

# 3mm (T1) Package Discrete LED BLUE, Extended Profile

# BIVAR

## 3BW~~X~~-201-~~X~~

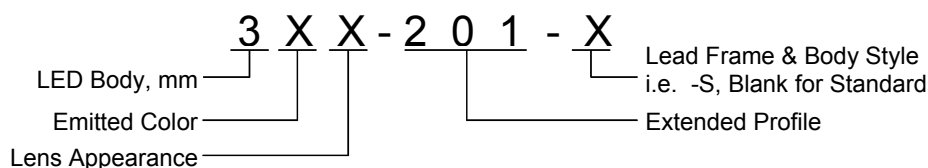
- ◆ Industry Standard 3mm (T1) Package
- ◆ RoHS Compliant
- ◆ Water Clear (**C**), Diffused (**D**), and Tinted (**T**) Lenses
- ◆ Available in Standard (**Blank**) and Shouldered (**S**) Lead Frame styles
- ◆ Ideal for Status Indication and Display



Bivar 3mm T1 Package Extended Profile LED may be used in almost any application and provides additional protrusion for those applications with thicker face plates. 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 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 $\lambda_p$ (nm) TYP.	Lens Appearance	Viewing Angle
3BWC-201	GaN/SiC	BLUE	430nm	Water Clear	20°
3BWD-201				Blue Diffused	35°
3BWT-201				Blue Tinted	20°
3BWC-201-S				Water Clear	20°
3BWD-201-S				Blue Diffused	35°
3BWT-201-S				Blue Tinted	20°

## Part Number Designation

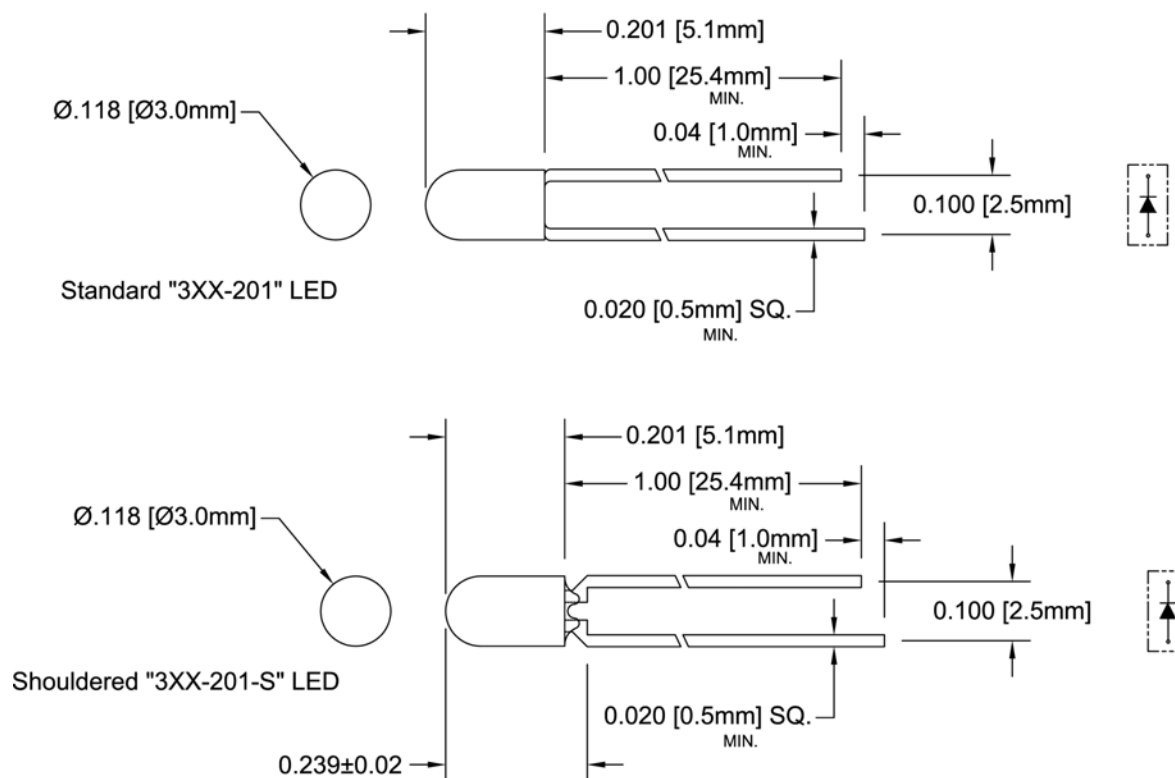


Bivar reserves the right to make changes at any time without notice.

