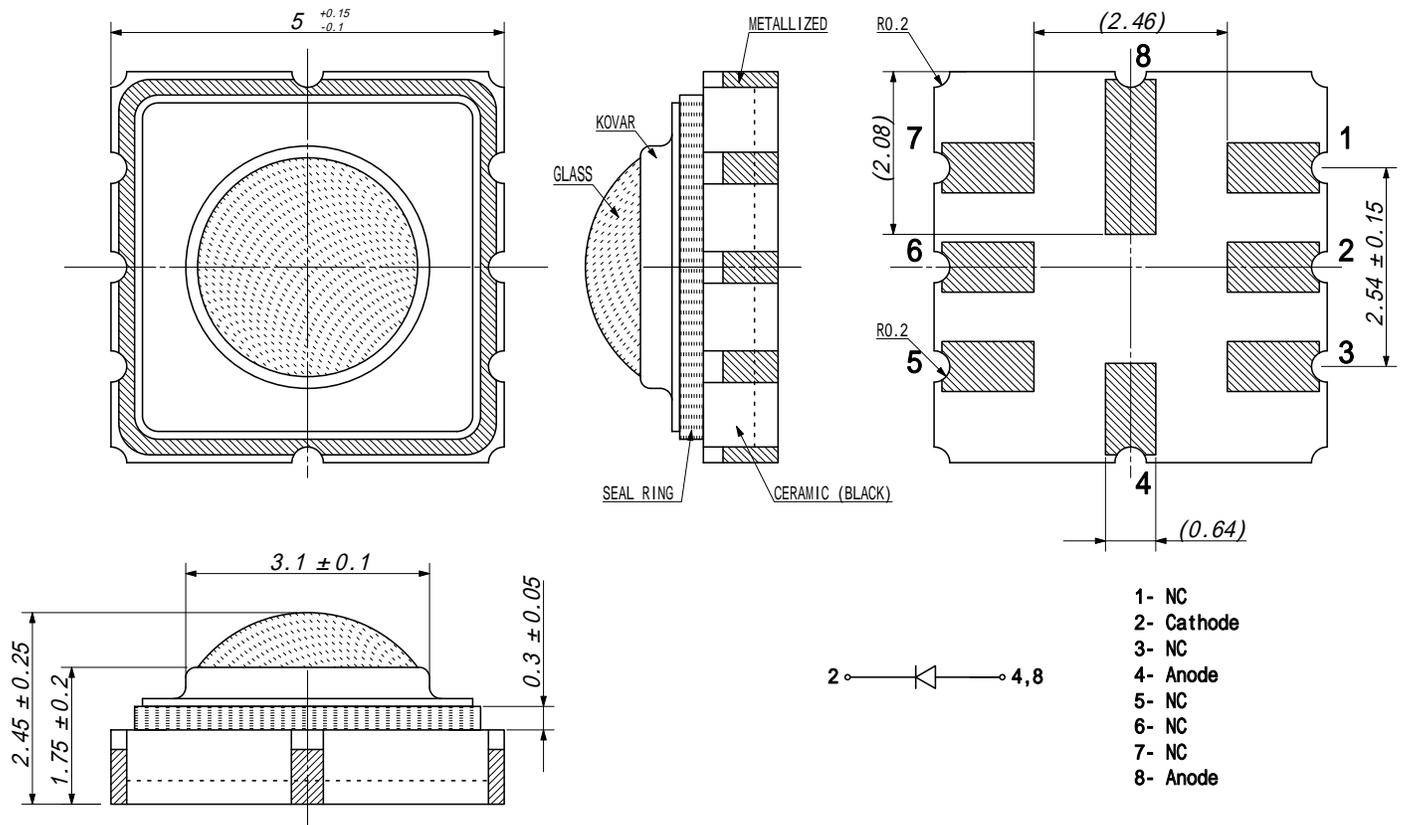
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

*1: Tw=10μsec, T=10msec

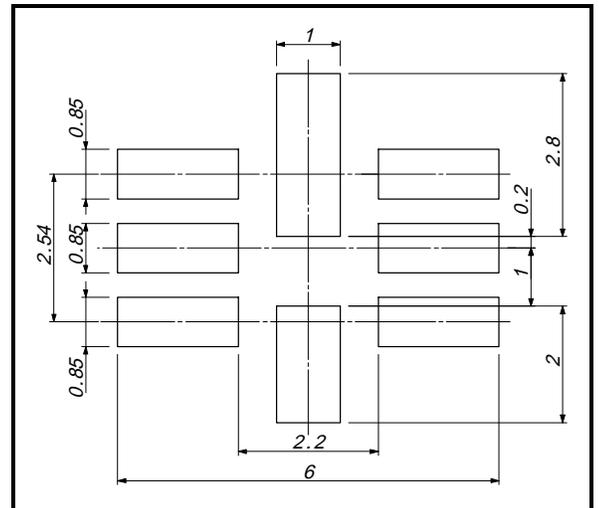
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	1.7	--	V
Power Output	PO	IF=20mA	--	8	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	648	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	16	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	40	--	deg

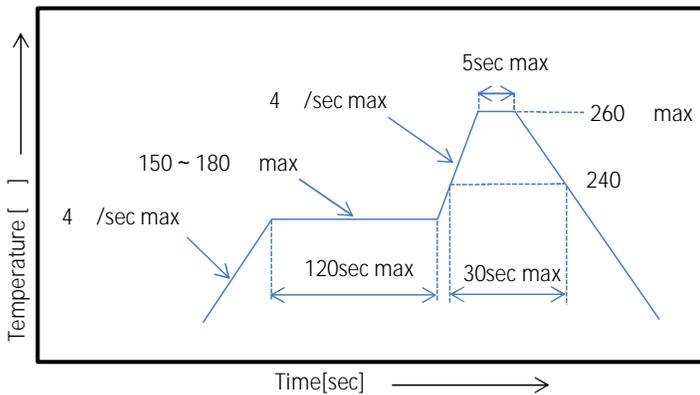
Package Dimensions



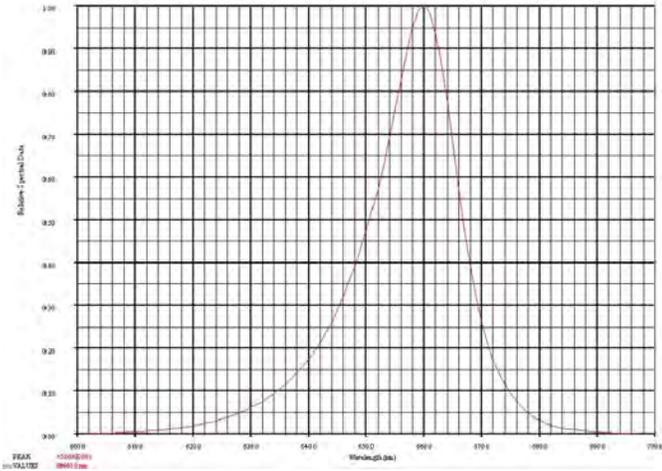
Recommended Soldering Pattern [mm]



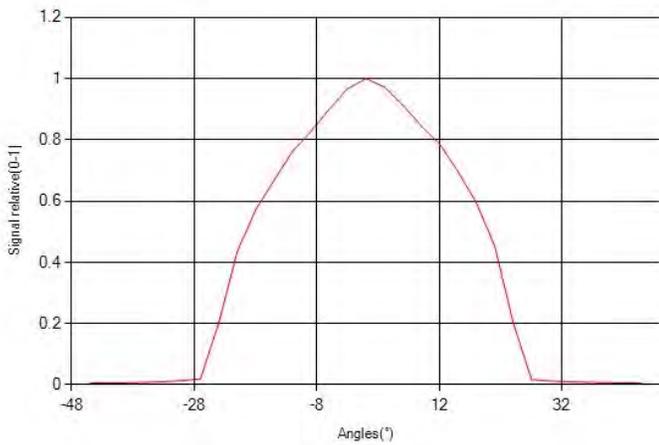
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



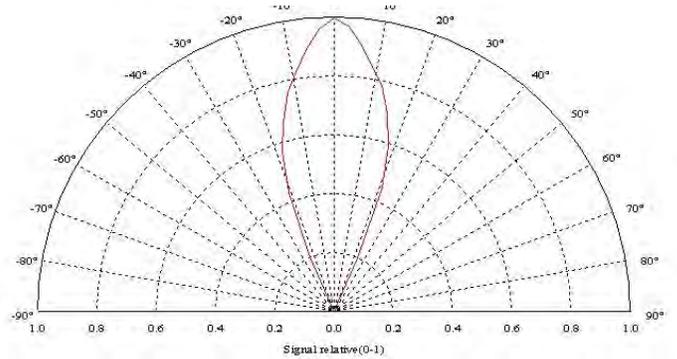
SPECTRAL RESPONSE



RADIATION DISTRIBUTION



VIEW ANGLE



The information contained herein is subject to change without notice.

