

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

BIVAR

SMTL4-RGY

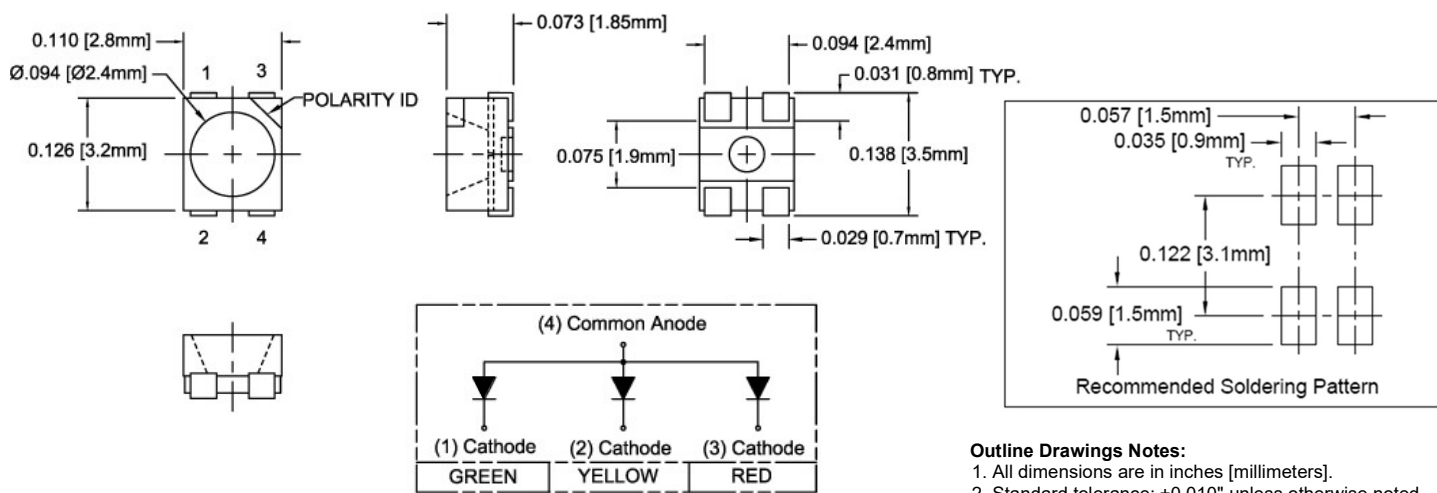
- ◆ Industry Standard PLCC4 Footprint
- ◆ 3 Chips in One Low Profile Package
- ◆ High Luminous Intensity
- ◆ Wide Viewing Angle
- ◆ High Power Efficiency



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 Typical (mcd)	Lens Color	Viewing Angle
SMTL4-RGY	AlGaAs	Ultra Red	36.0	Water Clear	120°
	GaP	Yellow Green	28.5		
	GaAsP	Yellow	14.5		

Outline Dimensions



Outline Drawings Notes:

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



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

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



Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Power Dissipation	72 mW
Forward Current (DC)	30 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
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.

Electrical / Optical Characteristics

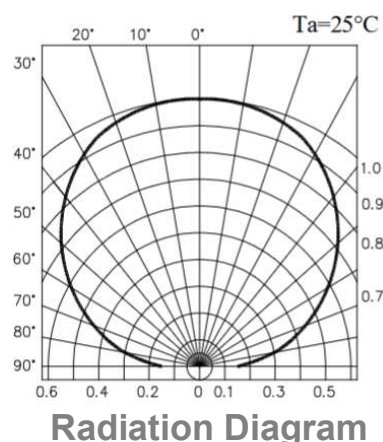
T_A = 25°C & I_F = 20 mA unless otherwise noted

Emitting Color	Forward Voltage (V) ¹			Recommend Forward Current (mA)			Reverse Current (μA) V _R =5V	Dominant Wavelength (nm) ²			Luminous Intensity I _v (mcd) ³			Viewing Angle 2θ ½ (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
Red	/	1.9	2.4	/	20	/	10	632	640	660	28.5	36.0	45.0	120
Green	/	1.9	2.4	/	20	/	10	568	570	574	22.5	28.5	45.0	
Yellow	/	1.9	2.4	/	20	/	10	582	585	591	11.5	14.5	22.5	

Notes: 1. Tolerance of forward voltage : ±0.05V. 2. Tolerance of dominant wavelength : ±1.0nm. 3. Tolerance of luminous intensity : ±10%.

