

# Rectangular Package Discrete LED RED/GREEN, 2 x 5 mm, Bi-Color



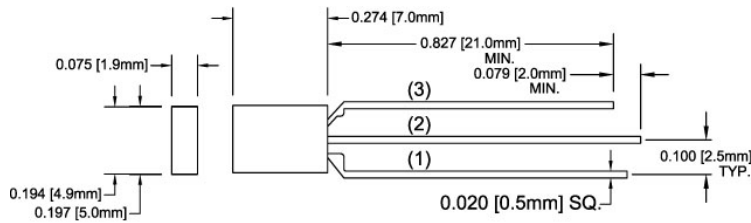
## R5BC-3

- ◆ Rectangular Package
- ◆ RoHS Compliant
- ◆ White Diffused Lens
- ◆ Available in Shouldered Lead Frame style
- ◆ 3-Lead Bi-Color LED
- ◆ Ideal for Status Indication and Bar Graph Displays

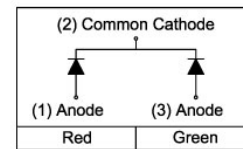
Bivar Rectangular 2 x 5mm Package 3-Lead Bi-Color LED is ideal for those applications where multiple signals need to be displayed at the same location such as standby-on indication on server or computer peripherals. When needed, the third color signal can be created by powering up both chips together for on-off-standby applications with three distinct signals. The rectangular package makes it ideal for greater indication visibility and creating bar graph displays when arranged in linear LED arrays. Bivar offers white diffused LED lens for uniform light output. The Shouldered Lead frame LED is ideal for vertical spacer assemblies and Right Angle Holder assemblies that require lead bends. This 3-Lead Bi-Color LED package comes in a common cathode Lead Frame configuration.

| Part Number | Material  | Emitted Color | Peak. Wavelength<br>$\lambda_p$ (nm) TYP. | Lens Appearance | Viewing Angle |
|-------------|-----------|---------------|---|-----------------|---------------|
| R5BC-3      | GaAsP/GaP | RED           | 625nm                                     | White Diffused  | 120°          |
|             | GaP/GaP   | GREEN         | 568nm                                     |                 |               |

## Outline Dimensions



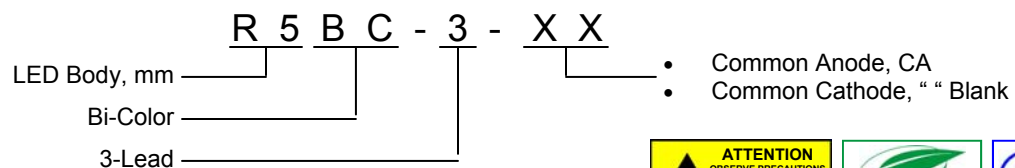
Recommended Mounting  
Hole Size =  $\varnothing.032^{+.003}_{-.002}$



### Outline Drawings Notes:

1. All dimensions are in inches [millimeters].
2. Standard tolerance:  $\pm 0.010''$  unless otherwise noted.
3. Tolerance of overall epoxy outline:  $\pm 0.020''$  unless otherwise noted.
4. Epoxy meniscus may extend to 0.060" max.

## Part Number Designation



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

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## Absolute Maximum Ratings

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

|  |              |
|--|--------------|
| Power Dissipation  | 80 mW        |
| Forward Current ( DC )   | 30 mA        |
| Peak Forward Current <sup>1</sup>  | 150 mA       |
| Reverse Voltage  | 5 V          |
| 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 2 Θ ½ (deg) |
|-------------|---------------|----------------------------------|-----|-----|--------------------------------|-----|-----|----------------------|---------------------------------------|-----|-----|---|-----|-----|---------------------------|
|             |               | MIN                              | TYP | MAX | MIN                            | TYP | MAX | MAX                  | MIN                                   | TYP | MAX | MIN                                     | TYP | MAX | TYP                       |
| R5BC-3      | Red           | /                                | 2.0 | 2.8 | /                              | 20  | /   | 100                  | /                                     | /   | /   | /                                       | 4   | /   | 120                       |
|             | Green         | /                                | 2.1 | 2.8 |                                |     |     |                      | /                                     | /   | /   | /                                       | 4   | /   |                           |

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

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## Typical Electrical / Optical Characteristics - Red

