



Summer 2024

LED Components

Product & Application Guide

High-Power General Lighting

Mid-Power General Lighting

Specialty Lighting

Video Screens



cree-led.com



CREE  **LED**

COMPANY OVERVIEW

Cree LED offers one of the industry's broadest portfolios of application-optimized LED chips and components, leading in performance and reliability. With more than 35 years of innovation, our strong IP portfolio and unique business model ensures supply chain continuity. We deliver best-in-class technology and breakthrough solutions for focused applications in high-power and mid-power general lighting, horticulture, specialty lighting and video screens.

PRODUCT LINES

XLamp® LEDs
High-performance LED components, optimized for general and specialty lighting applications

J Series® LEDs
Excellent value for general and specialty lighting applications in the industry's most common LED package sizes

High Brightness LEDs
Surface-mount (SMD) and through-hole LEDs optimized for video screens, signs and specialty lighting applications

LED Chips
InGaN-based blue & green LED chips for a wide range of applications, including automotive lighting and specialty applications

FOCUSED APPLICATIONS



General Lighting



Horticulture



Video Screens



Specialty

APPLICATIONS

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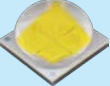
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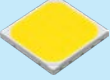
XLamp® LEDs

- XP-G4 delivers best-in-class LPW with enhanced optical performance
- Broadcast color options, featuring TLCI 90 or 95 minimum at 5700K CCT, available on XP-G3, XP-G4, XP-L2, XHP35.2, XHP50.3 & XHP70.3

Footprint (mm)	LEDs	Voltage Class (V)	Max. Drive Current (A)	Typical LPW @ 85 °C	CCT Min	CCT Max
3.45	 XT-E High Efficacy	3	1.50	169 @ 1 W	2200K	6500K
	 XP-G3 Standard	3	2.00	182 @ 1 W 162 @ 2 W	1800K	6500K
	 XP-G3 S Line	3	2.00	195 @ 1 W 173 @ 2 W	3000K	6500K
	 XP-G4 Standard	3	3.00	197 @ 1 W 177 @ 2 W	1800K	6500K
	 XP-L2	3	3.00	178 @ 3 W	2700K	6500K
	 XHP35.2 High Density Standard	12	1.50	165 @ 4 W 143 @ 8 W	2700K	6500K
5.00	 XHP50.3 High Density	6 12	3.00 1.50	174 @ 4 W 153 @ 8 W	2700K	6500K
7.00	 XHP70.3 High Density	6 12	7.20 3.60	167 @ 12 W 155 @ 17 W	2700K	6500K

J Series® LEDs

- New 3030 & 7070 options deliver industry-leading efficacy in common footprints

Footprint (mm)	LEDs	Voltage Class (V)	Max. Drive Current (A)	Typical LPW @ 85 °C	CCT Min	CCT Max
3.0	 JB3030C E Class	3	0.240	227 @ 0.2W 201 @ 0.7W	2700K	6500K
5.0	 JR5050C E Class	6	1.000	216 @ 1 W 204 @ 2 W	2200K	6500K
	 JR5050B K Class	6 30	1.000 0.240	203 @ 1 W 190 @ 2 W	2700K	6500K
7.0	 JU7070B K Class	12 36	1.200 0.400	192 @ 4 W 174 @ 8 W	2200K	6500K

**J Series® LEDs: 2835 Pro9™**

- Up to 24% higher efficacy for 90 CRI over standard version LEDs

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 90 CRI		CCT Min	CCT Max	CRI Options		
				Typ. lm	Typ. LPW					
3-V	JB2835B / G	55	2.67	30.5	208	2700K	6500K		90	
	JB2835B / J	55	2.68	30.2	205	2700K	6500K		90	
	JB2835B / N	55	2.70	29.4	198	2700K	6500K		90	
9-V	JK2835B / U	100	9.10	133	146	2700K	6500K		90	

J Series LEDs: 2835

- 3-V J & N Class available with Precision Dimming, a simplified binning scheme that improves consistency when dimming LEDs to low current
- New 3-V T & X Class LEDs for a wider range of price-performance options

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 80 CRI		CCT Min	CCT Max	CRI Options			
				Typ. lm	Typ. LPW						
3-V	JB2835B / G	55	2.67	32.1	219	2200K	6500K	70	80	90	
	JB2835B / J	55	2.68	31.0	210	2700K	6500K	70	80	90	
	JE2835B / N	150	2.86	78.1	182	2200K	6500K	70	80	90	95
	JE2835B / P	150	3.04	77.0	169	2700K	6500K	70	80	90	95
	JE2835 / R	150	2.95	73.5	166	2200K	6500K	70	80	90	
	JE2835B / T	150	2.98	70	157	2700K	6500K		80	90	
	JB2835 / W	60	2.91	30.4	174	2200K	6500K		80	90	
	JB2835B / X	60	3.14	26.2	139	2700K	6500K		80	90	
6-V	JK2835 / P	150	6.07	154	169	2700K	6500K	70	80	90	
	JK2835B / W	150	6.35	137	144	2700K	6500K	70	80	90	
9-V	JK2835B / U	100	9.10	143	157	2200K	6500K		80	90	
	JK2835B / W	100	9.15	132	144	2200K	6500K	70	80	90	
18-V	JK2835B / U	50	18.1	141	156	2200K	6500K		80	90	
	JK2835 / X	50	18.5	131	142	2200K	6500K	70	80	90	

**XLamp® LEDs**

- XP-G3 S Line delivers industry's highest level of sulfur & corrosion resistance

Footprint (mm)	LEDs		Voltage Class (V)	Max. Drive Current (A)	Typical LPW @ 85 °C	CCT Min	CCT Max
3.45		XP-G3 S Line	3	2.00	195 @ 1 W 173 @ 2 W	3000K	6500K

