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

**3BC-3-F**
- Industry Standard 3mm (T1) Package
- RoHS Compliant
- White Diffused Lens
- Available in Flange (F) Style
- 3-Lead Bi-Color LED
- Ideal for Status Indication and Display

Bivar 3mm T1 Package 3-Lead Bi-Color is ideal for those applications where multiple signals need to be displayed at the same location such as standby-on indication for server or computer peripherals. When needed, the 3rd color signal could be created by powering up both chips together for on-off-standby applications that require three distinct signals. Bivar offers white diffused LED lens for uniform light output. The Flange LED is ideal for Panel Mount Clip & Ring assemblies. This 3-Lead Bi-color LED package comes in a common cathode Lead Frame configuration.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Emitted Color</th>
<th>Peak. Wavelength λp(nm) TYP.</th>
<th>Lens Appearance</th>
<th>Viewing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>3BC-3-F</td>
<td>GaAsP/GaP</td>
<td>RED</td>
<td>625nm</td>
<td>White Diffused</td>
<td>40°</td>
</tr>
<tr>
<td></td>
<td>GaP/GaP</td>
<td>GREEN</td>
<td>568nm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part Number Designation**

- **LED Body, mm**
- **Bi-Color**
- **Tri-Lead**

- **Flange Body Style**
  - Common Anode, CA
  - Common Cathode, “ ”
  - Alternate Lead Configuration, B

- **Emitted Colors, i.e. Y/G, “ ” for R/G**
Outline Dimensions

Recommended Mounting Hole Size = Ø 0.032" + 0.003" - 0.002"

(2) Common Cathode
(1) Anode (3) Anode
Red Green

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.
Absolute Maximum Ratings
$T_A = 25^\circ C$ unless otherwise noted

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Dissipation</td>
<td>80</td>
<td>mW</td>
<td></td>
</tr>
<tr>
<td>Forward Current (DC)</td>
<td>30</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Peak Forward Current $^1$</td>
<td>150</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-25</td>
<td>~</td>
<td>85</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-30</td>
<td>~</td>
<td>100</td>
</tr>
<tr>
<td>Lead Soldering Temperature ($3$ mm from the base of the epoxy bulb) $^2$</td>
<td></td>
<td></td>
<td>260°C</td>
</tr>
</tbody>
</table>

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

Electrical / Optical Characteristics
$T_A = 25^\circ C$ & $I_F = 20$ mA unless otherwise noted

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Emitted Color</th>
<th>Forward Voltage (V)$^1$</th>
<th>Recommend Forward Current (mA)</th>
<th>Reverse Current (μA)</th>
<th>MAX</th>
<th>Dominant Wavelength (nm)$^2$</th>
<th>Luminous Intensity Iv (mcd)</th>
<th>Viewing Angle $2 \Theta \frac{1}{2}$ (deg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MIN</td>
<td>TYP</td>
<td>MAX</td>
<td>MIN</td>
<td>TYP</td>
<td>MAX</td>
<td>MIN</td>
</tr>
<tr>
<td>3BC-3-F</td>
<td>Red</td>
<td>/</td>
<td>2.0</td>
<td>2.8</td>
<td>/</td>
<td>20</td>
<td>/</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>/</td>
<td>2.1</td>
<td>2.8</td>
<td>/</td>
<td>20</td>
<td>/</td>
<td>100</td>
</tr>
</tbody>
</table>

Notes: 1. Tolerance of forward voltage : $\pm 0.05$V.  
2. Tolerance of dominant wavelength : $\pm 1.0$nm.
Typical Electrical / Optical Characteristics - Red

$T_A = 25^\circ C$ unless otherwise noted

![Figure 1: Relative Luminous Intensity vs. Wavelength @ 20mA](image1)

![Figure 2: Directivity Radiation Diagram](image2)

![Figure 3: Relative Intensity (10mA) vs. Forward Voltage](image3)

![Figure 4: Relative Luminous Intensity (%) vs. Forward Current](image4)

![Figure 5: Forward Current vs. Temperature](image5)

![Figure 6: Relative Intensity (%) vs. Temperature @ 20 mA](image6)
Typical Electrical / Optical Characteristics - Green

$T_A = 25°C$ unless otherwise noted

![Graph 1: Relative Luminous Intensity vs. Wavelength @ 20mA](image)

![Graph 2: Directivity Radiation Diagram](image)

![Graph 3: Forward Current vs. Forward Voltage](image)

![Graph 4: Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA](image)

![Graph 5: Forward Voltage vs. Temperature](image)

![Graph 6: Relative Luminous Intensity vs. Temperature](image)
Recommended Soldering Conditions

Recommended Lead Free Wave Soldering Profile

<table>
<thead>
<tr>
<th>Preheat Temperature: 100°C Max.</th>
<th>Peak Temperature: 260°C Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preheat Time: 20 ~ 50 Seconds</td>
<td>Solder Time Above 217°C: 5 Seconds Max.</td>
</tr>
</tbody>
</table>

Note: Turn off top heater at preheat to prevent the lamp body directly exposed to the heat source.

Packaging and Labeling Plan

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