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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!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# 5mm (T1 ¾) Package Discrete LED GREEN, Super Bright

# BIVAR

## 5SGX-X

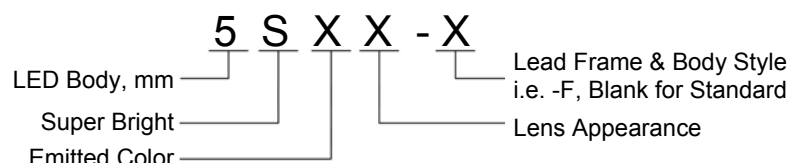
- ◆ Industry Standard 5mm (T1 ¾) Package
- ◆ RoHS Compliant
- ◆ Water Clear (C), Diffused (D), and Tinted (T) Lenses
- ◆ Available in Flange (F) and Standard (Blank) Lead Frame styles
- ◆ Up to 60 mcd Luminous Intensity at 20 mA
- ◆ Ideal for Status Indication and Display



Bivar 5mm T1 ¾ Package Super Bright LED is ideal for those applications where higher ambient lighting exists such as sign boards, security system displays, and medical applications. 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 and the Standard Lead frame LED is ideal for vertical spacer assemblies without lead bends.

| Part Number | Material | Emitted Color | Peak. Wavelength<br>$\lambda_p$ (nm) TYP. | Lens Appearance | Viewing Angle |
|-------------|----------|---------------|-------------------------------------------|-----------------|---------------|
| 5SGC-F      | GaP/GaP  | GREEN         | 568nm                                     | Water Clear     | 35°           |
| 5SGD-F      |          |               |                                           | Green Diffused  | 40°           |
| 5SGT-F      |          |               |                                           | Green Tinted    | 35°           |
| 5SGC        |          |               |                                           | Water Clear     | 35°           |
| 5SGD        |          |               |                                           | Green Diffused  | 45°           |
| 5SGT        |          |               |                                           | Green Tinted    | 35°           |

## Part Number Designation

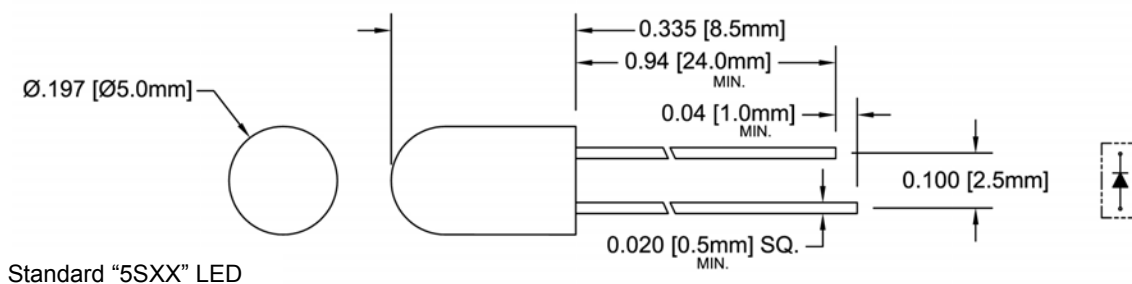
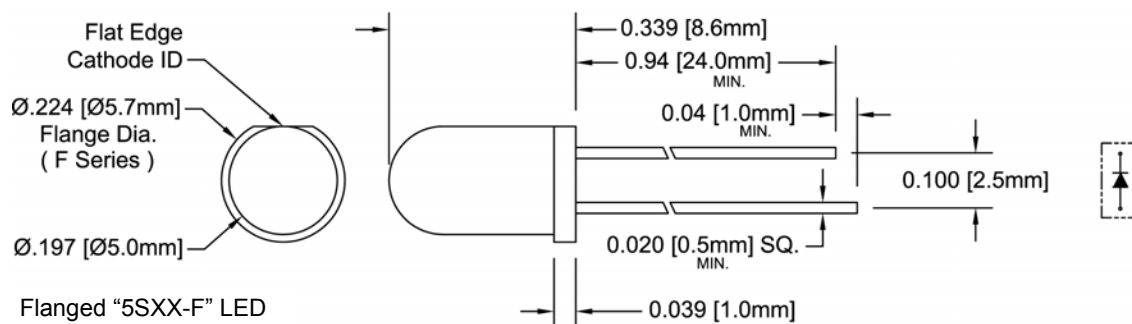


Bivar reserves the right to make changes at any time without notice.

