

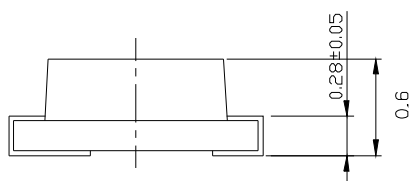
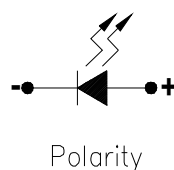
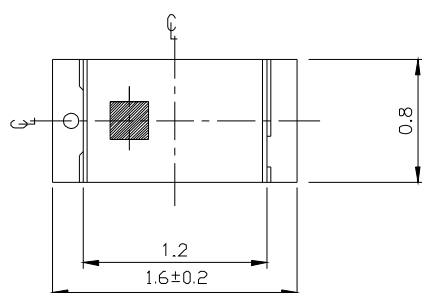
## Features

- Fit automatic placement equipment.
- Fit Compatible with infrared and vapor phase reflow solder process.
- Pb-free.
- RoHS compliant.

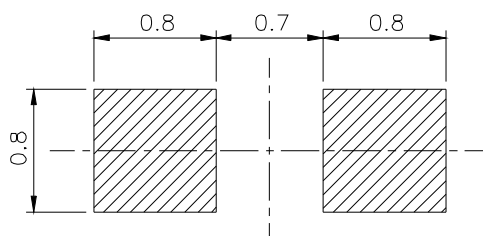
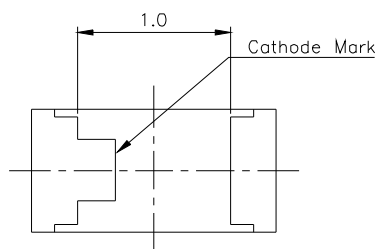
## Descriptions

- For higher packing density .
- For minature applications .
- Yellow Diffused Lens
- Chip material : InGaN .
- Emitting color : White.

## Package Outline Dimensions



For reflow soldering (Propose)



**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$  ,Unit = mm

### Absolute Maximum Ratings (Ta=25°C)

| Parameter                                 | Symbol           | Rating                                                                     | Unit |
|-------------------------------------------|------------------|----------------------------------------------------------------------------|------|
| Reverse Voltage                           | V <sub>R</sub>   | 5                                                                          | V    |
| Forward Current                           | I <sub>F</sub>   | 25                                                                         | mA   |
| Operating Temperature                     | T <sub>opr</sub> | -40 ~ +85                                                                  | °C   |
| Storage Temperature                       | T <sub>stg</sub> | -40 ~ +90                                                                  | °C   |
| Soldering Temperature                     | T <sub>sol</sub> | 260 (for 10 sec)                                                           | °C   |
| Electrostatic Discharge (HBM)             | ESD              | 150                                                                        | V    |
| Power Dissipation                         | P <sub>d</sub>   | 110                                                                        | mW   |
| Peak Forward Current<br>(Duty 1/10 @1KHz) | I <sub>FP</sub>  | 100                                                                        | mA   |
| Soldering Temperature                     | T <sub>sol</sub> | Reflow Soldering : 260 °C for 10 sec<br>Hand Soldering : 350 °C for 3 sec. |      |

### Electro-Optical Characteristics (Ta=25°C)

| Parameter          | Symbol         | Min. | Typ. | Max. | Unit | Condition           |
|--------------------|----------------|------|------|------|------|---------------------|
| Luminous Intensity | I <sub>v</sub> | 45.0 | ---  | 90.0 | mcd  | I <sub>F</sub> =5mA |
| Viewing Angle      | 2 θ 1/2        | ---  | 130  | ---  | deg  |                     |
| Forward Voltage    | V <sub>F</sub> | 2.70 | ---  | 3.10 | V    |                     |
| Reverse Current    | I <sub>R</sub> | ---  | ---  | 50   | μA   | V <sub>R</sub> =5V  |