J Series® LEDs: JB3030C

- Industry-leading efficacy in a robust, 301B-compatible package

Footprint (mm)	LEDs		Voltage Class (V)	Max. Drive Current (A)	Typical LPW @ 85 °C	CCT Min	CCT Max
3.0		JB3030C E Class	3	0.240	227 @ 0.2W 201 @ 0.7W	2700K	6500K
		JB3030C F Class	3	0.240	218 @ 0.2W 193 @ 0.7W	2700K	6500K

J Series LEDs: 3030 HE

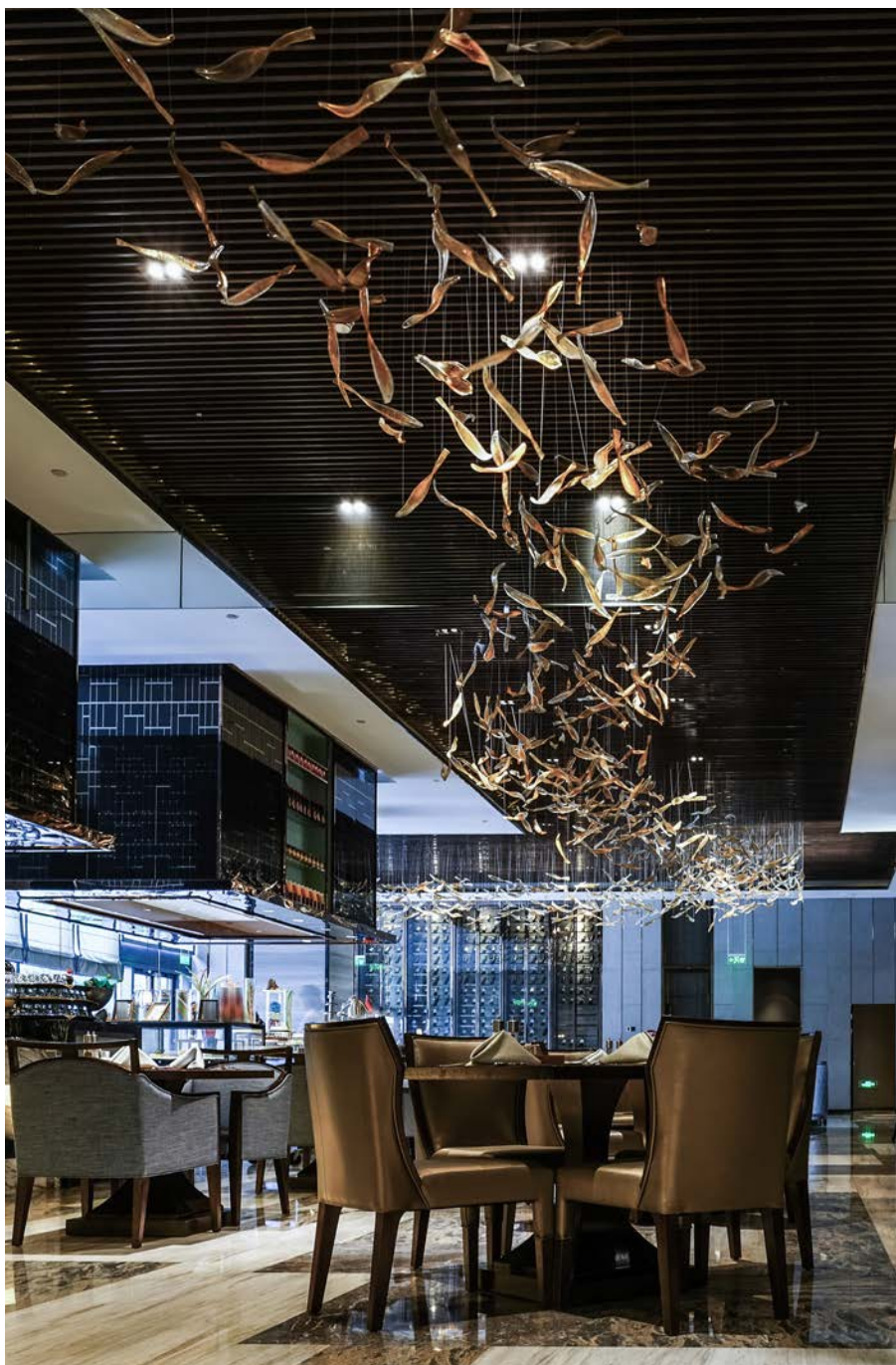
- Excellent sulfur resistance in a 757-compatible footprint

Footprint (mm)	LEDs		Voltage Class (V)	Max. Drive Current (A)	Typical LPW @ 85 °C	CCT Min	CCT Max
3.0		JB3030 HE B Class	3	0.480	207 @ 0.2W 194 @ 0.4W	2700K	6500K
		JB3030 HE D Class	3	0.240	195 @ 0.2W 175 @ 0.4W	2700K	6500K
		JK3030 HE B Class	6	0.240	185 @ 0.4W 166 @ 0.9W	2700K	6500K

J Series LEDs: 5050C

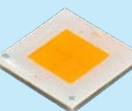
- Game-changing efficacy enables massive reduction in LED count & optics cost

Footprint (mm)	LEDs		Voltage Class (V)	Max. Drive Current (A)	Typical LPW @ 85 °C	CCT Min	CCT Max
5.0		JR5050C E Class	6	1.000	216 @ 1 W 204 @ 2 W	2200K	6500K