Directivity Radiation

T_A = 25°C unless otherwise noted



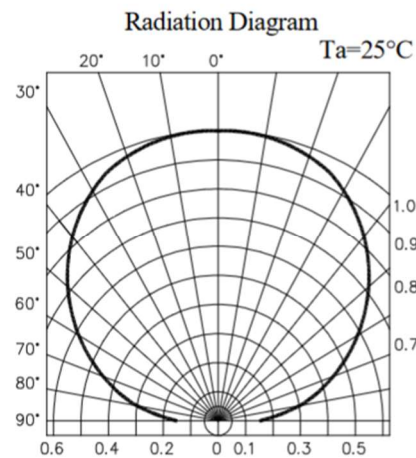
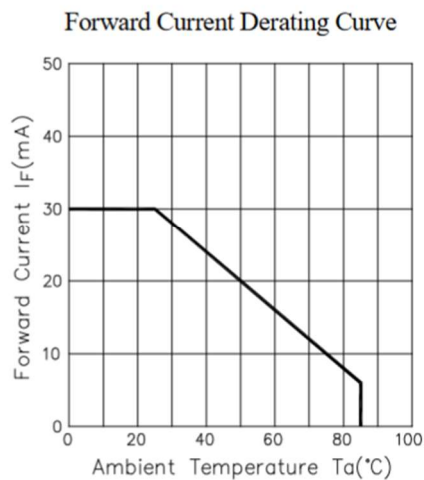
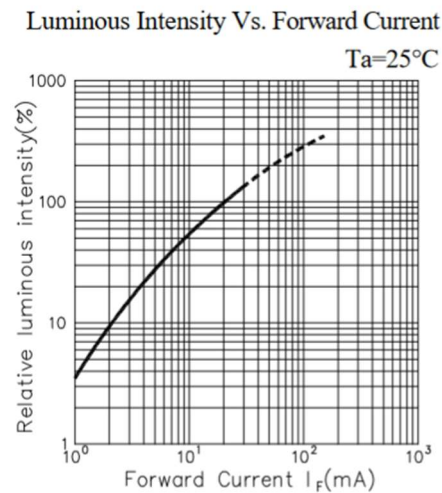
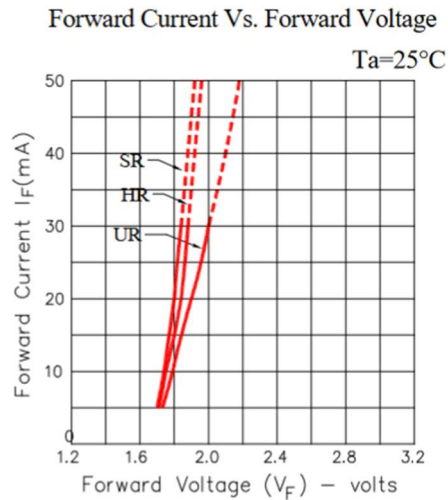
Bivar reserves the right to make changes at any time without notice.