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

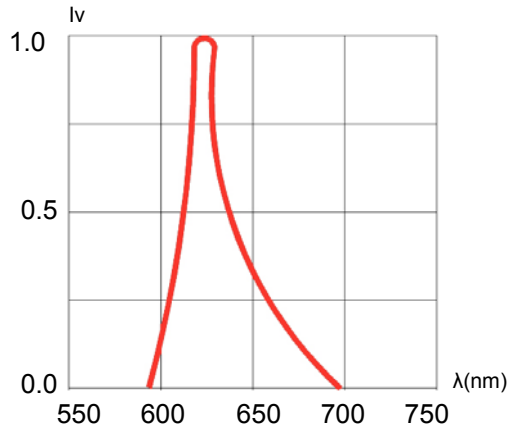


Fig. 1 Relative Luminous Intensity vs. Wavelength @ 20mA

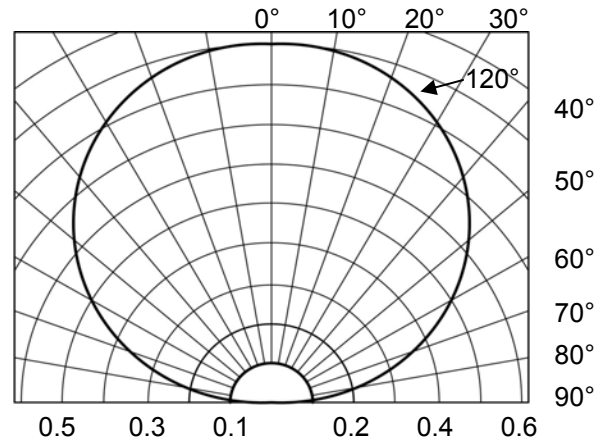


Fig. 2 Directivity Radiation Diagram

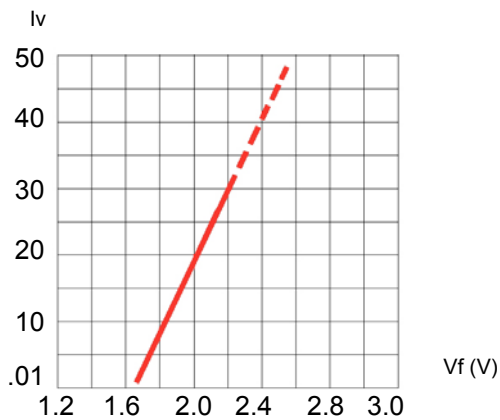


Fig. 3 Relative Intensity (10mA) vs. Forward Voltage

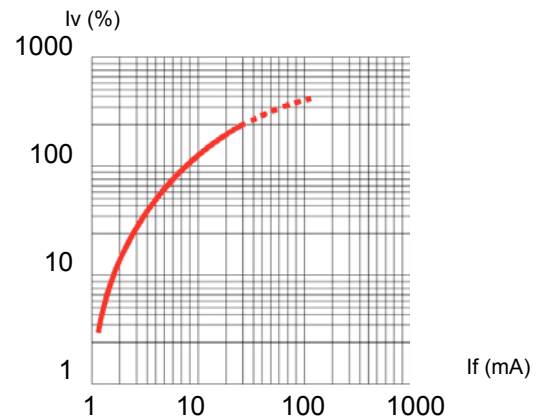


Fig. 4 Relative Luminous Intensity (%) vs. Forward Current

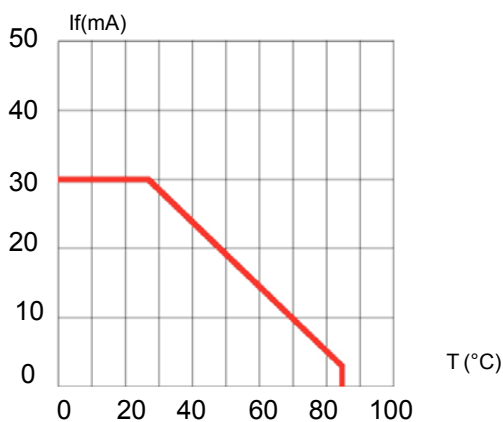


Fig. 5 Forward Current vs. Temperature

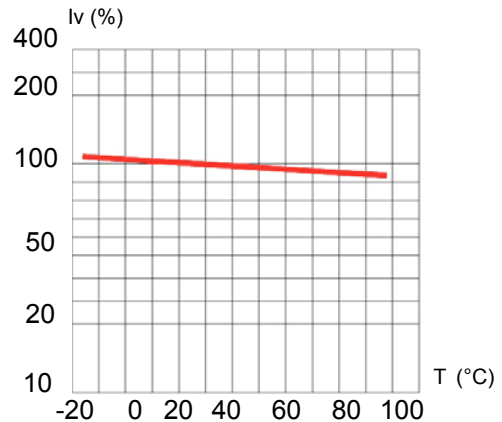


Fig. 6 Relative Intensity (%) vs. Temperature @ 20 mA

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## Typical Electrical / Optical Characteristics - Green

