PLCC4 SMD Top View Package LED SMTL4-SRGY, RED/GREEN/YELLOW

BIVAR

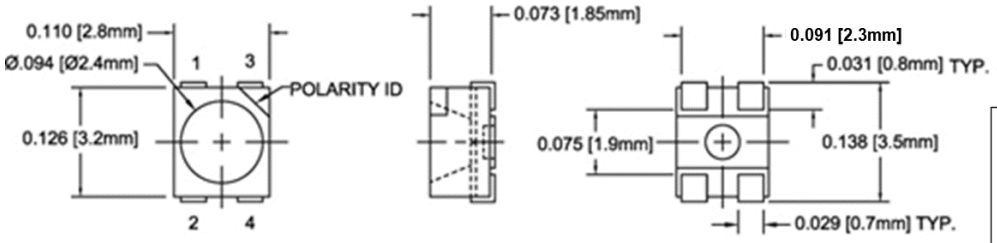
SMTL4-SRGY

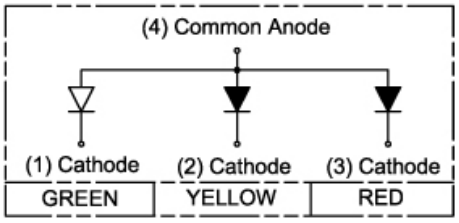
- **Industry Standard PLCC4 Footprint**
- **3 Super Bright Chips in One Low Profile Package**
- **High Luminous Intensity**
- **Wide Viewing Angle**
- **High Power Efficiency**

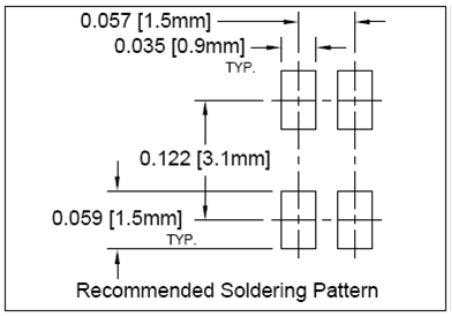
Bivar SMTL4 Super Bright Tri-Color LED combines three chips in a single package and is offered in an industry standard PLCC4 footprint. The SMTL4 LED has a water clear lens for high luminous intensity and wide viewing angle making them ideal for outdoor illumination applications where higher ambient lighting conditions exist. 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	Lumen Typ. mcd	Lens Color	Viewing Angle
SMTL4-SRGY	AlGaInP	Red	180	Water Clear	120°
	InGaN	Green	1450		
	AlGaInP	Yellow	180		

Outline Dimensions







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

ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

RoHS Compliant

Moisture Sensitivity Levels 4

Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Power Dissipation	Red, Yellow - 78 mW Green - 100 mW
Continuous Forward Current	Red, Yellow - 30 mA Green - 25 mA
Peak Forward Current [1]	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[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. Proper handling required to avoid ESD damage and impair LED reliability.

Electrical Characteristics

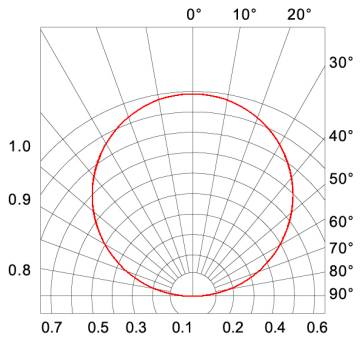
T_A = 25°C & I_F = 20 mA unless otherwise noted

Emitting Color	Forward Voltage (V)		Recommend Forward Current (mA)	Reverse Current (μA) V_R=5V	Dominant Wavelength (nm)[2]			Luminous Intensity (mcd)[3]			Viewing Angle 2 Θ ½ (deg)
	TYP	MAX	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
Red	1.9	2.6	20	10	623	625	640	115	180	285	120
Green	3.3	4.5	20	10	516	522	525	1050	1450	1650	
Yellow	1.9	2.4	20	10	585	590	594	115	180	285	

Notes: 1. Tolerance of Forward Voltage : ±0.05V.
2. Tolerance of Dominant Wavelength : ±1nm.
3. Tolerance of Luminous Intensity : ±15%.