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

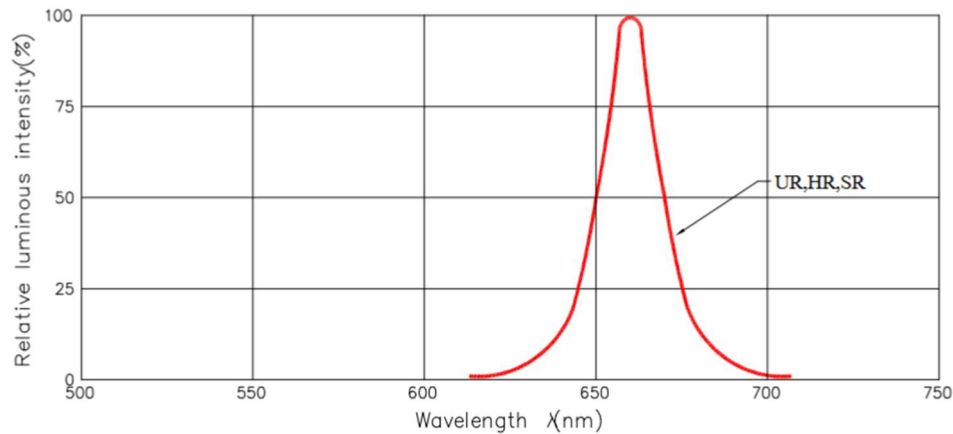


Typical Electrical / Optical Characteristics

T_A = 25°C unless otherwise noted



Spectrum Distribution



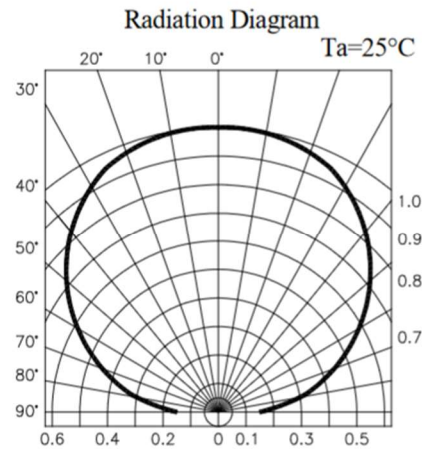
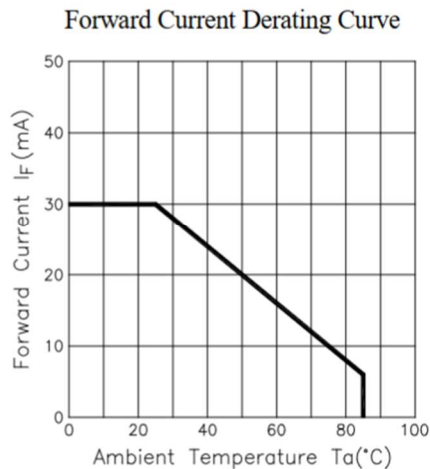
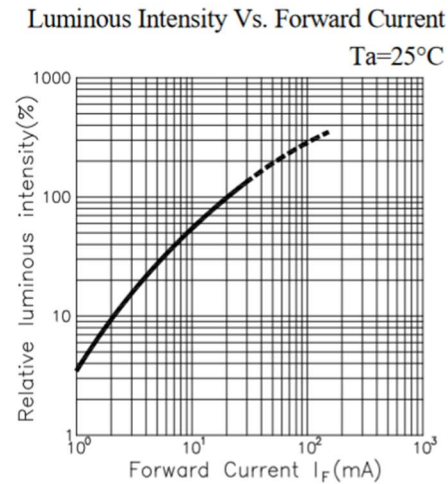
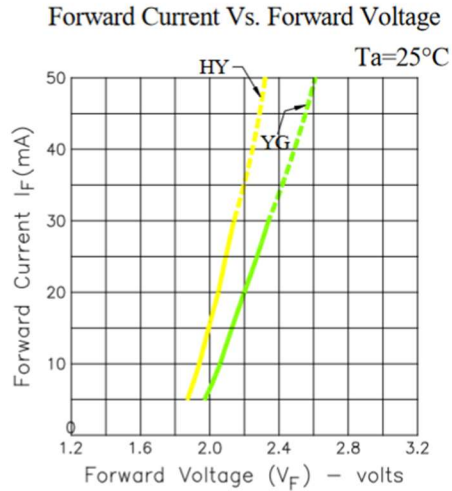
Bivar reserves the right to make changes at any time without notice.