2023-09-05

Peak Emission Wavelength: 660nm

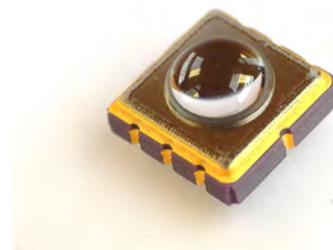
The MTSM3466SMR2-UR is a Red Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

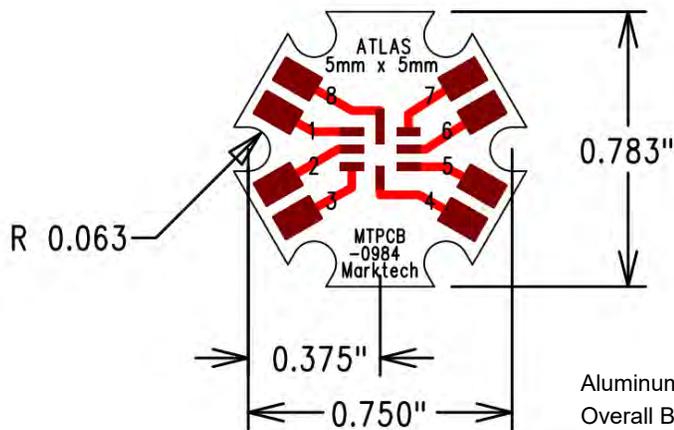
Note: Also available on PCB - Starboard MTSM3466SMR2-URS (See Page 3)

*1: Tw=10μsec, T=10msec

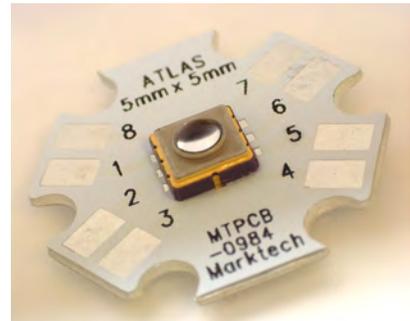
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	1.7	--	V
Power Output	PO	IF=20mA	--	8	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	648	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	16	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	40	--	deg

Starboard Dimensions



Pin 1	NC
Pin 2	Cathode
Pin 3	NC
Pin 4	Anode
Pin 5	NC
Pin 6	NC
Pin 7	NC
Pin 8	Anode



Aluminum Core Board 0.040" (1.02mm) Thickness
Overall Board Dimensions: +/- 0.010" (0.254mm)

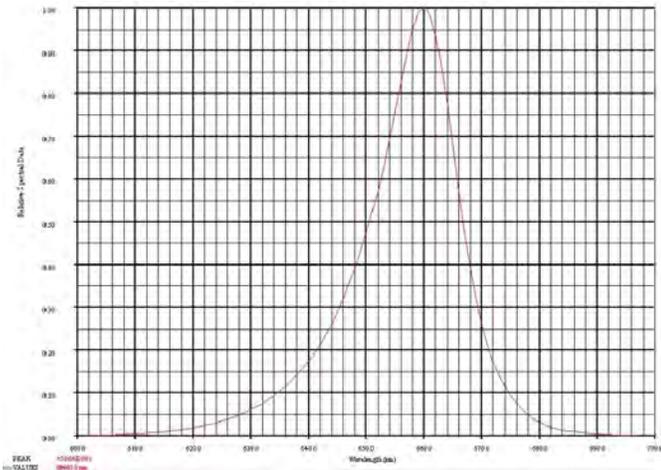


We reserve the right to make changes to improve technical design and may do so without further notice. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

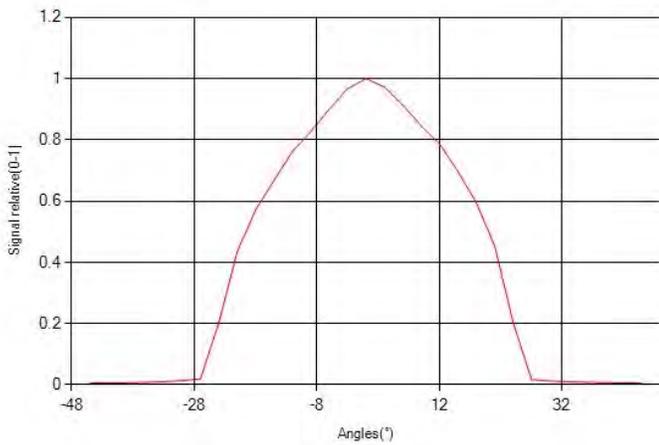
The information contained herein is subject to change without notice.

2024-01-18

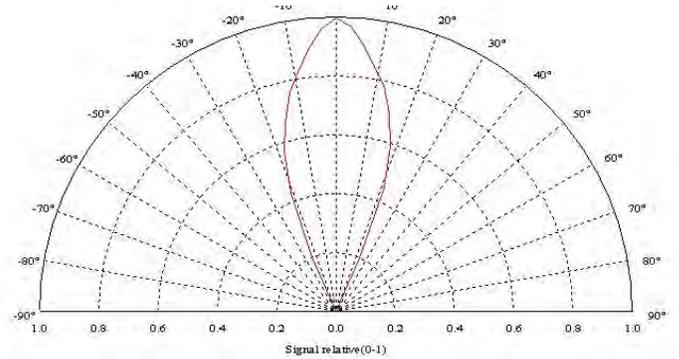
SPECTRAL RESPONSE



RADIATION DISTRIBUTION



VIEW ANGLE



The information contained herein is subject to change without notice.

2024-01-18

Peak Emission Wavelength: 470nm

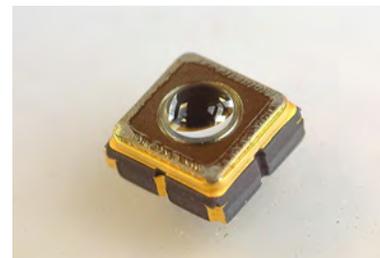
The MTSM4047SMR1-UB is a Blue Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 3mm x 3mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

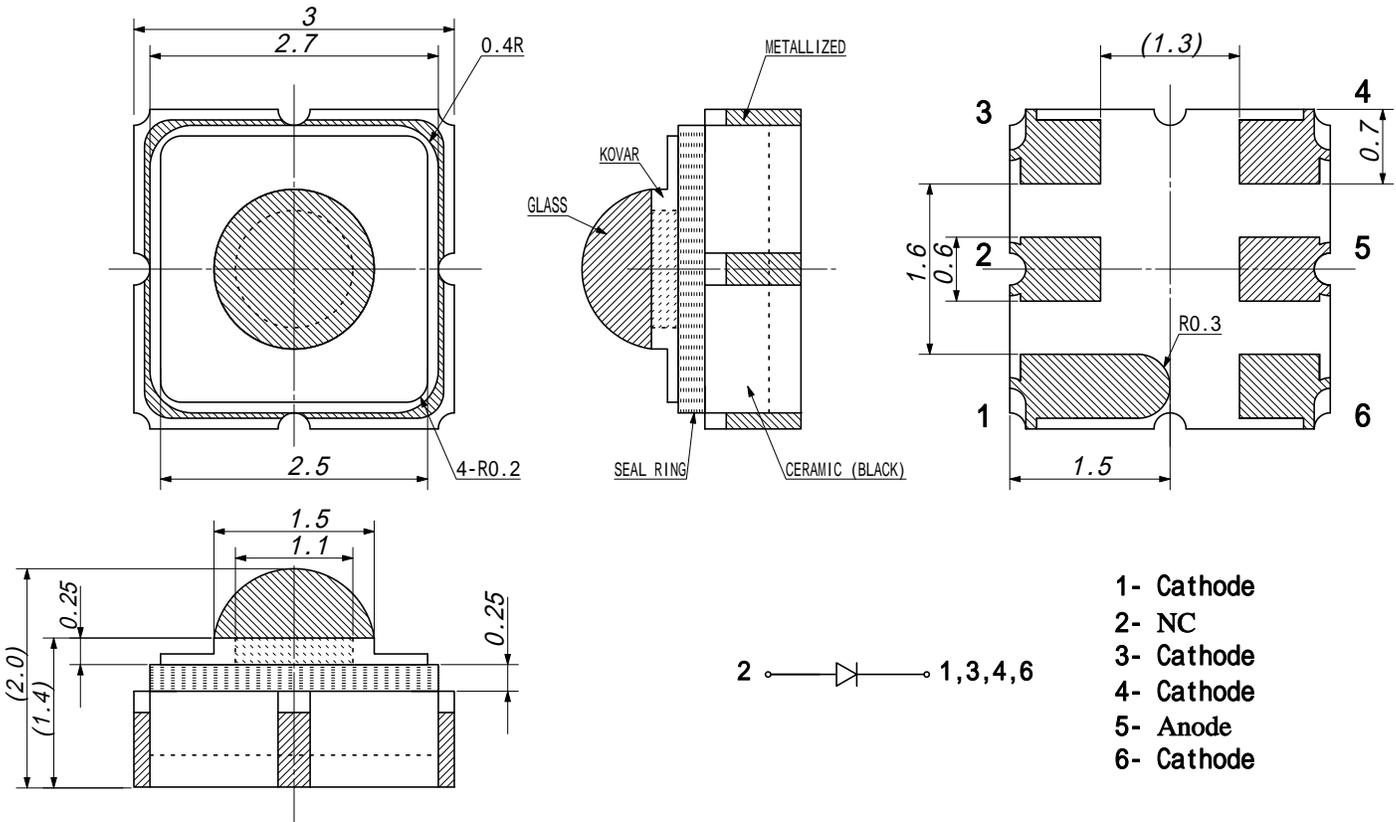
Note: Also available on PCB - Starboard MTSM4047SMR1-UBS (See Page 3)

*1: Tw=10μsec, T=10msec

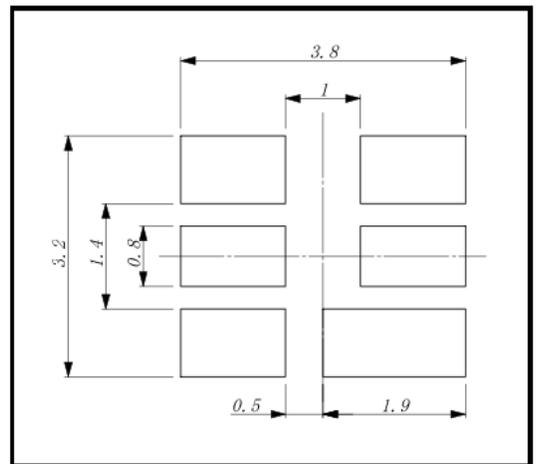
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.85	--	V
Power Output	PO	IF=20mA	--	0.85	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	466	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	471	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	23	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	15	--	deg

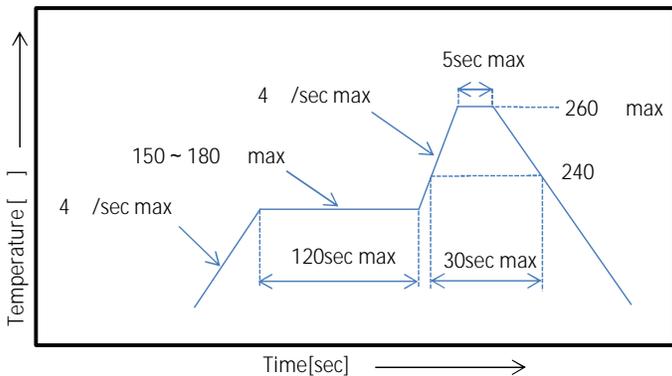
Package Dimensions



Recommended Soldering Pattern [mm]



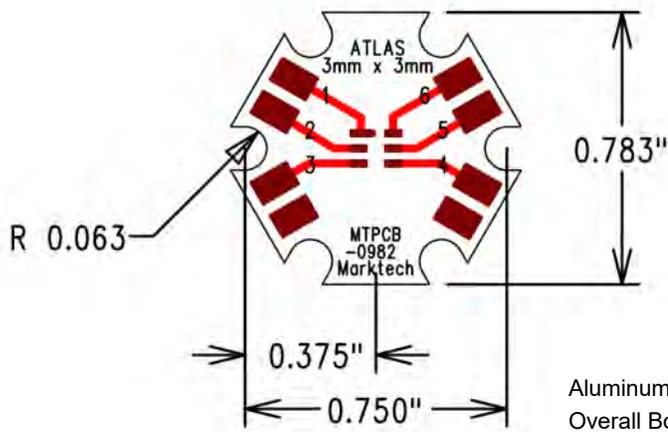
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



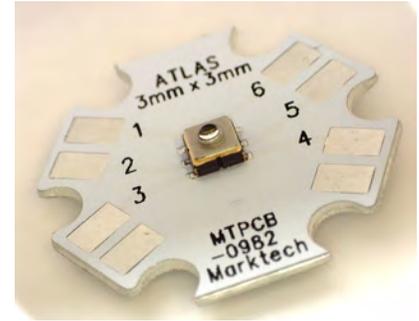
The information contained herein is subject to change without notice.

