

# 3mm (T1) Package Discrete LED RED/GREEN, Bi-Color



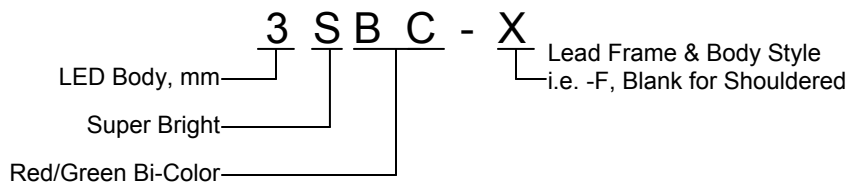
## 3SBC-X

- ◆ Industry Standard 3mm (T1) Package
- ◆ RoHS Compliant
- ◆ 2-Lead Super Bright Bi-Color LED
- ◆ White Diffused Lens
- ◆ Available in Flange (F) and Shouldered (Blank) Lead Frame styles
- ◆ Ideal for Status Indication and Display

Bivar 3mm T1 Package 2-Lead Bi-Color LED is ideal for those applications where dual signals need to be displayed at the same location such as standby-on indication for server or computer peripherals. Bivar offers white diffused LED lens for uniform light output and the 2-lead package simplifies the circuitry design where a reverse voltage is available. The Flanged LED is ideal for Panel Mount Clip & Ring assemblies and the Shouldered Lead frame LED has a built in strain relief feature which is ideal for Right Angle Holder assemblies that require lead bends. A long lead version is also available with a "-LL" suffix added to the part numbers.

| Part Number | Material    | Emitted Color | Peak. Wavelength<br>$\lambda_p$ (nm) TYP. | Lens Appearance | Viewing Angle |
|-------------|-------------|---------------|---|-----------------|---------------|
| 3SBC-F      | GaAlAs/GaAs | RED           | 645nm                                     | White Diffused  | 45°           |
|             | GaP/GaP     | GREEN         | 568nm                                     |                 |               |
| 3SBC        | GaAlAs/GaAs | RED           | 645nm                                     |                 |               |
|             | GaP/GaP     | GREEN         | 568nm                                     |                 |               |

## Part Number Designation

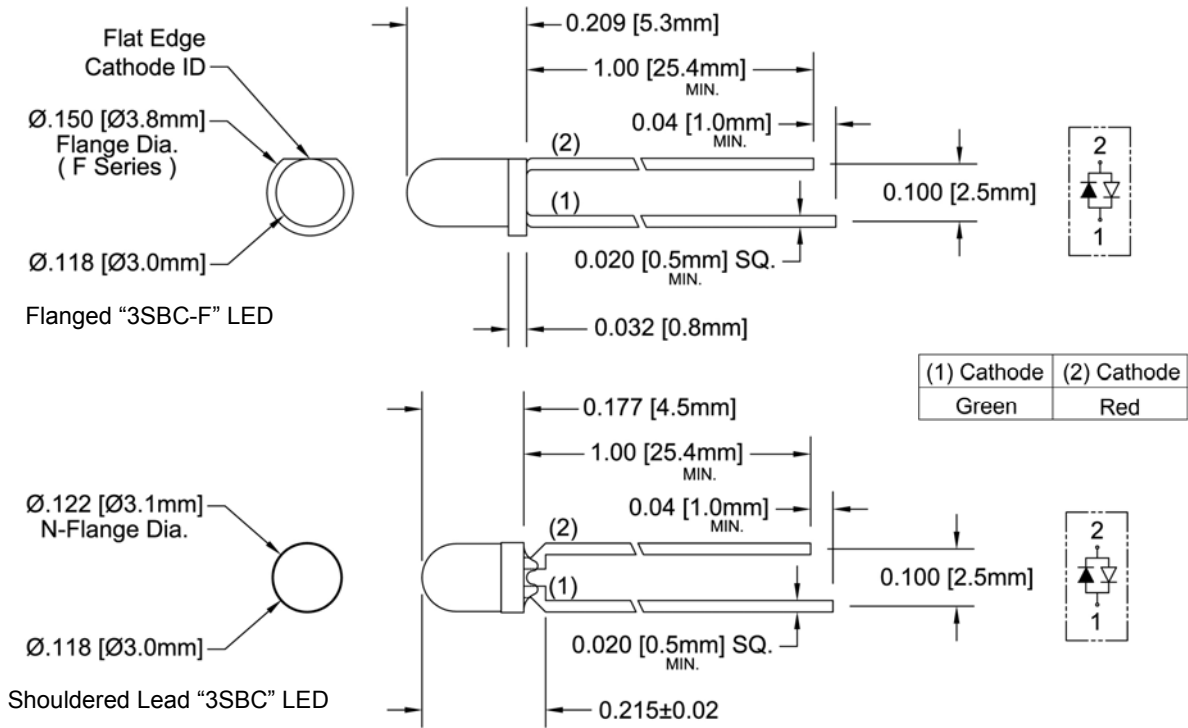


Bivar reserves the right to make changes at any time without notice.

