5mm (T1 ¾) Package Discrete LED RED, 12V

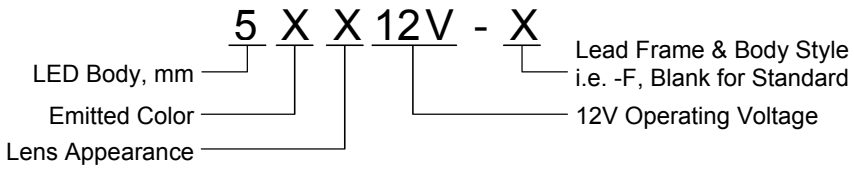
5HX12V-X

- **Industry Standard 5mm (T1 ¾) 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 ¾ 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 λp(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

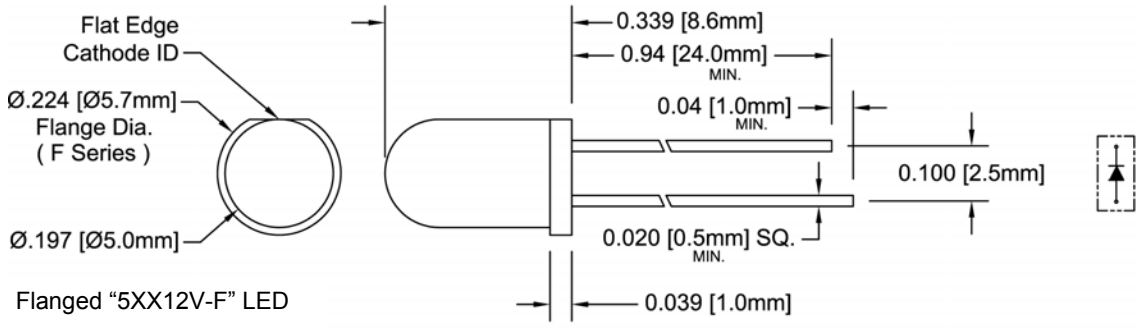


ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

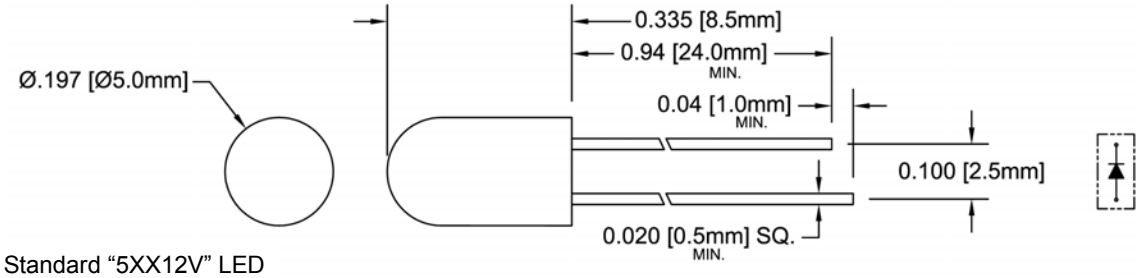
RoHS Compliant

Moisture Sensitivity Levels 1

Outline Dimensions



Flanged “5XX12V-F” LED



Standard “5XX12V” LED

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

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°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 & Vf = 12V unless otherwise noted

Part Number	Forward Voltage (V)[1]			Recommend Forward Current (mA)			Reverse Current (μA)	Dominant Wavelength (nm)[2]			Luminous Intensity Iv (mcd)			Viewing Angle 2 Θ ½ (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
5HC12V-F	/	/	12	/	/	/	100	/	/	/	/	50	/	35
5HD12V-F								/	/	/	/	30	/	40
5HC12V	/	/	12	/	/	/	100	/	/	/	/	40	/	35
5HD12V								/	/	/	/	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