#### Notes:

- 1.Tolerance of Luminous Intensity ±10%
- 2.Tolerance of Forward Voltage ±0.05V

### Bin Range Of Luminous Intensity

| Bin code  | Min  | Max  | Unit | Condition           |
|-----------|------|------|------|---------------------|
| <b>P1</b> | 45.0 | 57.0 | mcd  | I <sub>F</sub> =5mA |
| <b>P2</b> | 57.0 | 72.0 |      |                     |
| <b>Q1</b> | 72.0 | 90.0 |      |                     |

### Bin Range Of Forward Voltage

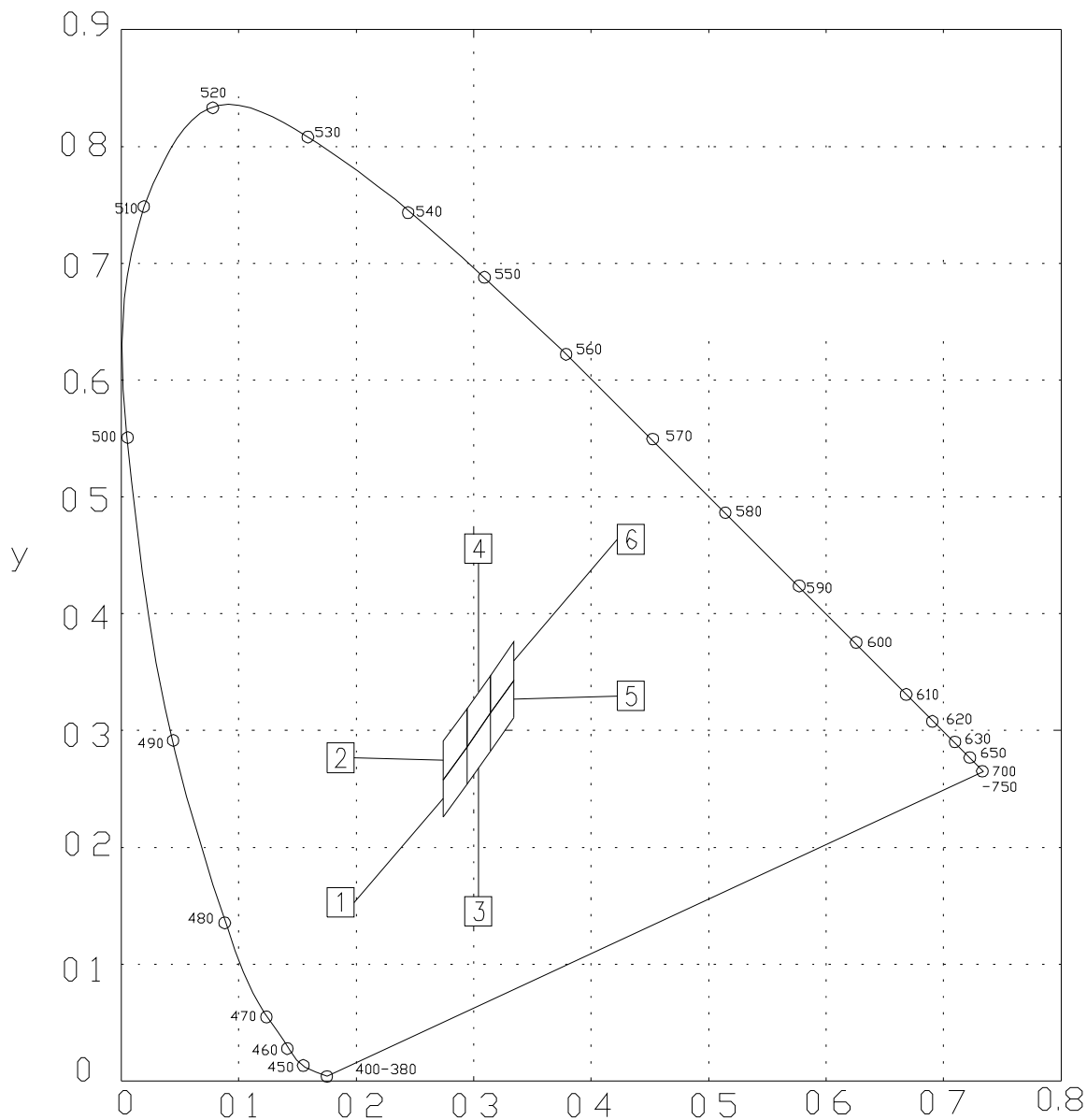
| Group     | Bin       | Min  | Max  | Unit | Condition |
|-----------|-----------|------|------|------|-----------|
| <b>B5</b> | <b>29</b> | 2.70 | 2.80 | V    | If=5mA    |
|           | <b>30</b> | 2.80 | 2.90 |      |           |
|           | <b>31</b> | 2.90 | 3.00 |      |           |
|           | <b>32</b> | 3.00 | 3.10 |      |           |