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## Outline Dimensions



Recommended Mounting  
Hole Size =  $\varnothing.032^{+.003}_{-.002}$

NOTE: Add suffix -LL for long lead.  
Changes 1.00 Min. to 1.57 Min.

**Outline Drawings Notes:**  
 1. All dimensions are in inches [millimeters].  
 2. Standard tolerance: ±0.010" unless otherwise noted.  
 3. Tolerance of overall epoxy outline: ±0.020" unless otherwise noted.  
 4. Epoxy meniscus may extend to 0.060" max.

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## Absolute Maximum Ratings

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

|  |                              |
|--|------------------------------|
| Power Dissipation  | Red - 70 mW<br>Green - 80 mW |
| Forward Current ( DC )   | 30 mA                        |
| Peak Forward Current <sup>1</sup>  | 150 mA                       |
| Operating Temperature Range  | -25 ~ +85°C                  |
| Storage Temperature Range  | -30 ~ +100°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 ≤ 0.1 msec.    2. Solder time less than 5 seconds at temperature extreme.

## Electrical / Optical Characteristics

T<sub>A</sub> = 25°C & I<sub>F</sub> = 20 mA unless otherwise noted

| Part Number | Emitted Color | Forward Voltage (V) <sup>1</sup> |     |     | Recommend Forward Current (mA) |     |     | Reverse Current (µA) | Dominant Wavelength (nm) <sup>2</sup> |     |     | Luminous Intensity I <sub>v</sub> (mcd) |     |     | Viewing Angle 2θ <sub>1/2</sub> (deg) |
|-------------|---------------|----------------------------------|-----|-----|--------------------------------|-----|-----|----------------------|---------------------------------------|-----|-----|---|-----|-----|---------------------------------------|
|             |               | MIN                              | TYP | MAX | MIN                            | TYP | MAX | MAX                  | MIN                                   | TYP | MAX | MIN                                     | TYP | MAX | TYP                                   |
| 3SBC-F      | Red           | /                                | 1.7 | 2.4 | /                              | 20  | /   | /                    | /                                     | /   | /   | /                                       | 12  | /   | 45                                    |
|             | Green         | /                                | 2.1 | 2.8 | /                              | 20  | /   | /                    | /                                     | /   | /   | /                                       | 8   | /   |                                       |
| 3SBC        | Red           | /                                | 1.7 | 2.4 | /                              | 20  | /   | /                    | /                                     | /   | /   | /                                       | 12  | /   | 45                                    |
|             | Green         | /                                | 2.1 | 2.8 | /                              | 20  | /   | /                    | /                                     | /   | /   | /                                       | 8   | /   |                                       |

Notes: 1. Tolerance of forward voltage : ±0.05V.    2. Tolerance of dominant wavelength : ±1.0nm.

