

- ◆ **Industry Standard PLCC2 Footprint**
- ◆ **Low Profile Package**
- ◆ **High Luminous Intensity**
- ◆ **Wide Viewing Angle**
- ◆ **High Power Efficiency**



Part Number	Material	Emitted Color	Lumen Typ. mcd	Lens Color	Viewing Angle
SMTL2-RC	AlGaAs	Red	36	Water Clear	120°

Top view dimensions:

- Overall width: 0.110 [2.8mm]
- Overall height: 0.126 [3.2mm]
- Distance from top edge to center: 0.070 [1.8mm]
- Distance from right edge to center: 0.138 [3.5mm]
- Distance from top edge to top of package: 0.086 [2.2mm]
- Distance from right edge to right of package: 0.075 [1.9mm]
- Distance from bottom edge to bottom of package: 0.031 [0.8mm] TYP.

Side view dimensions:

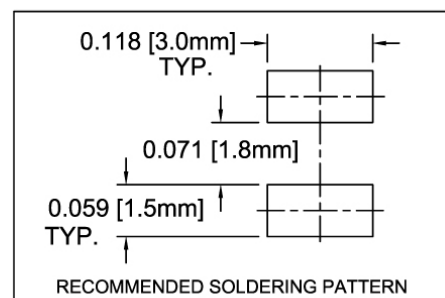
- Overall width: 0.110 [2.8mm]
- Overall height: 0.126 [3.2mm]
- Distance from top edge to center: 0.070 [1.8mm]
- Distance from right edge to center: 0.138 [3.5mm]
- Distance from top edge to top of package: 0.086 [2.2mm]
- Distance from right edge to right of package: 0.075 [1.9mm]
- Distance from bottom edge to bottom of package: 0.031 [0.8mm] TYP.

End view dimensions:

- Overall width: 0.110 [2.8mm]
- Overall height: 0.126 [3.2mm]
- Distance from top edge to center: 0.070 [1.8mm]
- Distance from right edge to center: 0.138 [3.5mm]
- Distance from top edge to top of package: 0.086 [2.2mm]
- Distance from right edge to right of package: 0.075 [1.9mm]
- Distance from bottom edge to bottom of package: 0.031 [0.8mm] TYP.

Other features:

- POLARITY ID (Polarity Identification mark)
- 1 (Pin 1)
- 2 (Pin 2)



Outline Drawings Notes:

1. All dimensions are in inches [millimeters].
2. Standard tolerance: ± 0.010 " unless otherwise noted.



PLCC2 SMD Top View Package LED SMTL2-RC, RED



Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Power Dissipation	69 mW
Continuous Forward Current	30 mA
Peak Forward Current ¹	100 mA
Reverse Voltage	5 V
Derating Linear From 25°C	0.4 mA/°C
Operating Temperature Range	-40 ~ +85°C
Storage Temperature Range	-40 ~ +85°C
Lead Soldering Temperature (1.6 mm from body) ²	260°C

Notes: 1. 10% Duty Cycle, Pulse Width ≤ 0.1 msec.

2. Solder time less than 5 seconds at temperature extreme.

Handling: Reflow soldering must not be performed more than twice. Hand soldering must not be performed more than once.

Sensitive to static electricity or surge voltage. ESD can damage the die and impair reliability.

Electrical Characteristics

T_A = 25°C & I_F = 20 mA unless otherwise noted

Emitting Color	Forward Voltage (V) ¹			Recommend Forward Current (mA)	Reverse Current (μA) V _R =5V	Dominant Wavelength (nm) ²			Luminous Intensity (mcd) ³			Viewing Angle 2 Θ ½ (deg)
	MIN	TYP	MAX	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
Red	1.7	1.9	2.2	20	10	632	640	660	28.5	36.0	57.0	120

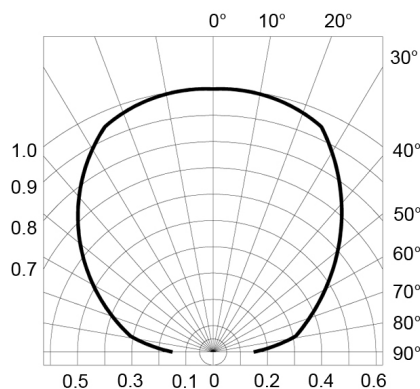
Notes: 1. Tolerance of Forward Voltage: ±0.05V.