Directivity Radiation

T_A = 25°C unless otherwise noted



Radiation Diagram

Typical Electrical / Optical Characteristics Curves

T_A = 25°C unless otherwise noted

Relative Spectrum Emission I_{rel} = f (l), T_A = 25°C , I_F = 20 mA
V(l) = Standard eye response curve

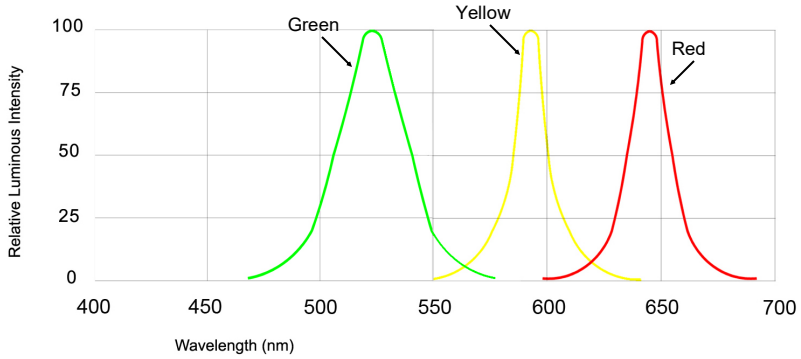
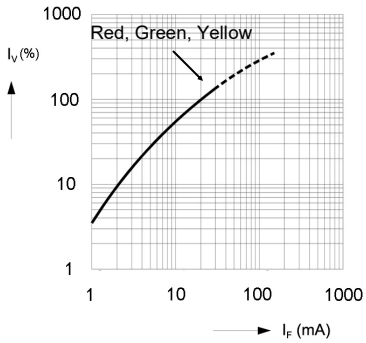


Fig.1 Relative Luminous Intensity vs. Wavelength

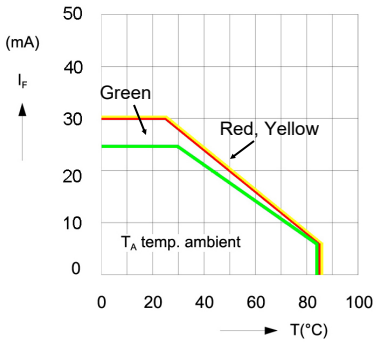
Relative Luminous Intensity I_V/I_V (20 mA) = f (I_F)
T_A = 25°C



Forward Current I_F (mA)

Fig.2 Relative Luminous Intensity vs. Forward Current

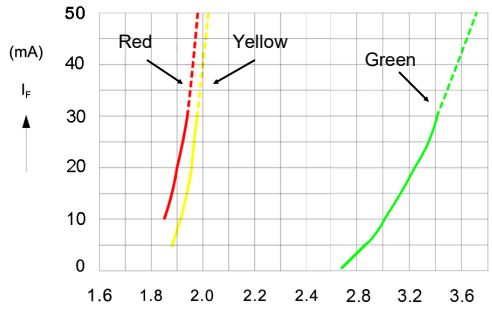
Ambient Temperature vs. Allowable Forward Current



Ambient Temperature T_A (°C)

