

# SURFACE MOUNT LED BLUE, 1204 PACKAGE

# BIVAR

## SM1204SBWC

- ◆ Industry Standard 1204 Package
- ◆ RoHS Compliant
- ◆ Right Angle Mounting
- ◆ Water Clear Lens
- ◆ Wide Viewing Angle
- ◆ Ideal for Status Indication and Display



Bivar Surface Mount 1204 package LED may be used in nearly any lighting or indication application. The right angle package is ideal for small scale applications such as edge lighting or general indication. Low power consumption and excellent long life reliability are ideal for battery powered equipment. Wide variety of wavelength and intensity combinations are available to meet any illumination need. Bivar offers water clear LED lens for maximum luminous intensity. The SM1204 LED is packaged in standard tape and reels for pick and place assemblies.

Part Number	Material	Emitted Color	Peak Wavelength $\lambda_p$ (nm) TYP.	Lens Appearance	Luminous Intensity (mcd) TYP.	Viewing Angle
SM1204SBWC	InGaN	BLUE	468	Water Clear	90	110°

## Outline Dimensions



### Outline Drawings Notes:

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



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

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## Absolute Maximum Ratings

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

Power Dissipation	100 mW
Forward Current ( DC )	20 mA
Peak Forward Current <sup>1</sup>	100 mA
Reverse Voltage	5 V
Operating Temperature Range	-30 ~ +80°C
Storage Temperature Range	-40 ~ +85°C
Lead Soldering Temperature ( 3 mm from the base of the epoxy bulb ) <sup>2</sup>	260°C

Notes: 1. 10% Duty Cycle, Pulse Width  $\leq$  0.1 msec.      2. Solder time less than 5 seconds at temperature extreme.

## Electrical / Optical Characteristics

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

Part Number	Forward Voltage (V) <sup>1</sup>			Recommend Forward Current (mA)			Reverse Current ( $\mu\text{A}$ )	Dominant Wavelength (nm) <sup>2</sup>			Luminous Intensity $I_v$ (mcd)			Viewing Angle $2\theta_{1/2}$ (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
SM1204SBWC	/	3.3	4.2	/	20	/	10	/	470	/	72	90	/	110

Notes: 1. Tolerance of forward voltage :  $\pm 0.05\text{V}$ .      2. Tolerance of dominant wavelength :  $\pm 1.0\text{nm}$ .

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## Typical Electrical / Optical Characteristics