2024-08-19

Starboard Dimensions



- Pin 1 Cathode
- Pin 2 NC
- Pin 3 Cathode
- Pin 4 Cathode
- Pin 5 Anode
- Pin 6 Cathode



Aluminum Core Board 0.040" (1.02mm) Thickness
Overall Board Dimensions: +/- 0.010" (0.254mm)

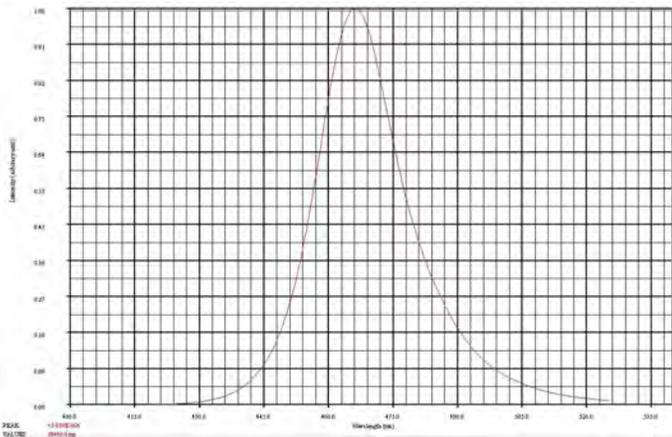


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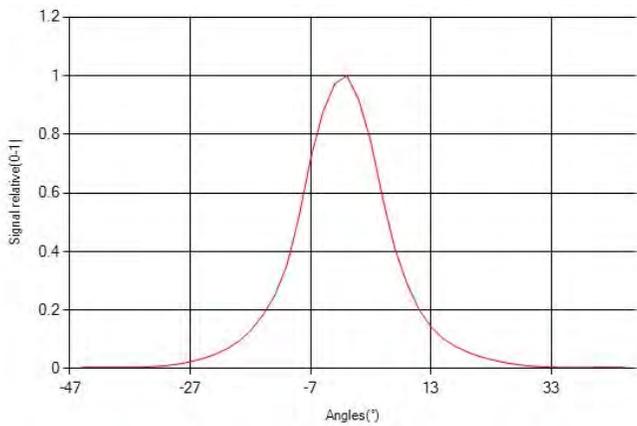
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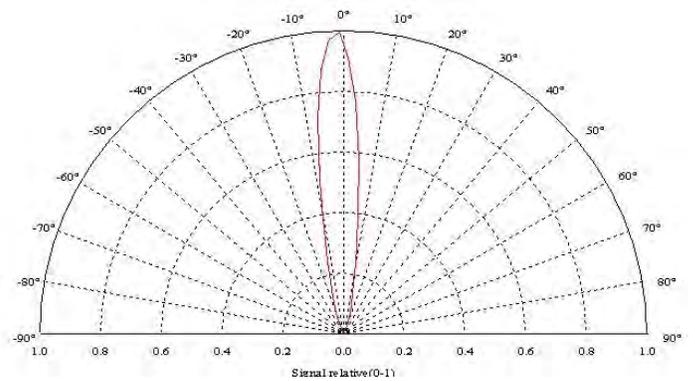
SPECTRAL RESPONSE



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Peak Emission Wavelength: 470nm

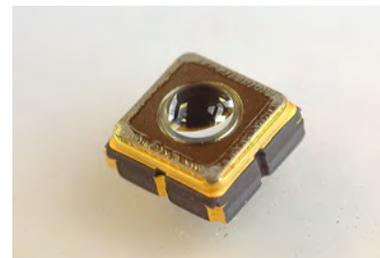
The MTSM4047SMR1-UB is a Blue Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 3mm x 3mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

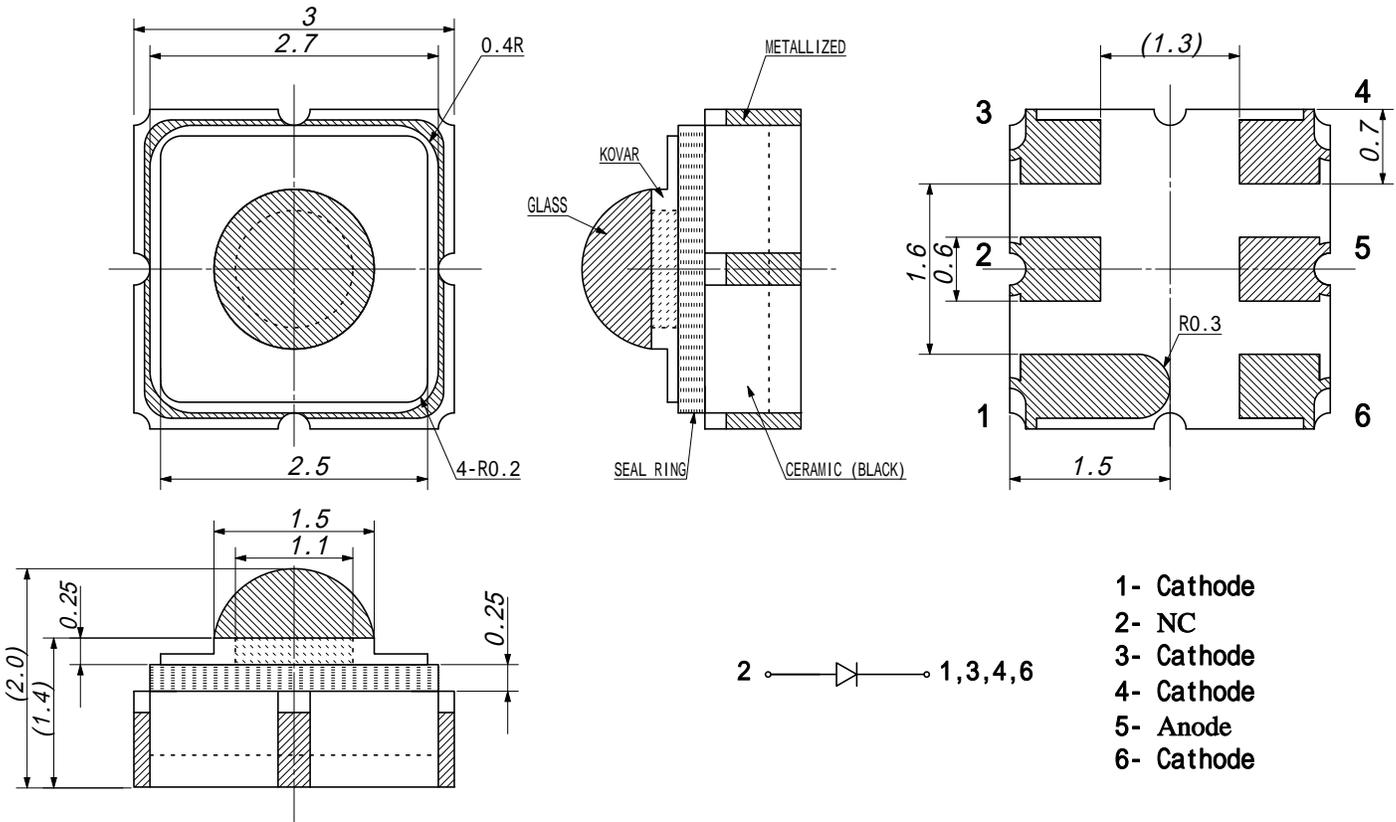
Note: Also available on PCB - Starboard MTSM4047SMR1-UBS (See Page 3)

*1: Tw=10μsec, T=10msec

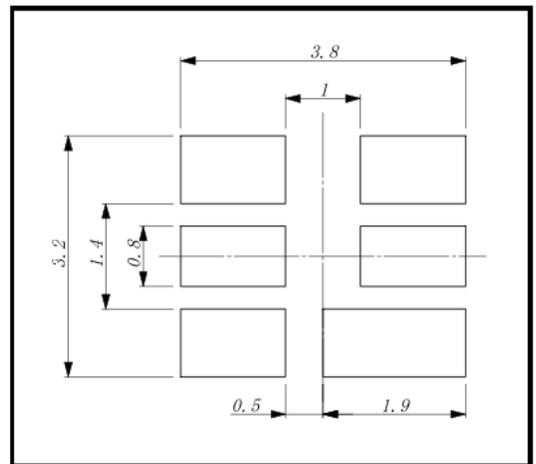
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.85	--	V
Power Output	PO	IF=20mA	--	0.85	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	466	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	471	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	23	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	15	--	deg

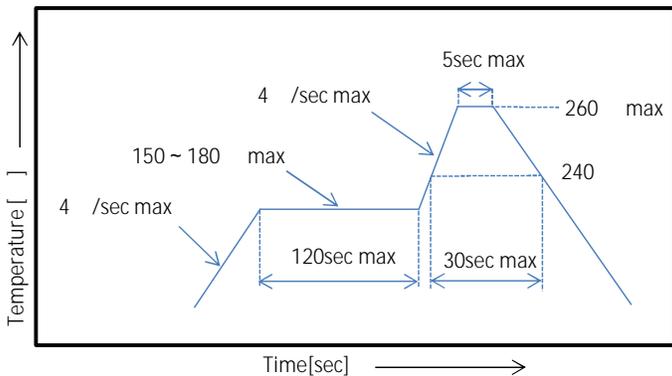
Package Dimensions



Recommended Soldering Pattern [mm]



