3mm (T1) Package Discrete LED RED

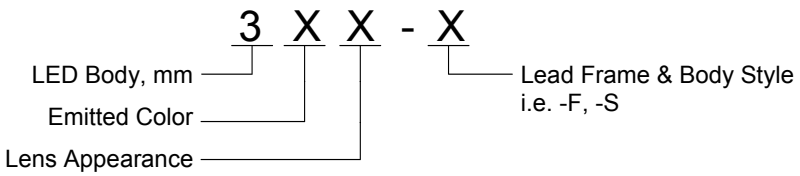
3RX-X

- **Industry Standard 3mm (T1) Package**
- **RoHS Compliant**
- **Water Clear (C), Diffused (D), and Tinted (T) Lenses**
- **Available in Flange (F) and Shouldered (S) Lead Frame styles**
- **Ideal for Status Indication and Display**

Bivar 3mm T1 Package LED may be used in almost any application. Bivar offers water clear LED lens for maximum light output, diffused LED lens for uniform light output, and tinted lens to identify the color of the LED. The Flanged LED is ideal for Panel Mount Clip & Ring assemblies. The Shouldered Lead frame LED is ideal for vertical spacer assemblies without lead bends and also 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 λp(nm) TYP.	Lens Appearance	Viewing Angle
3RC-F	GaP/GaP	RED	700nm	Water Clear	20°
3RD-F				Red Diffused	35°
3RT-F				Red Tinted	20°
3RC-S				Water Clear	30°
3RD-S				Red Diffused	40°
3RT-S				Red Tinted	30°

Part Number Designation

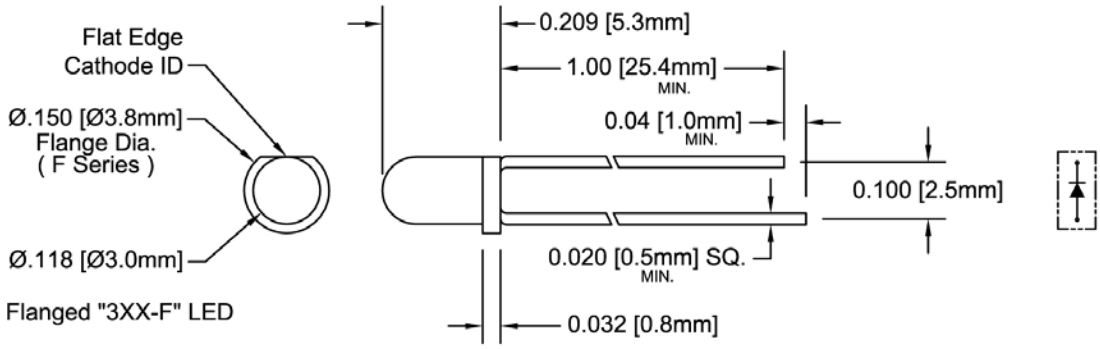


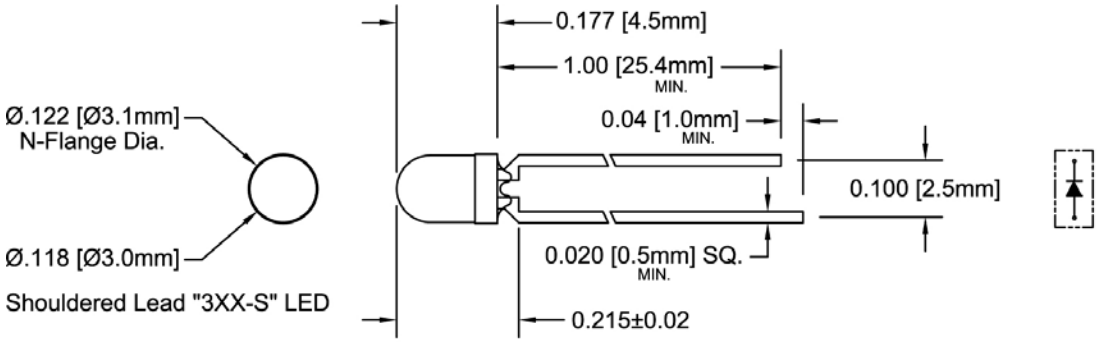
ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

RoHS Compliant

Moisture Sensitivity Levels 1

Outline Dimensions





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	45 mW
Forward Current (DC)	20 mA
Peak Forward Current [1]	80 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 = 20 mA 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
3RC-F	/	2.1	2.8	/	20	/	100	/	/	/	/	2.5	/	20
3RD-F								/	/	/	/	2	/	35
3RT-F								/	/	/	/	2.5	/	20
3RC-S	/	2.1	2.8	/	20	/	100	/	/	/	/	2.5	/	30
3RD-S								/	/	/	/	2	/	40
3RT-S								/	/	/	/	2.5	/	30