## Typical Electrical / Optical Characteristics

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

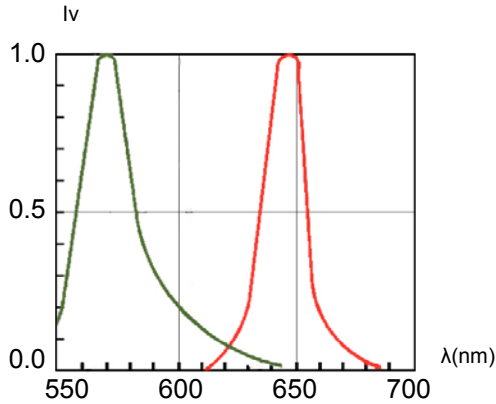


Fig. 1 Relative Luminous Intensity vs. Wavelength @ 20mA

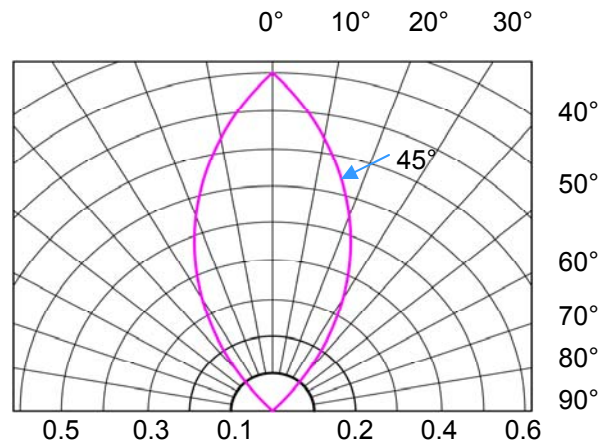


Fig. 2 Directivity Radiation Diagram

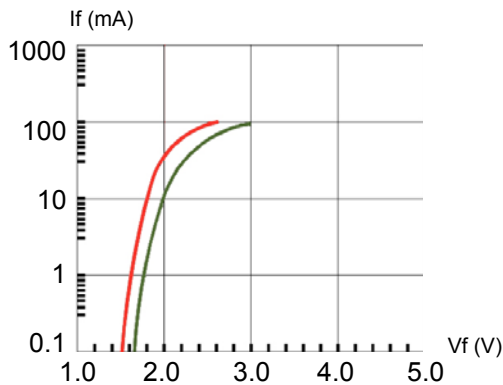


Fig. 3 Forward Current vs. Forward Voltage

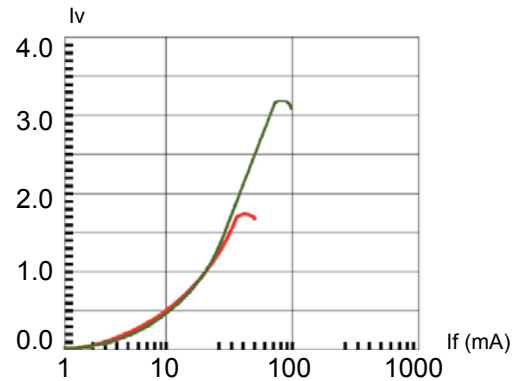


Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

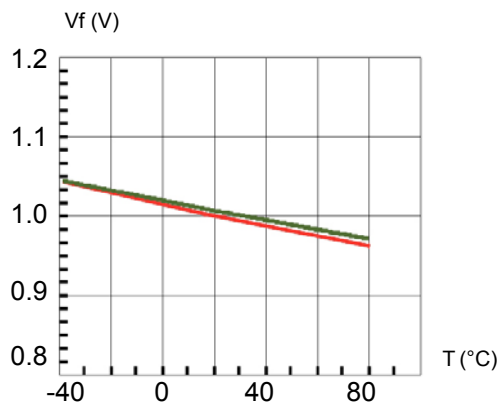


Fig. 5 Forward Voltage vs. Temperature

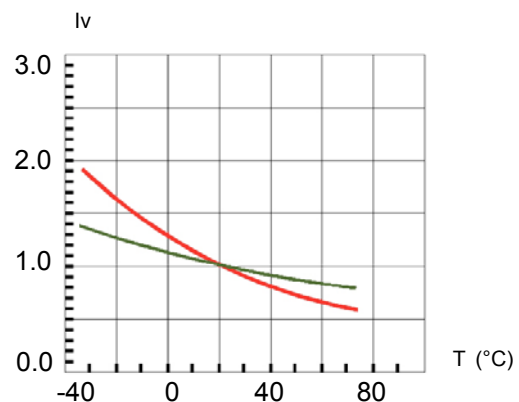


Fig. 6 Relative Luminous Intensity vs. Temperature

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## Recommended Soldering Conditions



| Recommended Lead Free Wave Soldering Profile   |   |
|--|---|
| Preheat Temperature: 100°C Max.  | Peak Temperature: 260°C Max.            |
| Preheat Time: 20 ~ 50 Seconds  | Solder Time Above 217°C: 5 Seconds Max. |
| Note: Turn off top heater at preheat to prevent the lamp body directly exposed to the heat source. |   |

## Packaging and Labeling Plan



**Bivar, Inc.** MSL 1

4 Thomas, Irvine, CA 92618-2593  
LOT: XXX.XXXXX.XX

Part: **XXXX-XXX-XXX**

Quantity: **.500**

RoHS  
Compliant

AntiStatic Poly Bag with Desiccant  
(500 pcs Max. per Bag)

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