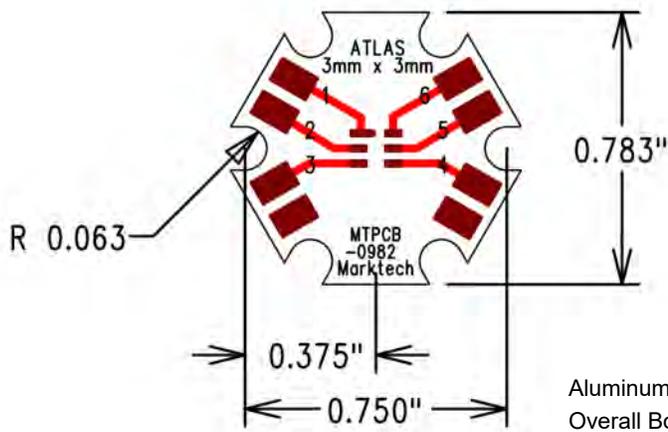
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



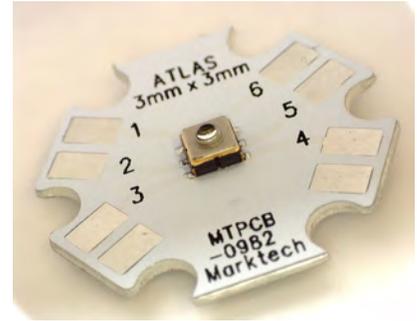
The information contained herein is subject to change without notice.

2024-08-19

Starboard Dimensions



- Pin 1 Cathode
- Pin 2 NC
- Pin 3 Cathode
- Pin 4 Cathode
- Pin 5 Anode
- Pin 6 Cathode



Aluminum Core Board 0.040" (1.02mm) Thickness
Overall Board Dimensions: +/- 0.010" (0.254mm)

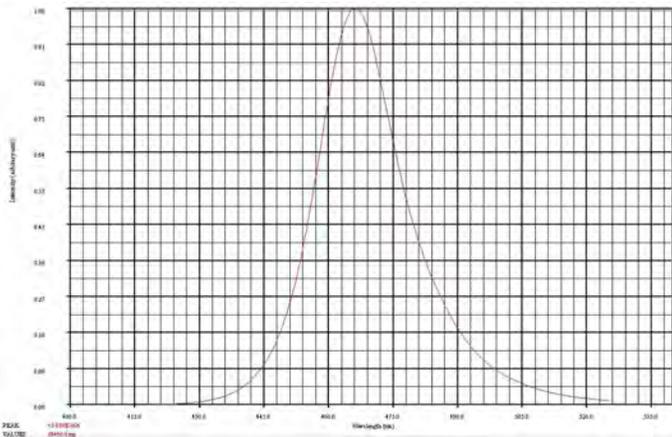


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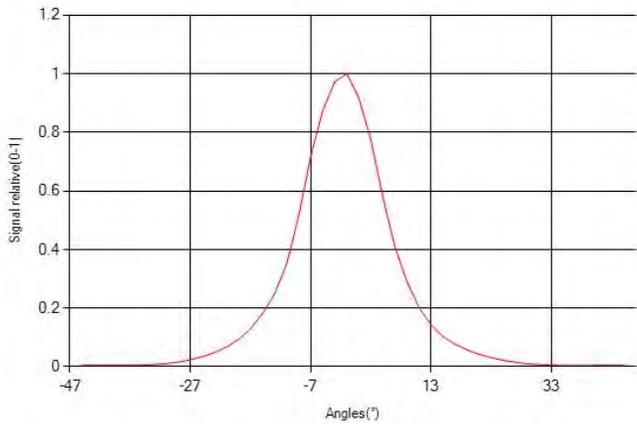
The information contained herein is subject to change without notice.

2024-08-19

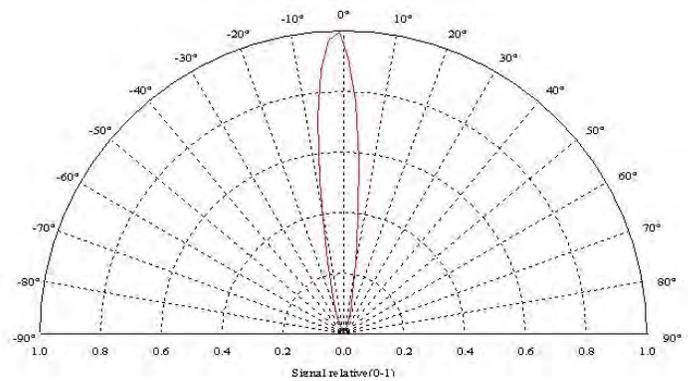
SPECTRAL RESPONSE



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2024-08-19

Peak Emission Wavelength: 450nm

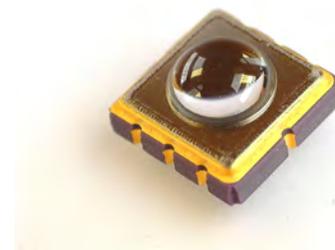
The MTSM4501SMR2-UB is a Blue Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



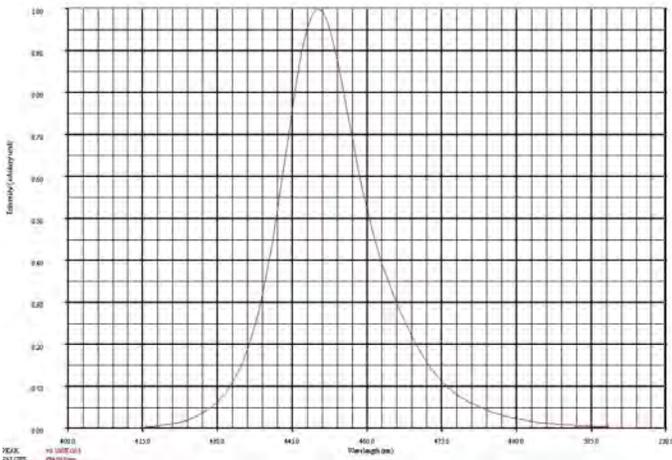
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

*1: Tw=10μsec, T=10msec

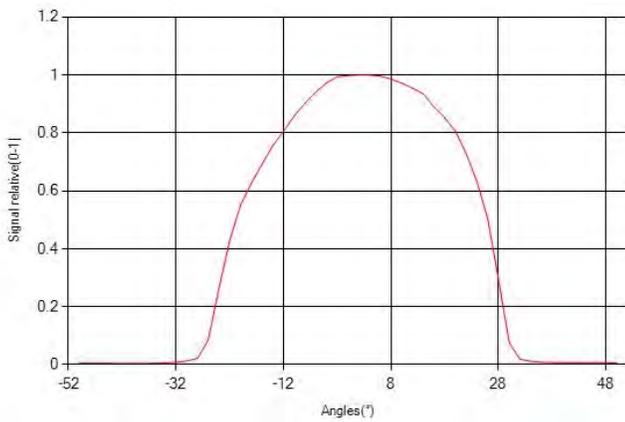
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.65	--	V
Power Output	PO	IF=20mA	--	17	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	450	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	455	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	18	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	50	--	deg

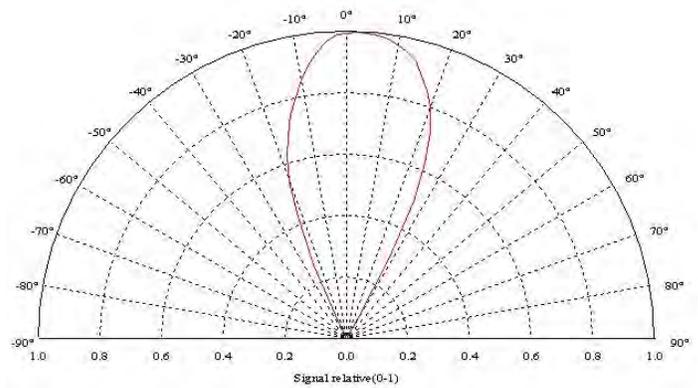
SPECTRAL RESPONSE



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The information contained herein is subject to change without notice.

2023-09-05

Peak Emission Wavelength: 450nm

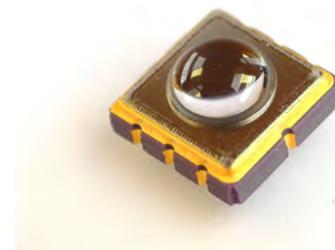
The MTSM4501SMR2-UB is a Blue Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

