# 3mm (T1) Package Discrete LED RED, Super Bright

**3SRX-X**

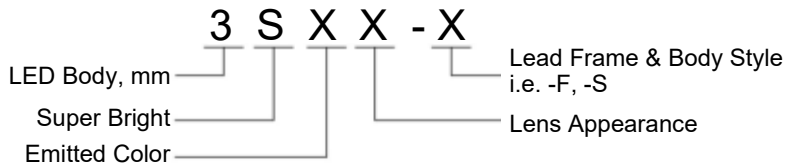
- **Industry Standard 3mm (T1) Package**
- **RoHS Compliant**
- **Water Clear (C) and Diffused (D) Lenses**
- **Available in Flange (F) and Shouldered (S) Lead frame styles**
- **Up to 60 mcd Luminous Intensity at 20 mA**
- **Ideal for Status Indication and Display**
- **Recommended for Bivar Flexible Light Pipe assemblies**



Bivar 3mm T1 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 and diffused LED lens for uniform 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 λp(nm) TYP. | Lens Appearance | Viewing Angle |
|---|---|---|---|---|---|
| 3SRC-F | GaAlAs/GaAs | RED | 645nm | Water Clear | 20° |
| 3SRD-F | | | | Red Diffused | 35° |
| 3SRC-S | | | | Water Clear | 30° |
| 3SRD-S | | | | Red Diffused | 40° |

## Part Number Designation



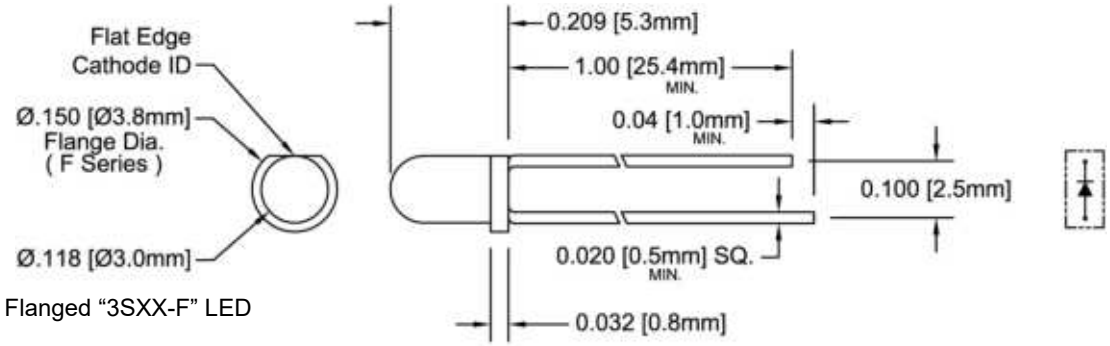

ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

RoHS Compliant

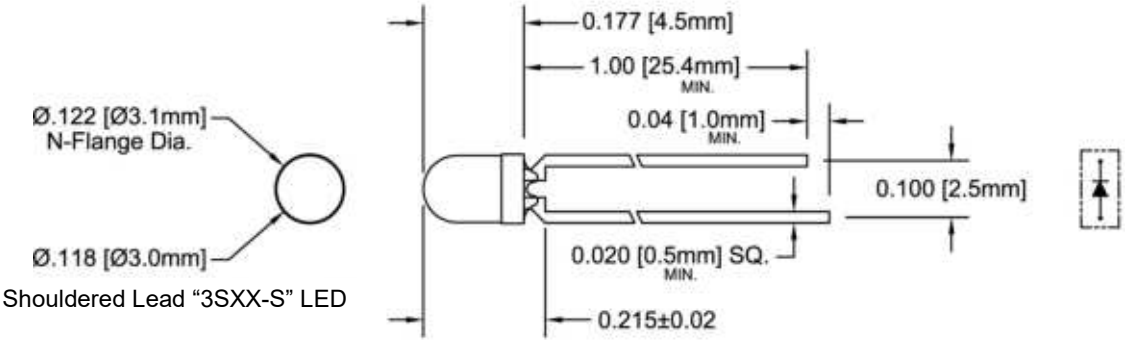
Moisture Sensitivity Levels 1

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

# Outline Dimensions




Flanged “3SXX-F” LED




Shouldered Lead “3SXX-S” LED

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.

