





## **Features**

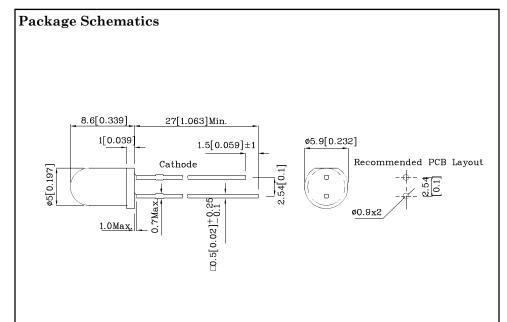
- Radial / Through hole package
- $\bullet$  Reliable & robust
- Low power consumption
- Available on tape and reel
- RoHS Compliant







ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



#### Notes:

- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is  $\pm 0.25(0.01")$  unless otherwise noted.
- 3. Specifications are subject to change without notice.

| Absolute Maximum Ratings ( $T_A=25^{\circ}\mathrm{C}$ )        |                     | Red<br>(AlGaInP) | Unit |  |  |
|--|---------------------|------------------|------|--|--|
| Reverse Voltage  | $V_{\mathrm{R}}$    | 5                | V    |  |  |
| Forward Current  | $I_{\mathrm{F}}$    | 30               | mA   |  |  |
| Forward Current (Peak)<br>1/10 Duty Cycle<br>0.1ms Pulse Width | ifs                 | 150              | mA   |  |  |
| Power Dissipation  | $P_{D}$             | 75               | mW   |  |  |
| Operating Temperature  | $T_A$ -40 ~ +85     |                  | °C   |  |  |
| Storage Temperature  | Tstg                | -40 ~ +85        |      |  |  |
| Lead Solder Temperature<br>[2mm Below Package Base]            | 260°C For 3 Seconds |                  |      |  |  |
| Lead Solder Temperature<br>[5mm Below Package Base]            | 260°C For 5 Seconds |                  |      |  |  |

A Relative Humidity between 40% and 60% is recommended in ESD-protected work areas to reduce static build up during assembly process (Reference JEDEC/JESD625-A and JEDEC/J-STD-033)

| Operating Characteristics (T <sub>A</sub> =25°C)                                |                     | Red<br>(AlGaInP) | Unit |
|---|---------------------|------------------|------|
| Forward Voltage (Typ.)<br>(I <sub>F</sub> =20mA)                                | $V_{\mathrm{F}}$    | 2.1              | V    |
| Forward Voltage (Max.)<br>(I <sub>F</sub> =20mA)                                | $V_{\mathrm{F}}$    | 2.5              | V    |
| Reverse Current (Max.) $(V_R=5V)$   | $I_R$               | 10               | uA   |
| Wavelength of Peak<br>Emission CIE127-2007*(Typ.)<br>(I <sub>F</sub> =20mA)     | λΡ                  | 660*             | nm   |
| Wavelength of Dominant<br>Emission CIE127-2007*(Typ.)<br>(I <sub>F</sub> =20mA) | λD                  | 640*             | nm   |
| Spectral Line Full Width<br>At Half-Maximum (Typ.)<br>(I <sub>F</sub> =20mA)    | $\triangle \lambda$ | 20               | nm   |
| Capacitance (Typ.)<br>(V <sub>F</sub> =0V, f=1MHz)                              | С                   | 45               | pF   |

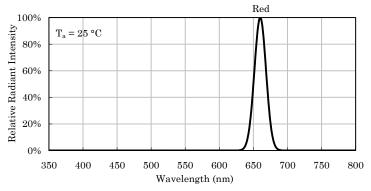
| Part<br>Number | Emitting<br>Color | Emitting<br>Material | Lens-color   | Luminous Intensity<br>CIE127-2007*<br>(I <sub>F</sub> =20mA)<br>mcd |              | Wavelength<br>CIE127-2007*<br>nm<br>λP | Viewing<br>Angle<br>2θ 1/2 |
|----------------|-------------------|----------------------|--------------|---|--------------|--|----------------------------|
|                |                   |                      |              | min.  | typ.         |  |                            |
| XLM2MR12D      | Red               | AlGaInP              | Red Diffused | 1000<br>300*  | 1790<br>597* | 660*                                   | 30°                        |

<sup>\*</sup>Luminous intensity value and wavelength are in accordance with CIE127-2007 standards.

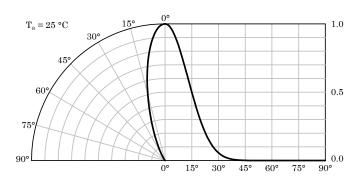
Nov 10,2018 XDSB7493 V4-X Layout: Maggie L.





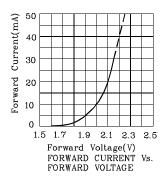


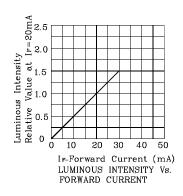
Relative Intensity Vs. CIE Wavelength

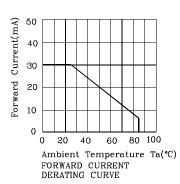


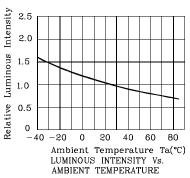
Spatial Distribution

## Red

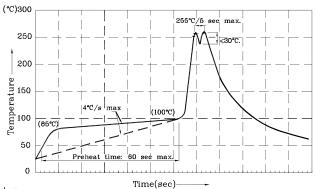








Wave Soldering Profile For Thru-Hole Products (Pb-Free Components)



Notes:

- Notes. I. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of  $260^{\circ}C$  2. Peak wave soldering temperature between  $245^{\circ}C \sim 255^{\circ}C$  for 3 sec
- (5 sec max).
- 3.Do not apply stress to the epoxy resin while the temperature is above  $85\,^\circ\text{C}.$  4.Fixtures should not incur stress on the component when mounting and
- during soldering process. 5.SAC 305 solder alloy is recommended.
- 6. No more than one wave soldering pass.

#### Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity / luminous flux, or wavelength),

the typical accuracy of the sorting process is as follows:

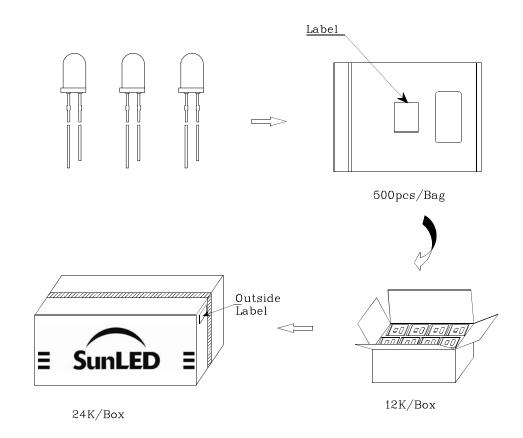
- 1. Wavelength: +/-1nm
- 2. Luminous Intensity / Luminous Flux: +/-15%
- 3. Forward Voltage: +/-0.1V

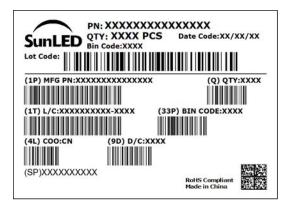
Note: Accuracy may depend on the sorting parameters.





# PACKING & LABEL SPECIFICATIONS





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Nov 10.2018