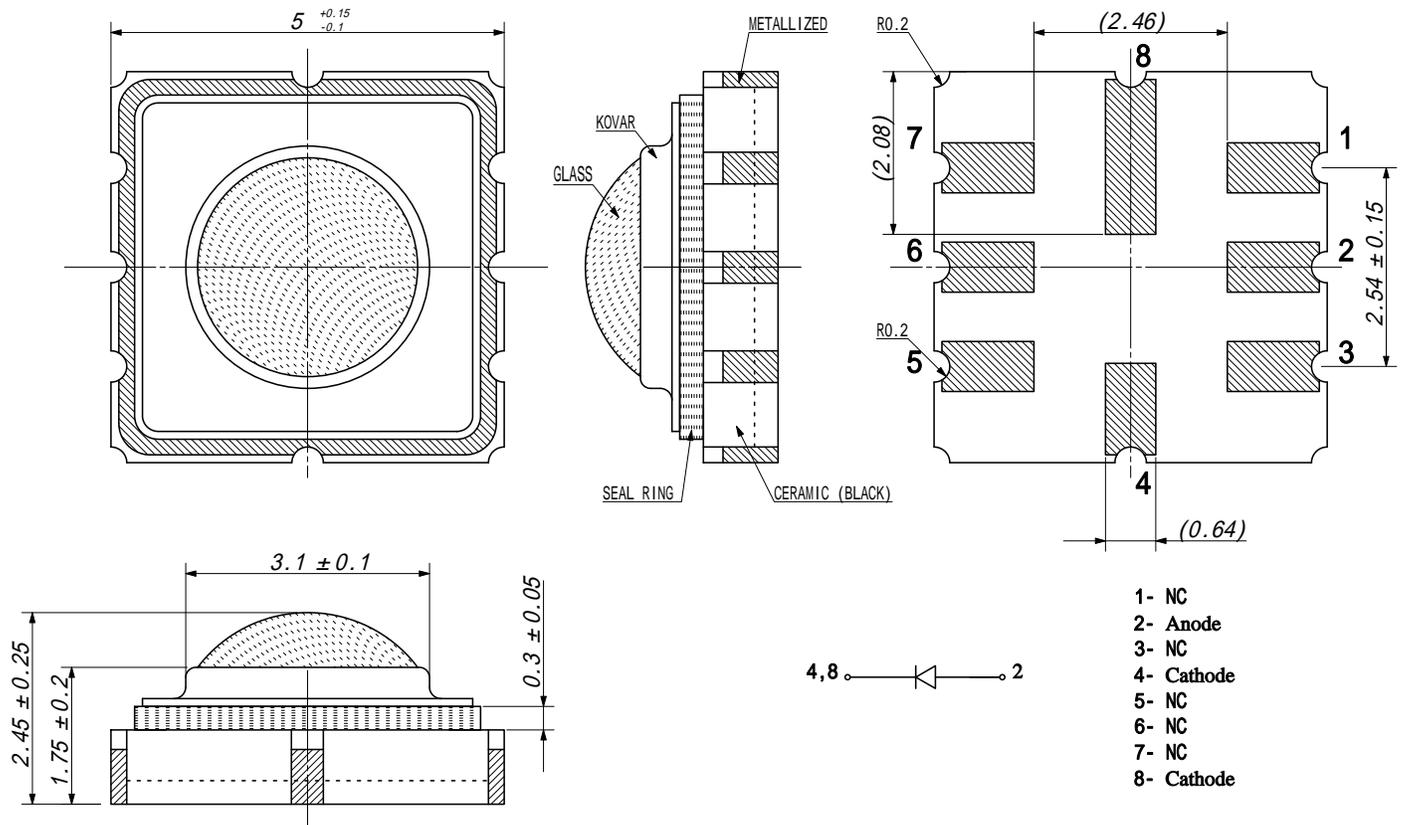
Note: Also available on PCB - Starboard MTSM4501SMR2-UBS (See Page 3)

*1: Tw=10μsec, T=10msec

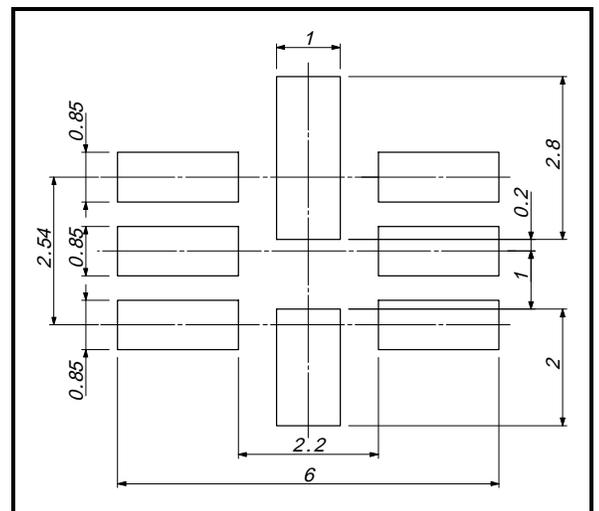
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.65	--	V
Power Output	PO	IF=20mA	--	17	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	450	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	455	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	18	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	50	--	deg

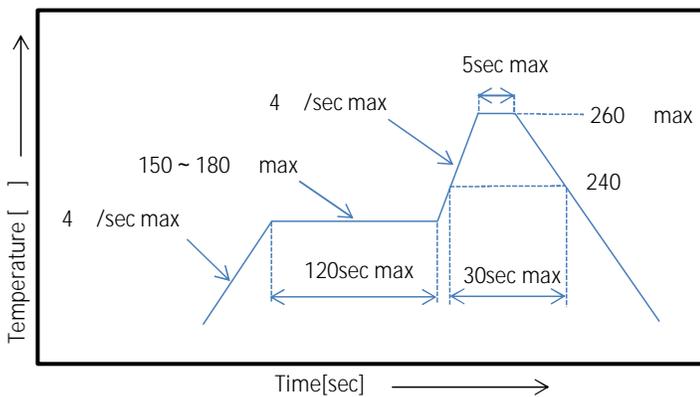
Package Dimensions



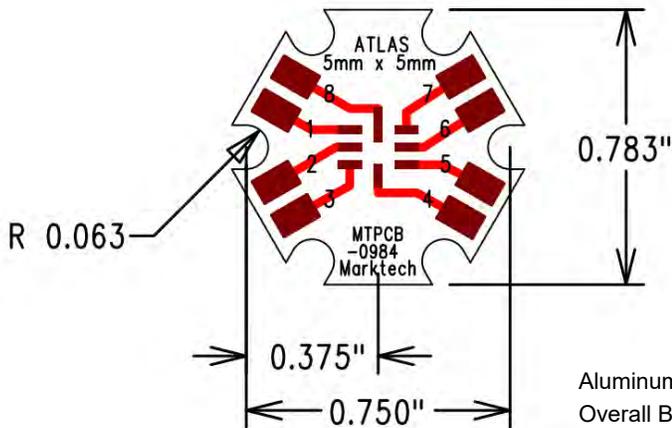
Recommended Soldering Pattern [mm]



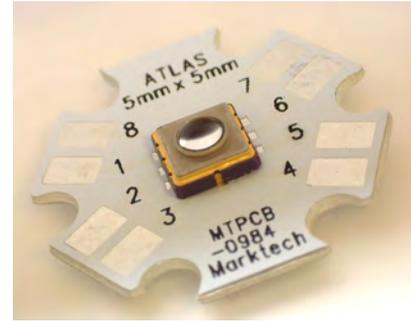
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



Starboard Dimensions



Pin 1	NC
Pin 2	Anode
Pin 3	NC
Pin 4	Cathode
Pin 5	NC
Pin 6	NC
Pin 7	NC
Pin 8	Cathode



Aluminum Core Board 0.040" (1.02mm) Thickness
Overall Board Dimensions: +/- 0.010" (0.254mm)

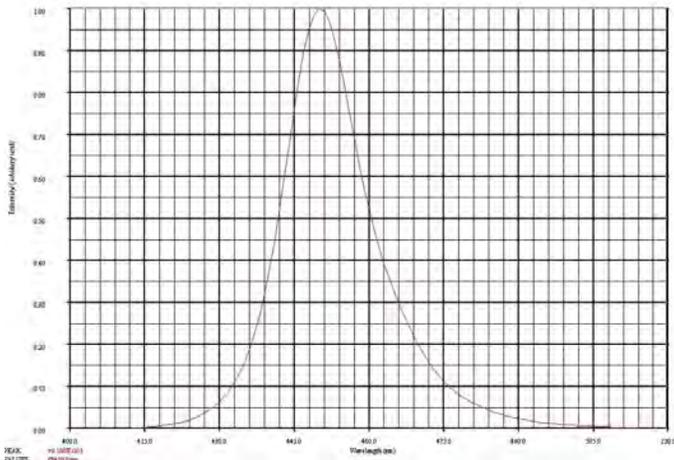


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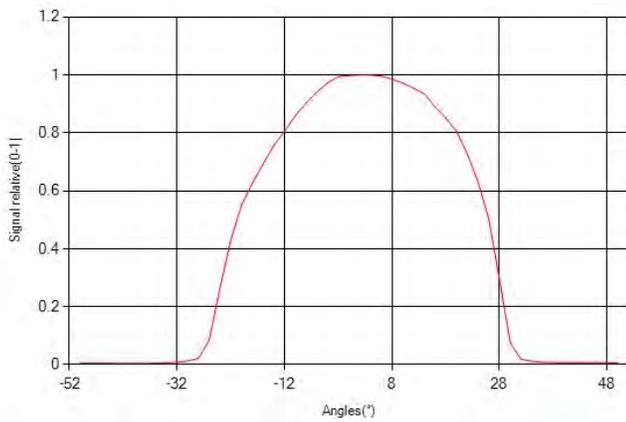
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2024-01-18

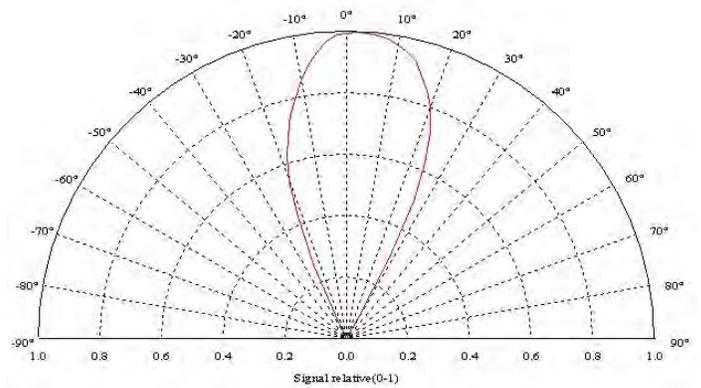
SPECTRAL RESPONSE



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2023-01-18

Peak Emission Wavelength: 525nm

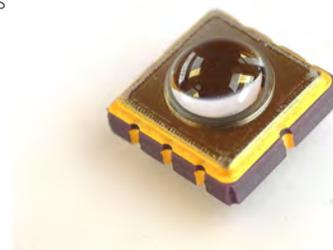
The MTSM5201SMR2-UB is a Green Emitter in a Seam Welded Surface Mount package for applications requiring high output power and efficiency.

