

3mm (T1) Package Discrete LED RED, 5V

BIVAR

3HD5V-X

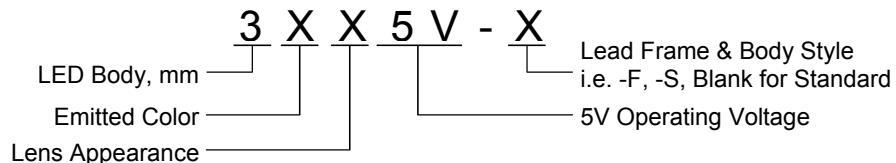
- ♦ Industry Standard 3mm (T1) Package
- ♦ RoHS Compliant
- ♦ Diffused Lens
- ♦ Available in Flange (F), Standard (Blank), and Shouldered (S) Lead Frame styles
- ♦ 5V Operating Voltage
- ♦ Ideal for Status Indication and Display



Bivar 3mm T1 Package 5V LED is ideal for those applications equipped with regular 5V power supplies such as servers and computer peripherals. Bivar offers diffused LED lens for uniform light output. The Flanged LED is ideal for Panel Mount Clip & Ring assemblies, the Standard Lead frame LED is ideal for vertical spacer assemblies without lead bends, 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.

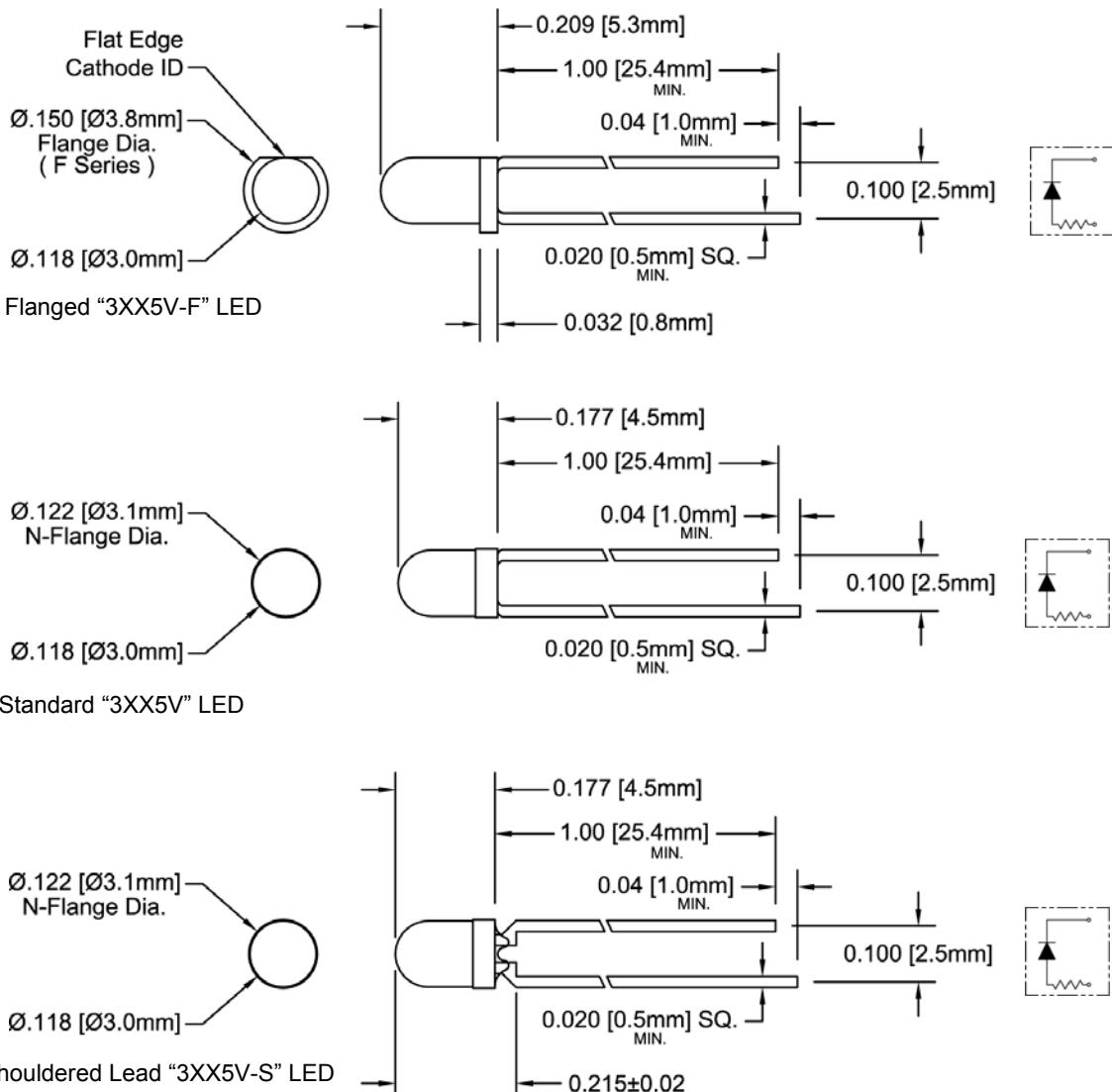
Part Number	Material	Emitted Color	Peak. Wavelength λ_p (nm) TYP.	Lens Appearance	Viewing Angle
3HD5V-F	GaAsP/Gap	RED	625nm	Red Diffused	35°
3HD5V				Red Diffused	40°
3HD5V-S				Red Diffused	40°