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

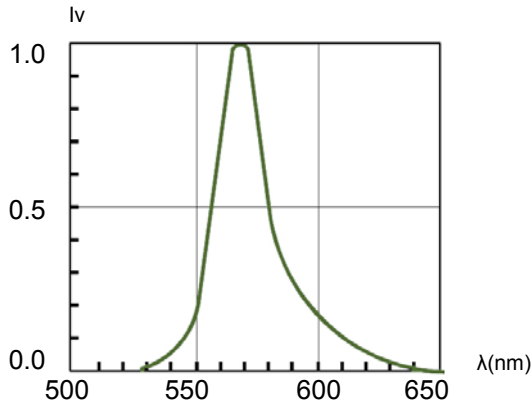


Fig. 1 Relative Luminous Intensity vs. Wavelength @ 20mA

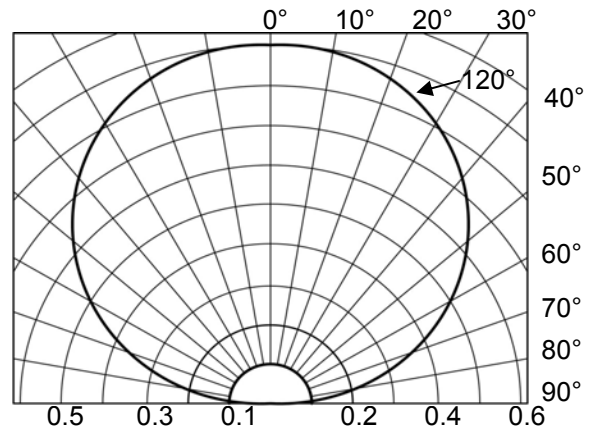


Fig. 2 Directivity Radiation Diagram

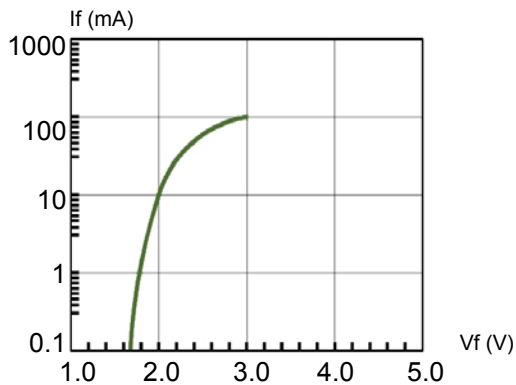


Fig. 3 Forward Current vs. Forward Voltage

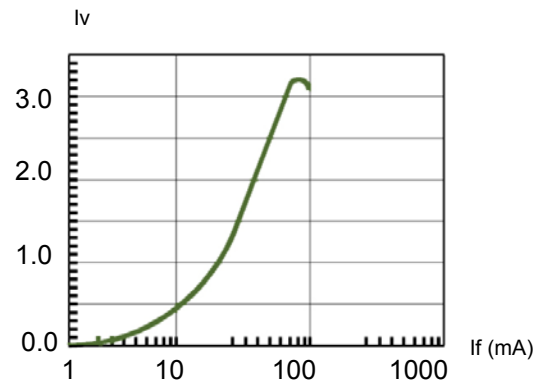


Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