FEATURES

- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



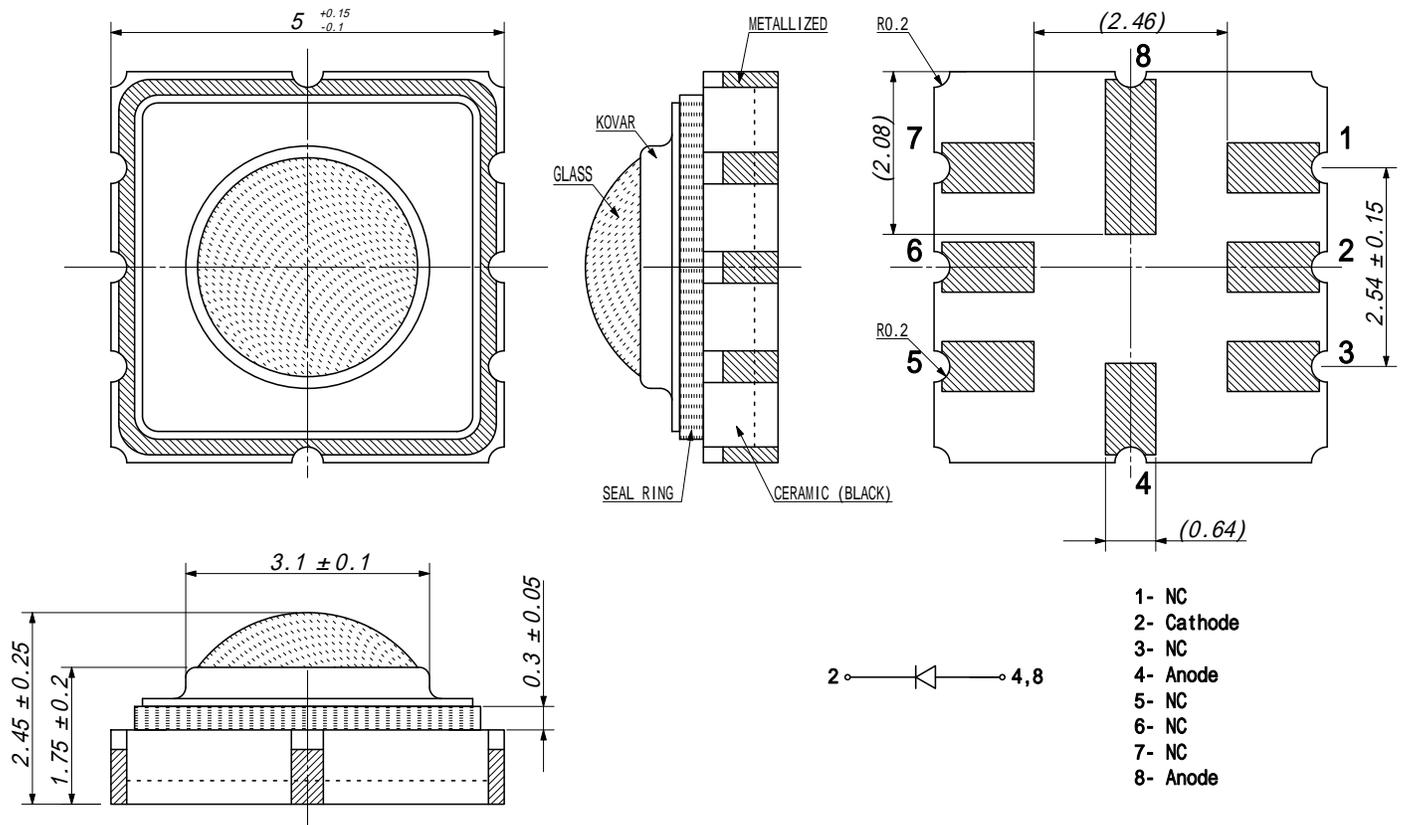
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

*1: Tw=10μsec, T=10msec

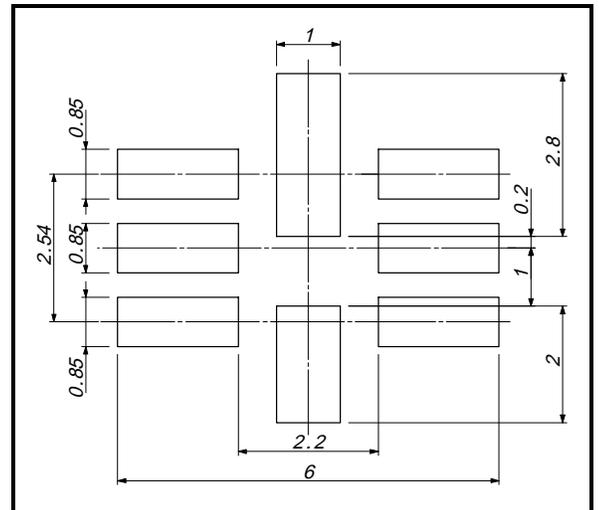
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.73	--	V
Power Output	PO	IF=20mA	--	11	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	534	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	34	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	40	--	deg

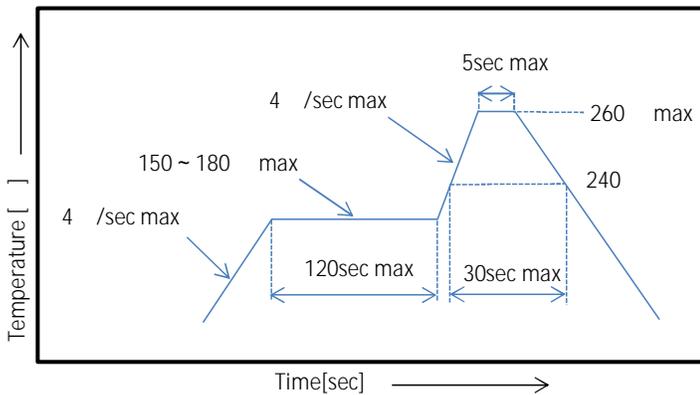
Package Dimensions



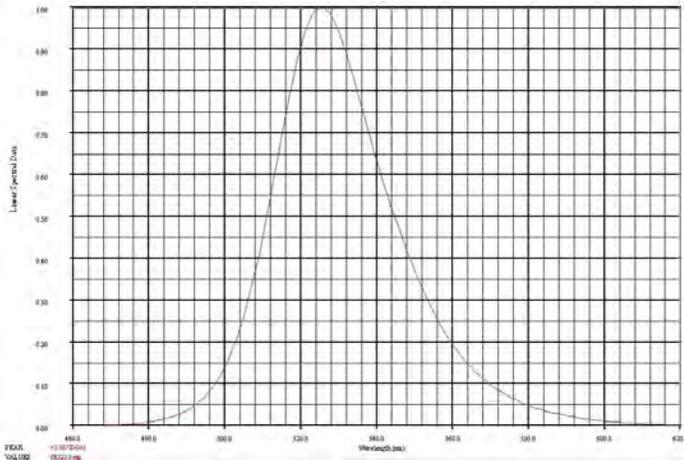
Recommended Soldering Pattern [mm]



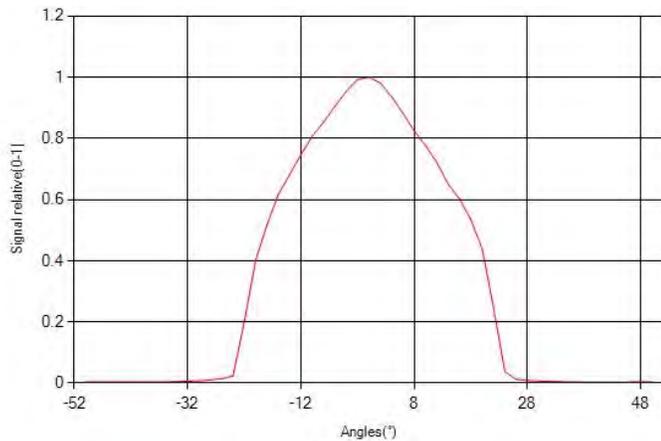
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



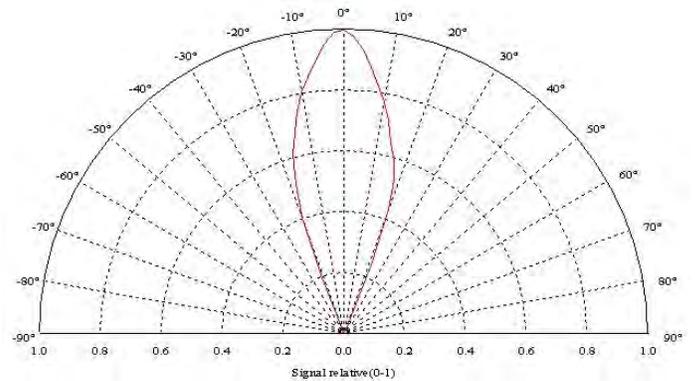
SPECTRAL RESPONSE



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2023-09-05

Peak Emission Wavelength: 525nm

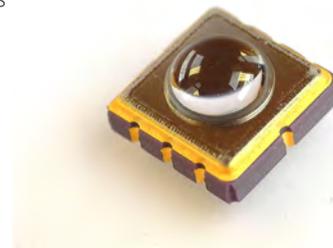
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FEATURES

- > 5mm x 5mm Seam Welded Surface Mount Package
- > High Reliability
- > High Output Power
- > Hermetically Sealed Package

APPLICATIONS

- > Bio Medical Applications
- > Optical Sensors
- > Aerospace
- > Industrial Controls



Absolute Maximum Ratings (Ta=25°C)



ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (DC)	IF	50	mA
Forward Current (Pulse)*1	IFP	0.5	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	--	mW
Operating Temperature Range	Topr	-20 ~ +85	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

