

### Features

- Radial / Through hole package
- Reliable & robust
- Low power consumption
- RoHS Compliant



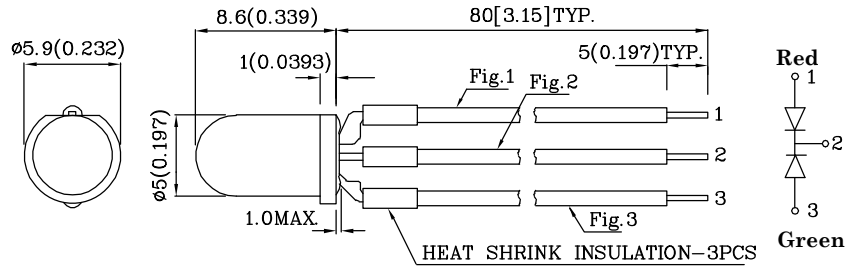
**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Package Schematics

Fig.1 ANODE LEAD, TS , 22 AWG ,UL#1332 , ORANGE INSULATION,STRIP 5 mm .

Fig.2 CATHODE LEAD , TS , 22 AWG ,UL#1332 ,BROWN INSULATION ,STRIP 5 mm .

Fig.3 ANODE LEAD , TS , 22 AWG ,UL#1332 ,GREEN INSULATION ,STRIP 5 mm .



- 1 ANODE RED
- 2 COMMON CATHODE
- 3 ANODE GREEN

#### 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.

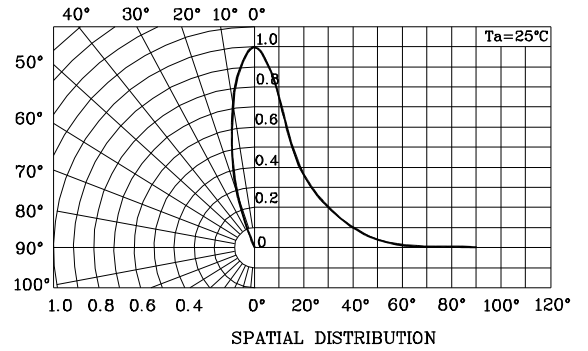
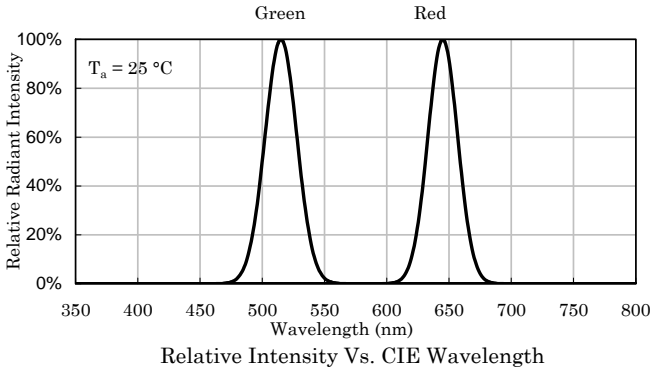
| Absolute Maximum Ratings<br>(T <sub>A</sub> =25°C)             |                     | Red<br>(AlGaInP) | Green<br>(InGaN) | Unit |
|--|---------------------|------------------|------------------|------|
| Reverse Voltage  | V <sub>R</sub>      | 5                | 5                | V    |
| Forward Current  | I <sub>F</sub>      | 30               | 25               | mA   |
| Forward Current (Peak)<br>1/10 Duty Cycle<br>0.1ms Pulse Width | i <sub>FS</sub>     | 185              | 150              | mA   |
| Power Dissipation  | P <sub>D</sub>      | 75               | 102.5            | mW   |
| Electrostatic Discharge Threshold<br>(HBM)                     |                     | 3000             | 450              | V    |
| Operating Temperature  | T <sub>A</sub>      | -40 ~ +85        |                  | °C   |
| Storage Temperature  | T <sub>stg</sub>    | -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)