# 5mm (T1 3/4) Package Discrete LED GREEN, Super Bright



## Outline Dimensions



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

### 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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# 5mm (T1 3/4) Package Discrete LED GREEN, Super Bright



## 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 ) <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> = 20 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 I <sub>v</sub> (mcd) |     |     | Viewing Angle 2 Θ 1/2 (deg) |
|-------------|----------------------------------|-----|-----|--------------------------------|-----|-----|----------------------|---------------------------------------|-----|-----|-----------------------------------------|-----|-----|-----------------------------|
|             | MIN                              | TYP | MAX | MIN                            | TYP | MAX | MAX                  | MIN                                   | TYP | MAX | MIN                                     | TYP | MAX | TYP                         |
| 5SGC-F      | /                                | 2.1 | 2.8 | /                              | 20  | /   | 100                  | /                                     | /   | /   | /                                       | 60  | /   | 35                          |
| 5SGD-F      |                                  |     |     |                                |     |     |                      | /                                     | /   | /   | /                                       | 50  | /   | 40                          |
| 5SGT-F      |                                  |     |     |                                |     |     |                      | /                                     | /   | /   | /                                       | 60  | /   | 35                          |
| 5SGC        | /                                | 2.1 | 2.8 | /                              | 20  | /   | 100                  | /                                     | /   | /   | /                                       | 50  | /   | 35                          |
| 5SGD        |                                  |     |     |                                |     |     |                      | /                                     | /   | /   | /                                       | 30  | /   | 45                          |
| 5SGT        |                                  |     |     |                                |     |     |                      | /                                     | /   | /   | /                                       | 50  | /   | 35                          |

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

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# 5mm (T1 3/4) Package Discrete LED GREEN, Super Bright