### Chromaticity Coordinates Specifications for Bin Grading

| Group    | Bin Code | CIE -x | CIE-y | Condition |
|----------|----------|--------|-------|-----------|
| <b>A</b> | <b>1</b> | 0.274  | 0.226 | If=5mA    |
|          |          | 0.274  | 0.258 |           |
|          |          | 0.294  | 0.286 |           |
|          |          | 0.294  | 0.254 |           |
|          | <b>2</b> | 0.274  | 0.258 |           |
|          |          | 0.274  | 0.291 |           |
|          |          | 0.294  | 0.319 |           |
|          |          | 0.294  | 0.286 |           |
|          | <b>3</b> | 0.294  | 0.254 |           |
|          |          | 0.294  | 0.286 |           |
|          |          | 0.314  | 0.315 |           |
|          |          | 0.314  | 0.282 |           |
|          | <b>4</b> | 0.294  | 0.286 |           |
|          |          | 0.294  | 0.319 |           |
|          |          | 0.314  | 0.347 |           |
|          |          | 0.314  | 0.315 |           |
|          | <b>5</b> | 0.314  | 0.282 |           |
|          |          | 0.314  | 0.315 |           |
|          |          | 0.334  | 0.343 |           |
|          |          | 0.334  | 0.311 |           |
|          | <b>6</b> | 0.314  | 0.315 |           |
|          |          | 0.314  | 0.347 |           |
|          |          | 0.334  | 0.376 |           |
|          |          | 0.334  | 0.343 |           |

