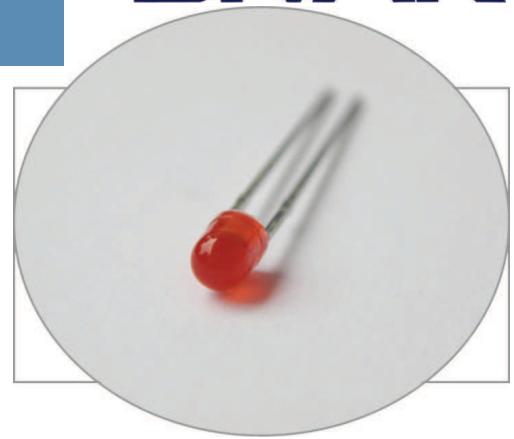


3mm (T1) Package Discrete LED RED, Low Current Extended Profile



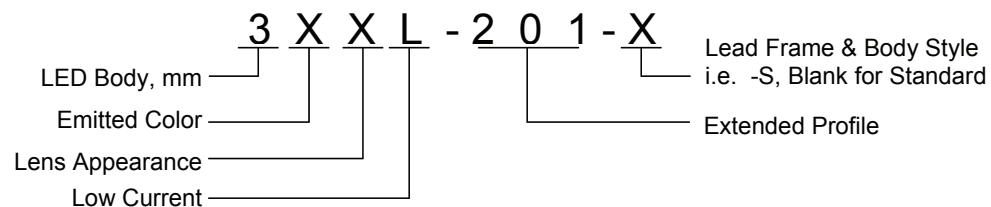
3HDL-201-X

- ◆ Industry Standard 3mm (T1) Package
- ◆ RoHS Compliant
- ◆ Diffused Lens
- ◆ Extended Body Profile
- ◆ Available in Standard (**B**lank) and Shouldered (**S**) Lead Frame styles
- ◆ 2 mA Low Operating Current
- ◆ Ideal for Status Indication and Display

Bivar 3mm T1 Package Low Current Extended Profile LED is special binned at 2 mA and is ideal for those applications where lower power budget is required such as solar panel or battery-powered portable devices and provides additional protrusion for thicker faceplates. Bivar offers diffused LED lens for uniform light output. 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. A long lead version is also available with a "-LL" suffix added to the part numbers.

Part Number	Material	Emitted Color	Peak. Wavelength λ_p (nm) TYP.	Lens Appearance	Viewing Angle
3HDL-201	GaAsP/Gap	RED	625nm	Red Diffused	35°
3HDL-201-S					