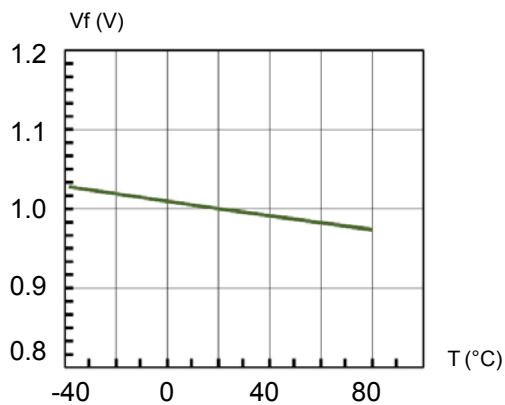


Fig. 5 Forward Voltage vs. Temperature

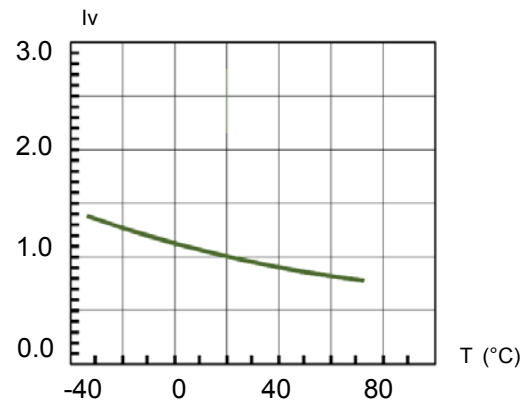


Fig. 6 Relative Luminous Intensity vs. Temperature

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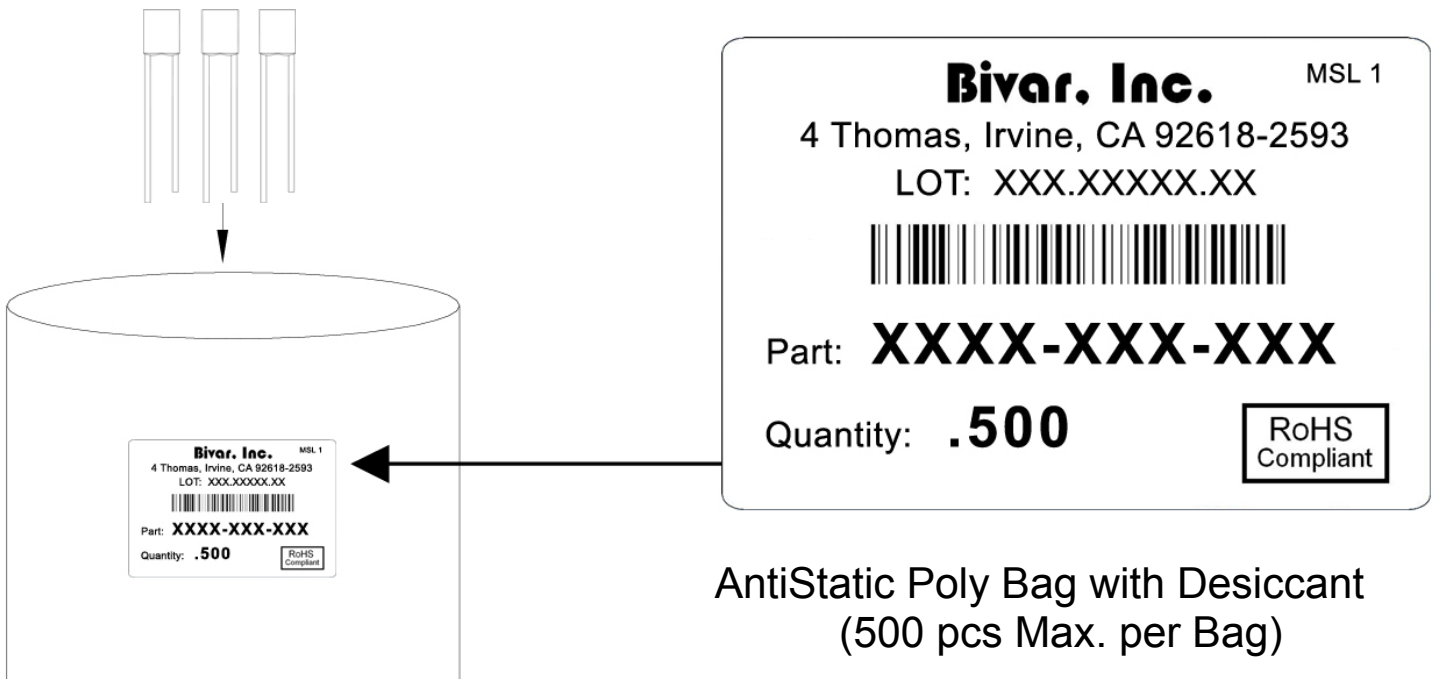


## Recommended Soldering Conditions



| 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



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