Fig.3 Forward Current vs. Ambient Temperature

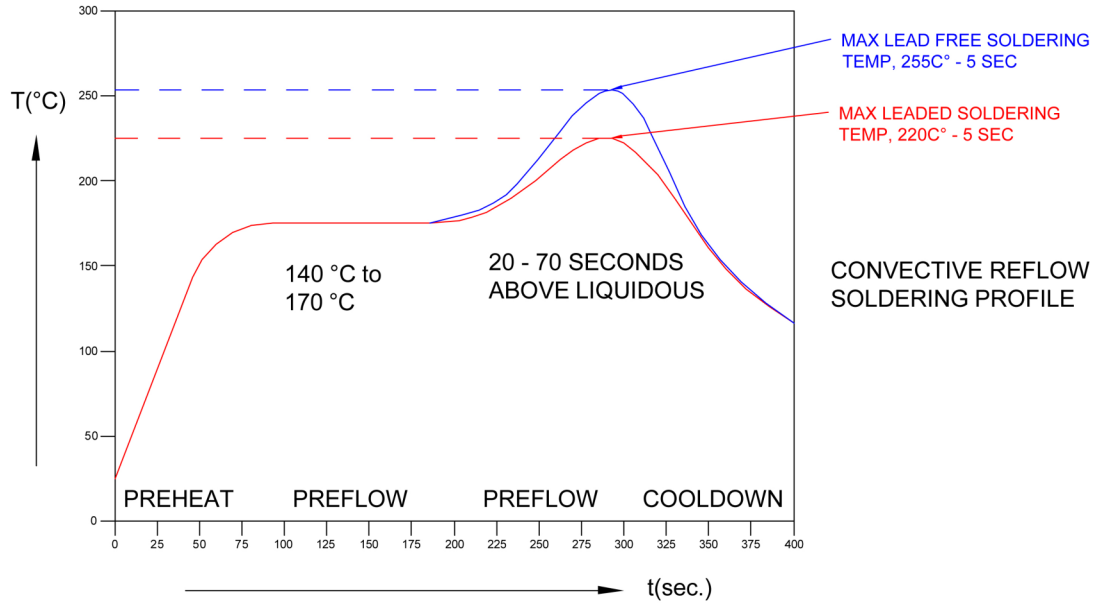
Forward Current I_F = f (V_F)
T_A = 25°C



Forward Voltage (V)

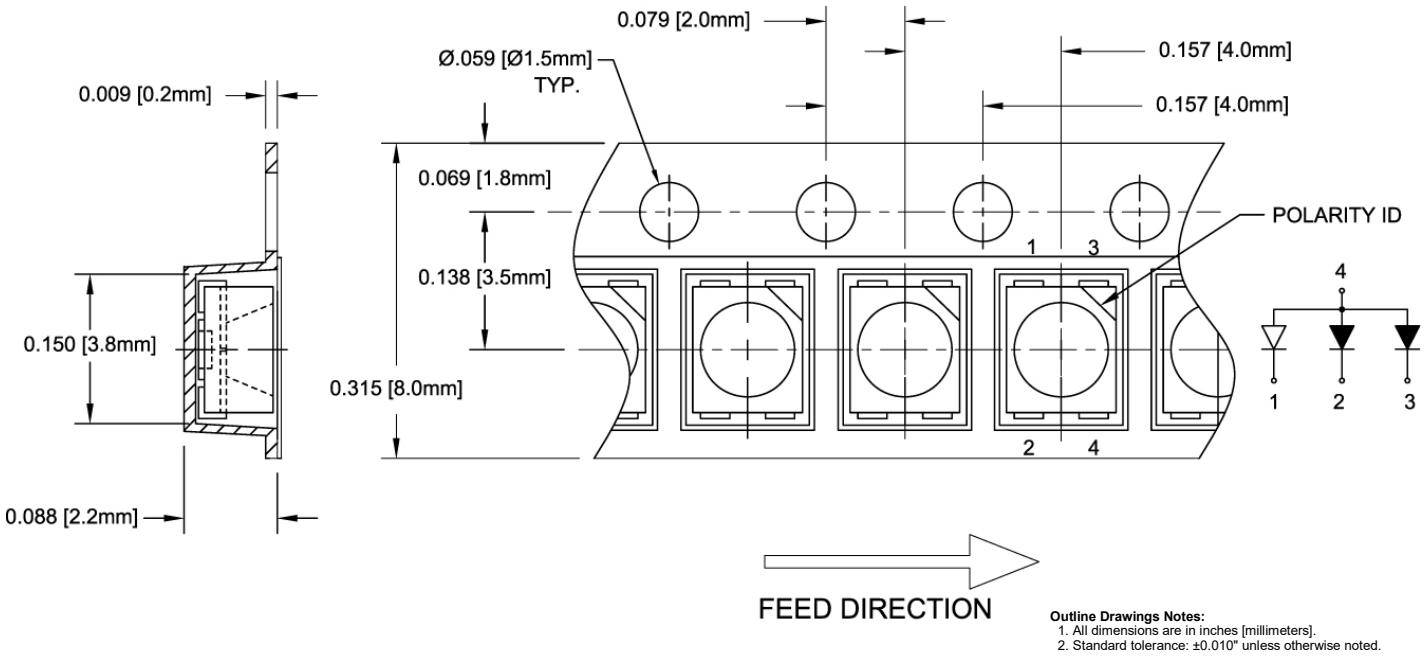
Fig.4 Forward Current vs. Forward Voltage