Part Number Designation

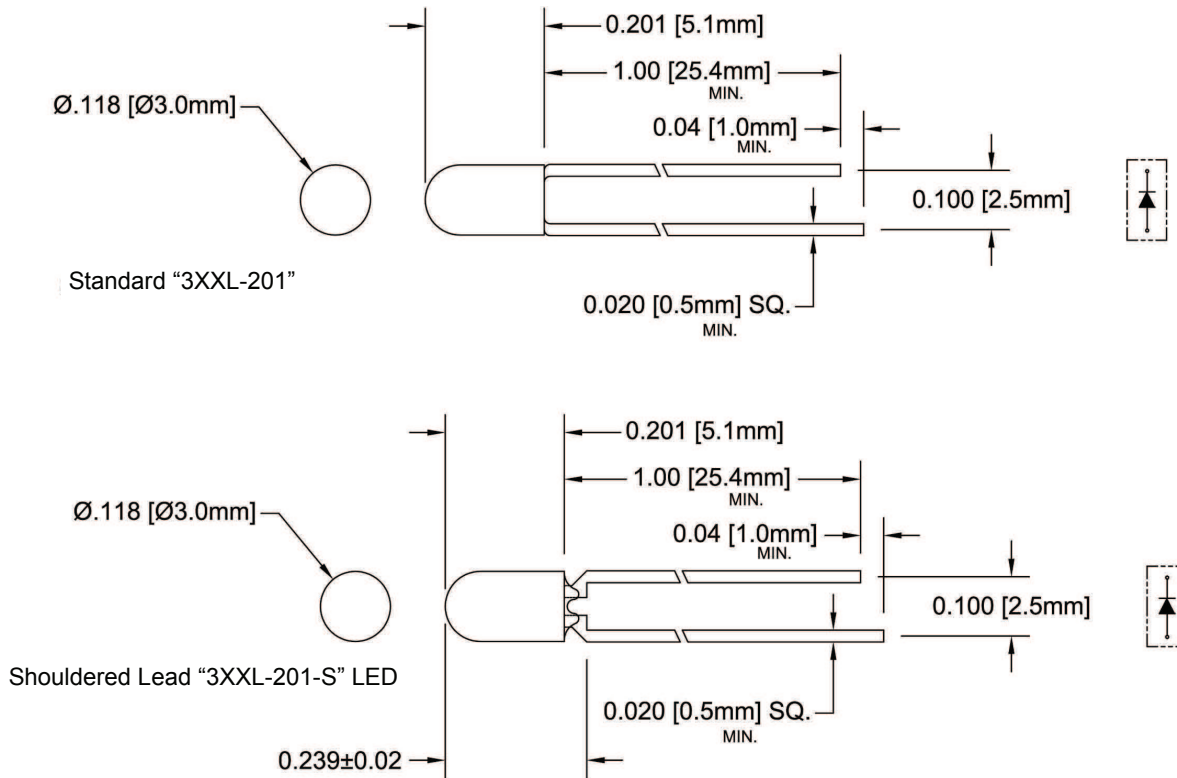


Bivar reserves the right to make changes at any time without notice.

3mm (T1) Package Discrete LED RED, Low Current Extended Profile



Outline Dimensions



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

NOTE: Add suffix -LL for long lead.
Changes 1.00 Min. to 1.57 Min.
Standard Lead Only

- 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	10 mW
Forward Current (DC)	7 mA
Peak Forward Current ¹	/ 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 & I_F = 2 mA 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 ½ (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
3HDL-201	/	2.0	2.6	/	2	/	100	/	/	/	/	2.5	/	35
3HDL-201-S								/	/	/	/		/	