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

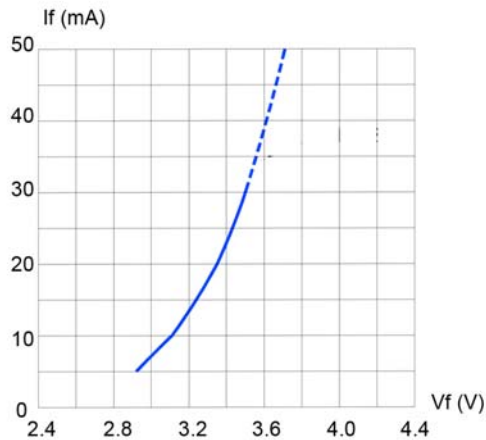


Fig. 1 Forward Current vs. Forward Voltage

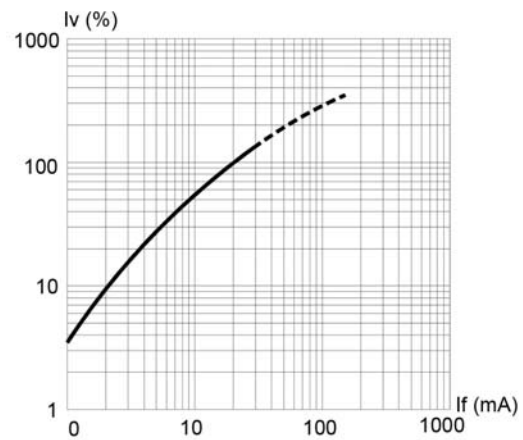


Fig. 2 Relative Luminous Intensity vs. Forward Current

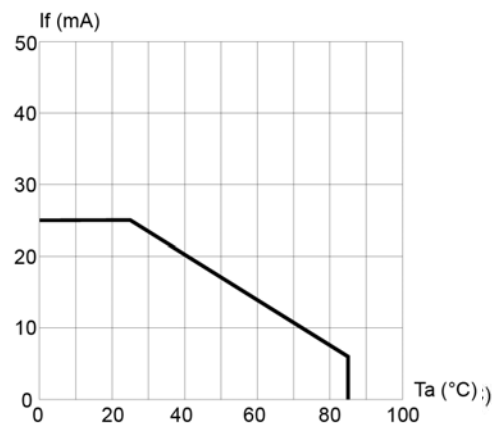


Fig. 3 Forward Current vs. Temperature

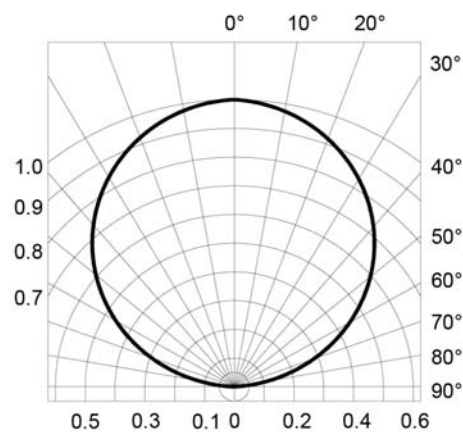


Fig. 4 Directivity Radiation Diagram

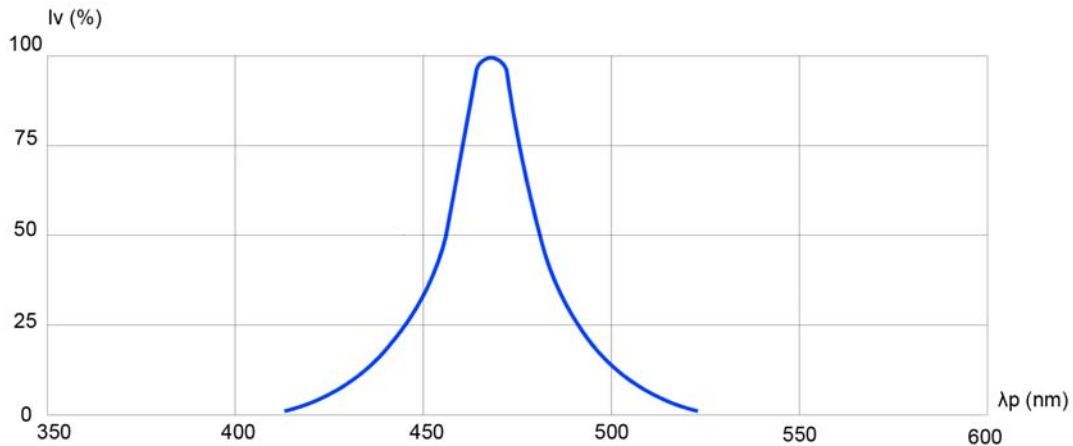


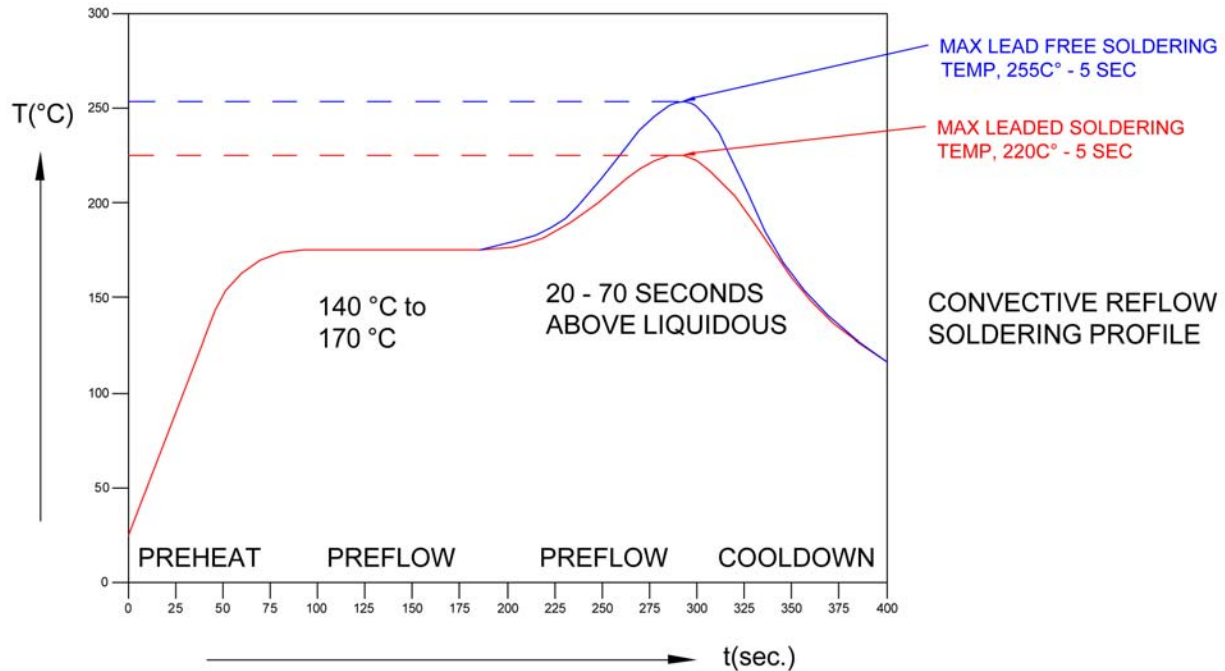
Fig. 5 Relative Luminous Intensity vs. Peak Wavelength