XLamp® LEDs: High Intensity

- XLamp XE-G White LEDs now brighter, with 17% higher efficacy

LES (mm)	LEDs	Voltage Class (V)	Max. Current (A)	Max. Light Output* (lm)	CCT Min	CCT Max	CRI Options			
~1		XP-P	3	2.50	489	2700K	6500K	70	80	90
		XQ-E High Intensity	3	1.50	383	1800K	6500K	70	80	90
~2		XE-G (Element G)	3	3.00	749	2200K	6500K	70	80	90
		XD16 Premium White	3	2.00	602	2200K	7000K	70	80	90
~3		XHP35.2 High Intensity	12	1.50	1,613	2700K	7000K	70	80	90 95
		XP-L High Intensity	3	3.00	1,035	2700K	6500K	70	80	90
~4		XHP50.3 High Intensity	6 12	3.00 1.50	1,990	2700K	7000K	70	80	90 95
~5.5		XHP70.3 High Intensity	6 12	7.20 3.60	4,677	2700K	7000K	70	80	90 95

* Performance shown for 3000K, 80 CRI, Tc = 55 °C

XLamp LEDs: COB

- Pro9™ versions deliver up to 15% higher efficacy for 90 & 95 CRI
- High Fidelity (98 CRI) & Specialty options

LES Type	Product Family	LES (mm)							
		3.3	4.2	4.5	6	8.5	9	9.8	12
Cree LED	CMBxxxx				1306 1304		1516 1510 1507		1825 1818
Others	CHAxxxx	0304	0410		0612	0825			
	CMUxxxx							1013 1010 1006 1003	



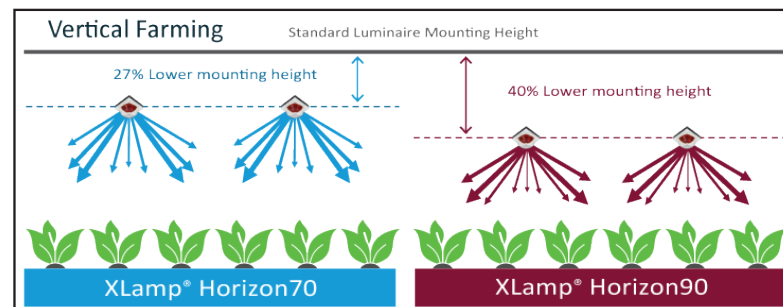
LED	XLamp® XP	XLamp XP Horizon	J Series® 5050	J Series 3030	J Series 2835
Footprint (mm)	3.45 x 3.45	3.45 x 3.45	5.0 x 5.0	3.0 x 3.0	2.8 x 3.5
Max Power	6W	6W	5W	1W	1W
Photophyll™ Select	 XP-G3 S Line	 XP-G3 Horizon			 JB2835B G Class
White	 XP-G3 S Line	 XP-G3 Horizon	  JR5050C E Class JR5050B K Class	 JB3030C E Class	 JB2835B G Class
450 nm Royal Blue	 XP-G3 S Line	 XP-G3 Horizon			 JE2835 N Class
PC Mint					 JE2835 N Class
660 nm Photo Red	 XP-G3 S Line  XP-E2	 XP-G3 Horizon			 JE2835 N Class
730 nm Far Red	 XP-E2 S Line	 XP-E2 Horizon			 JE2835 N Class
PC Purple					 JE2835 N Class

Photophyll™ Select LEDs

- First LEDs with precise control over the green/blue PPF ratio
- Industry's first LEDs entirely characterized in horticulture metrics

XLamp Horizon LEDs

- Increases plant density for vertical farms
- Increases uniformity & efficiency for greenhouses





XLamp® COB LEDs: Premium Color

- Pro9™ versions deliver up to 15% higher efficacy for 90 & 95 CRI
- Standard 2-step color consistency on most offerings

Colors	CRI Min	4000K	3500K	3100K below BBL	3000K	3000K below BBL	2700K
Fidelity	95	40H	35H		30H		27H
Specialty	90			31Q		30Q 30U	
	95					L7C	



LES Type	Product Family	LES (mm)							
		3.3	4.2	4.5	6	8.5	9	9.8	12
Cree LED	CMBxxxx				1306 1304		1516 1510 1507		1825 1818
Others	CHAxxxx	0304	0410		0612	0825			
	CMUxxxx							1013 1010 1006 1003	

XLamp Discrete LEDs

- Pro9™ versions deliver up to 10% higher efficacy for 90 & 95 CRI
- 4000K-2700K with 2- & 3-step color consistency options

Footprint (mm)	LEDs		LES (mm)	Version	Voltage Class (V)	CRI Min Options	Max. Flux (lm)	Max. Current (A)	Max. Power (W)
3.45		XP-G4	2.3 x 2.3	Pro9™	3	90, 95	695	2.000	6
		XHP35.2	2.6 x 2.6	High Intensity	12	90, 95	1,808	1.500	20
				High Intensity Pro9™	12	90, 95	849	0.700	8
		XHP35.2	3.2 x 3.2	High Density	12	90	2,084	1.500	20
				High Density Pro9™	12	90, 95	983	0.700	8

J Series® LEDs

- 6500K-2700K with 3-step color consistency



LEDs	Voltage Class	Typical Drive Current (mA)	4000 K, 95 CRI min		3000 K, 95 CRI min		Max. Drive Current (mA)
			Typ. lm	Typ. LPW	Typ. lm	Typ. LPW	
JE2835B N Class	3-V	150	59.5	139	55.5	129	240
JE2835B P Class	3-V	150	59	129	55	121	240

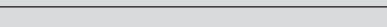
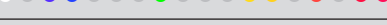


Single Color LEDs: Low-Power

Footprint (mm)	Package Style	LED Series	Angles (°)	Colors
3.2 x 2.8	SMD PLCC4	CLA	120	
3.2 x 2.8	SMD PLCC2	CLM1	120	
3.2 x 2.8	SMD PLCC4 w/ lens	CLM2	30, 50, 60	
2.7 x 2.0	SMD PLCC2	CLM3	120	
3.2 x 2.7	SMD PLCC4	CLM4	120	