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

3mm (T1) Package Discrete LED RED, Low Current Extended Profile



Typical Electrical / Optical Characteristics

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

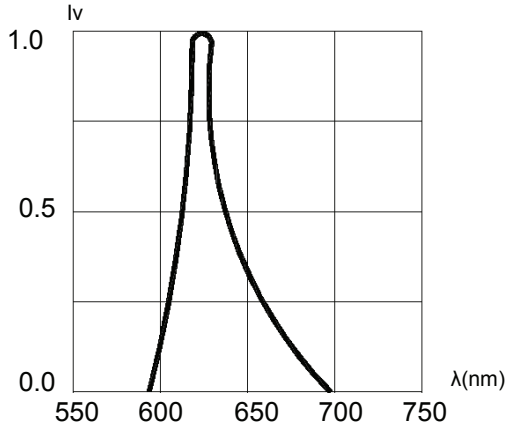


Fig. 1 Relative Luminous Intensity vs. Wavelength

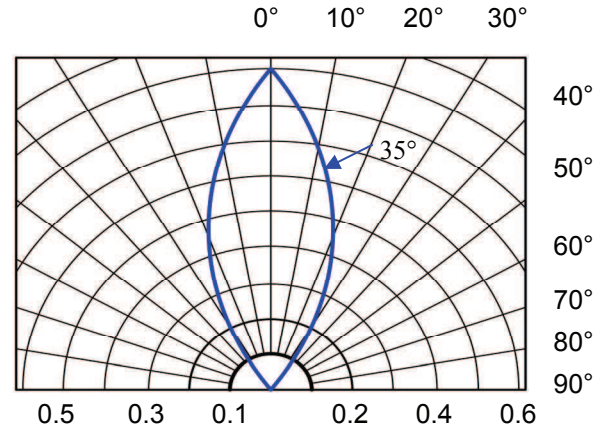


Fig. 2 Directivity Radiation Diagram

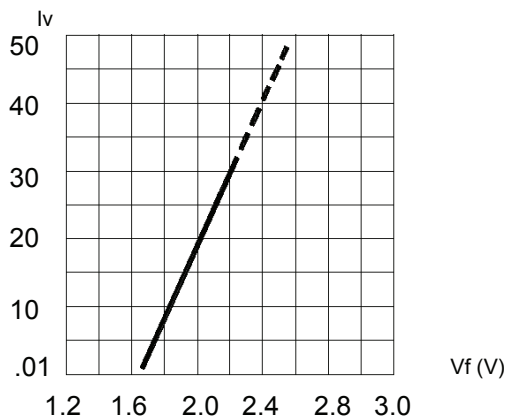


Fig. 3 Relative Intensity (10mA) vs. Forward Voltage

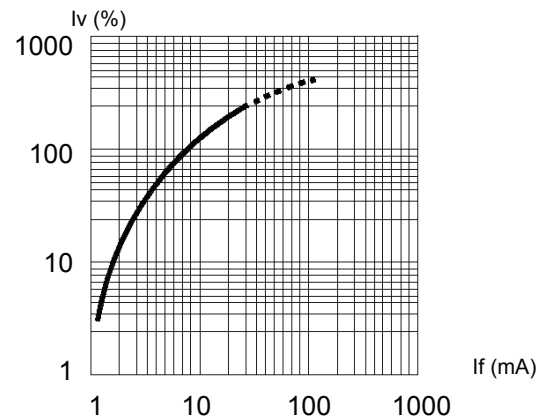


Fig. 4 Relative Luminous Intensity (%) vs. Forward Current

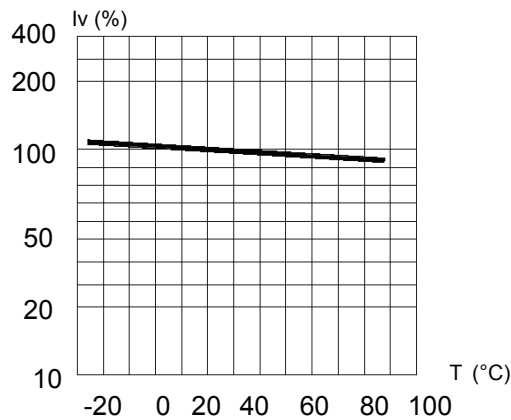


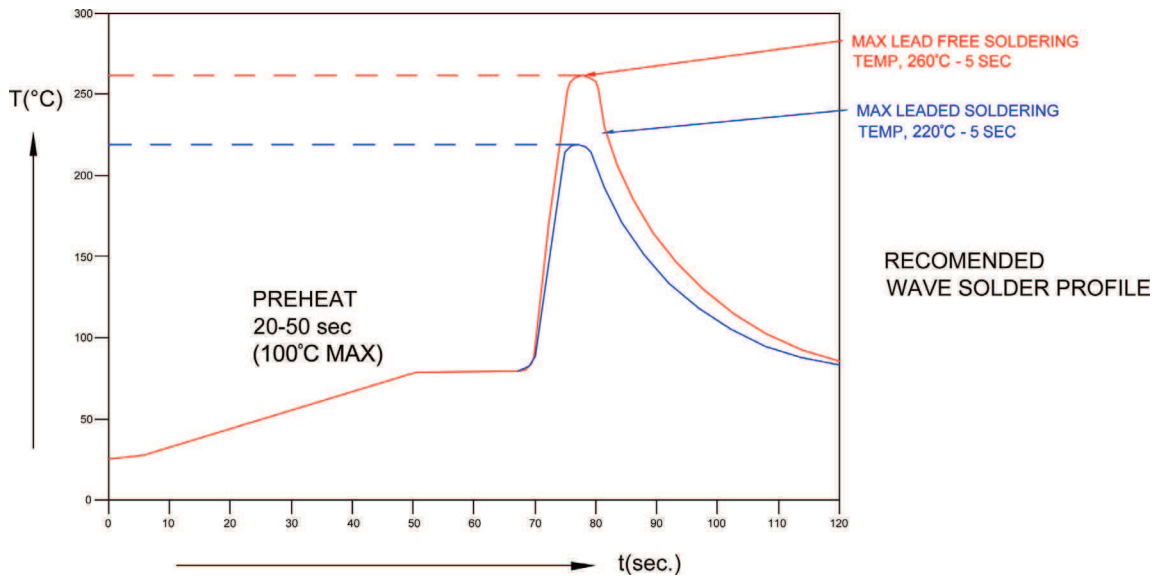
Fig. 5 Relative Intensity (%) vs. Temperature

