# PLCC4 SMD Top View Package LED SMTL4-RGB, RED/GREEN/BLUE

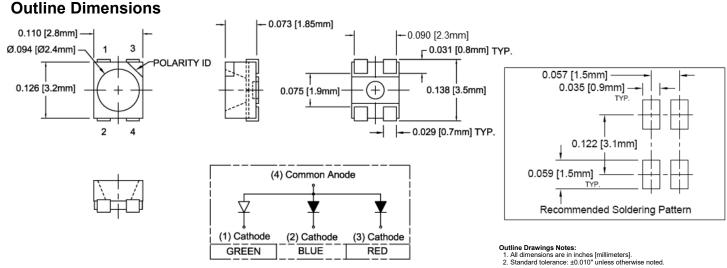


## SMTL4-RGB

- Industry Standard PLCC4 Footprint
- 3 Chips in One Low Profile Package
- High Luminous Intensity
- Wide Viewing Angle
- High Power Efficiency

Bivar SMTL4 Tri-Color LED combines three chips in a single package and is offered in an industry standard PLCC4 footprint. The SMTL4 LED has a water clear lens for high luminous intensity and wide viewing angle making them ideal for small scale applications such as illumination, general indication, and backlighting. The flexible three chip design allows for a wide variety of lighting options where the chips can be individually driven or mixed to create different color combinations. The robust package is ideal for harsh working environments and can be clustered in LED arrays for high luminous applications. Low power consumption and excellent long life reliability are suitable for battery powered equipment. Bivar SMTL4 LED is packaged in standard tape and reels for pick and place assemblies.

Part Number	Material	Emitted Color	Luminous Intensity Typ. mcd	Lens Color	Viewing Angle	
SMTL4-RGB	AlGaAs	Red	28.5		120°	
	GaP	Green	22.5	Water Clear		
	GaN	Blue	11.5			







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



# Absolute Maximum Ratings T<sub>A</sub> = 25°C unless otherwise noted

Power Dissipation	Red, Green - 72 mW Blue - 100mW
Continuous Forward Current	Red, Green - 30 mA Blue - 25mA
Peak Forward Current <sup>1</sup>	100 mA
Reverse Voltage	5 V
Electrostatic Discharge Classification (HBM)	2000 V
Derating Linear From 25°C	0.4 mA/°C
Operating Temperature Range	-40 ~ +85°C
Storage Temperature Range	-40 ~ +85°C
Soldering Temperature <sup>2</sup>	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. Proper handling required to avoid ESD damage and impair LED reliability.

### **Electrical Characteristics**

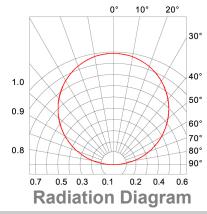
 $T_A = 25^{\circ}C \& I_F = 20 \text{ mA}$  unless otherwise noted

Emitting Color	Forward Voltage (V)		Recommend Forward Current (mA)	Reverse Current (µA) V <sub>R</sub> =5V	Dominant Wavelength (nm) <sup>2</sup>				-	Viewing Angle 2 ⊖ ½ (deg)		
	MIN	TYP	MAX	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
Red	1.6	1.9	2.3	20	10	632	640	660	18.0	28.5	36.0	
Green	2.0	2.3	2.6	20	10	568	570	574	18.0	22.5	36.0	120
Blue	4.0	4.3	4.8	20	10	461	466	469	7.2	11.5	14.5	

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<sub>A</sub> = 25°C unless otherwise noted





#### Typical Electrical / Optical Characteristics Curves

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

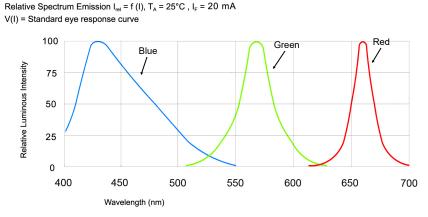


Fig.1 Relative Luminous Intensity vs. Wavelength

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

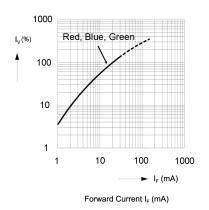
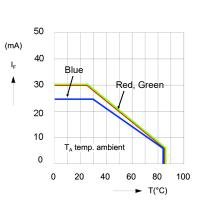