Single Color LEDs: Mid- & High-Power

- XLamp® XE-G LEDs upgraded with 20% higher efficacy for RGBW

Footprint (mm)	LED		Max Power	Colors
2.05 x 1.6		XLamp XE-G	10W	
1.6 x 1.6		XLamp XQ-E HI	5W	
		XLamp XQ-E Plus HI	5W	
		XLamp XQ-E HD	5W	
		XLamp XQ-E Plus HD	5W	
		XLamp XQ-A	1W	
3.45 x 3.45		XLamp XP-E2	5W	
2.45 x 2.45		XLamp XB-D	3W	
2.8 x 3.5		JE2835 3V N	0.8W	
3.4 x 3.5		CLX6F	0.4W	

Multi-Color LEDs

Footprint (mm)	LED Family	Max Current per Color	RGB+White		RGB+Amber	RGB+Mint	RGB
5.0 x 5.0	XLamp XM-L Color Gen 2	1,750 mA	 High Intensity	 High Density			
3.45 x 3.45	XLamp XP-L Color	1,000 mA	 High Intensity	 High Density			
5.2 x 5.0	CLQ6x	180+ mA					
3.8 x 3.8	CLR6A	65 mA					
3.5 x 3.5	CLW6A	30 mA	 White Body	 Black Body	 White Body	 White Body	



- New XFL LEDs deliver breakthrough lumens, optical control & value

Footprint (mm)	XLamp® LED		Light Source Size¹ (mm)	Voltage Class	Lumens @ Max Current² (lm)	Lumens @ Overdrive Current³ (lm)	CRI Options			
3.45		XT-E HE	2.0 x 2.0	3V	511 @ 1.5A	804 @ 3.4A	70	80	90	
		XP-G3 Standard	2.3 x 2.3	3V	759 @ 2.0A	1,305 @ 5.5A	70	80	90	95
		XP-G3 S Line	2.3 x 2.3	3V	776 @ 2.0A	1,363 @ 5.5A	70			
		XP-G4 Standard	2.1 x 2.1	3V	1,045 @ 3.0A	1,488 @ 6.0A	70	80	90	
		XP-L2	3.0 x 3.0	3V	1,172 @ 3.0A	2,496 @ 10A	70	80	90	95
		XHP35.2 HD	3.3 x 3.3	3V 6V	1,952 @ 6.0A 1,952 @ 3.0A	3,016 @ 11.2A 3,016 @ 5.6A	<70			
5.00		XM-L2	2.8 x 2.8	3V	1,083 @ 3.0A	2,516 @ 10.3A	70	80	90	
		XM-L3	3.0 x 3.0	3V	1,526 @ 5.0A	1,967 @ 6.1A	<70			
		XHP50.3 HD	3.9 x 3.9	3V 6V	2,067 @ 6.0A 2,067 @ 3.0A	4,800 @ 20A 4,800 @ 10A	<70			
7.00		XHP70.3 HD	5.3 x 5.3	3V 6V	4,857 @ 14.4A 4,857 @ 7.2A	6,405 @ 20.6A 6,405 @ 10.3A	<70			
		XFL05K	5.7 x 5.7	6V	7,955 @ 15A	---	70	80		
10.0		XFL08K	7.6 x 7.6	6V	13,642 @ 27A	---	70			
		XFL10K	~9	6V	15,745 @ 32A	---	70			

1. Apparent optical source size as seen by the optic. In general, smaller source sizes will yield smaller beam angles through an optic. These values are not LED die sizes.
2. Simulated light output with highest available flux bin, maximum rated current, steady-state operation at $T_c = 85^\circ\text{C}$ (≤ 3.45 mm footprint) or $T_c = 105^\circ\text{C}$ (≥ 5.0 mm footprint)
3. At $T_c = 85^\circ\text{C}$. See the [Overcurrent Application Note](#) for more details on overcurrent limits for portable lighting.



Footprint (mm)	XLamp® LED		Light Source Size¹ (mm)	Voltage Class	Lumens @ Max Current² (lm)	Lumens @ Overdrive Current³ (lm)	CRI Options			
3.45		XP-P	1.0 x 1.0	3V	614 @ 3.0A	---	70	80	90	
		XP-L HI	2.1 x 2.1	3V	992 @ 3.0A	1,892 @ 8.8A	70	80	90	
		XHP35.2 HI	2.8 x 2.8	3V 6V	1,691 @ 6.0A 1,691 @ 3.0A	2,530 @ 10.6A 2,530 @ 5.3A	<70			
5.00		XHP50.3 HI	3.0 x 3.0	3V	1,929 @ 6.0A	4,312 @ 18.8A	<70			
				6V	1,929 @ 3.0A	4,312 @ 9.4A	70	80	90	95
7.00		XHP70.3 HI	3.9 x 3.9	3V	4,523 @ 14.4A	5,558 @ 18.6A	<70			
				6V	4,523 @ 7.2A	5,558 @ 9.3A	70	80	90	95

- 1. Apparent optical source size as seen by the optic. In general, smaller source sizes will yield smaller beam angles through an optic. These values are not LED die sizes.
- 2. Simulated light output with highest available flux bin, maximum rated current, steady-state operation at Tc = 85°C (≤3.45 mm footprint) or Tc = 105°C (≥5.0 mm footprint)
- 3. At Tc = 85°C. See the [Overcurrent Application Note](#) for more details on overcurrent limits for portable lighting.