Recommended Soldering Conditions



Tape and Reel Dimensions

Note: 2000 pcs/Reel



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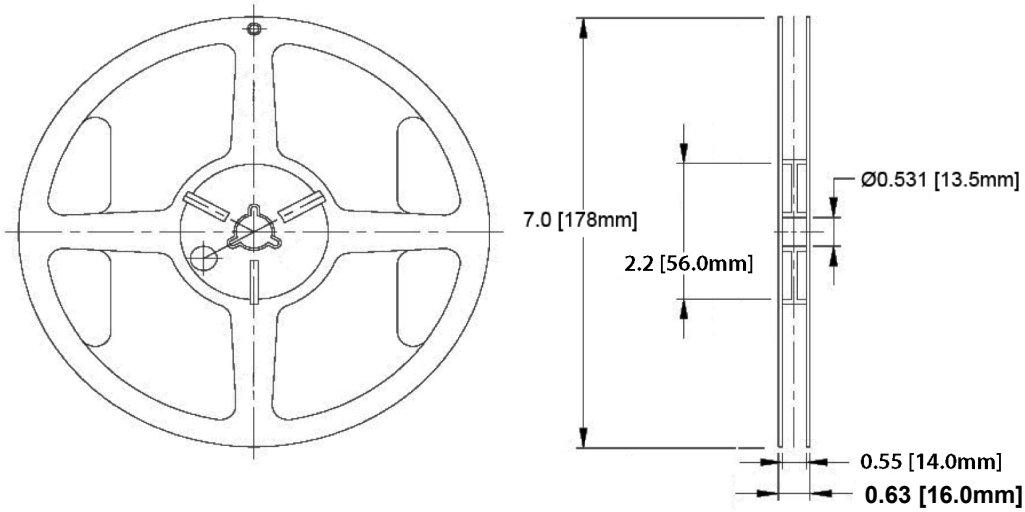

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1. All dimensions are in inches [millimeters].
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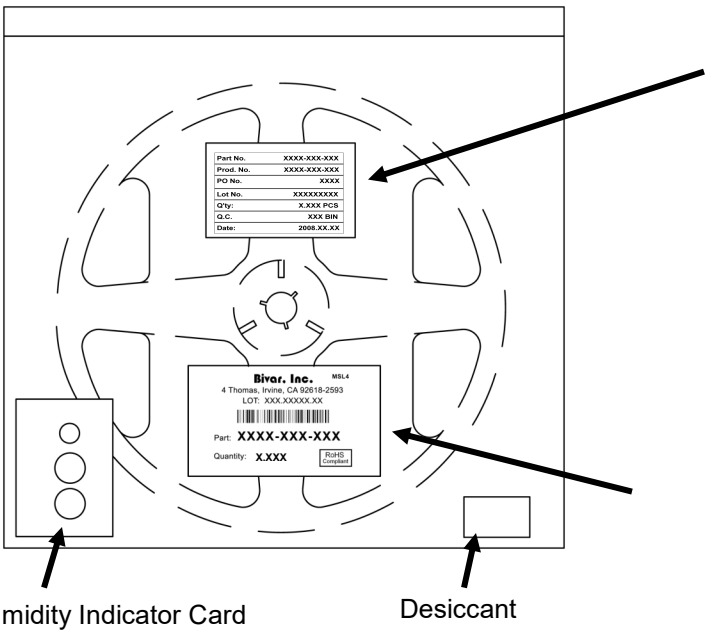
   X.X ± 0.1"

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.	**XXXXXXXXX**
Q'ty:	**X.XXX PCS**
Q.C.	**XXX BIN**
Date:	**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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REVISION HISTORY			
Rev	**Description**	**Date**	**Approved**
A	Engineering Release	02/26/2016	Jeffrey Chiang
B	Typo Correction - Page 1, Lumen Typ. mcd, 1450.	09/15/2016	Jeffrey Chiang
C	Updated Dimensions and Properties.	05/30/2024	Ricardo Pereyra