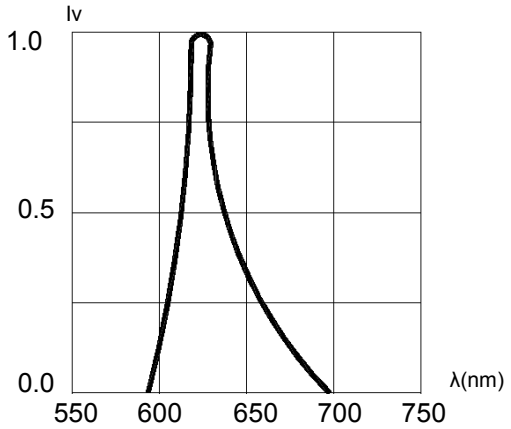


Fig. 1 Relative Luminous Intensity vs. Wavelength

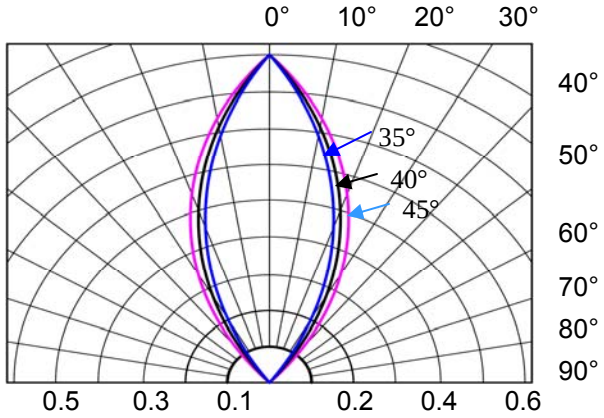


Fig. 2 Directivity Radiation Diagram

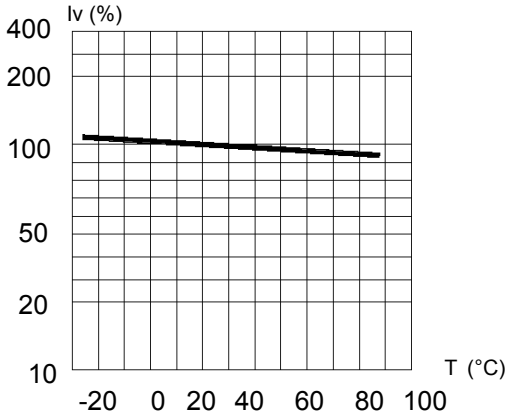
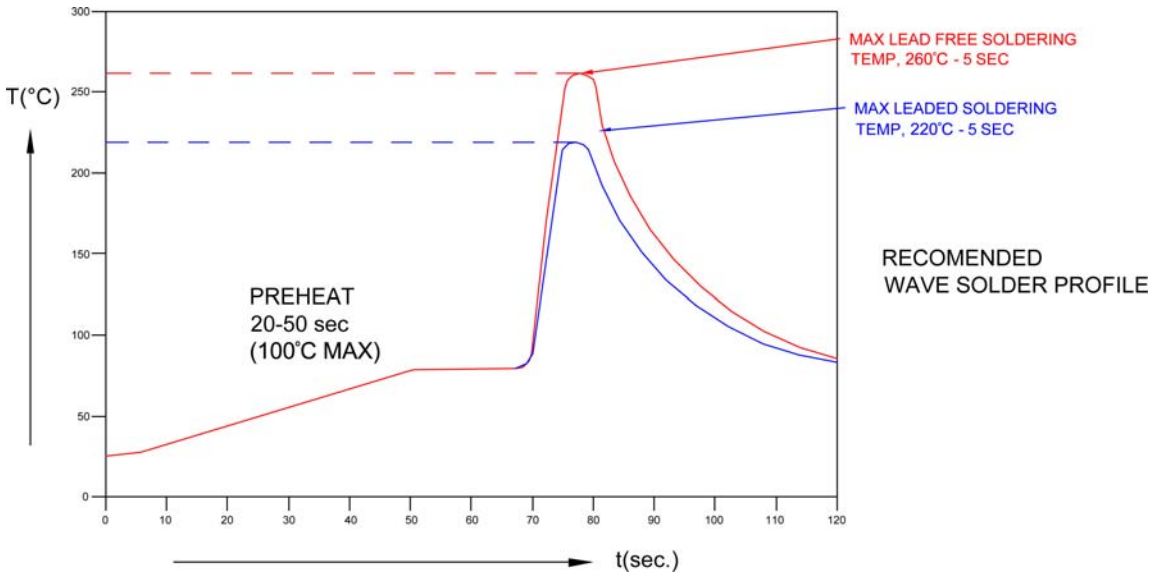


