# 3mm (T1) Package Discrete LED TURQUOISE, Ultra Bright



#### 3UTC-X

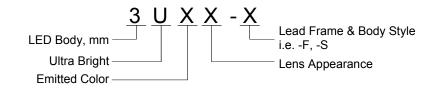
- Industry Standard 3mm (T1) Package
- RoHS Compliant
- Water Clear Lens
- Available in Flange (F) and Shouldered (S) Lead Frame styles
- Up to 800 mcd Luminous Intensity at 20 mA
- Ideal for Back Lighting, Status Indication, and Display
- Recommended for Bivar Flexible Light Pipe assemblies



Bivar 3mm T1 Package Ultra Bright LED is ideal for those applications where intensive ambient lighting exists such as Back Lighting, Signage, and Sunlight Readable applications. Bivar offers water clear LED lens for maximum light output. 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 λρ(nm) TYP.	Lens Appearance	Viewing Angle		
3UTC-F	GaN/SiC	TURQUOISE	500nm	Water Clear	20°		
3UTC-S	Gain/SiC	TURQUUISE	5001111	Water Clear	30°		

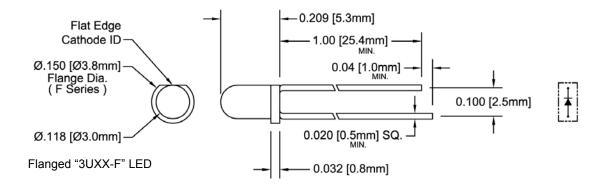
## **Part Number Designation**

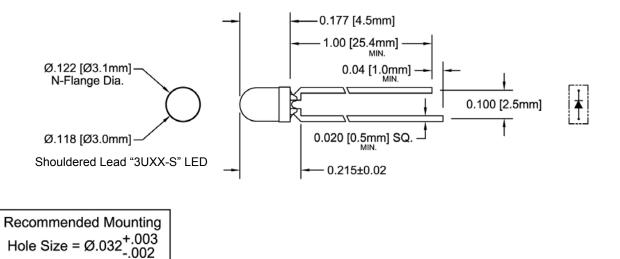






#### **Outline Dimensions**





**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.



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## **Absolute Maximum Ratings**

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

| Power Dissipation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 70 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 ) <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 260°C        |  |  |  |  |
| National 40% Data Order Date With a 0.4 merces - 0. Order the last the Error at a three sectors and a strengthere at the sector of the sector |              |  |  |  |  |

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

## **Electrical / Optical Characteristics**

 $T_A = 25^{\circ}C \& I_F = 20 \text{ mA}$  unless otherwise noted

| Part Number | Forward<br>Voltage (V) <sup>1</sup> |         | Recommend<br>Forward<br>Current (mA) |       | Reverse<br>Current<br>(µA) | Dominant<br>Wavelength (nm) <sup>2</sup> |     | Luminous<br>Intensity Iv (mcd) |     |     | Viewing<br>Angle<br>2 O <sup>1</sup> / <sub>2</sub><br>(deg) |     |     |     |
|-------------|-------------------------------------|---------|--------------------------------------|-------|----------------------------|------------------------------------------|-----|--------------------------------|-----|-----|--------------------------------------------------------------|-----|-----|-----|
|             | MIN                                 | TYP     | MAX                                  | MIN   | TYP                        | MAX                                      | MAX | MIN                            | TYP | MAX | MIN                                                          | TYP | MAX | TYP |
| 3UTC-F      | / 3                                 | 3.5 4.0 | ,                                    | 20    | ,                          | 100                                      | /   | /                              | /   | /   | 800                                                          | /   | 20  |     |
| 3UTC-S      |                                     |         | 4.0                                  | +.0 / | 20                         | 1                                        | 100 | /                              | /   | /   | /                                                            | 800 | /   | 30  |

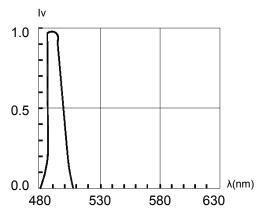
Notes: 1. Tolerance of forward voltage : ±0.05V. 2. Tolerance

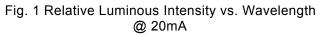
2. Tolerance of dominant wavelength : ±1.0nm.



## **Typical Electrical / Optical Characteristics**

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





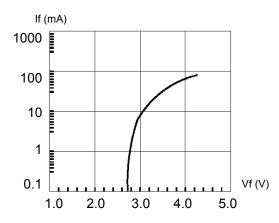


Fig. 3 Forward Current vs. Forward Voltage

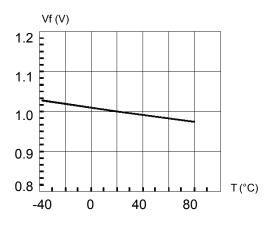


Fig. 5 Forward Voltage vs. Temperature

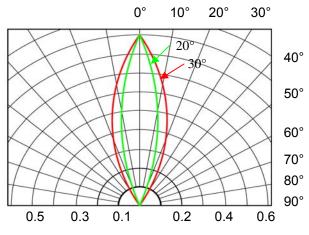


Fig. 2 Directivity Radiation Diagram

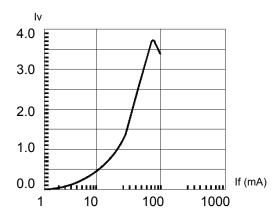


Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

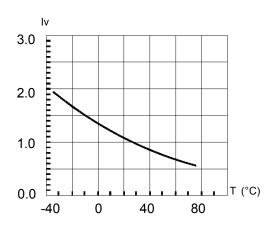
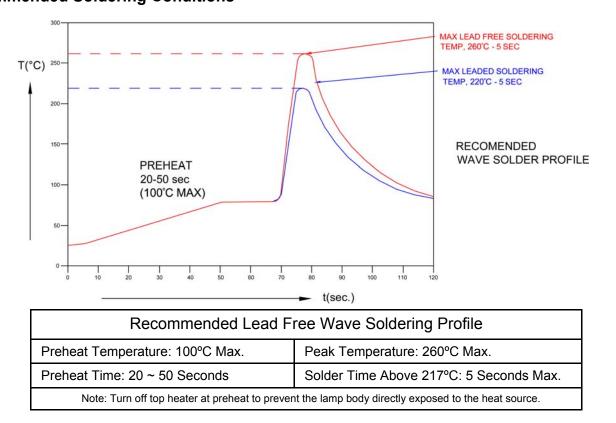


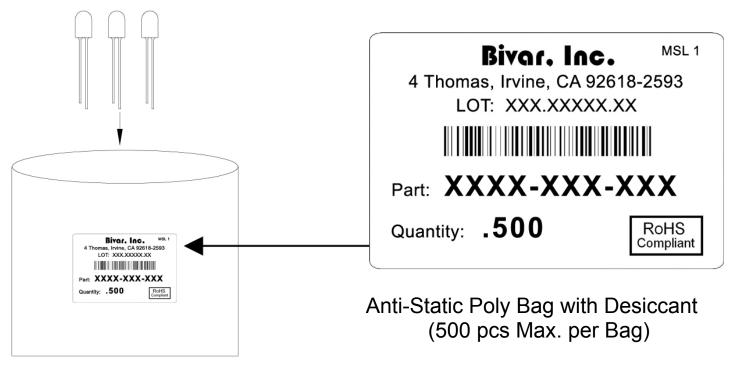
Fig. 6 Relative Luminous Intensity vs. Temperature



#### Recommended Soldering Conditions



#### Packaging and Labeling Plan



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