Part Number Designation



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

Outline Dimensions



Outline Drawings Notes:

1. All dimensions are in inches [millimeters].
2. Standard tolerance: ± 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.

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## Absolute Maximum Ratings

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

|                                                                                  |              |
|----------------------------------------------------------------------------------|--------------|
| Power Dissipation                                                                | / mW         |
| Forward Current ( DC )                                                           | 8 mA         |
| Peak Forward Current <sup>1</sup>                                                | 12 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  $\leq$  0.1 msec. 2. Solder time less than 5 seconds at temperature extreme.

## Electrical / Optical Characteristics

T<sub>A</sub> = 25°C & V<sub>f</sub> = 5V unless otherwise noted

| Part Number | 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 1/2 (deg) |
|-------------|----------------------------------|-----|-----|--------------------------------|-----|-----|----------------------|---------------------------------------|-----|-----|-----------------------------------------|-----|-----|-----------------------------|
|             | MIN                              | TYP | MAX | MIN                            | TYP | MAX |                      | MIN                                   | TYP | MAX | MIN                                     | TYP | MAX |                             |
| 3HD5V-F     | /                                | /   | 5.0 | /                              | /   | /   | 100                  | /                                     | /   | /   | /                                       | 30  | /   | 35                          |
| 3HD5V       |                                  |     |     |                                |     |     |                      | /                                     | /   | /   | /                                       | 30  | /   | 40                          |
| 3HD5V-S     |                                  |     |     |                                |     |     |                      | /                                     | /   | /   | /                                       | 30  | /   | 40                          |

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

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## Typical Electrical / Optical Characteristics