Photo: Prismview, A Samsung Electronics Company

Surface Mount RGB

- Application optimized: IPX8 waterproofing, matte surface for contrast, small size
- Proven lifetime for displays that last under all viewing conditions

Package Size (mm)	LEDs	Angle (°)	Typ. Red Intensity (mcd)	Typ. Green Intensity (mcd)	Typ. Blue Intensity (mcd)	IPX8 Rated
1.0 x 1.0	 UHD111A-FKA	120	35	60	12	
1.5 x 1.5	 CLMUD-FKA	110	54	180	30	
	 CLMUD-FKC	110	450	750	145	
1.6 x 1.7	 CLMWB-FKA	120	380	640	100	•
	 CLMWB-FKC	120	525	1,030	210	•
2.0 x 2.0	 CLMVC-FKA	120	80	225	43	
	 CLMVC-FKC	120	420	650	145	
2.19 x 1.8	 CLMXB-FKA	120	275	565	95	•
2.19 x 1.85	 CLMXB-FKC	120	515	1200	240	•
2.8 x 2.8	 CLY6C-FKC	110	500	900	245	•
	 CLY6G-FKC	110	750	1,350	240	•
	 CLY6D-FKC	110	750	1,350	240	•
3.5 x 3.4	 CLX6E-FKC	110	750	1,100	270	•
	 CLX6F-FKC	110	800	1,400	270	•
9.4 x 4.2	 CV94A-FGC	90/45	1,600	2,800	560	•
	 CV94U-FGC	90/45/-8	1,600	2,800	560	•
	 CV94D-FCC	30	6,000	12,000	2,300	•

Through-Hole: P2

Product Series		Angle (°)	Typ. Red Intensity (mcd)	Typ. Green Intensity (mcd)	Typ. Blue Intensity (mcd)
4 mm Oval	C4SMA	90/45	1,500	2,500	900
	C4SMB	90/45	2,800	7,500	1,400
	S4SMS	105/50	1,200	3,800	660
	C4SMM	115/65	1,050	1,800	380
5 mm Oval	C566D	70/30	3,000	8,200	2,000
	C5SMF	100/40	2,200	4,400	1,100



Single Color LEDs: Low-Power

Footprint (mm)	Package Style	LED Series	Angles (°)	Colors
3.2 x 2.8	SMD PLCC2	CLM1	120	• • • • • • • •
3.2 x 2.8	SMD PLCC4 w/ lens	CLM2	30, 50, 60	• • • • • • • •
2.7 x 2.0	SMD PLCC2	CLM3	120	• • • • • • • •
3.2 x 2.7	SMD PLCC4	CLM4	120	• • • • • • • •
7.6 x 7.6	P4 Through-Hole	CP41	40, 70, 100	• • • • • • • •
			60, 90	• • • • • • • •

Single Color LEDs: Mid- & High-Power

Footprint (mm)	LED		Max Power	Colors
2.05 x 1.6		XLamp XE-G	10W	• • • • • • • • • • • • • •
1.6 x 1.6		XLamp XQ-E HI	5W	• • • • • • • • • • • • • •
		XLamp XQ-E Plus HI	5W	• • • • • • • • • • • • • •
		XLamp XQ-E HD	5W	• • • • • • • • • • • • • •
		XLamp XQ-E Plus HD	5W	• • • • • • • • • • • • • •
		XLamp XQ-A	1W	• • • • • • • • • • • • • •
3.45 x 3.45		XLamp XP-E2	5W	• • • • • • • • • • • • • •
2.45 x 2.45		XLamp XB-D	3W	• • • • • • • • • • • • • •
2.8 x 3.5		JE2835 3V N	0.8W	• • • • • • • • • • • • • •
3.4 x 3.5		CLX6F	0.4W	• • • • • • • • • • • • • •

XLamp® White LEDs: Ceramic Mid- & High-Power

Footprint (mm)	XLamp® LED		Version	Voltage Class	Max. Current (A)	Max Light Output (lm)	CRI Options			
1.60	XQ-A		---	3V	0.300	90	70	80	90	
	XQ-E		Plus High Intensity	3V	1.500	424	70	80	90	
			Plus High Density	3V	1.500	476	70	80	90	
	XD16		Premium White	3V	2.000	688	70	80	90	
1.6 x 2.05	XE-G		---	3V	3.000	917	70	80	90	
2.45	XB-D		---	3V	1.000	328	70	80	90	
3.45	XP-E2		---	3V	1.500	435	70	80	90	
	XP-P		<70 CRI	3V	3.000	767	<70			

- High-power LEDs that deliver the industry's highest lumen density and efficacy
- Pro9™ versions deliver up to 10% higher efficacy for 90 & 95 CRI

Footprint (mm)	XLamp® LED		Version	Voltage Class	Max. Current (A)	Max Light Output (lm)	CRI Options			
1.60	XQ-A		---	3V	0.300	90	70	80	90	
	XQ-E		High Intensity	3V	1.500	426	70	80	90	
			Plus High Intensity	3V	1.500	424	70	80	90	
			High Density	3V	1.500	431	70	80	90	
			Plus High Density	3V	1.500	476	70	80	90	
	XD16		Premium White	3V	2.000	688	70	80	90	
1.6 x 2.05	XE-G		---	3V	3.000	917	70	80	90	
2.45	XB-D		---	3V	1.000	328	70	80	90	
3.45	XP-E2		---	3V	1.500	435	70	80	90	
	XT-E		High Efficacy	3V	1.500	627	70	80	90	
	XP-P		<70 CRI	3V	3.000	767	<70			
			70+ CRI	3V	2.500	703	70	80	90	
	XP-G3		Standard	3V	2.000	769	70	80	90	
			S Line	3V	2.000	803	70			
	XP-G4		Standard	3V	3.000	1,130	70	80	90	
			Pro9™	3V	2.000	695			90	95
			High Intensity	3V	3.000	1,017	70	80	90	
	XP-L2		---	3V	3.000	1,269	70	80	90	
	XHP35.2		High Intensity Standard	12V	1.500	1,808	70	80	90	95
				3V/6V	6.0 (3V) 3.0 (6V)	1,808	<70			
			High Intensity Pro9™	12V	0.700	849			90	95
			High Density Standard	12V	1.500	1,946	70	80	90	
				3V/6V	6.0 (3V) 3.0 (6V)	1,946	<70			
			High Density Pro9™	12V	0.700	983			90	95