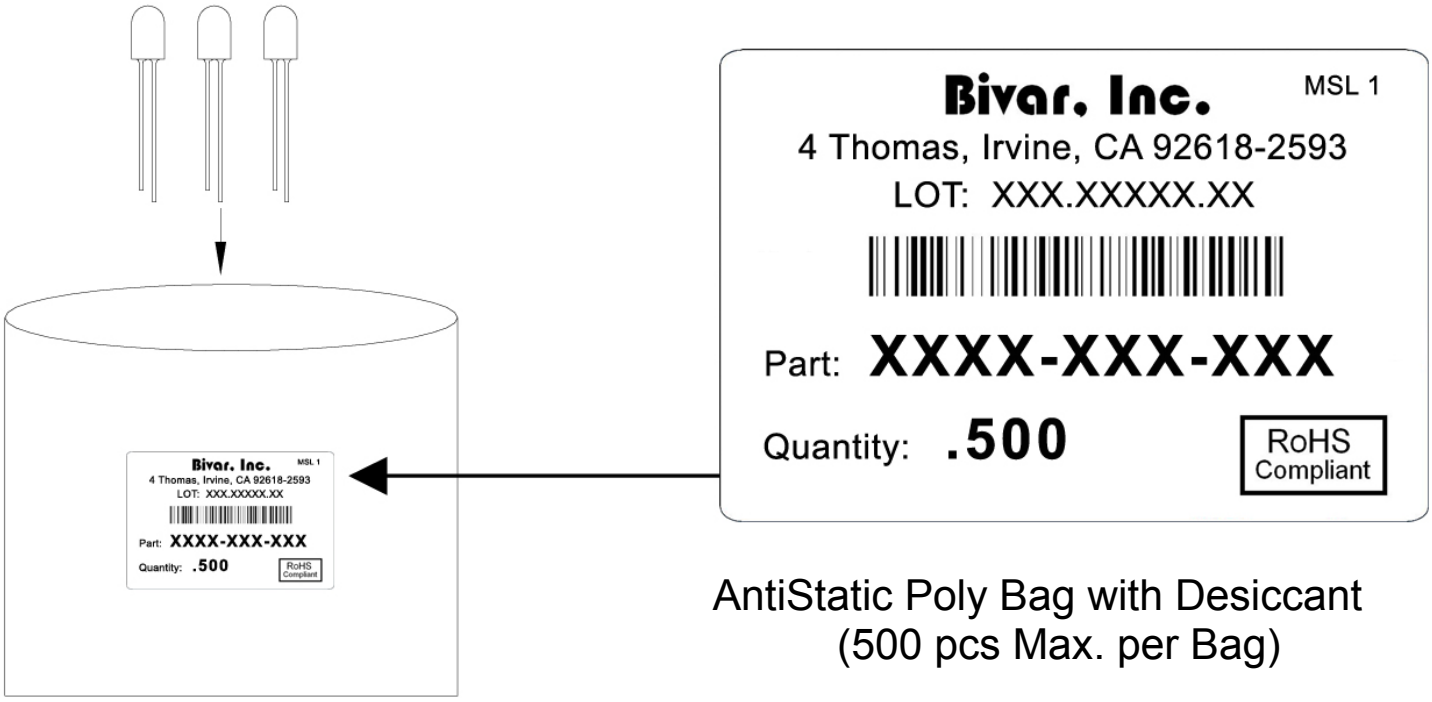
Fig. 3 Relative Intensity (%) vs. Temperature

Recommended Soldering Conditions



Recommended Lead Free Wave Soldering Profile	
Preheat Temperature: 100ºC Max.	Peak Temperature: 260ºC Max.
Preheat Time: 20 ~ 50 Seconds	Solder Time Above 217ºC: 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)

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

BIVAR:

5HC12V 5HC12V-F 5HD12V 5HD12V-F