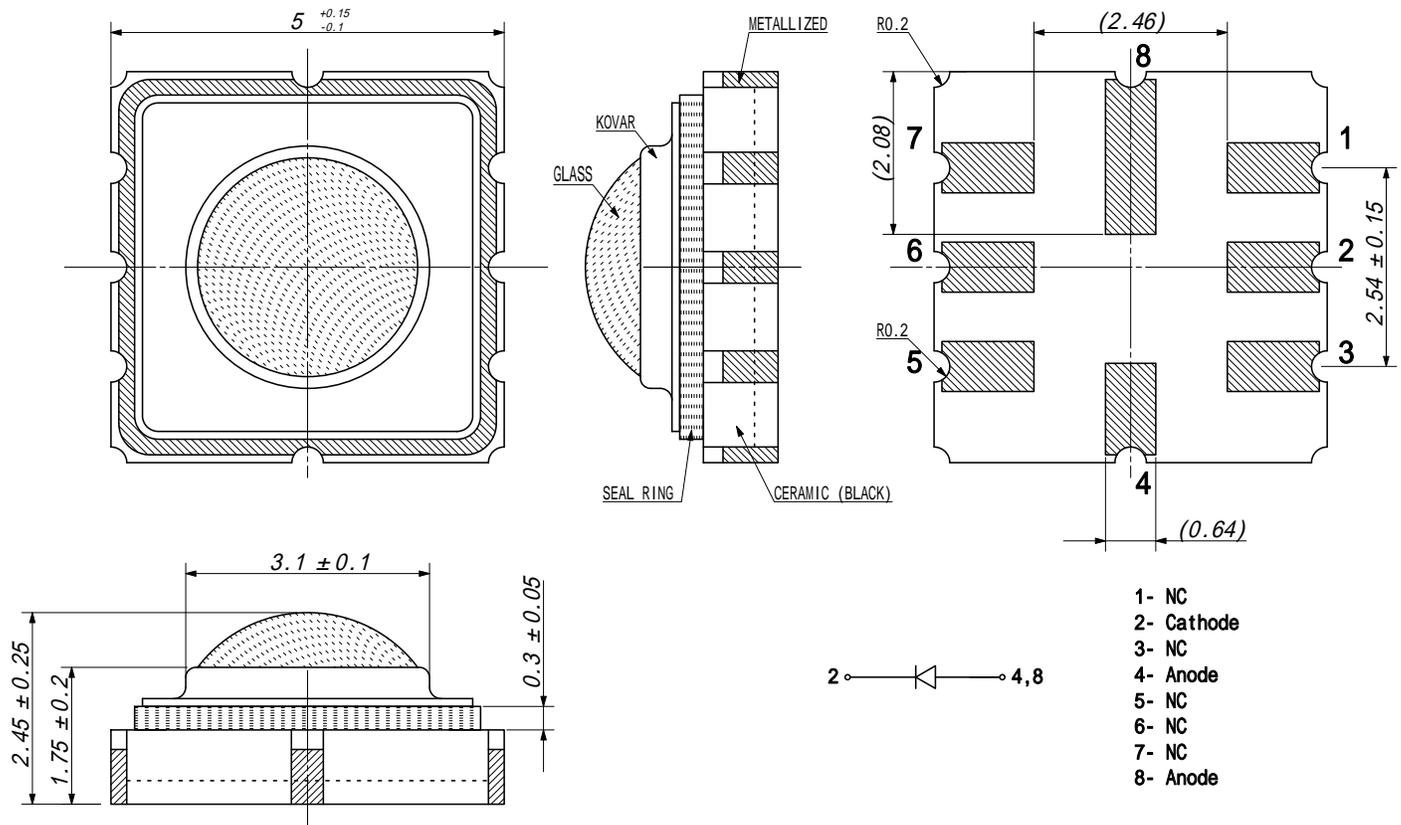
Note: Also available on PCB - Starboard MTSM5201SMR2-UGS (See Page 3)

*1: Tw=10μsec, T=10msec

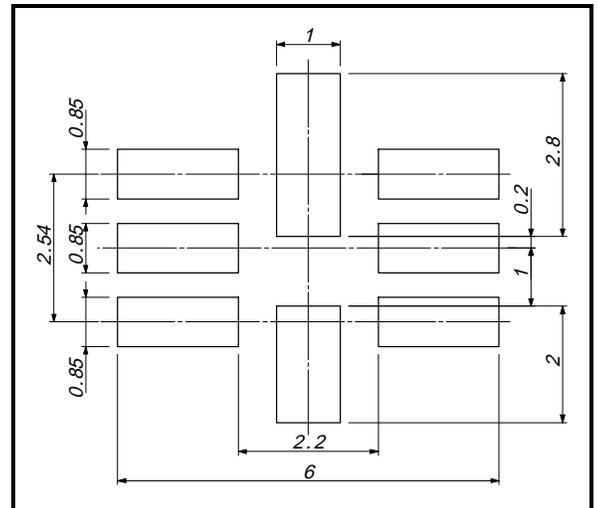
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.73	--	V
Power Output	PO	IF=20mA	--	11	--	mW
Reverse Current	IR	VR=5V	--	--	--	μA
Peak Emission Wavelength	λp	IF=20mA	--	525	--	nm
Dominant Emission Wavelength	λd	IF=20mA	--	534	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	34	--	nm
Half Intensity Beam Angle	Θ	IF=20mA	--	40	--	deg

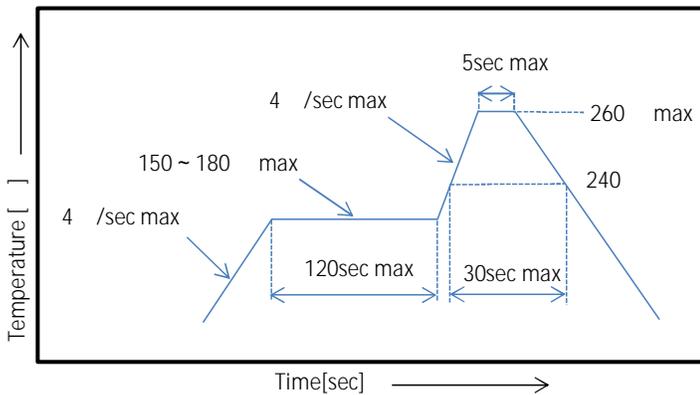
Package Dimensions



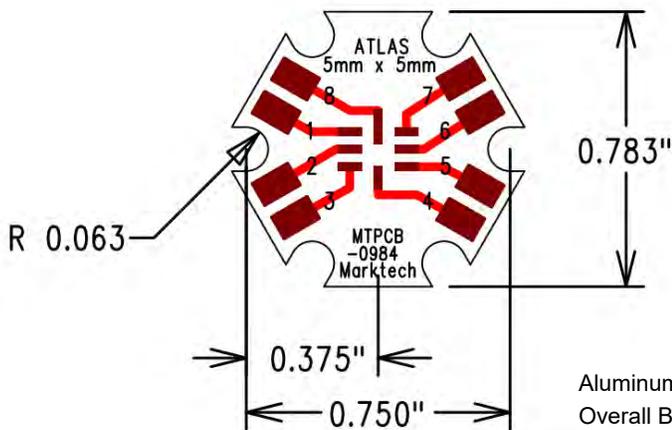
Recommended Soldering Pattern [mm]



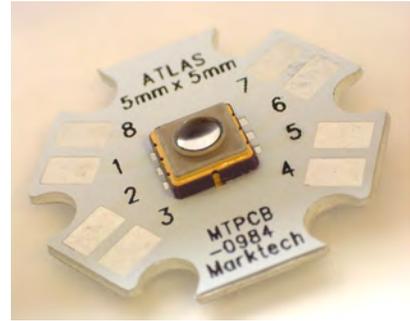
Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)



Starboard Dimensions



Pin 1	NC
Pin 2	Cathode
Pin 3	NC
Pin 4	Anode
Pin 5	NC
Pin 6	NC
Pin 7	NC
Pin 8	Anode



Aluminum Core Board 0.040" (1.02mm) Thickness
Overall Board Dimensions: +/- 0.010" (0.254mm)

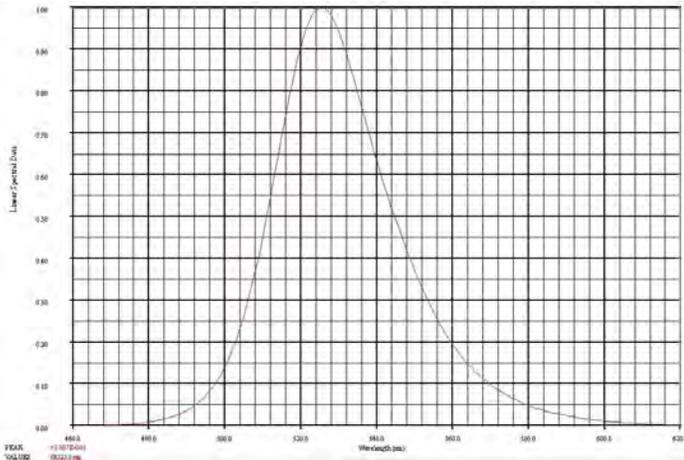


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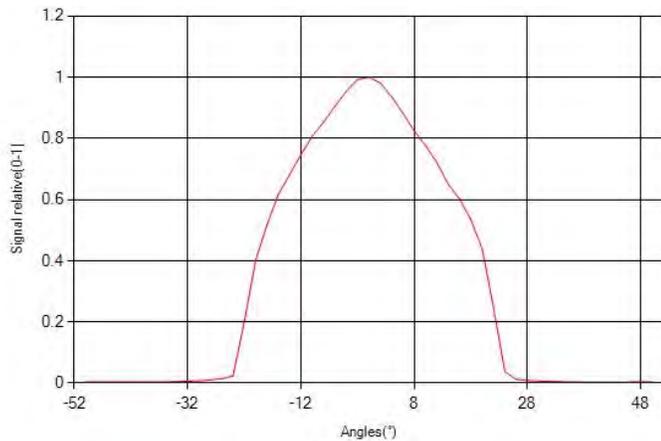
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2024-01-18

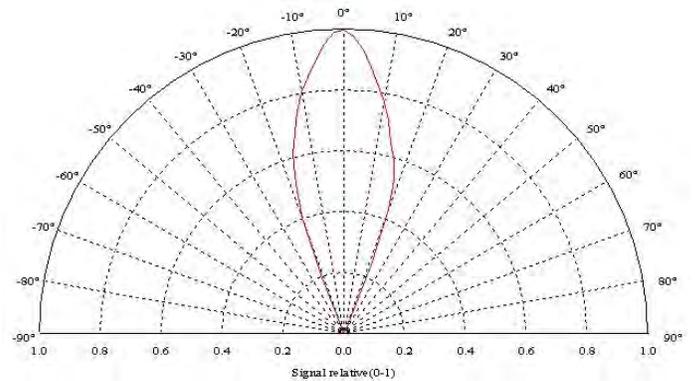
SPECTRAL RESPONSE



RADIATION DISTRIBUTION



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2024-01-18

3Northway Lane North Latham,New York 12110.