- Broadcast color options, featuring TLCI 90 or 95 minimum at 5700K CCT, available on XP-G3, XP-G4, XP-L2, XHP35.2, XHP50.3 & XHP70.3

Footprint (mm)	XLamp® LED		Version	Voltage Class	Max. Current (A)	Max Light Output (lm)	CRI Options			
5.00	XM-L3		---	3V	5.000	1,783	<70			
	XHP50.3		High Intensity	6V/12V	3.0 (6V) 1.5 (12V)	2,191	70	80	90	95
				3V	6.000	2,191	<70			
			High Density	6V/12V	3.0 (6V) 1.5 (12V)	2,320	70	80	90	
				3V	6.000	2,320	<70			
7.00	XHP70.3		High Intensity	6V/12V	7.2 (6V) 3.6 (12V)	5,157	70	80	90	95
				3V	14.4	5,157	<70			
			High Density	6V/12V	7.2 (6V) 3.6 (12V)	5,511	70	80	90	
				3V	14.4	5,511	<70			
	XFL05K		---	3V	15*	7,955	70	80		
10.0	XFL08K		---	3V	27*	13,642	70			
	XFL10K		---	3V	32*	15,745	70			

* XFL family LEDs should only be driven at maximum current for up to 60 seconds at a time. Please see the XFL data sheet for more details.

J Series® LEDs: 2835 Pro9™

- Up to 24% higher efficacy for 90 CRI over standard version LEDs

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 90 CRI		Max. Current (mA)	CCT Min	CCT Max	CRI Options			
				Typ. Flux (lm)	Typ. LPW							
3V	JB2835B / G	55	2.67	30.5	208	480	2700K	6500K			90	
	JB2835B / J	55	2.68	30.2	205	480	2700K	6500K			90	
	JE2835B / N	55	2.70	29.4	198	240	2700K	6500K			90	
9V	JK2835B / U	100	9.10	133	146	120	2700K	6500K			90	

J Series LEDs: 2835 Standard

- 3-V J & N Class available with Precision Dimming, a simplified binning scheme that improves consistency when dimming LEDs to low current

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 80 CRI		Max. Current (mA)	CCT Min	CCT Max	CRI Options			
				Typ. Flux (lm)	Typ. LPW							
3V	JB2835B / G	55	2.67	32.1	219	480	2200K	6500K	70	80	90	
	JB2835B / J	55	2.68	31.0	210	480	2700K	6500K	70	80	90	
	JE2835B / N	150	2.86	78.1	182	240	2200K	6500K	70	80	90	95
	JE2835B / P	150	3.04	77	169	240	2700K	6500K	70	80	90	95
	JE2835 / R	150	2.95	73.5	166	240	2200K	6500K	70	80	90	
	JE2835B / T	150	2.98	70	157	240	2700K	6500K		80	90	
	JB2835 / W	60	2.91	30.4	174	150	2200K	6500K		80	90	
	JB2835B / X	60	3.14	26.2	139	120	2700K	6500K		80	90	
6V	JK2835 / P	150	6.07	154	169	240	2700K	6500K	70	80	90	
	JK2835B / W	150	6.35	137	144	200	2700K	6500K	70	80	90	
9V	JK2835B / U	100	9.10	143	157	120	2200K	6500K		80	90	
	JK2835B / W	100	9.15	132	144	120	2200K	6500K	70	80	90	
18V	JK2835B / U	50	18.1	141	156	60	2200K	6500K		80	90	
	JK2835 / X	50	18.5	131	142	60	2200K	6500K	70	80	90	

J Series LEDs: 2016

- Compact, thin package that is three times smaller than 2835 LEDs

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 80 CRI		Max. Current (mA)	CCT Min	CCT Max	CRI Options			
				Typ. Flux (lm)	Typ. LPW							
3V	JB2016B / L	60	2.85	30.4	178	120	2200K	6500K		80	90	95
	JB2016B / P	60	3.0	27.8	154	120	2200K	6500K		80	90	95

J Series® LEDs: 7070

- High LPW platform that can deliver over 2,000 lm for less optically-sensitive applications

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 70 CRI		Max. Current (mA)	CCT Min	CCT Max	CRI Options			
				Typ. Flux (lm)	Typ. LPW							
12V	JU7070B / K	700	11.8	1,580	192	1200	2200K	6500K	70	80	90	
36V	JU7070B / K	233	35.4	1,580	192	400	2200K	6500K	70	80	90	

J Series LEDs: 5050

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 70 CRI		Max. Current (mA)	CCT Min	CCT Max	CRI Options			
				Typ. Flux (lm)	Typ. LPW							
6V	JR5050C / E	400	5.63	480	213	1000	2200K	6500K	70	80	90	
	JR5050B / K	400	5.67	455	201	1000	2700K	6500K	70	80	90	
	JR5050 / P	400	5.77	442	192	1000	2700K	6500K	70	80	90	
	JR5050 / Q	400	5.8	425	183	1000	2700K	6500K	70	80	90	
9V	JR5050 / P	260	8.56	434	195	660	2700K	6500K	70	80	90	
	JR5050 / Q	260	8.6	415	186	660	2700K	6500K	70	80	90	
24V	JR5050 / P	100	23.08	442	192	240	2700K	6500K	70	80	90	
	JR5050 / Q	100	23.5	430	183	240	2700K	6500K	70	80	90	
30V	JR5050B / K	80	28.35	455	201	240	2700K	6500K	70	80	90	
36V	JR5050 / Q	65	34.5	415	185	165	2700K	6500K	70	80	90	