## Typical Electrical / Optical Characteristics

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

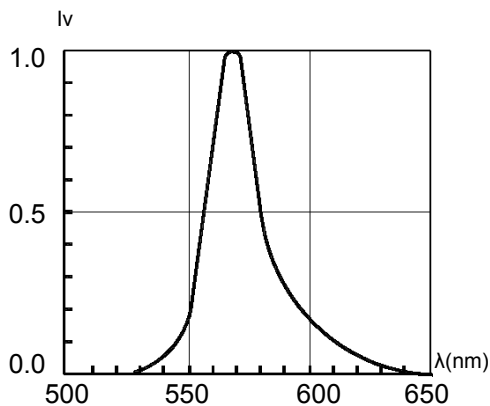


Fig. 1 Relative Luminous Intensity vs. Wavelength  
@ 20mA

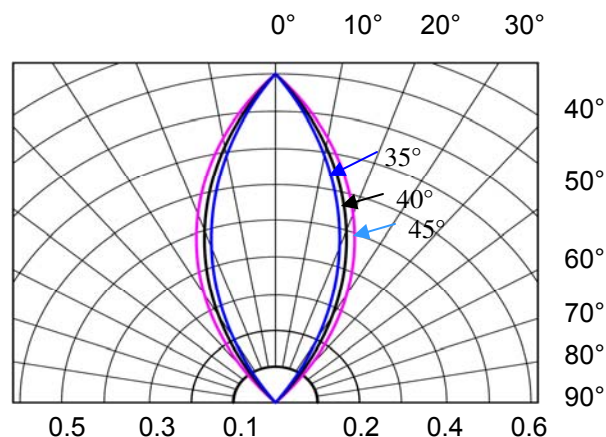


Fig. 2 Directivity Radiation Diagram

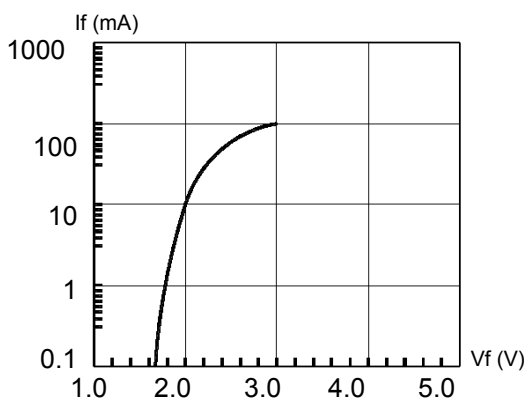


Fig. 3 Forward Current vs. Forward Voltage

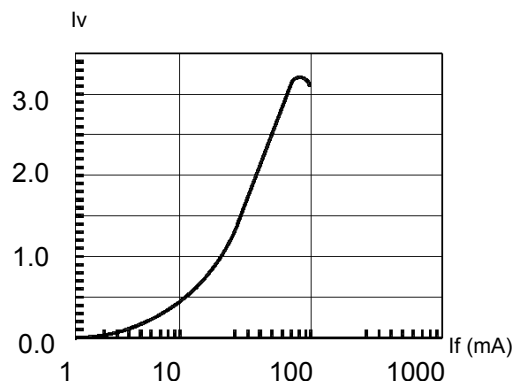


Fig. 4 Relative Luminous Intensity vs. Forward Current  
Normalize @ 20 mA

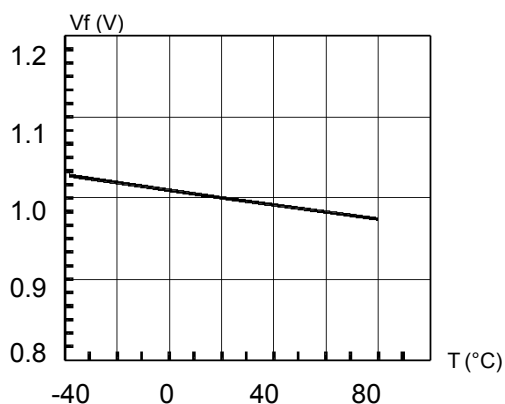


Fig. 5 Forward Voltage vs. Temperature

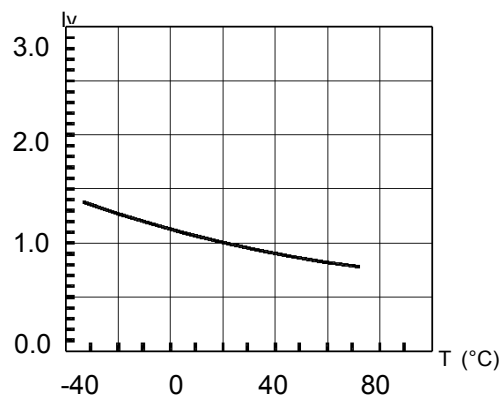


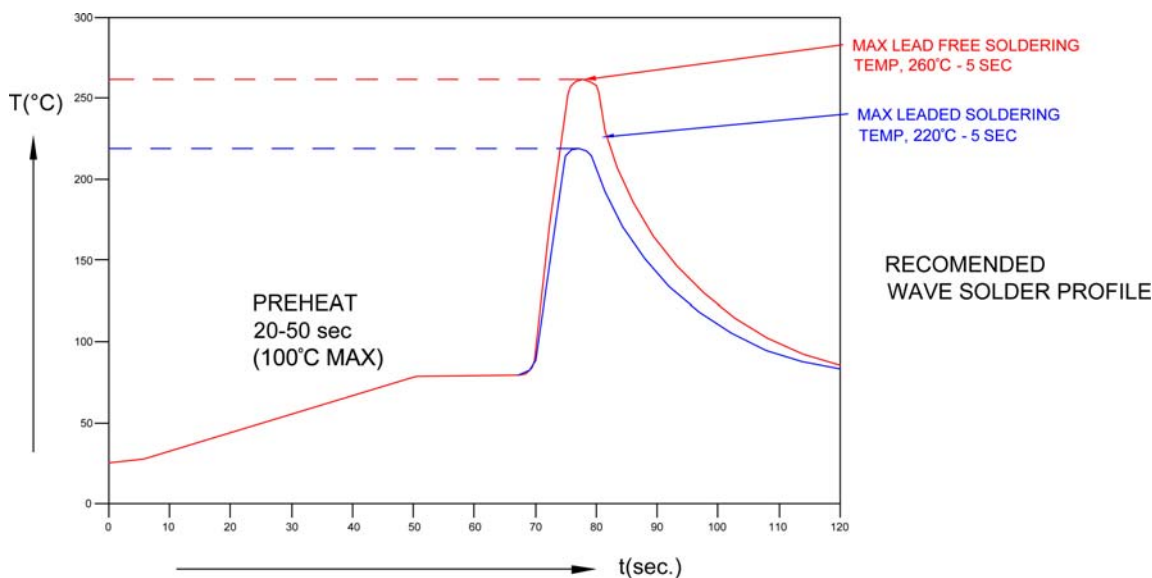
Fig. 6 Relative Luminous Intensity vs. Temperature

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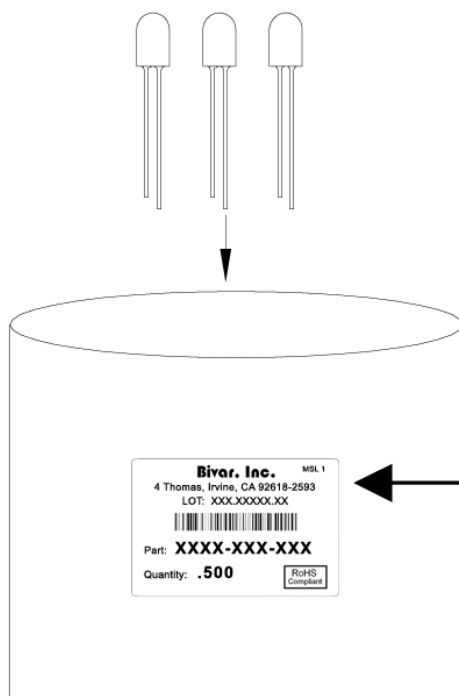


## Recommended Soldering Conditions



| 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>           |       |
| <div>RoHS<br/>Compliant</div>   |       |

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

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