2. Tolerance of Dominant Wavelength: -1nm of MIN & +1nm of MAX.

3. Tolerance of Luminous Intensity: ±15%.

Directivity Radiation

T_A = 25°C unless otherwise noted



Radiation Diagram

Bivar reserves the right to make changes at any time without notice.

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Typical Electrical / Optical Characteristics Curves

$T_A = 25^\circ\text{C}$ unless otherwise noted

Relative Spectrum Emission $I_{\text{rel}} = f(\lambda)$, $T_A = 25^\circ\text{C}$, $I_F = 20\text{ mA}$
 $V(\lambda)$ = Standard eye response curve

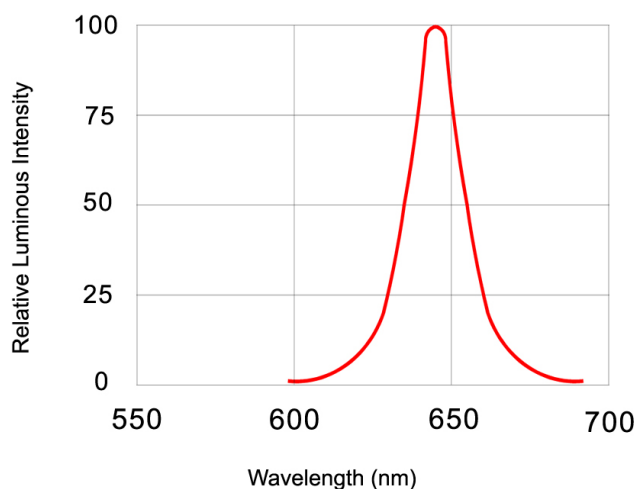


Fig.1 Relative Luminous Intensity vs. Wavelength

Forward Current $I_F = f(V_F)$
 $T_A = 25^\circ\text{C}$

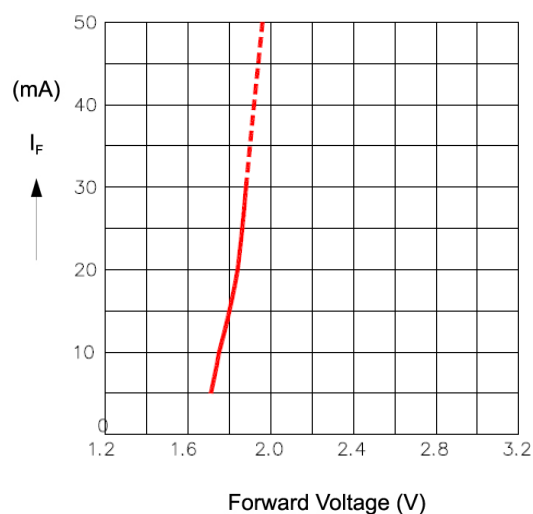


Fig.2 Forward Current vs. Forward Voltage

Relative Luminous Intensity $I_V/I_V(20\text{ mA}) = f(I_F)$
 $T_A = 25^\circ\text{C}$

