

# SURFACE MOUNT LED BLUE, 1204 PACKAGE

# BIVAR



## SM1204BWC

- ◆ 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 |
|-------------|----------|---------------|---------------------------------------|-----------------|-------------------------------|---------------|
| SM1204BWC   | InGaN    | BLUE          | 428                                   | Water Clear     | 9                             | 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.

## Absolute Maximum Ratings

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

|  |             |
|--|-------------|
| Power Dissipation  | 100 mW      |
| Forward Current ( DC )   | 30 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

$T_A = 25^\circ\text{C}$  &  $I_F = 20\text{ mA}$  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                                 |
| SM1204BWC   | /                                | 3.9 | 4.5 | /                              | 20  | /   | 10                                | /                                     | 466 | /   | 6                              | 9   | /   | 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

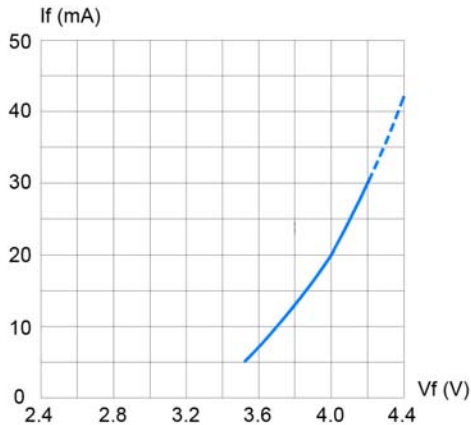


Fig. 1 Forward Current vs. Forward Voltage

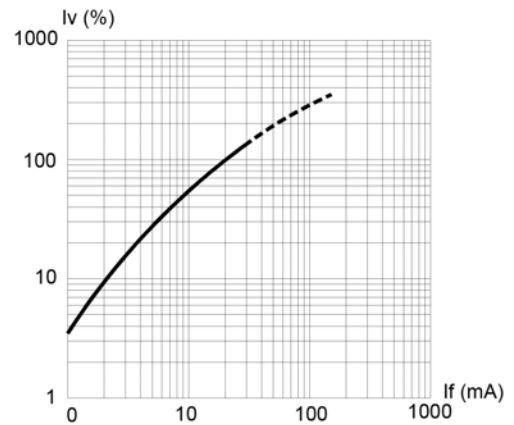


Fig. 2 Relative Luminous Intensity vs. Forward Current

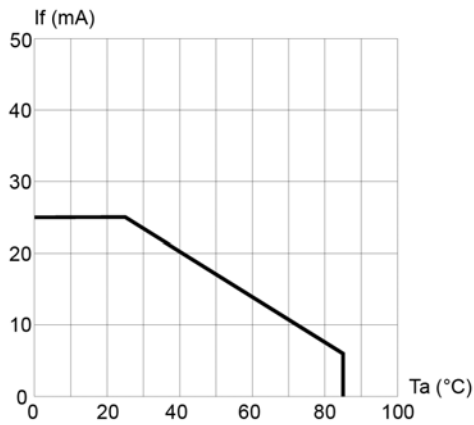


Fig. 3 Forward Current vs. Temperature

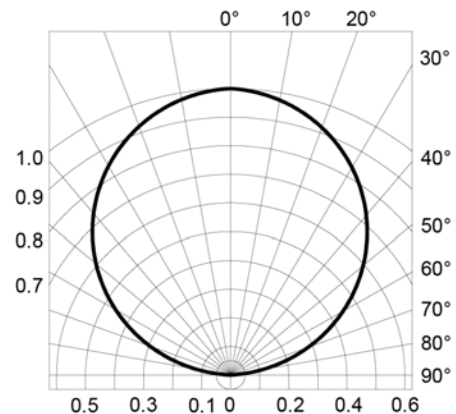


Fig. 4 Directivity Radiation Diagram

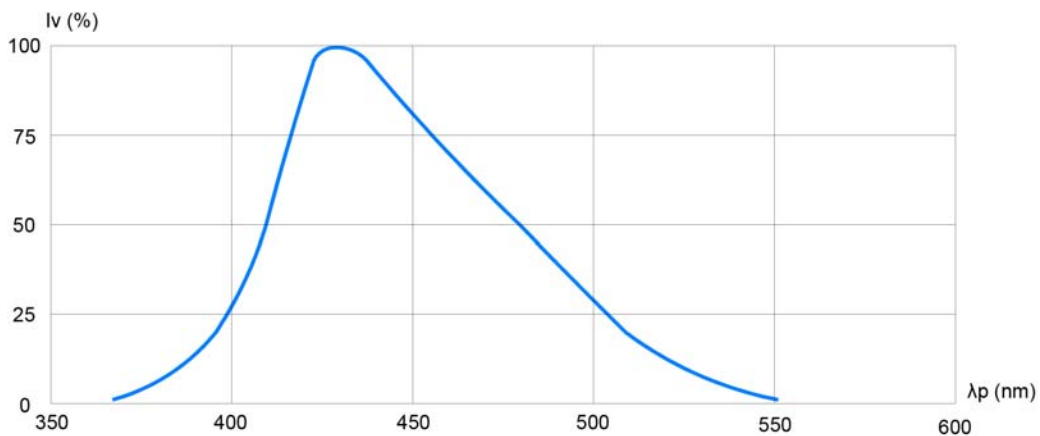


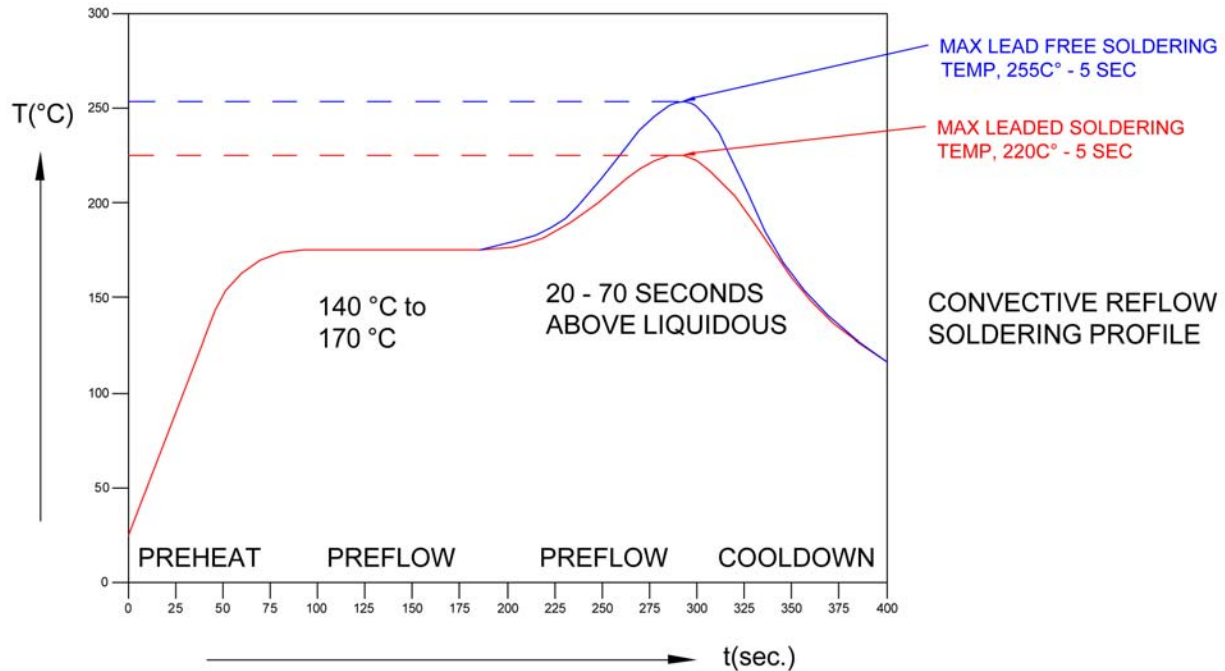
Fig. 5 Relative Luminous Intensity vs. Peak Wavelength

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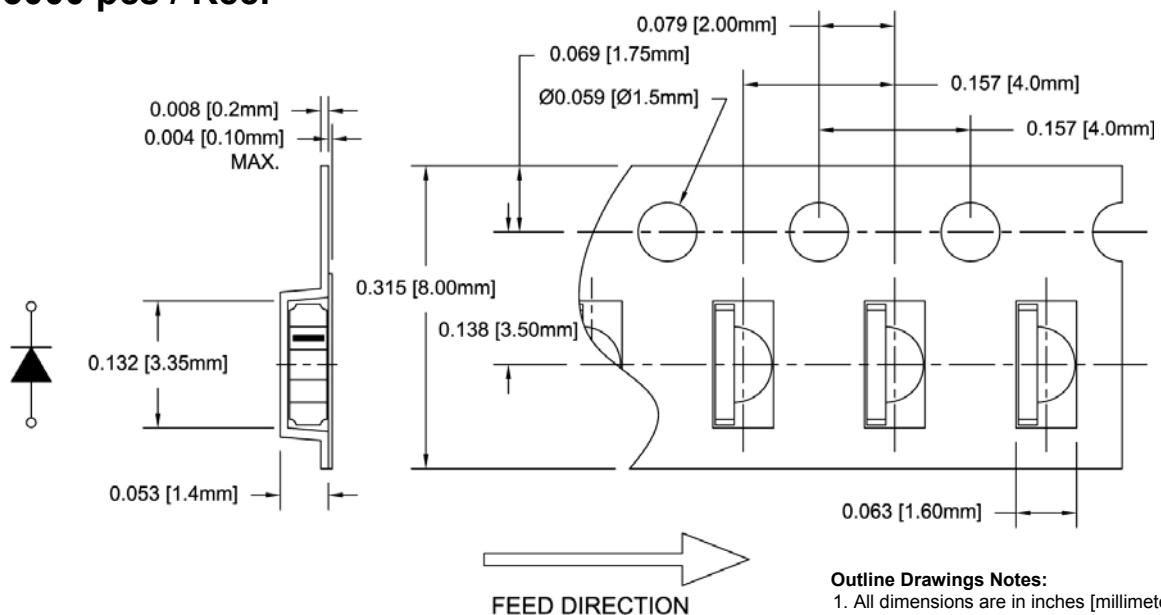