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## Absolute Maximum Ratings

$T_A$ = 25°C unless otherwise noted

| | |
|---|---|
| Power Dissipation | 70 mW |
| Forward Current ( DC ) | 30 mA |
| Peak Forward Current [1] | 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 |

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 |
| 3SRC-F | / | 1.7 | 2.4 | / | 20 | / | 100 | / | / | / | / | 60 | / | 20 |
| 3SRD-F | | | | | | | | / | / | / | / | 40 | / | 35 |
| 3SRC-S | / | 1.7 | 2.4 | / | 20 | / | 100 | / | / | / | / | 60 | / | 30 |
| 3SRD-S | | | | | | | | / | / | / | / | 40 | / | 40 |

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°C unless otherwise noted

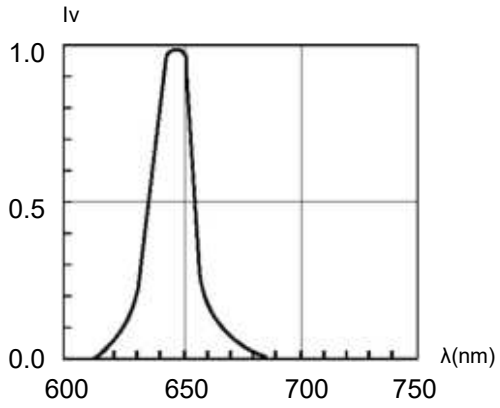



Fig. 1 Relative Luminous Intensity vs. Wavelength @ 20mA

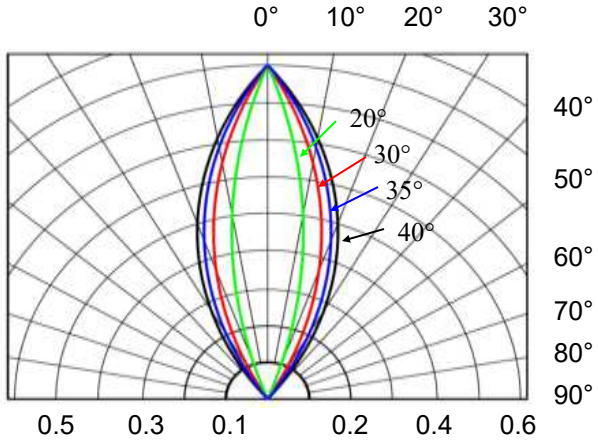



Fig. 2 Directivity Radiation Diagram

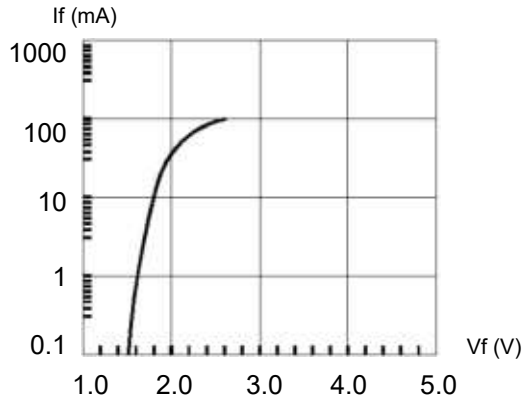



Fig. 3 Forward Current vs. Forward Voltage

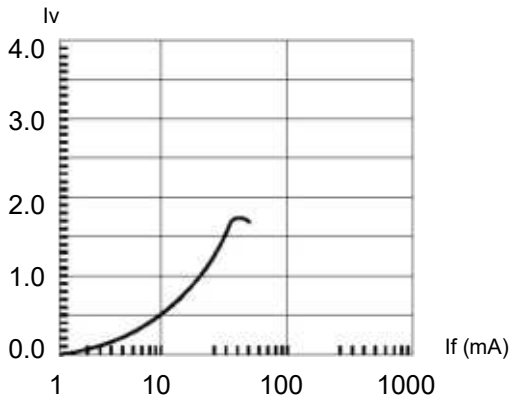



Fig. 4 Relative Luminous Intensity vs. Forward Current Normalize @ 20 mA

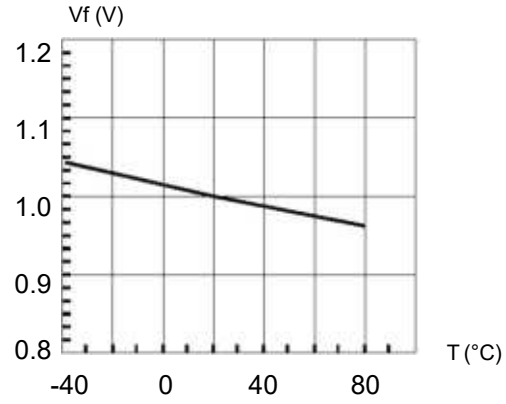



Fig. 5 Forward Voltage vs. Temperature

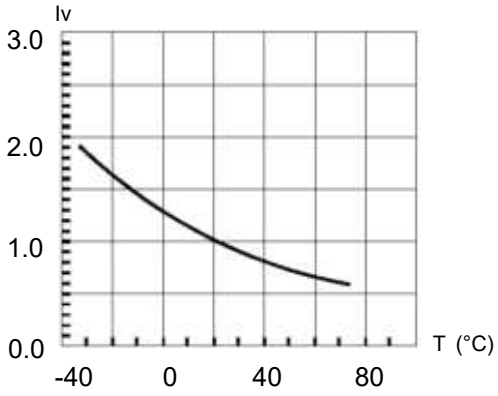
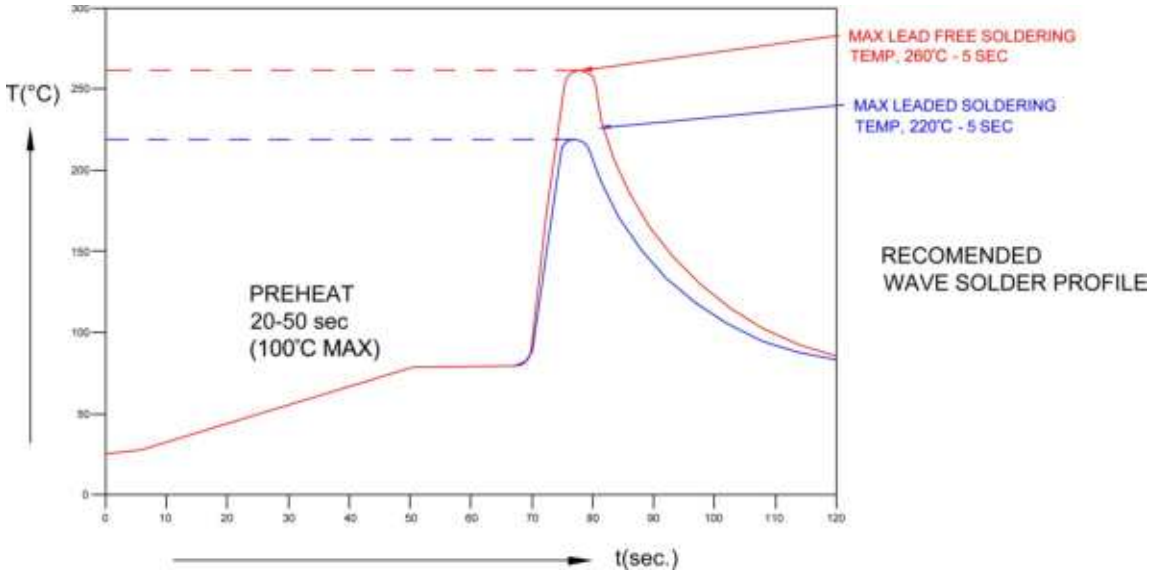



