## 3mm (T1) Package Discrete LED YELLOW, Low Current

## 3YDL-X

- Industry Standard 3mm (T1) Package
- RoHS Compliant
- Diffused Lens
- Available in Flange (F) and Shouldered (S) Lead Frame
- 2 mA Low Operating Current
- Ideal for Status Indication and Display


## styles

Bivar 3mm T1 Package 2 mA Low Current LED is special binned at 2 mA and is ideal for those applications where lower power budget is required such as solar panel or battery-powered portable devices. Bivar offers 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 $\lambda p(n m)$ TYP. | Lens Appearance | Viewing Angle |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3YDL-F | GaAsP/GaP | YELLOW | 590nm | Yellow Diffused | $35^{\circ}$ |
| 3YDL-S |  |  |  | Yellow Diffused | $40^{\circ}$ |

## Part Number Designation



## Outline Dimensions



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

## 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: $\pm 0.020^{\prime \prime}$ unless otherwise noted.
4. Epoxy meniscus may extend to $0.060^{\prime \prime}$ max.

## Absolute Maximum Ratings

$\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ unless otherwise noted

| Power Dissipation | 10 mW |
| :--- | :---: |
| Forward Current ( DC ) | 7 mA |
| Peak Forward Current ${ }^{1}$ | $/ \mathrm{mA}$ |
| Reverse Voltage | 5 V |
| Operating Temperature Range | $-25 \sim+85^{\circ} \mathrm{C}$ |
| Storage Temperature Range | $-30 \sim+100^{\circ} \mathrm{C}$ |
| Lead Soldering Temperature ( 3 mm from the base of the epoxy bulb ) ${ }^{2}$ | $260^{\circ} \mathrm{C}$ |

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

## Electrical / Optical Characteristics

$\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C} \& \mathrm{I}_{\mathrm{F}}=2 \mathrm{~mA}$ unless otherwise noted

| Part Number | Forward Voltage (V) ${ }^{1}$ |  |  | Recommend Forward Current (mA) |  |  | Reverse Current ( $\mu \mathrm{A}$ ) <br> MAX | DominantWavelength $(\mathrm{nm})^{2}$ |  |  | Luminous Intensity Iv (mcd) |  |  | Viewing Angle $2 \theta 1 / 2$ (deg) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | MIN | TYP | MAX | MIN | TYP | MAX |  | MIN | TYP | MAX | MIN | TYP | MAX | TYP |
| 3YDL-F | 1 | 2.0 | 2.6 | 1 | 2 | 1 | 100 | 1 | / | 1 | 1 | 2 | 1 | 35 |
| 3YDL-S |  |  |  |  |  |  |  | 1 | 1 | 1 | 1 | 2 | 1 | 40 |

Notes: 1 . Tolerance of forward voltage : $\pm 0.05 \mathrm{~V}$.
2. Tolerance of dominant wavelength : $\pm 1.0 \mathrm{~nm}$.

## Typical Electrical / Optical Characteristics

$\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ unless otherwise noted


Fig. 1 Relative Luminous Intensity vs. Wavelength


Fig. 2 Directivity Radiation Diagram


Fig. 3 Forward Voltage vs. Temperature


Fig. 4 Relative Luminous Intensity vs. Temperature

## Recommended Soldering Conditions



| Recommended Lead Free Wave Soldering Profile |  |
| :--- | :--- |
| Preheat Temperature: $100^{\circ} \mathrm{C}$ Max. | Peak Temperature: $260^{\circ} \mathrm{C}$ Max. |
| Preheat Time: $20 \sim 50$ Seconds | Solder Time Above $217^{\circ} \mathrm{C}: 5$ Seconds Max. |
| Note: Turn off top heater at preheat to prevent the lamp body directly exposed to the heat source. |  |

Packaging and Labeling Plan


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