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

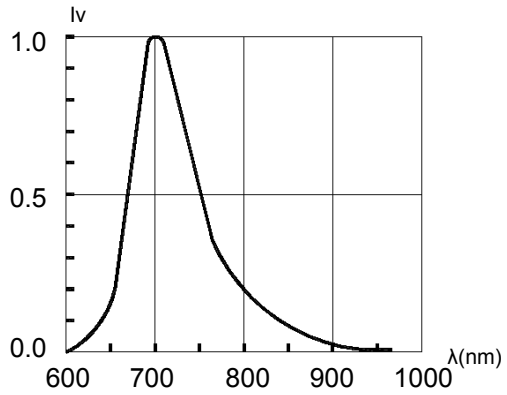


Fig. 1 Relative Luminous Intensity vs. Wavelength @ 20mA

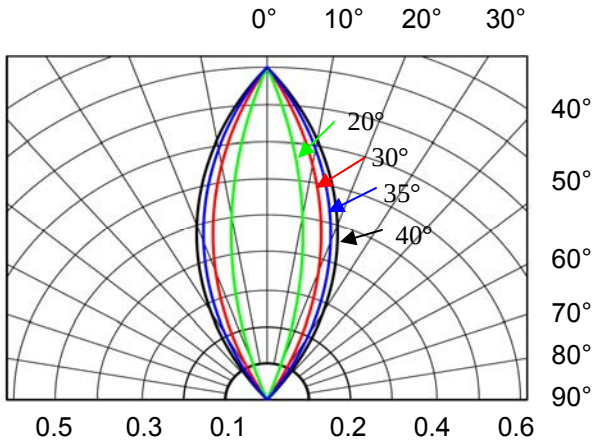


Fig. 2 Directivity Radiation Diagram

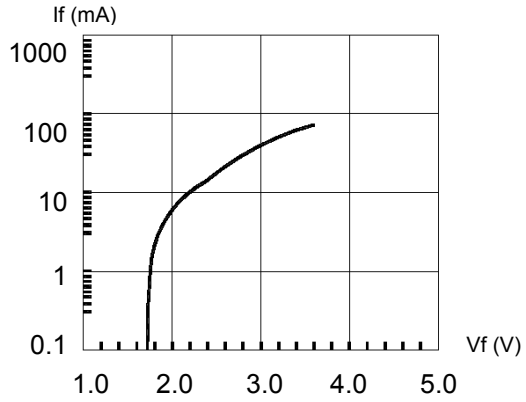


Fig. 3 Forward Current vs. Forward Voltage

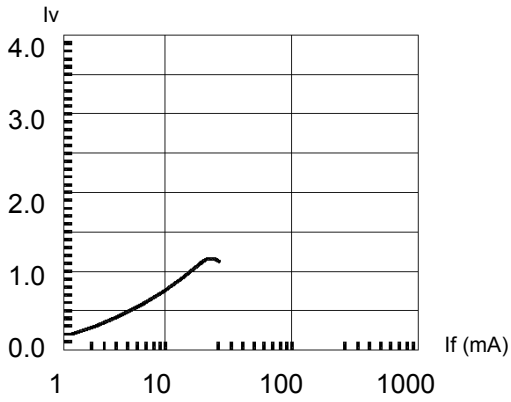


Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