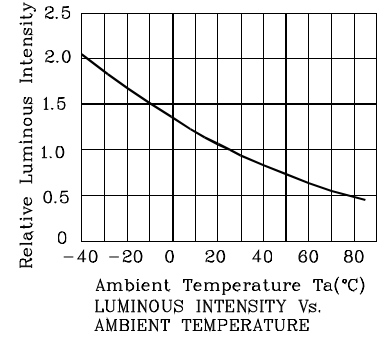
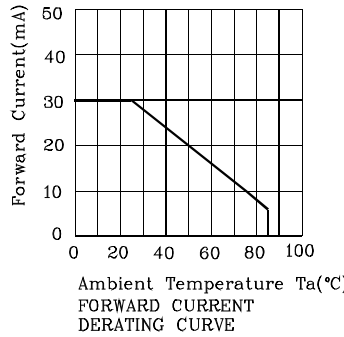
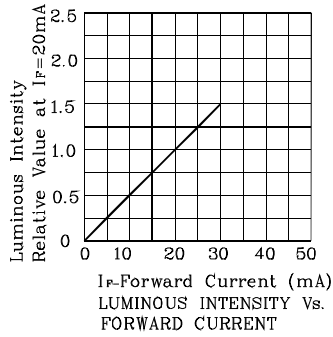
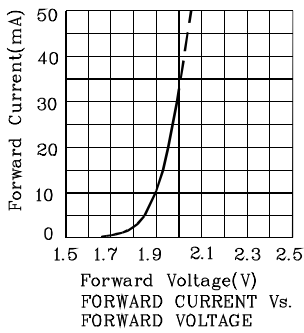
| Operating Characteristics<br>(T <sub>A</sub> =25°C)                              |                | Red<br>(AlGaInP) | Green<br>(InGaN) | Unit |
|--|----------------|------------------|------------------|------|
| Forward Voltage (Typ.)<br>(I <sub>F</sub> =20mA)                                 | V <sub>F</sub> | 1.95             | 3.3              | V    |
| Forward Voltage (Max.)<br>(I <sub>F</sub> =20mA)                                 | V <sub>F</sub> | 2.5              | 4.1              | V    |
| Reverse Current (Max.)<br>(V <sub>R</sub> =5V)                                   | I <sub>R</sub> | 10               | 50               | uA   |
| Wavelength of Peak<br>Emission CIE127-2007* (Typ.)<br>(I <sub>F</sub> =20mA)     | λ <sub>P</sub> | 645*             | 515*             | nm   |
| Wavelength of Dominant<br>Emission CIE127-2007* (Typ.)<br>(I <sub>F</sub> =20mA) | λ <sub>D</sub> | 630*             | 525*             | nm   |
| Spectral Line Full Width<br>At Half-Maximum (Typ.)<br>(I <sub>F</sub> =20mA)     | Δλ             | 28               | 30               | nm   |
| Capacitance (Typ.)<br>(V <sub>F</sub> =0V, f=1MHz)                               | C              | 35               | 45               | pF   |

| Part Number     | Emitting Color | Emitting Material | Lens-color     | Luminous Intensity<br>CIE127-2007*<br>(I <sub>F</sub> =20mA)<br>mcd |       | Wavelength<br>nm<br>λ <sub>P</sub> | Viewing Angle<br>2θ 1/2 |
|-----------------|----------------|-------------------|----------------|---|-------|------------------------------------|-------------------------|
|                 |                |                   |                | min.  | typ.  |                                    |                         |
| XLMDKDG59MW3.15 | Red            | AlGaInP           | White Diffused | 600   | 1195  | 645*                               | 30°                     |
|                 | Green          | InGaN             |                | 700   | 1495  |                                    |                         |
|                 |                |                   |                | 80*   | 198*  |                                    |                         |
|                 |                |                   |                | 700   | 1495  | 515*                               |                         |
|                 |                |                   |                | 700*  | 1495* |                                    |                         |

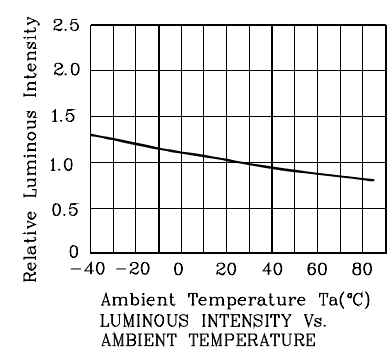
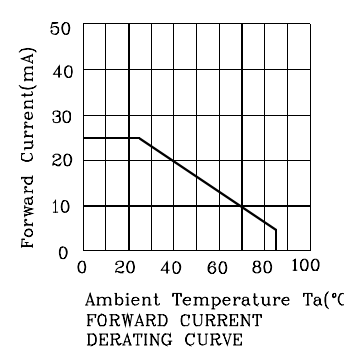
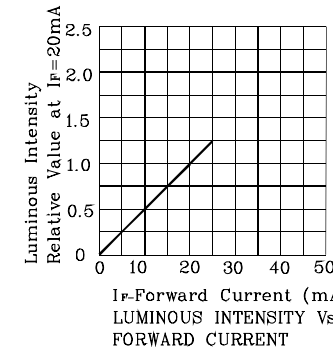
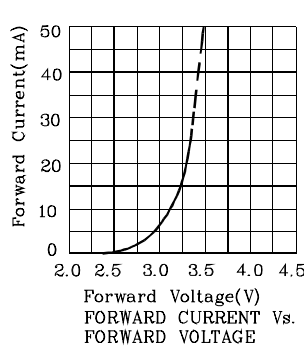
\*Luminous intensity value and wavelength are in accordance with CIE127-2007 standards.