Fig. 6 Relative Luminous Intensity vs. Temperature

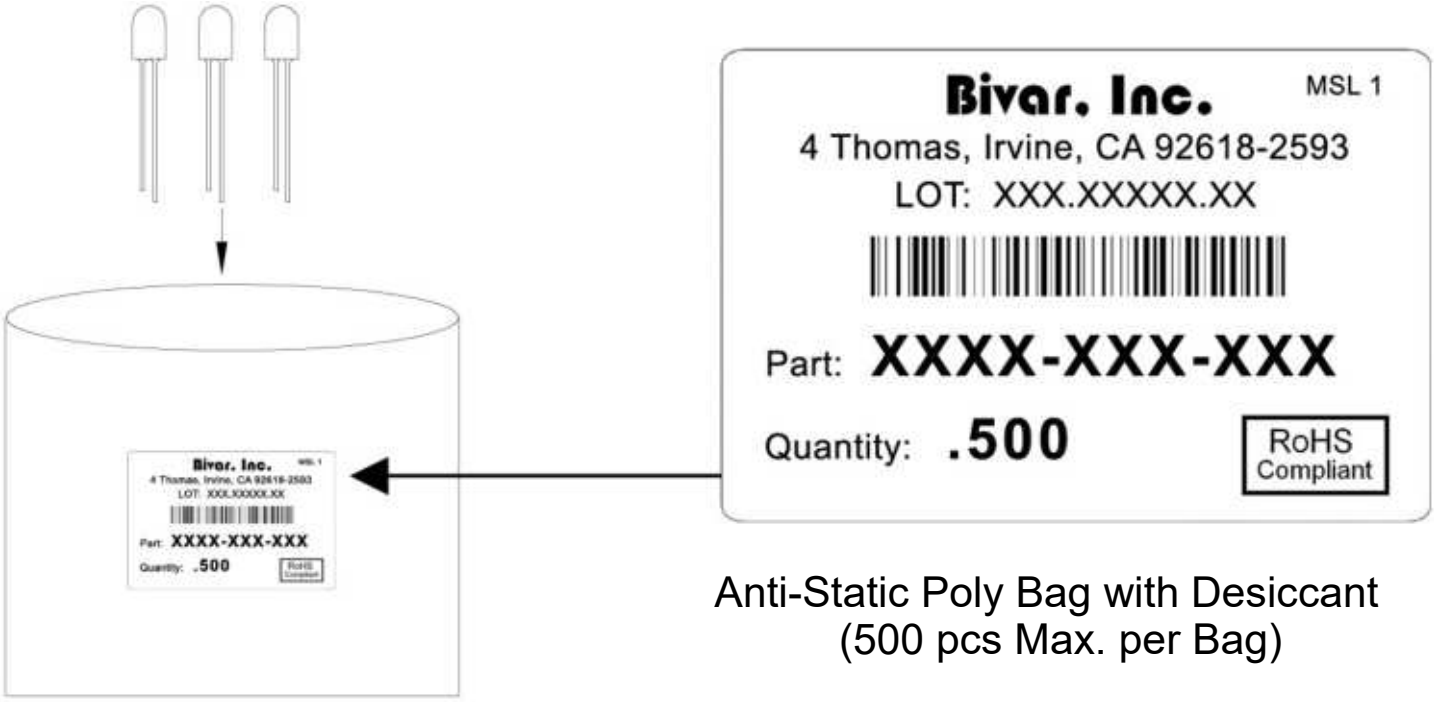
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## Recommended Soldering Conditions




| Recommended Lead Free Wave Soldering Profile | |
|---|---|
| Preheat Temperature: 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)

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