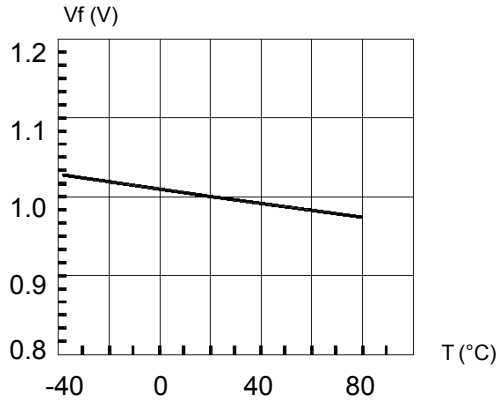


Fig. 5 Forward Voltage vs. Temperature

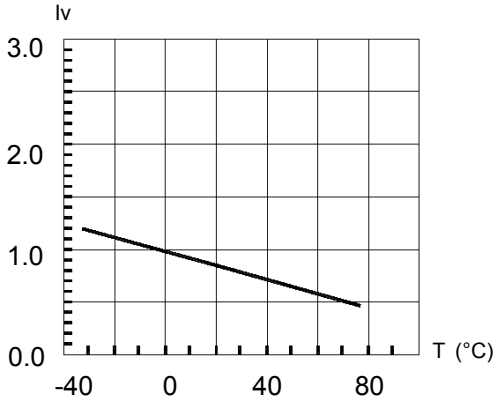
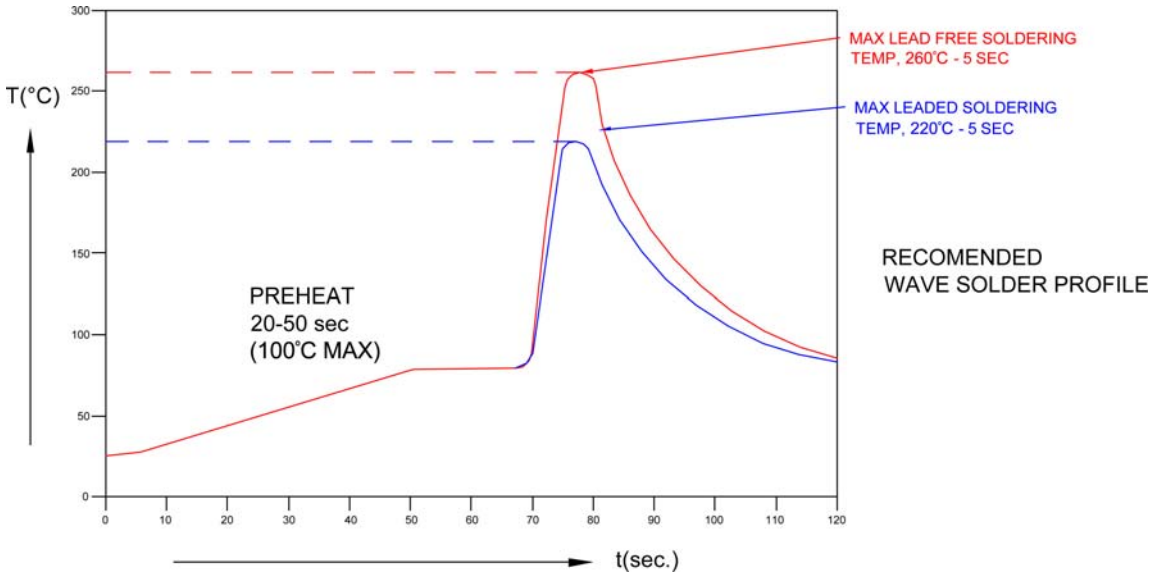


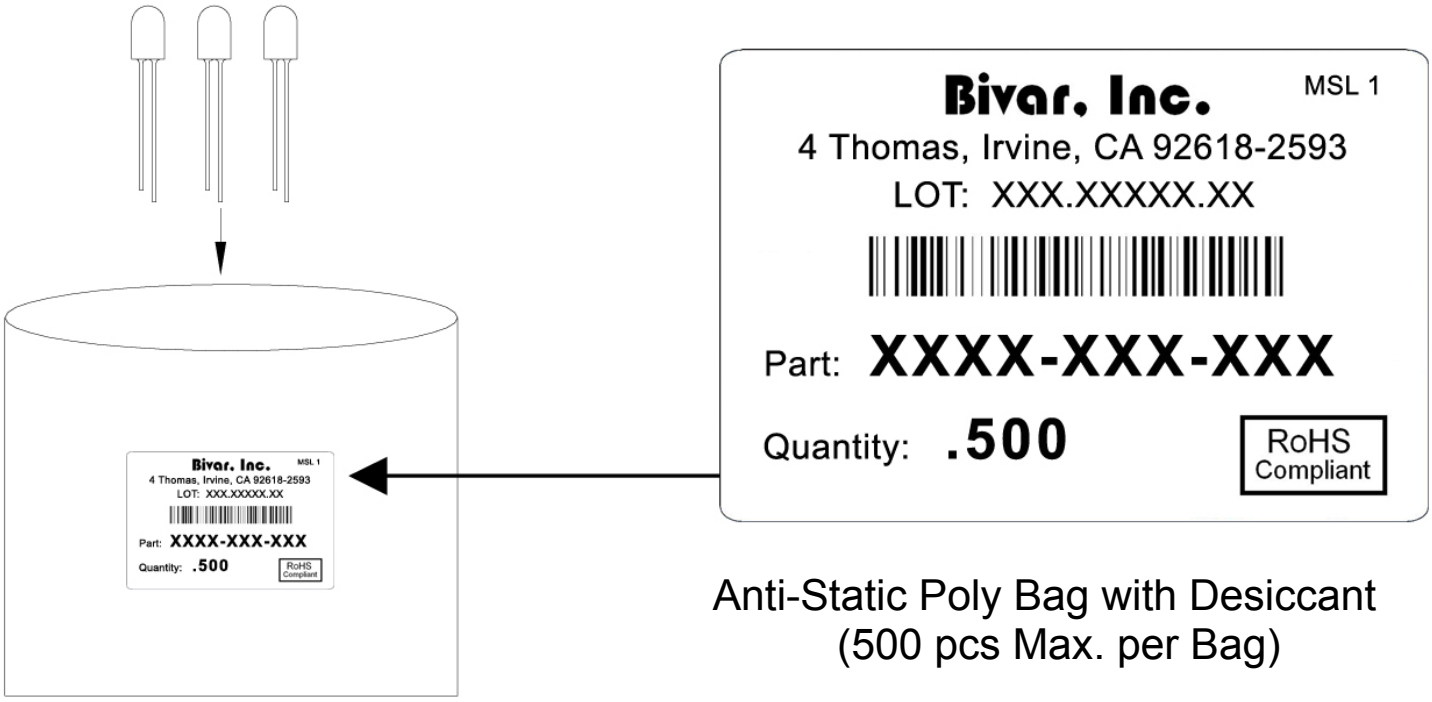
Fig. 6 Relative Luminous Intensity vs. Temperature

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



Anti-Static Poly Bag with Desiccant
(500 pcs Max. per Bag)