

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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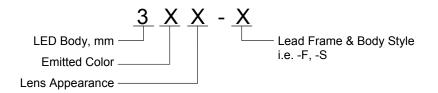
- ♦ Industry Standard 3mm (T1) Package
- **♦** RoHS Compliant
- Water Clear (C), Diffused (D), and Tinted (T) Lenses
- Available in Flange (F) and Shouldered (S) Lead Frame Styles
- ♦ Ideal for Status Indication and Display



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	
3PGC-F	PGD-F PGT-F PGC-S PGD-S	GREEN		Water Clear	20°	
3PGD-F			555nm	Green Diffused	35°	
3PGT-F				Green Tinted	20°	
3PGC-S				Water Clear	30°	
3PGD-S				Green Diffused	40°	
3PGT-S				Green Tinted	30°	

#### **Part Number Designation**



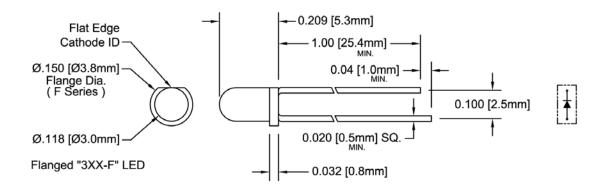


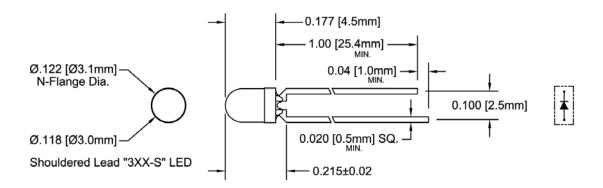






#### **Outline Dimensions**





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

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

Power Dissipation	80 mW	
Forward Current ( DC )	30 mA	
Peak Forward Current <sup>1</sup>	150 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	

### **Electrical / Optical Characteristics**

 $T_A = 25^{\circ}C \& I_F = 20 \text{ mA}$  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 Iv (mcd)			Viewing Angle 2 Θ ½ (deg)		
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
3PGC-F								/	1	1	1	10	/	20
3PGD-F	/	2.2	2.8	/	20	1	100	/	1	1	1	5	/	35
3PGT-F								1	1	1	1	10	/	20
3PGC-S								1	1	1	1	10	/	30
3PGD-S	/	2.2	2.8	/	20	/	100	1	1	1	1	5	/	40
3PGT-S								/	1	1	/	10	/	30

Notes: 1. Tolerance of forward voltage: ±0.05V.

2. Tolerance of dominant wavelength: ±1.0nm.

Notes: 1. 10% Duty Cycle, Pulse Width ≤ 0.1 msec. 2. Solder time less than 5 seconds at temperature extreme.



## **Typical Electrical / Optical Characteristics**

 $T_A = 25$ °C unless otherwise noted

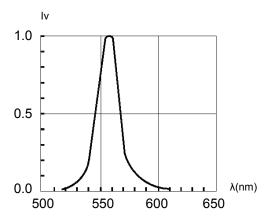


Fig. 1 Relative Luminous Intensity vs. Wavelength @ 20mA

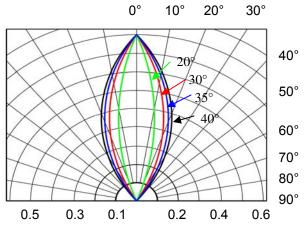


Fig. 2 Directivity Radiation Diagram

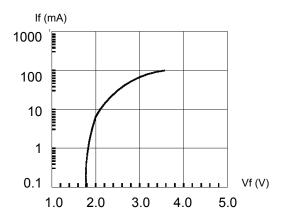


Fig. 3 Forward Current vs. Forward Voltage

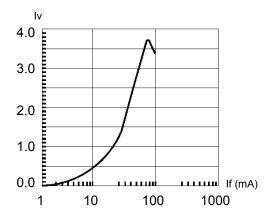


Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

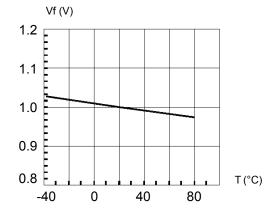


Fig. 5 Forward Voltage vs. Temperature

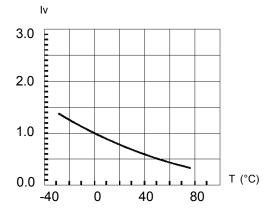
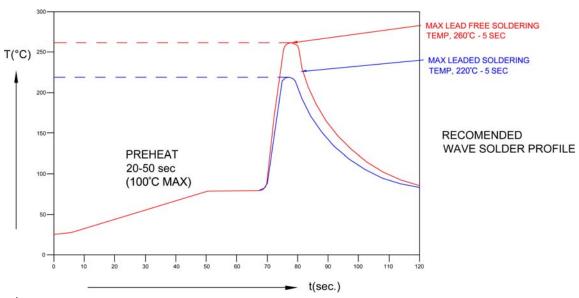


Fig. 6 Relative Luminous Intensity vs. Temperature

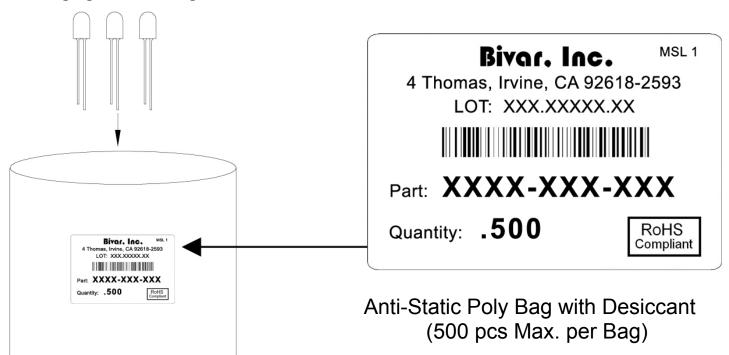


#### **Recommended Soldering Conditions**



Recommended Lead Free Wave Soldering Profile					
Preheat Temperature: 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