J Series LEDs: 3030

- High-reliability mid-power LEDs available in 757-compatible (Jx3030 HE) and 301B/H-compatible (JB3030C) footprints

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 70 CRI		Max. Current (mA)	CCT Min	CCT Max	CRI Options			
				Typ. Flux (lm)	Typ. LPW							
3V	JB3030C / E	55	2.66	35.4	242	240	2700K	6500K	70	80	90	
	JB3030C / F	55	2.67	34.1	232	240	2700K	6500K	70	80	90	
	JB3030 HE / B	65	2.70	38.3	218	480	2700K	6500K	70	80	90	
	JB3030 HE / D	65	2.79	37.9	209	240	2700K	6500K	70	80	90	
	JB3030 / P	65	2.81	35.7	196	240	2700K	6500K	70	80	90	
	JK3030 / P	350	3.15	164	149	400	2700K	6500K	70	80	90	
6V	JK3030 HE / B	150	6.00	160	178	240	2700K	6500K	70	80	90	
	JK3030 / P	150	6.14	159	173	240	2200K	6500K	70	80	90	

XLAMP® COB LEDs: CREE LED SIZES



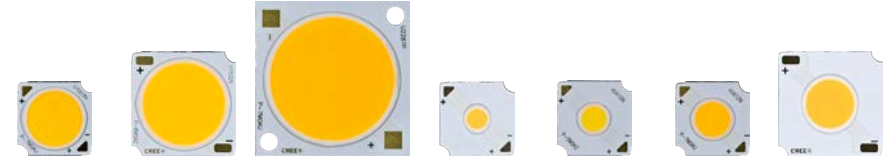
CMB1304 CMB1306	CMB1507 CMB1510 CMB1516	CMB1818 CMB1825	CMB1840	CMB2550	CMB3090
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XLamp® CMB LED Family (XLamp CXA, CXB and CMA Compatible)

- Industry-leading lumen density and efficacy for drop-in upgrades

Light Emitting Surface (mm)	XLamp	Voltage Class	Typ. Current (A)	Typ. Voltage (V)	Max. Current (A)	Max. Power (W)	Standard Version 3000 K, 80 CRI		Pro9™ Version 3000 K, 90 CRI	
							Typ Im	Typ LPW	Typ Im	Typ LPW
6	CMB1304	9V	0.400	8.3	1.200	12	545	164	545	164
		18V	0.200	16.7	0.600	12	545	164	545	164
		36V	0.100	33.3	0.300	12	545	164	545	164
	CMB1306	18V	0.400	16.7	1.200	23	998	149	1,002	150
		36V	0.200	33.3	0.600	23	998	149	1,002	150
		36V	0.200	33.3	0.600	23	998	149	1,002	150
9	CMB1507	18V	0.400	16.8	1.200	23	1,106	167	1,110	167
		36V	0.200	33.5	0.600	23	1,106	167	1,110	167
	CMB1510	18V	0.700	17.0	1.800	35	1,874	157	1,827	154
		36V	0.350	34.0	0.900	35	1,874	157	1,827	154
	CMB1516	36V	0.450	34.0	1.200	46	2,416	158	2,427	159
		36V	0.450	34.0	1.200	46	2,416	158	2,427	159
12	CMB1818	36V	0.500	33.5	1.500	57	2,762	165	2,720	162
	CMB1825	36V	0.700	34.0	1.800	69	3,703	156	3,717	156
14	CMB1840	36V	1.100	34.4	2.400	91	5,693	150	5,773	153
19	CMB2550	36V	1.400	34.0	3.600	137	7,491	157	7,513	158
23	CMB3090	48V	1.800	45.4	3.600	176	12,405	152	12,441	152
		72V	1.200	68.1	2.400	176	12,405	152	12,441	152

XLAMP® COB LEDs: NON-CREE LED SIZES



CMU10xx	CMU15xx	CMU22xx	CHA0304	CHA0410	CHA0612	CHA0825
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XLamp® CMU LED Family (Standard/D Series Compatible)

- Higher max. current, min. flux values and typical efficacy than competitors

Light Emitting Surface (mm)	XLamp	Voltage Class	Typ. Current (A)	Typ. Voltage (V)	Max. Current (A)	Max. Power (W)	Standard Version 3000 K, 80 CRI		Pro9™ Version 3000 K, 90 CRI	
							Typ Im	Typ LPW	Typ Im	Typ LPW
9.8	CMU1003	36V	0.090	33.6	0.240	9	533	176	522	172
	CMU1006	36V	0.180	33.6	0.480	17	1,051	174	1,032	170
	CMU1010	36V	0.270	33.6	0.720	26	1,550	171	1,524	167
	CMU1013	36V	0.360	33.6	0.960	35	2,025	167	1,992	164
14.5	CMU1516	36V	0.450	33.6	1.200	43	2,644	175	2,575	170
	CMU1519	36V	0.540	33.6	1.440	52	3,139	173	3,057	168
	CMU1526	36V	0.720	33.6	1.920	69	4,102	170	3,995	165
	CMU1532	36V	0.900	33.6	2.400	86	5,098	169	4,963	164
22	CMU2236	36V	0.990	33.6	2.640	95	5,839	176	5,737	172
	CMU2239	36V	1.080	33.6	2.880	104	6,367	175	6,253	172
	CMU2258	54V	1.080	50.5	2.880	156	9,321	171	9,154	168
	CMU2287	54V	1.620	50.5	4.320	233	13,603	166	13,361	163

