

5mm (T1 3/4) Package Discrete LED RED, 12V



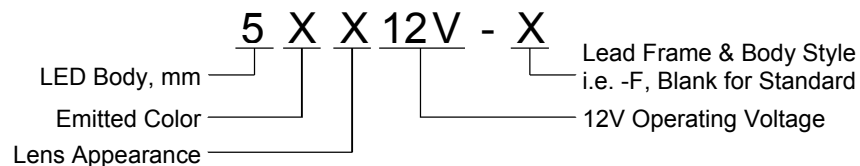
5H~~X~~12V-~~X~~

- ◆ Industry Standard 5mm (T1 3/4) Package
- ◆ RoHS Compliant
- ◆ Water Clear (C) and Diffused (D) Lenses
- ◆ Available in Flange (F) and Standard (Blank) Lead Frame styles
- ◆ 12V Operating Voltage
- ◆ Ideal for Status Indication and Display

Bivar 5mm T1 3/4 Package 12V LED is ideal for applications equipped with regular 12V power supplies such as servers and computer peripherals, and applications operated by 12V batteries such as automobiles and boats. Bivar offers water clear LED lens for maximum light output and diffused LED lens for uniform light output. The Flanged LED is ideal for Panel Mount Clip & Ring assemblies and the Standard Lead frame LED is ideal for vertical spacer assemblies without lead bends.

| Part Number | Material | Emitted Color | Peak. Wavelength λ_p (nm) TYP. | Lens Appearance | Viewing Angle |
|-------------|-----------|---------------|---|-----------------|---------------|
| 5HC12V-F | GaAsP/GaP | RED | 625nm | Water Clear | 35° |
| 5HD12V-F | | | | Red Diffused | 40° |
| 5HC12V | | | | Water Clear | 35° |
| 5HD12V | | | | Red Diffused | 45° |

Part Number Designation

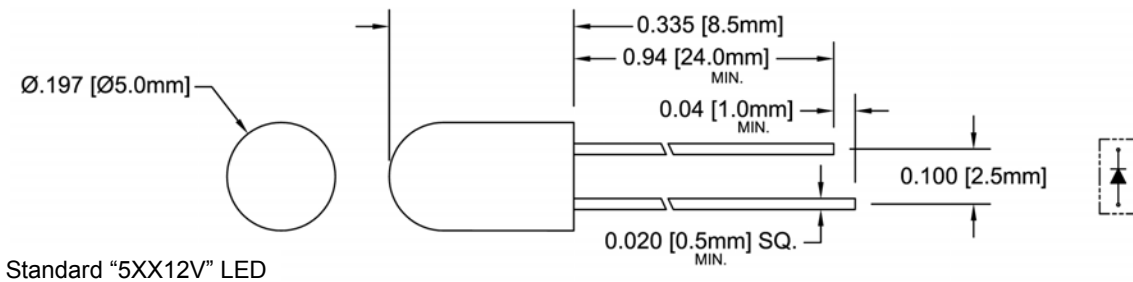
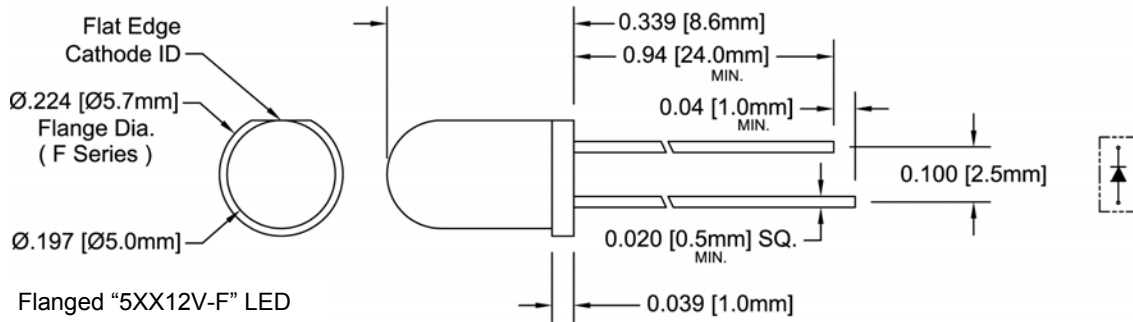


Bivar reserves the right to make changes at any time without notice.