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## Outline Dimensions



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

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

Power Dissipation	150 mW
Forward Current ( DC )	25 mA
Peak Forward Current <sup>1</sup>	70 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 ) <sup>2</sup>	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<sub>A</sub> = 25°C & I<sub>f</sub> = 20mA 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 I <sub>v</sub> (mcd)			Viewing Angle 2 Θ ½ (deg)
	MIN	TYP	MAX	MIN	TYP	MAX	MAX	MIN	TYP	MAX	MIN	TYP	MAX	TYP
3BWC-201	/	4.0	4.5	/	20	/	100	/	/	/	/	15	/	20
3BWD-201								/	/	/	/	10	/	35
3BWT-201								/	/	/	/	15	/	20
3BWC-201-S	/	4.0	4.5	/	20	/	100	/	/	/	/	15	/	20
3BWD-201-S								/	/	/	/	10	/	35
3BWT-201-S								/	/	/	/	15	/	20

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

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## Typical Electrical / Optical Characteristics

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

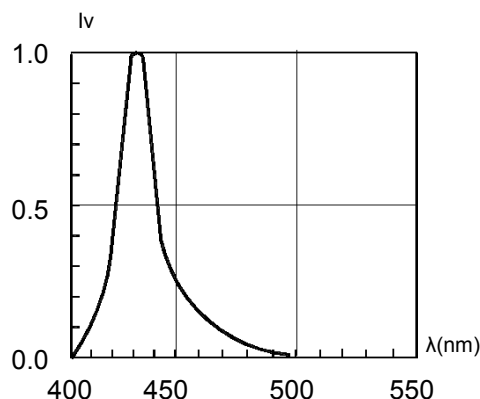


Fig. 1 Relative Luminous Intensity vs. Wavelength  
@ 20mA

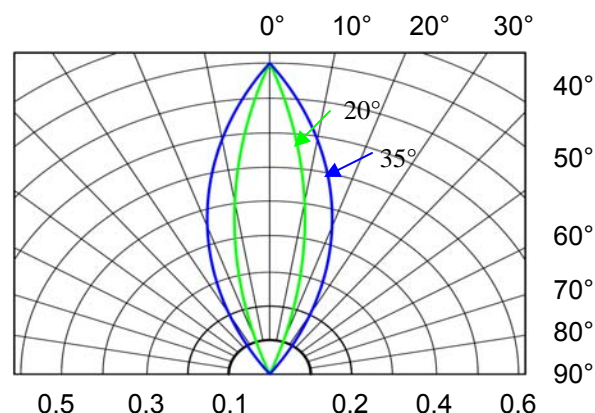


Fig. 2 Directivity Radiation Diagram

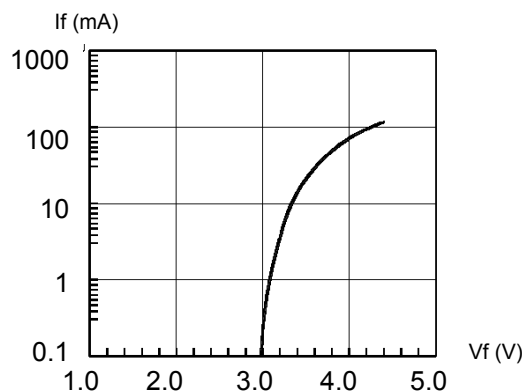


Fig. 3 Forward Current vs. Forward Voltage

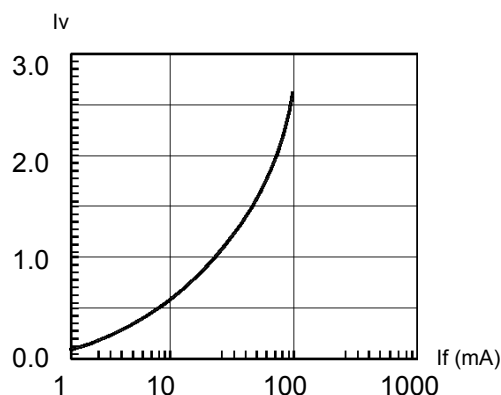


Fig. 4 Relative Luminous Intensity vs. Forward Current  
Normalize @ 20 mA

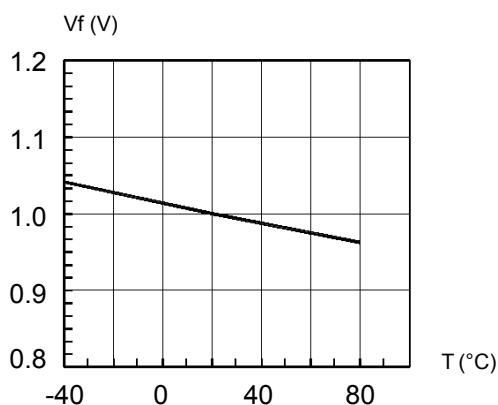


Fig. 5 Forward Voltage vs. Temperature

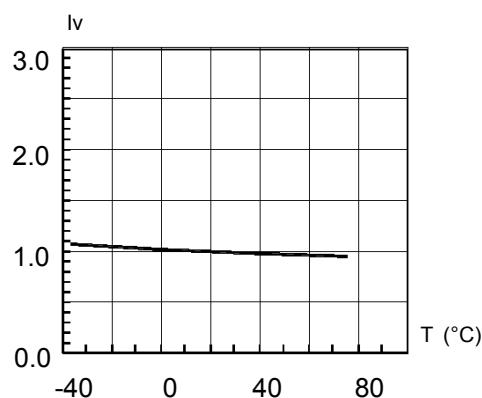


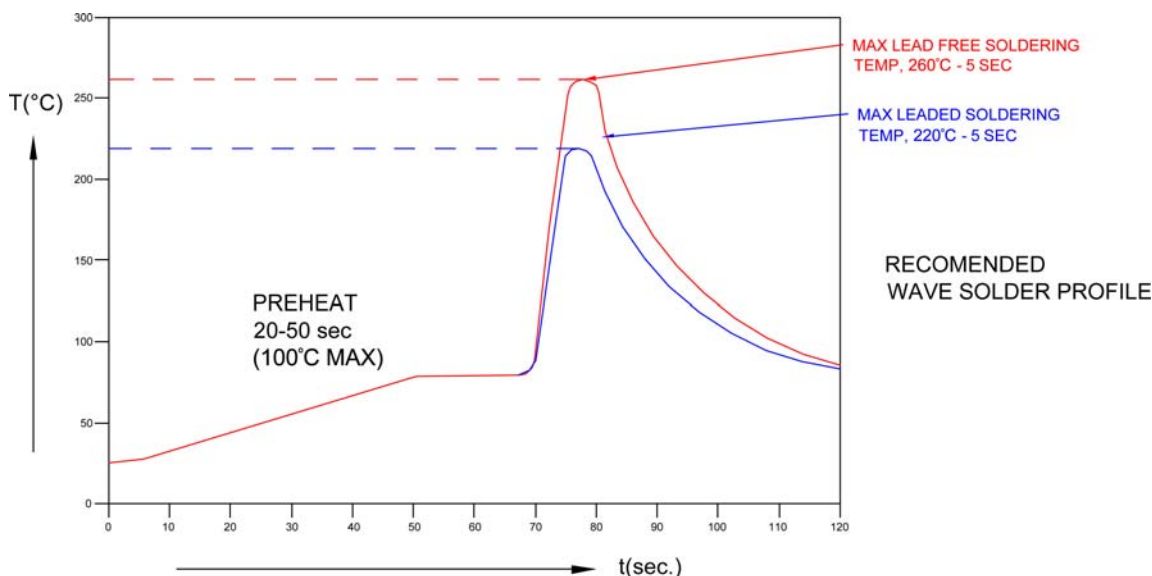
Fig. 6 Relative Luminous Intensity vs. Temperature

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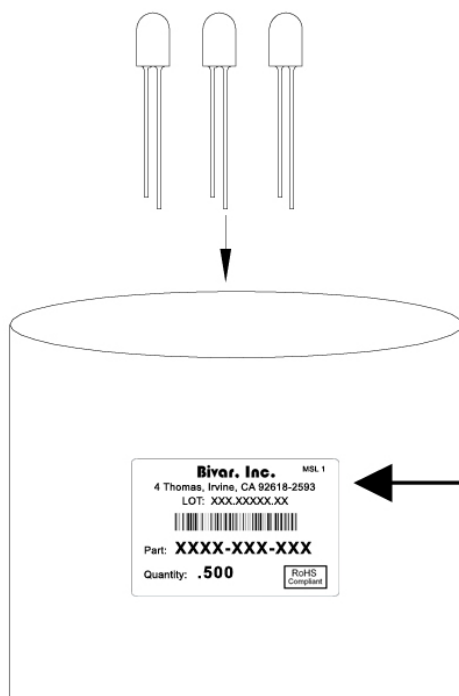


## Recommended Soldering Conditions



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



<b>Bivar, Inc.</b>	MSL 1
4 Thomas, Irvine, CA 92618-2593	
LOT: XXX.XXXXX.XX	
Part: <b>XXXX-XXX-XXX</b>	
Quantity: <b>.500</b>	<b>RoHS Compliant</b>

AntiStatic Poly Bag with Desiccant  
(500 pcs Max. per Bag)

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