XLamp® CHA LED Family (High Intensity Series Compatible)

- Smaller LES options with similar lumen density to CXA2 HD family

Light Emitting Surface (mm)	XLamp	Voltage Class	Typ. Current (A)	Typ. Voltage (V)	Max. Current (A)	Max. Power (W)	Standard Version 3000 K, 80 CRI		Pro9™ Version 3000 K, 90 CRI	
							Typ Im	Typ LPW	Typ Im	Typ LPW
3.3	CHA0304	21V	0.175	20.8	0.300	7	454	125	460	125
4.2	CHA0410	12V	0.525	12	0.900	12	804	128	801	127
		36V	0.175	35.8	0.300	12	806	129	801	127
6.0	CHA0612	18V	0.700	18	1.200	24	1,603	127	1,623	129
		36V	0.350	35.8	0.600	24	1,603	128	1,623	129
8.5	CHA0825	36V	0.700	35.8	1.200	47	3,246	130	3,528	140

SINGLE COLOR LEDS

LED	XLamp® XE-G	XLamp XQ-E High Intensity	XLamp XQ-E Plus High Intensity	XLamp XQ-E High Density	XLamp XQ-E Plus High Density	XLamp XQ-A
Footprint (mm)	1.6x2.05	1.6x1.6	1.6x1.6	1.6x1.6	1.6x1.6	1.6x1.6
Max Power (W)	10	5	5	5	5	5
White						
Violet 400-420 nm						
Royal Blue 450-465 nm						
Blue 465-480 nm						
PC Blue						
Cyan 490-510 nm						
PC Cyan						
Green 520-535 nm						
PC Mint						
PC Lime						
PC Yellow						
Amber 585-595 nm						
PC Amber						
PC Red-Orange						
Red-Orange 610-620 nm						
PC Red						
Red 620-630 nm						
Photo Red 650-670 nm						
Far Red 720-740 nm						

SINGLE COLOR LEDS

LED	XLamp XP-G3	XLamp XP-E2	XLamp XB-D	JE2835 3-V N	CLX6F
Footprint (mm)	3.45x3.45	3.45x3.45	2.45x2.45	2.8x3.5	3.5x3.4
Max Power (W)	6	5	3	0.8	0.4
White					
Violet 400-420 nm					
Royal Blue 450-465 nm					
Blue 465-480 nm					
PC Blue					
Cyan 490-510 nm					
PC Cyan					
Green 520-535 nm					
PC Mint					
PC Lime					
PC Yellow					
Amber 585-595 nm					
PC Amber					
PC Red-Orange					
Red-Orange 610-620 nm					
PC Red					
Red 620-630 nm					
Photo Red 650-670 nm					
Far Red 720-740 nm					

Footprint (mm)	LED Family	Max Current per Color	Version	Color	Order Code Prefix	
5.0 x 5.0	XLamp XM-L Color Gen 2	1,750 mA	High Intensity	RGB+White	XMLDCL-H0	
			High Density	RGB+White	XMLDCL-00	
3.45 x 3.45	XLamp XP-L Color	1,000 mA	High Intensity	RGB+White	XPLDCL-H0	
			High Density	RGB+White	XPLDCL-00	
5.2 x 5.0	CLQ6x	180+ mA	White Body	RGB+White	CLQ6C-TKW	
			White Body	RGB+Amber	CLQ6A-YKW	
			White Body	RGB	CLQ6A-FKW	
3.8 x 3.8	CLR6A	65 mA	White Body	RGB+White	CLR6A-TKW	
3.5 x 3.5	CLW6A	30 mA	White Body	RGB+White	CLW6A-TKW	
			Black Body	RGB+White	CLW6A-TKC	
			White Body	RGB+Amber	CLW6A-YKW	
			White Body	RGB+Mint	CLW6A-MKW	
3.5 x 3.4	CLX6F	35	Black Face	RGB	CLX6F-FKB	

Please see the Full Color Screens (page 23) for the SMD multi-color High Brightness LEDs.

PLCC Surface Mount

Size (mm)	Product Series	Angles (°)	Blue	Cyan	Green	Amber	Orange	Red	Cool White	Warm White
3.2 x 2.8	CLA	120							•	•
3.2 x 2.8	CLM1	120	•	•	•	•		•	•	
3.2 x 2.7 3.2 x 2.8	CLM2	30	•	•	•	•		•		
		30 min	•	•	•	•		•		
		50				•		•		
		60	•		•	•		•		
2.7 x 2.0	CLM3	120	•		•	•		•	•	•
3.2 x 2.7	CLM4	120	•		•	•	•	•		
6.0 x 5.0	CLP6	120				•		•	•	•
3.5 x 3.4	CLX6	110-120	•		•	•		•	•	

Through-Hole: P2

Product Series		Angle (°)	Blue	Green	Red	Amber	Cool White	Warm White
5 mm Round	C503D C503C C503B	15	●	●	●	●	●	
		15 min				●		
		23			●	●		
		30	●	●	●	●		
		30 min	●	●	●	●		
	C543A	20					●	
	C512A	25					●	
	C513A	55					●	●
	C535A	110					●	
4 mm Oval	C4SM	90/45	●	●	●			
		105/50	●	●	●			
		115/65	●	●	●			
5 mm Oval	C566	70/30			●	●		
	C5SMF	100/40	●	●	●	●		

Through-Hole: P4

Product Series		Angle (°)	Amber	Orange	Red	Cool White
CP41B CP41A		40	•	•	•	
		60				•
		70	•	•	•	
		90				•
		100	•	•	•	



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