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

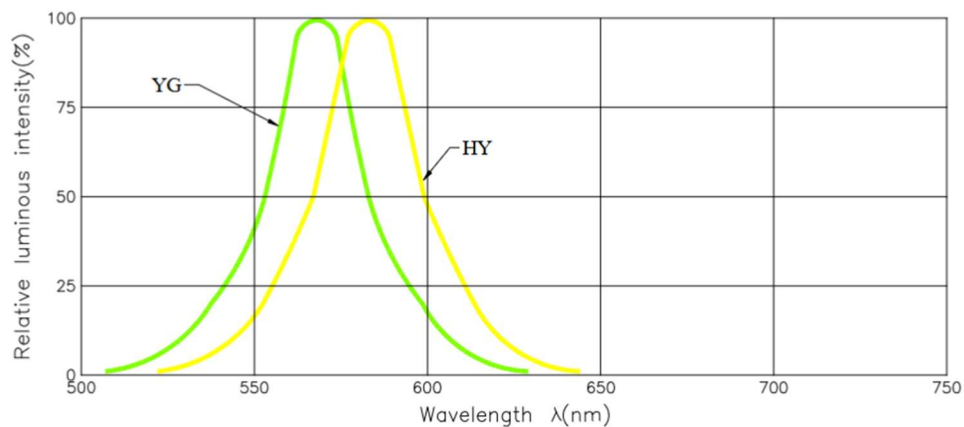


Typical Electrical / Optical Characteristics

T_A = 25°C unless otherwise noted



Spectrum Distribution



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

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

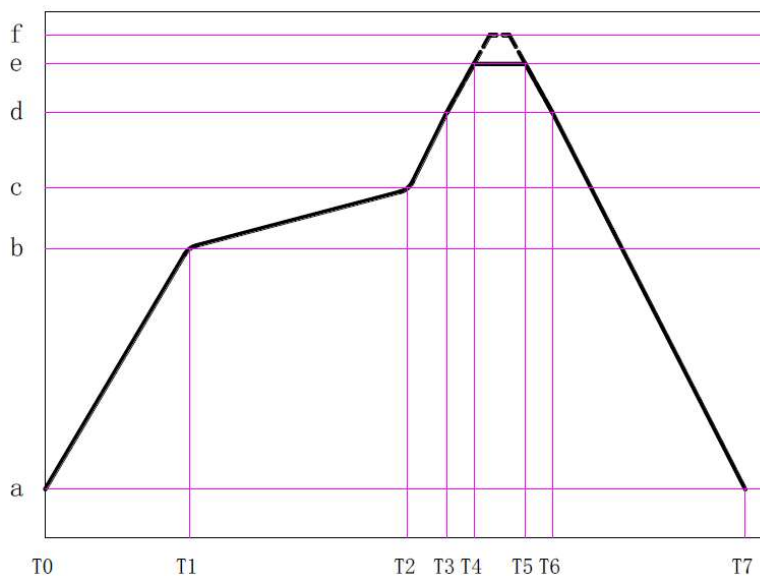


Soldering Iron

1. Temperature at tip of iron: 300 °C Max. (25 W Max.)
2. Soldering Time: 5 ± 1 sec.

Recommended Soldering Conditions

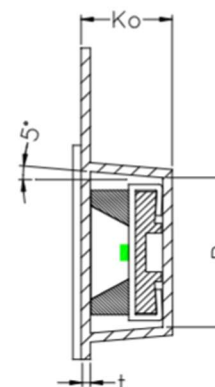
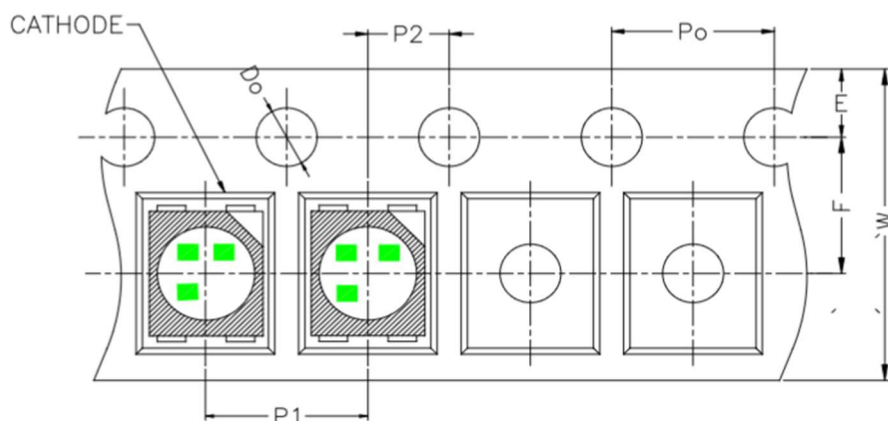
Temp. (°C)		Time (sec)	
a	25	T0~T1	Max. 3 °C/sec
b	150	T1~T2	90~130 sec
c	200	T2~T4	Max. 3 °C/sec
d	220	T3~T6	Max. 50 sec
e	245		
f	Max. 260		Max. 10 sec
		T5~T7	Max. -3 °C/sec
Belt Speed		70~90 cm/min	



Tape and Reel Dimensions

Note: 2000 pcs/Reel

Packing Size													
Item	W	P1	E	F	Do	D1	Po	10Po	P2	Ao	Bo	Ko	t
Spec.	8.0	4.00	1.75	5.50	1.5	0.5	4.00	40.00	2.00	3.10	3.84	2.24	0.23
Tolerance	±0.20	±0.10	±0.10	±0.05	+0.10 -0.00	±0.05	±0.05	±0.20	±0.05	±0.10	±0.10	±0.10	±0.05