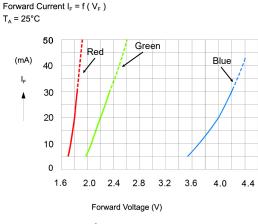
Fig.2 Relative Luminous Intensity vs. Forward Current

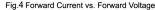


Ambient Temperature vs. Allowable Forward Current

Ambient Temperature T<sub>A</sub> (°C)

Fig.3 Forward Current vs. Ambient Temperature



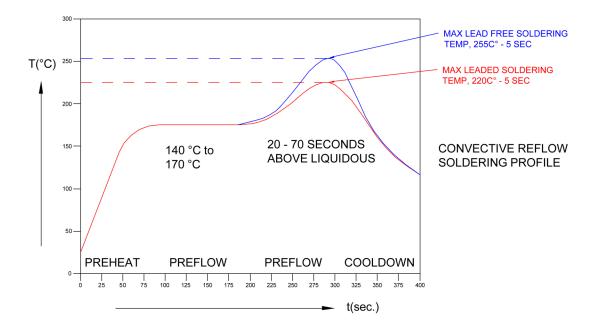


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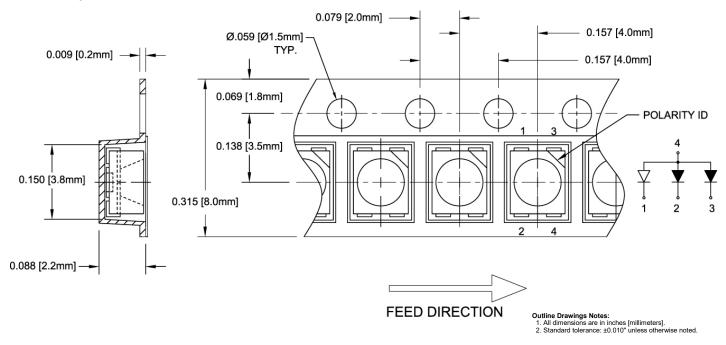


#### **Recommended Soldering Conditions**



### **Tape and Reel Dimensions**

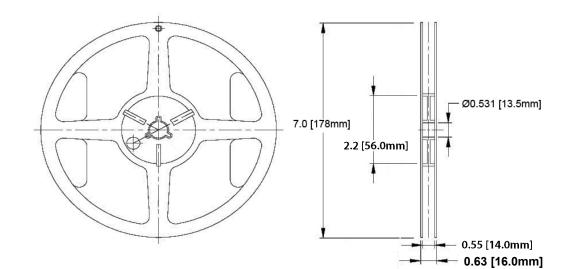
#### Note: 2000 pcs/Reel



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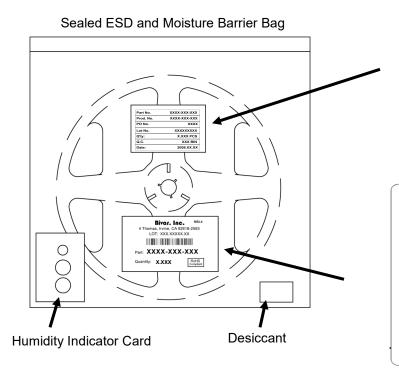
Outline Drawings Notes:

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

 $X.X \pm 0.1$ "

## Packaging and Labeling Plan

## Note: 1 Reel / Bag



XXXX-XXX-XXX				
XXXX-XXX-XXX				
хххх				
XXXXXXXXX				
X.XXX PCS				
XXX BIN				
2008.XX.XX				

Internal Quality Control Label

Bivar. Inc.	MSL4				
4 Thomas, Irvine, CA 92618-2593					
LOT: XXX.XXXXX.XX					
Part: XXXX-XXX-XXX					
Quantity: X.XXX	RoHS Compliant				

**Bivar Standard Packaging Label** 

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# **Mouser Electronics**

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

BIVAR:

SMTL4-RGB