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

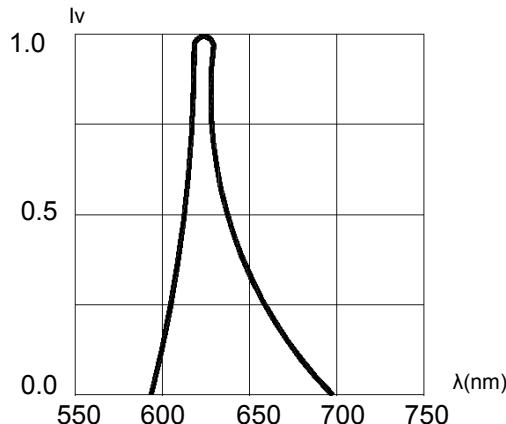


Fig. 1 Relative Luminous Intensity vs. Wavelength

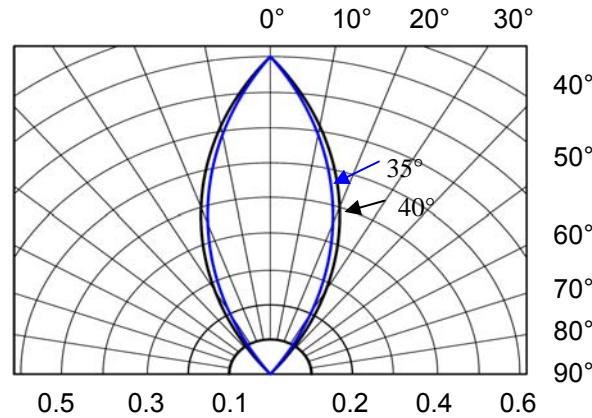


Fig. 2 Directivity Radiation Diagram

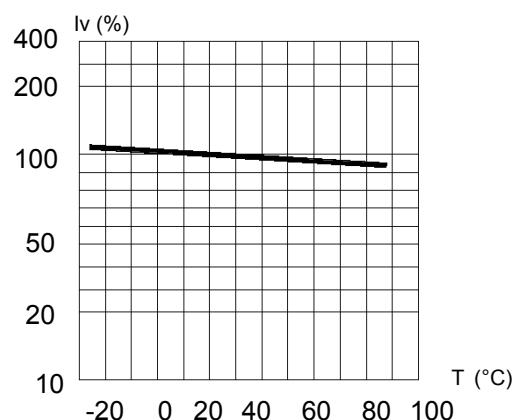


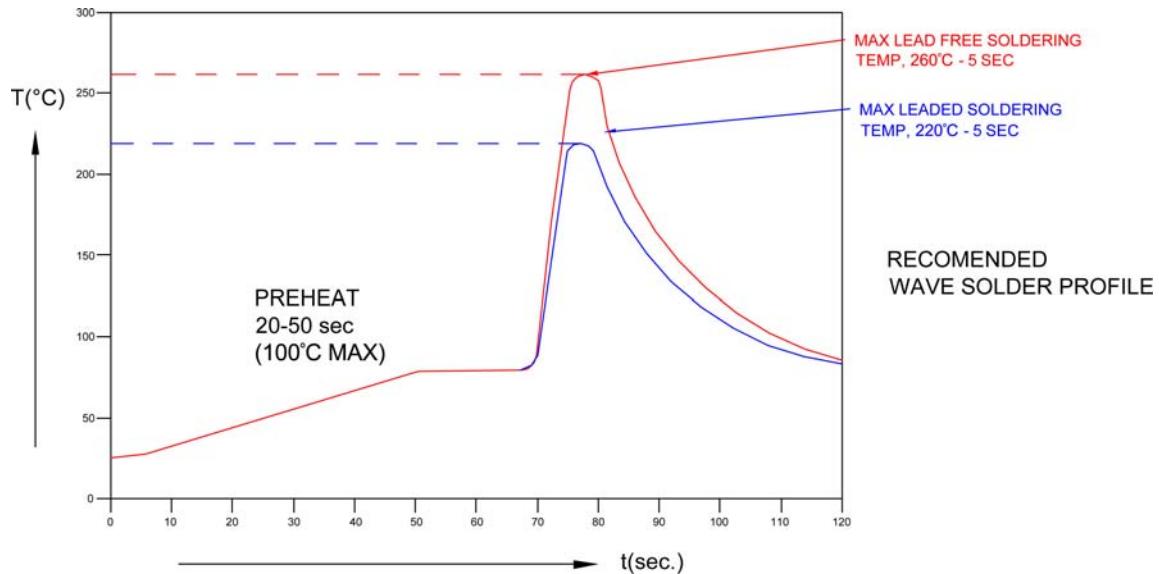
Fig. 3 Relative Intensity (%) vs. Temperature

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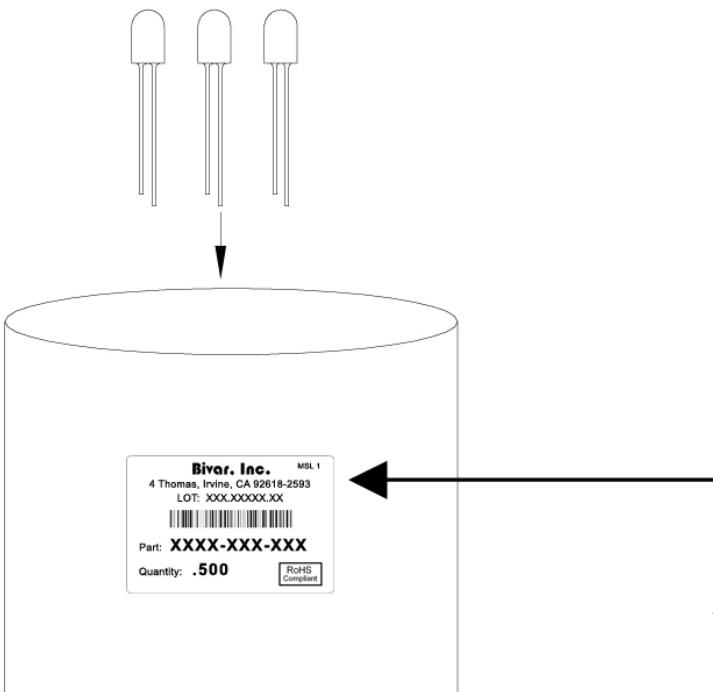
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## Recommended Soldering Conditions



| 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



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

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