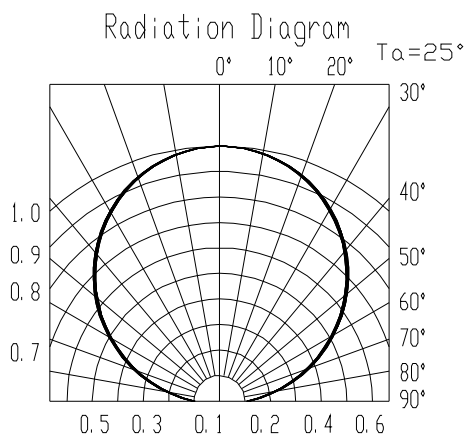
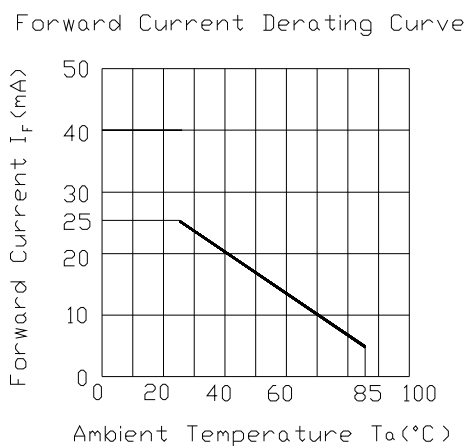
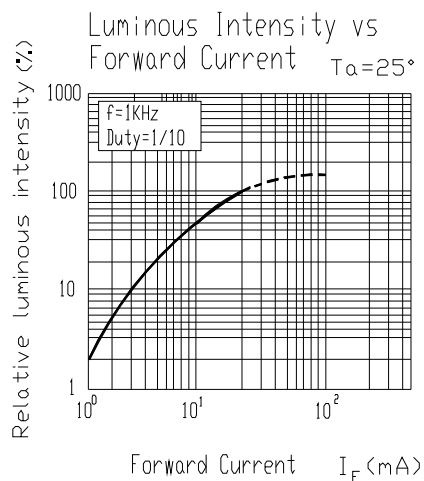
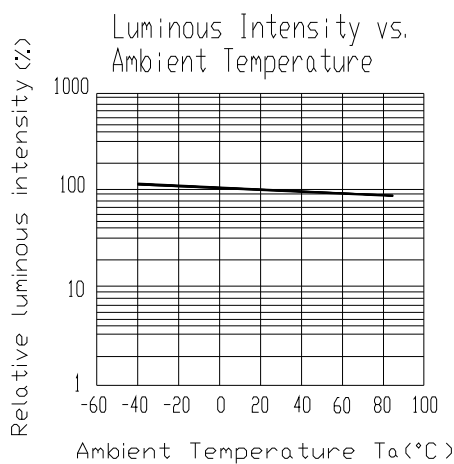
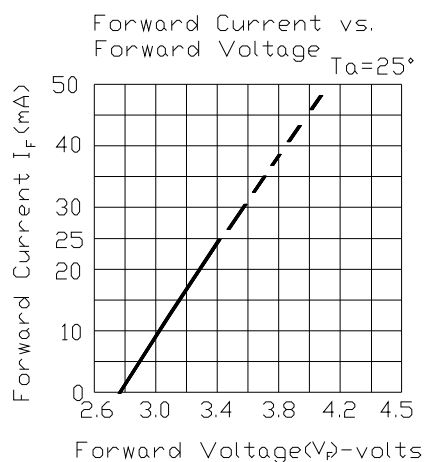
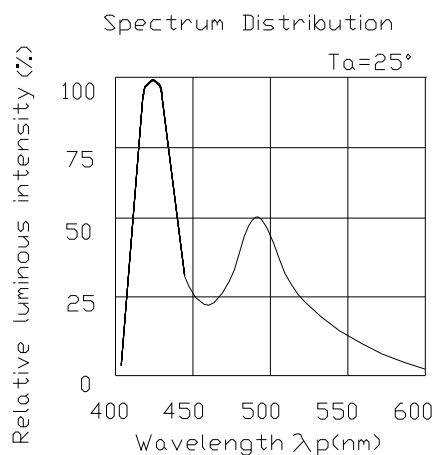
#### Notes:

- 1.The C.I.E. 1931 chromaticity diagram ( Tolerance  $\pm 0.01$ ).
- 2.The products are sensitive to static electricity and care must be fully taken when handling products.