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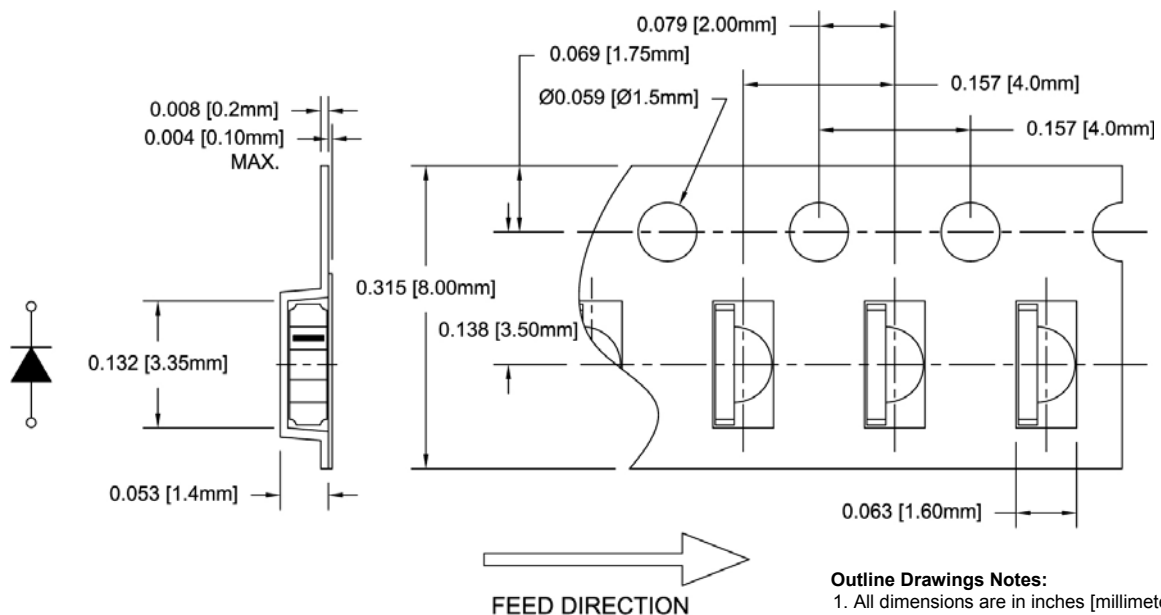


## Recommended Soldering Conditions



## Tape and Reel Dimensions

Note: 3000 PCS/Reel

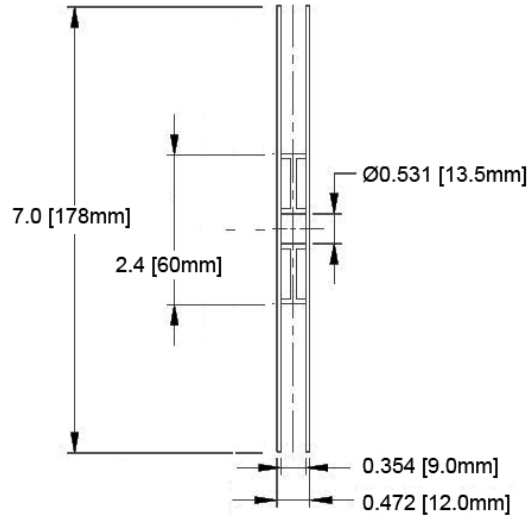
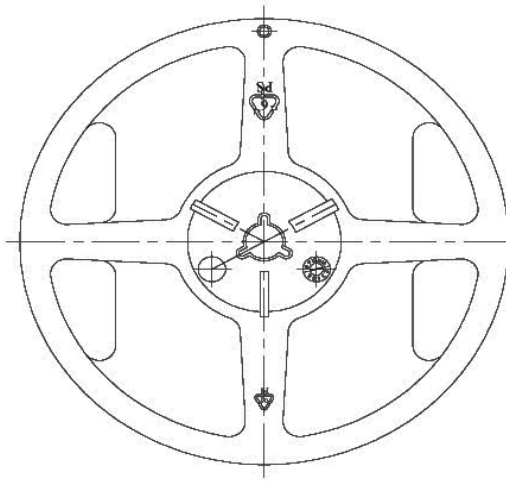


### Outline Drawings Notes:

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

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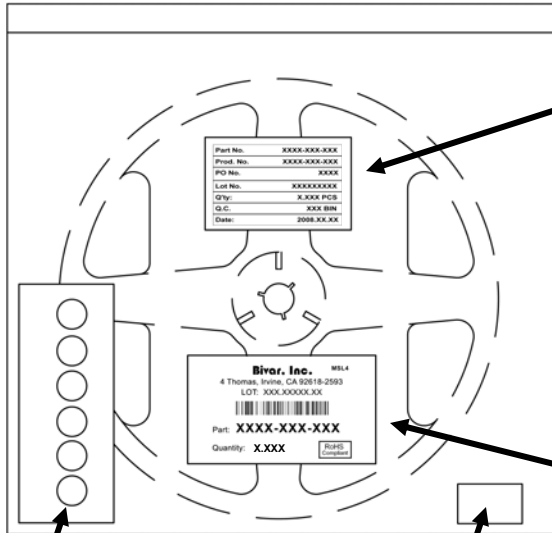
### Outline Drawings Notes:

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

## Packaging and Labeling Plan

Note: 1 Reel / Bag

Vacuum and Heat Sealed  
Clear AntiStatic Poly Bag



Humidity Indicator  
Card

Desiccant  
Card

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

**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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