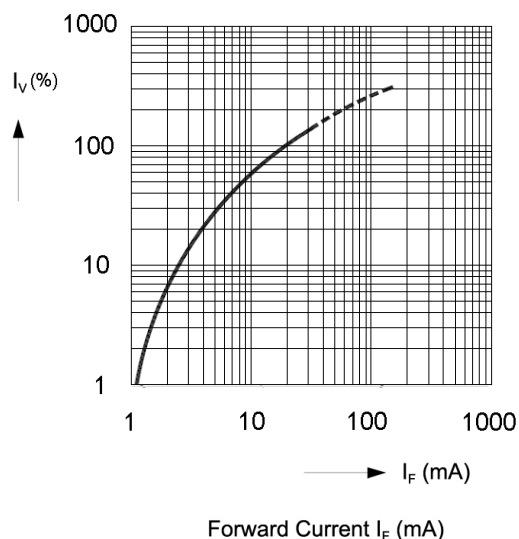


Fig.3 Relative Luminous Intensity vs. Forward Current

Ambient Temperature vs. Allowable Forward Current

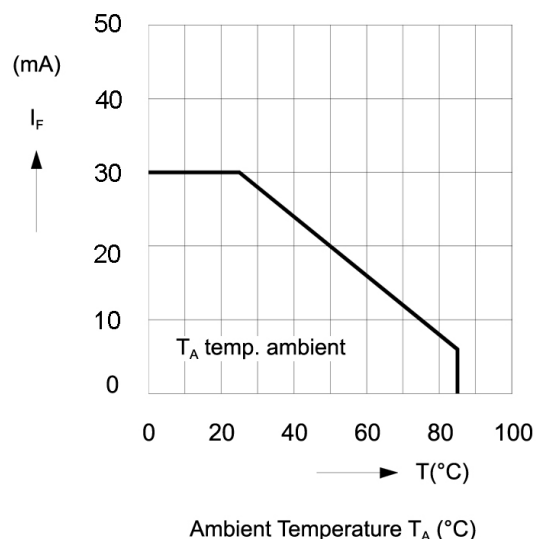
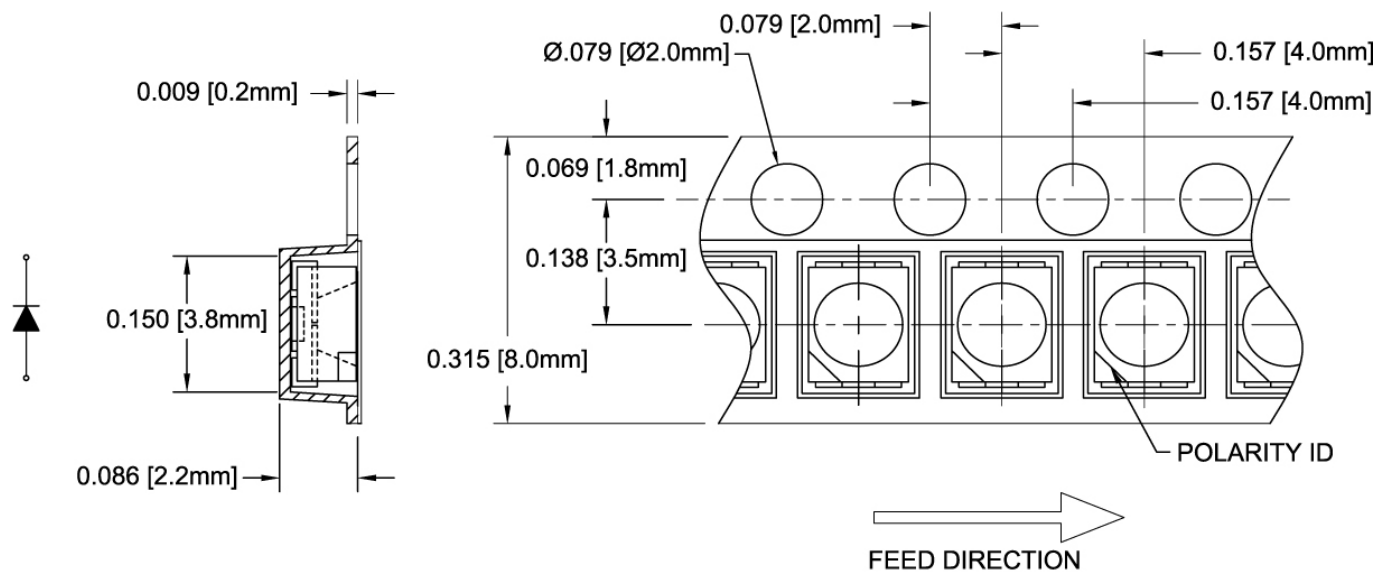
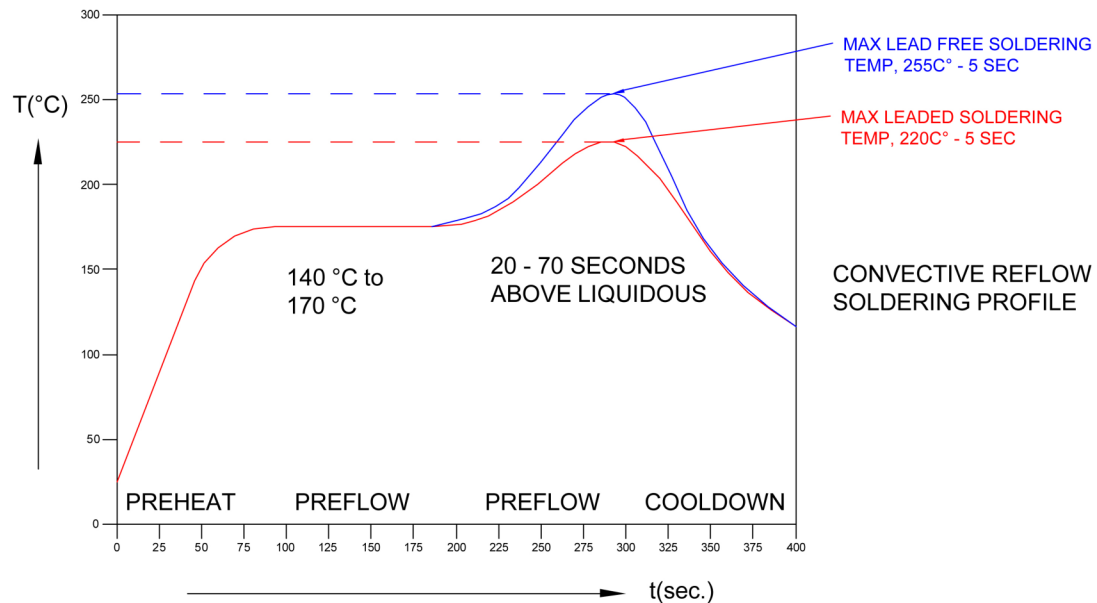
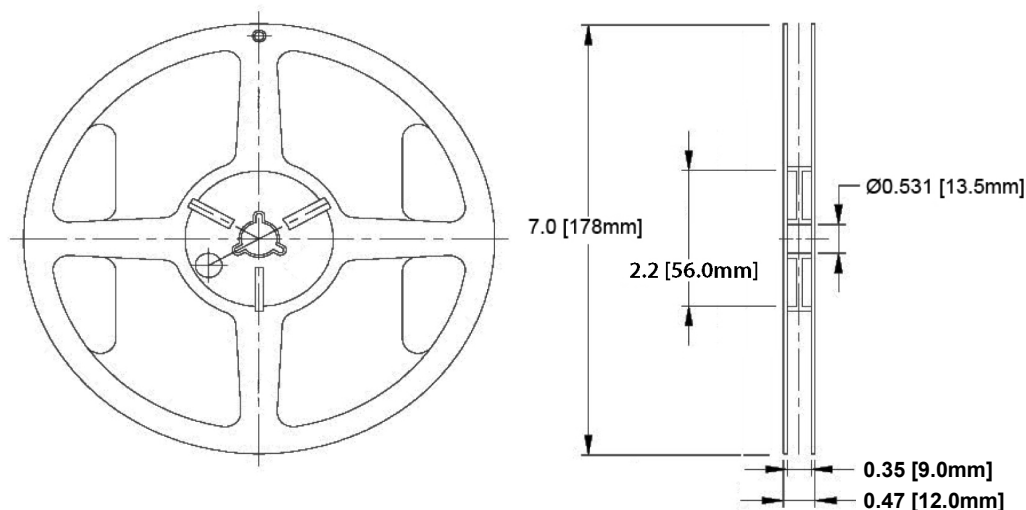