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Outline Dimensions



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

- 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.

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Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

| | |
|--|--------------|
| Power Dissipation | / mW |
| Forward Current (DC) | 10mA |
| Peak Forward Current ¹ | 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) ² | 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_A = 25°C & V_f = 12V unless otherwise noted

| Part Number | Forward Voltage (V) ¹ | | | Recommend Forward Current (mA) | | | Reverse Current (μA) | Dominant Wavelength (nm) ² | | | Luminous Intensity I _v (mcd) | | | Viewing Angle 2Θ 1/2 (deg) |
|-------------|----------------------------------|-----|-----|--------------------------------|-----|-----|----------------------|---------------------------------------|-----|-----|---|-----|-----|----------------------------|
| | MIN | TYP | MAX | MIN | TYP | MAX | MAX | MIN | TYP | MAX | MIN | TYP | MAX | TYP |
| 5HC12V-F | / | / | 12 | / | / | / | 100 | / | / | / | / | 50 | / | 35 |
| 5HD12V-F | / | / | 12 | / | / | / | 100 | / | / | / | / | 30 | / | 40 |
| 5HC12V | / | / | 12 | / | / | / | 100 | / | / | / | / | 40 | / | 35 |
| 5HD12V | / | / | 12 | / | / | / | 100 | / | / | / | / | 25 | / | 45 |