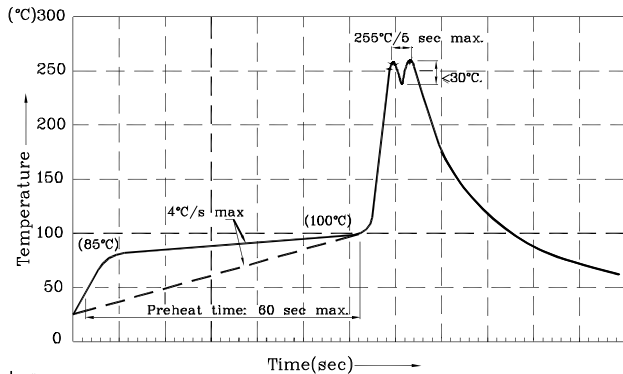
❖ Red



❖ Green



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



- Notes:
- 1.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°C
  - 2.Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
  - 3.Do not apply stress to the epoxy resin while the temperature is above 85°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.

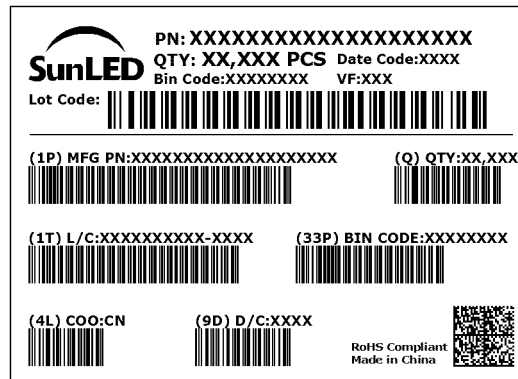
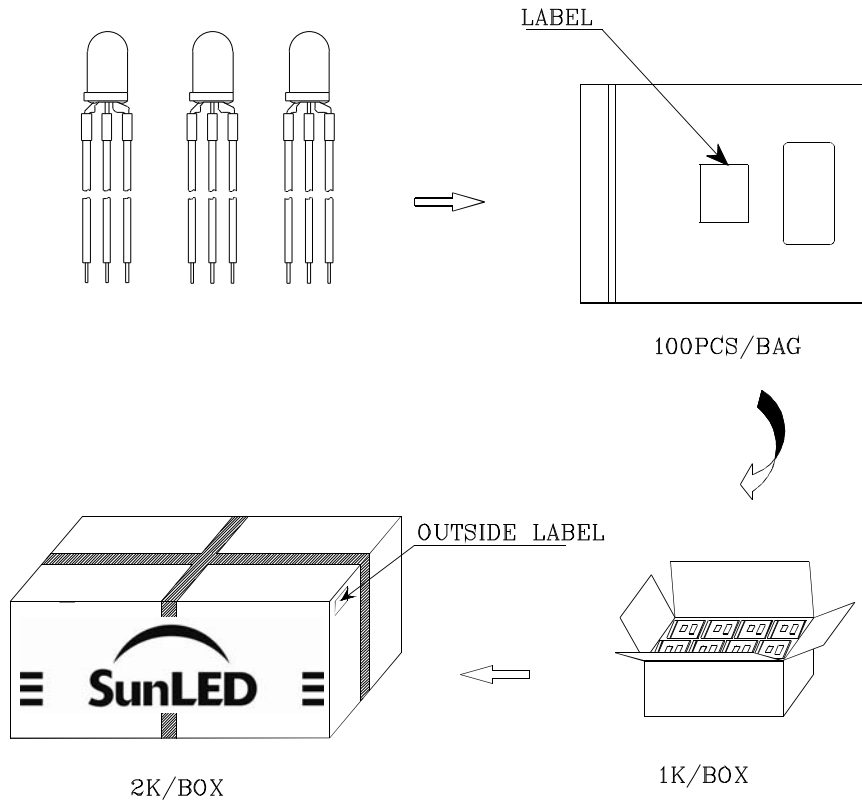
Remarks:

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**



**TERMS OF USE**

1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
2. Contents within this document are subject to improvement and enhancement changes without notice.
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6. Additional technical notes are available at <http://www.SunLEDusa.com/TechnicalNotes.asp>