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3mm (T1) Package Discrete LED RED, Low Current Extended Profile

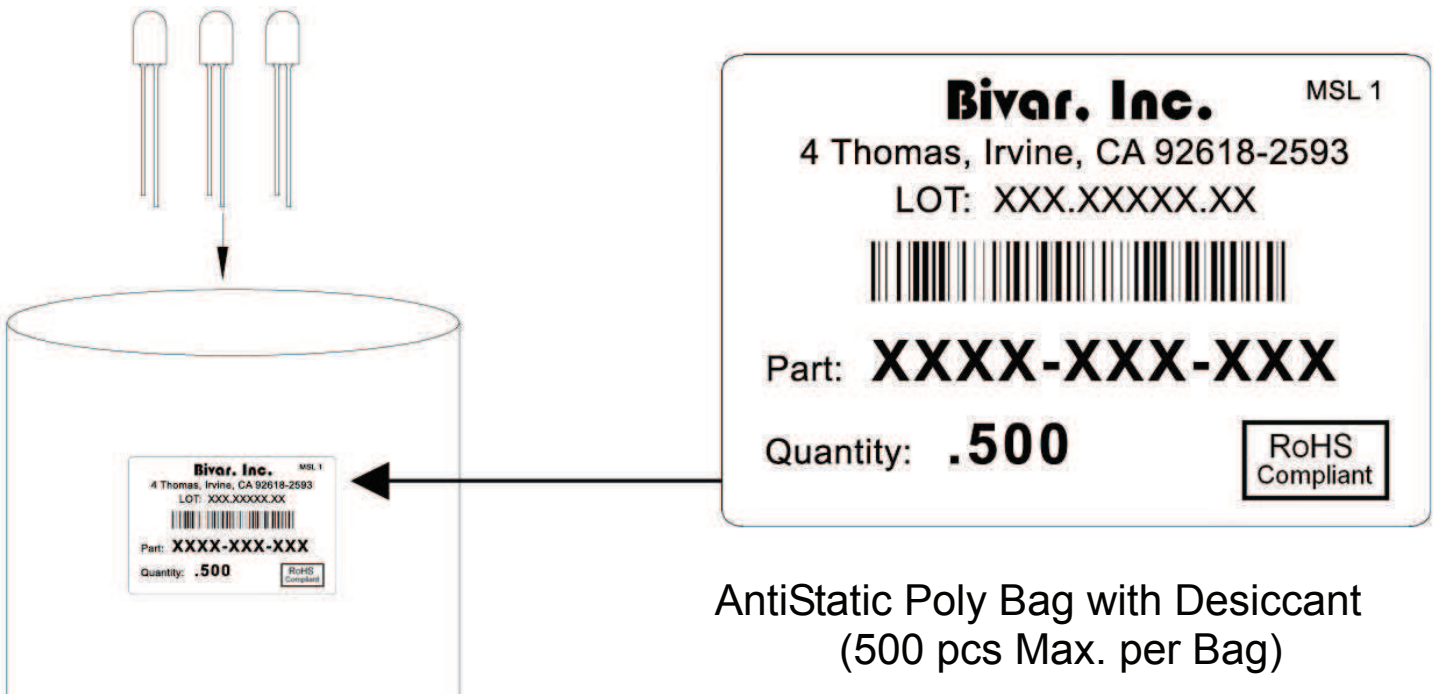


Recommended Soldering Conditions



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