Tollfree:1.800.984.5337

Phone:1.518.956.2980

Fax:1.518.785.4725

Http://www.marktechopto.com

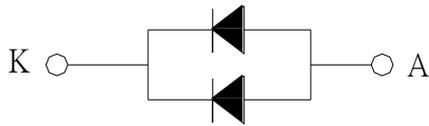
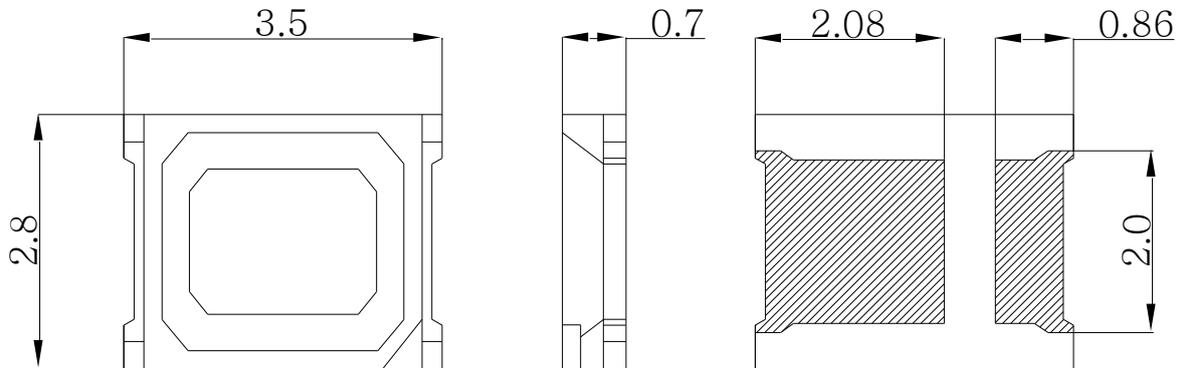
SPECIFICATION

PART NO. : MTSM6320-UR-A

2.8 x 3.5mm SMD TYPE



Package Dimensions



Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is ± 0.25 mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MTSM6320-UR-A	AlGaInP/GaP	Hyper Red	Water Clear

Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	72	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	80	mA
Operating Temperature Range	Topr.	-40 to +100	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature	Tsld.	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	

Electrical and Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	429	750		mcd
Forward Voltage	Vf	If=20mA		1.9	2.4	V
Peak Wavelength	λp	If=20mA		632		nm
Dominant Wavelength	λd	If=20mA		625		nm
Reverse Current	Ir	VR=5V			100	μA
Viewing Angle	2θ 1/2	If=20mA		120		deg
Spectrum Line Halfwidth	Δλ	If=20mA		20		nm

- Notes:1. Tolerance of Luminous Intensity is ±15%
 2. Tolerance of Forward Voltage is ±0.1V
 3. Tolerance of Dominant Wavelength is ±1nm
 4. Customer's special requirements are also welcome.

Specifications for Bin Grading:

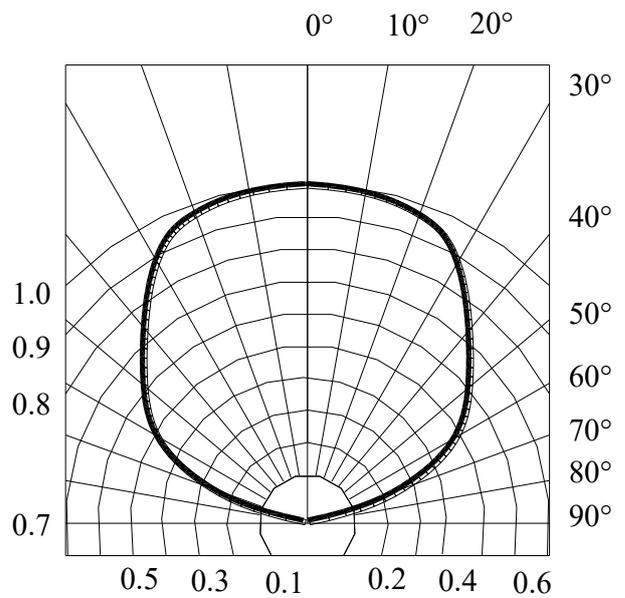
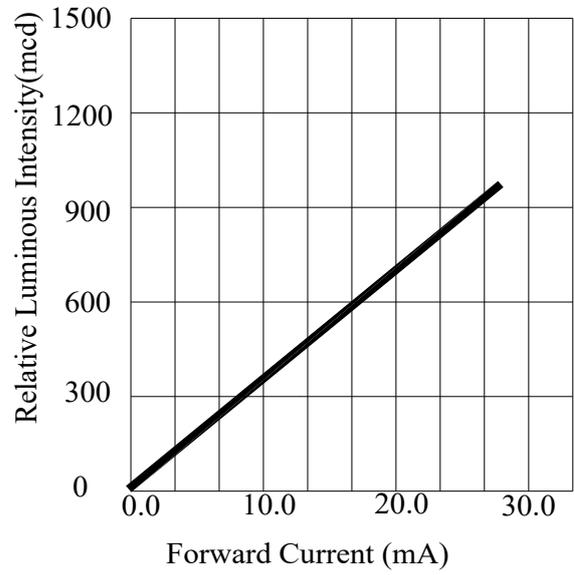
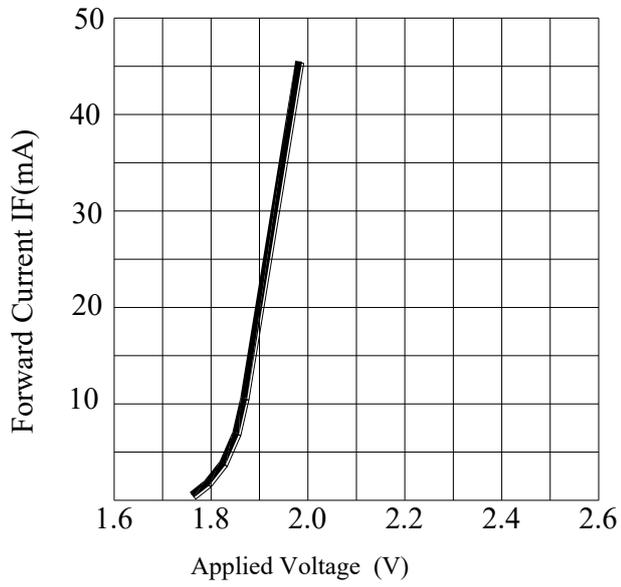
I_v(mcd)		
BIN	MIN.	MAX.
Q	429	550
R	550	770
S	770	1100
T	1100	1520
U	1520	Over

Specifications for Vf Group:

V_f(V)		
Group	MIN.	MAX.
V1	1.6	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4

Specifications for Wavelength Group:

λ d(nm)		
Group	MIN.	MAX.
X1	618	621
X2	621	624
X3	624	627
X4	627	630



Ambient Temperature vs. Forward Current

Radiation Diagram

PRECAUTION IN USE

Storage

Recommended storage environment

Temperature: 5°C ~ 30°C (41°F ~ 86°F)

Humidity: 60% RH Max.

Moisture measures: Please refer to Moisture-sensitive label on reels package bags.

If unused LEDs remain, they should be stored in moisture proof packages, such as sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

Fold the opened bag firmly and keep in dry environment.

Soldering

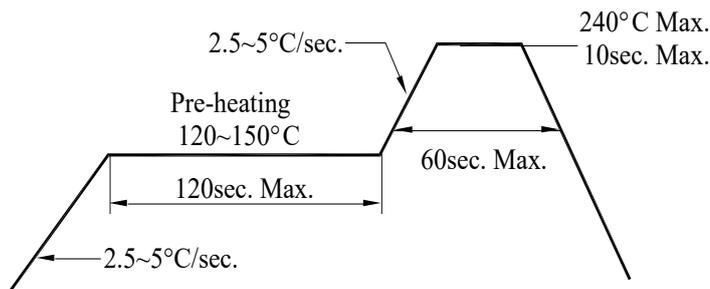
	Reflow Soldering		Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150°C	180~200°C	Temperature	350°C Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240°C Max.	260°C Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature- profile 1	refer to Temperature- profile 2		

*After reflow soldering rapid cooling should be avoided.

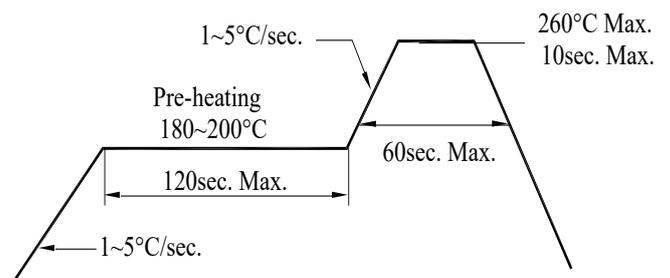
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

< 1 : Lead Solder >

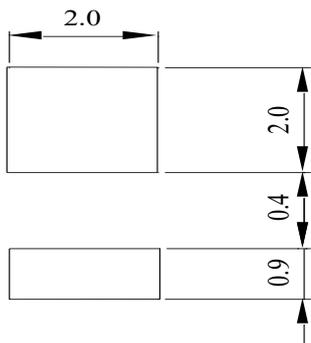


< 2 : Lead-free Solder >



[Recommended soldering pad design]

Use the following conditions shown in the figure.



(UNIT:mm)

Handling of Silicone Resin LEDs

Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound

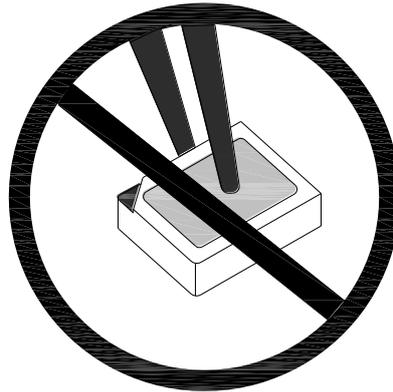


Figure 1

In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.

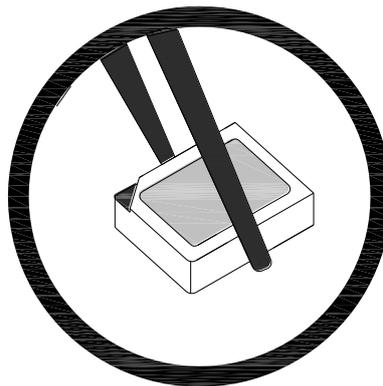


Figure 2

When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented.

This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.