SEC:A-A'

Unit:mm

Outline Drawings Notes:

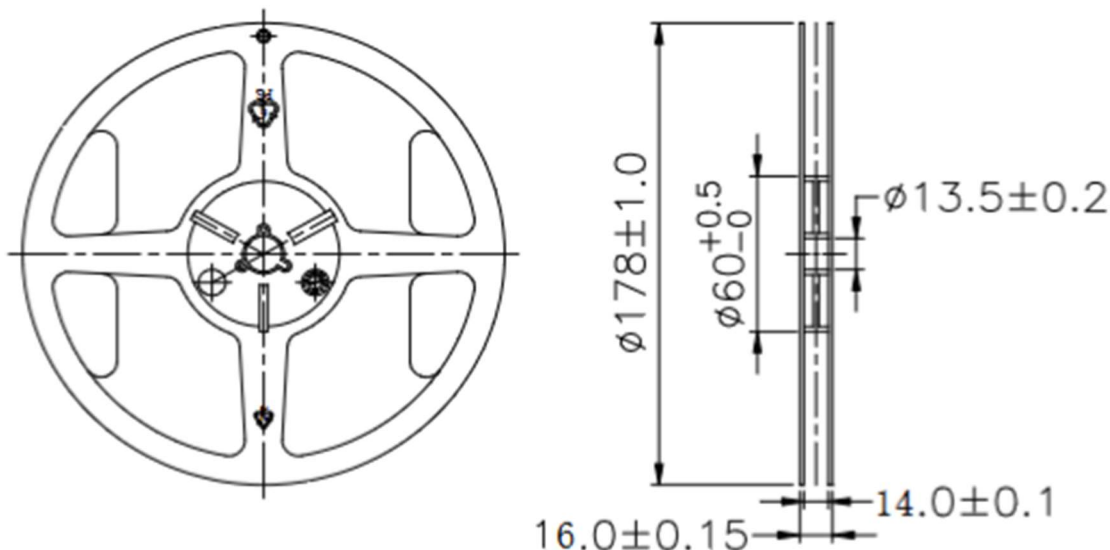
1. All dimensions are in millimeters.
2. Standard tolerance: ±0.25mm unless otherwise noted.

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

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



Packaging and Labeling Plan



Storage:

1. The operation of temperature and R.H. are: 5 °C ~ 30 °C, R.H. 60% Max.
2. The LEDs should be used within a year (from production date).
3. Once the package is opened, the products should be used within 72 hrs. Otherwise, they should be kept in a damp-proof box with desiccating regent.
4. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is: 70 °C +/- 5 °C for 24 hrs.

Outline Drawings Notes:

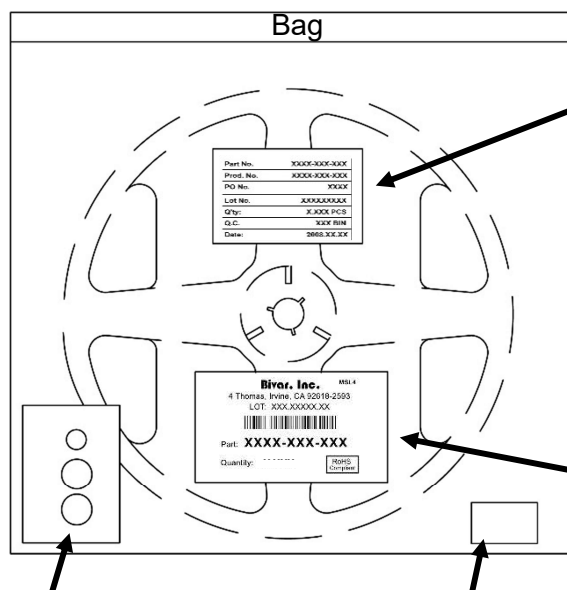
1. All dimensions are in millimeters.
2. Standard tolerance unless otherwise noted:
X.X ±0.25mm

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

Note: 1 Reel / Bag

Sealed ESD and Moisture Barrier



Humidity Indicator
Card

Desiccant



Bivar Standard Packaging Label

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