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

Typical Electrical / Optical Characteristics

T_A = 25°C unless otherwise noted

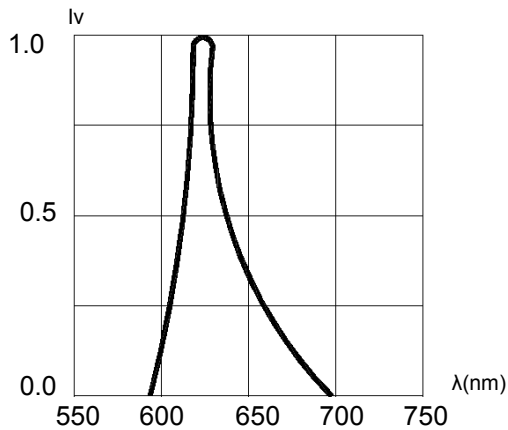


Fig. 1 Relative Luminous Intensity vs. Wavelength

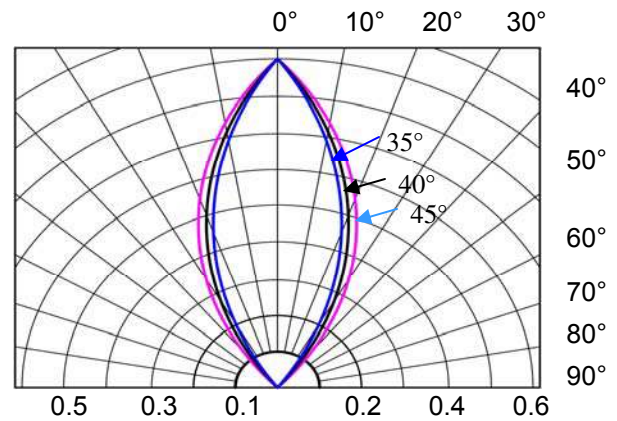


Fig. 2 Directivity Radiation Diagram

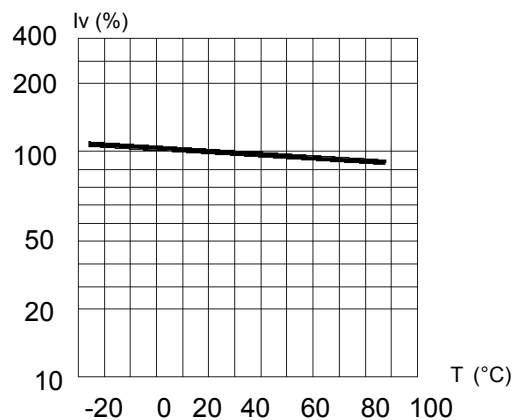


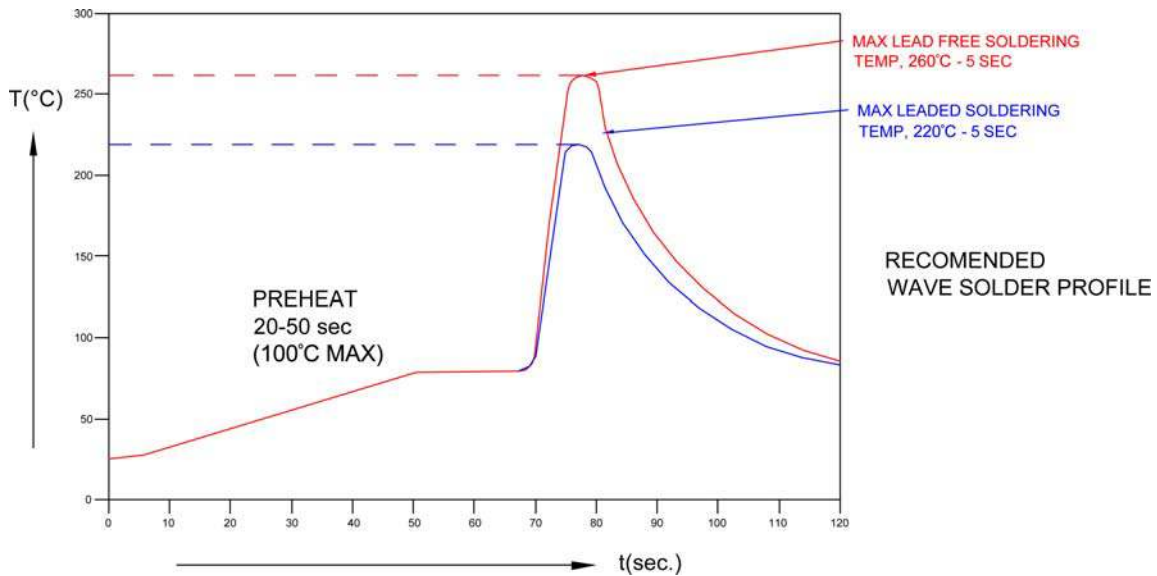
Fig. 3 Relative Intensity (%) vs. Temperature

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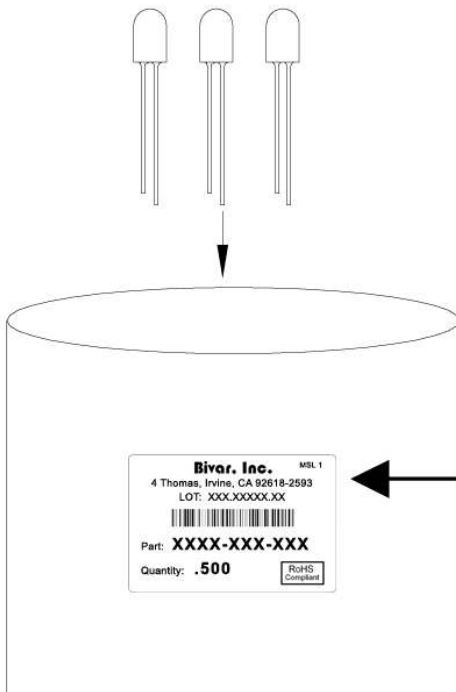


Recommended Soldering Conditions



| 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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