## Recommended Soldering Conditions



## Tape and Reel Dimensions

Note: 3000 pcs / Reel

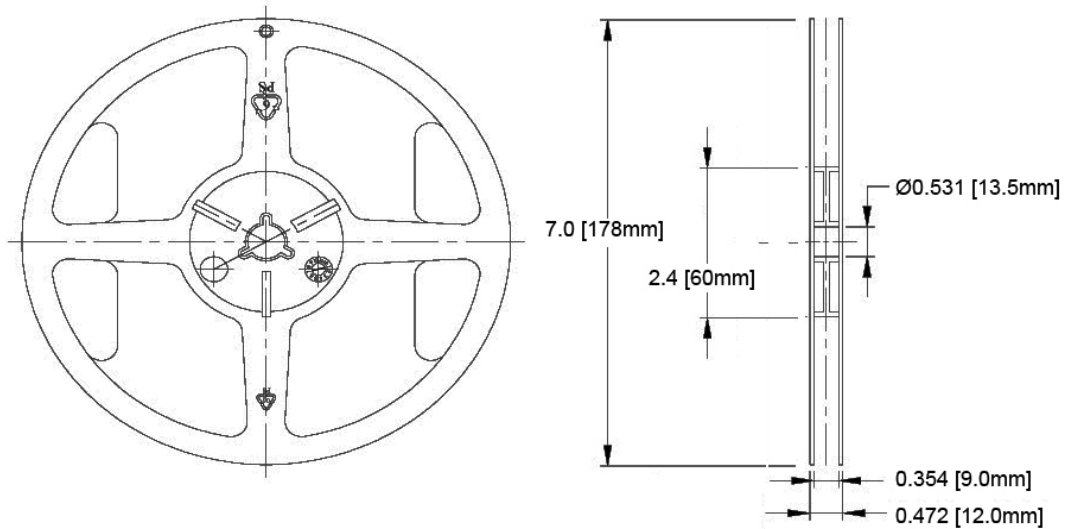


### Outline Drawings Notes:

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

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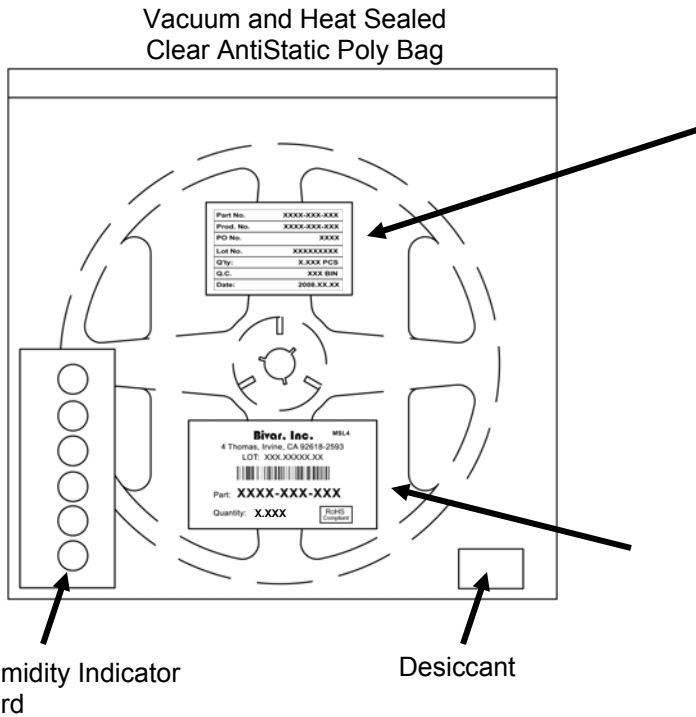


### Outline Drawings Notes:

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

## Packaging and Labeling Plan

Note: 1 Reel / Bag



|           |              |
|-----------|--------------|
| 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.XXXXXX.XX

Part: **XXXX-XXX-XXX**  
Quantity: **X,XXX**

RoHS Compliant

Bivar Standard Packaging Label

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