Fig.4 Forward Current vs. Ambient Temperature

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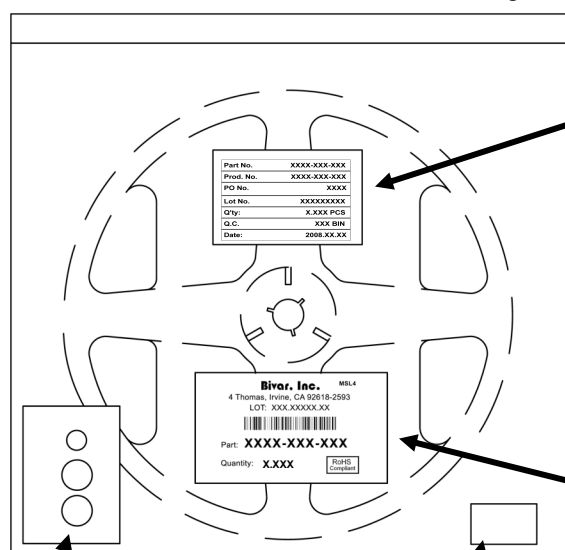
Outline Drawings Notes:

1. All dimensions are in inches [millimeters].
2. Standard tolerance unless otherwise noted: $X.XXX \pm 0.010"$
 $X.X \pm 0.1"$

Packaging and Labeling Plan

Note: 1 Reel / Bag

Sealed ESD and Moisture Barrier Bag



Humidity Indicator Card

Desiccant

Part No.	XXXX-XXX-XXX
Prod. No.	XXXX-XXX-XXX
PO No.	XXXX
Lot No.	XXXXXXXXXX
Q'ty:	X.XXX PCS
Q.C.	XXX BIN
Date:	2008.XX.XX

Internal Quality Control Label



Bivar Standard Packaging Label

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