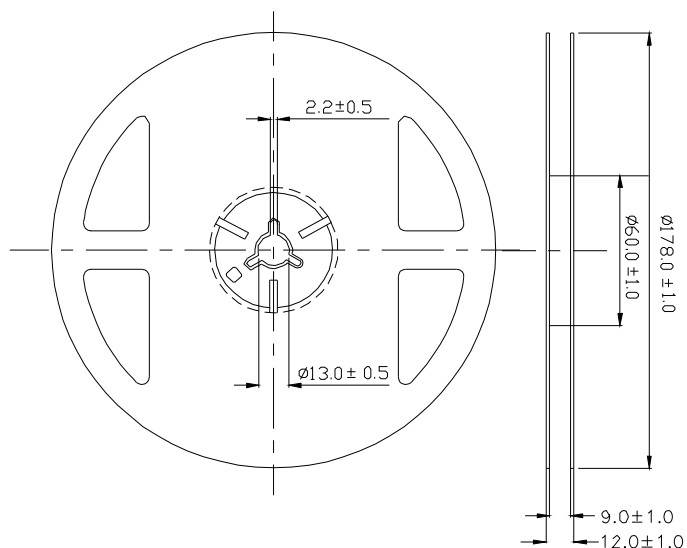


Specific binning requirements- please contact our home office

## Typical Electro-Optical Characteristics Curves

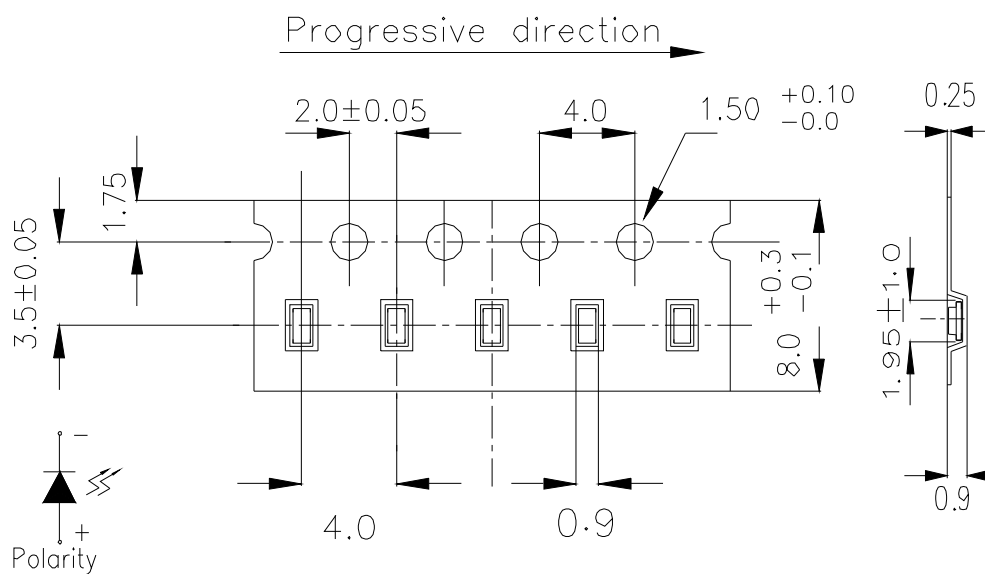


## Reel Dimensions



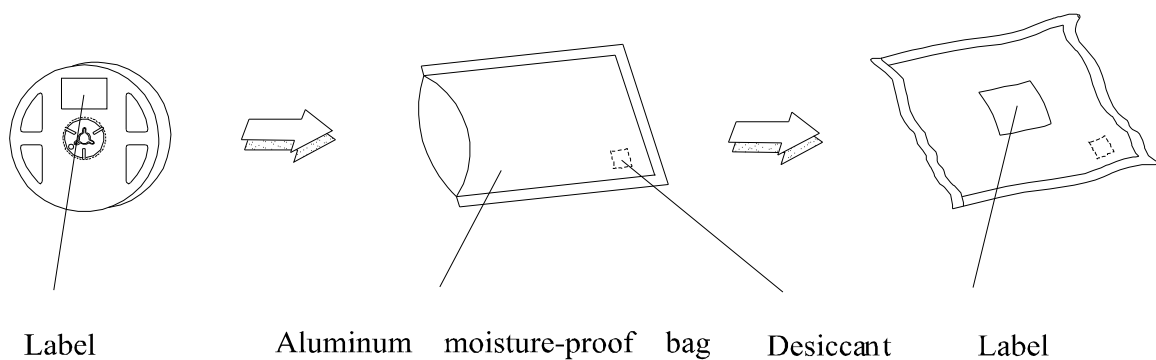
**Note:** The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Unit = mm

## Carrier Tape Dimensions: Loaded quantity 3000 PCS per reel



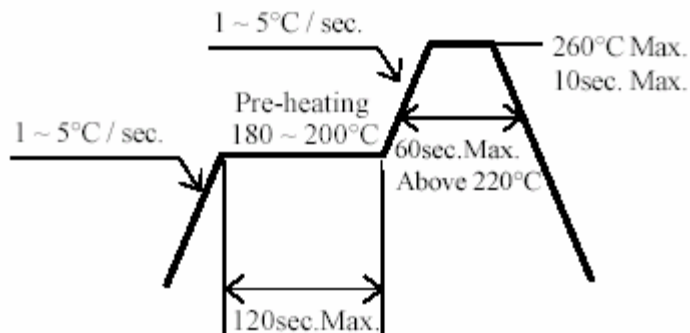
**Note:** The tolerances unless mentioned is  $\pm 0.1$  mm, Unit = mm

## Moisture Resistant Packaging



## Soldering Condition

### 1. Pb-free solder temperature profile



2. Reflow soldering should not be done more than two times.

3 When soldering, do not put stress on the LEDs during heating.

4 After soldering, do not warp the circuit board.

## Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.



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