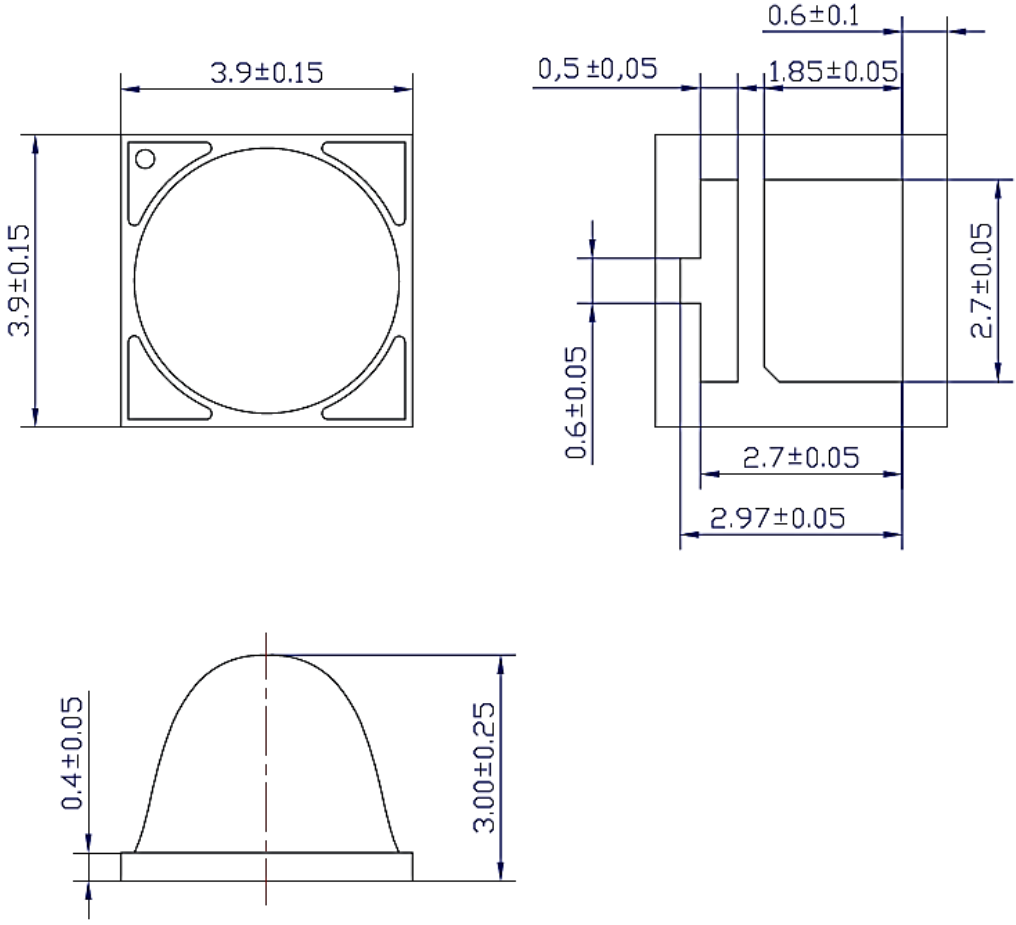


**SPECIFICATIONS** **CSHD1414IR850C-25D**
**MECHANICAL DIMENSIONS**


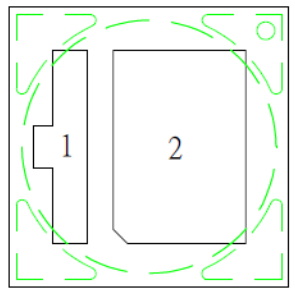
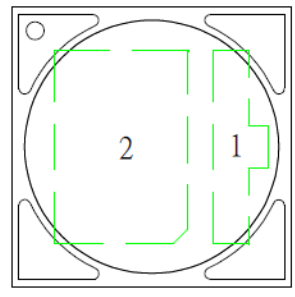
- Notes:
1. All dimensions are in millimeters (inches).
  2. Tolerance is  $\pm 0.25\text{mm}$  ( $0.01''$ ) unless otherwise noted.
  3. Specifications are subject to change without notice.

| Part Number        | Chip Material | Color of Emission | Lens Type   | Viewing Angle |
|--------------------|---------------|-------------------|-------------|---------------|
| CSHD1414IR850C-25D | AlGaAs        | IR                | Water Clear | 25°           |



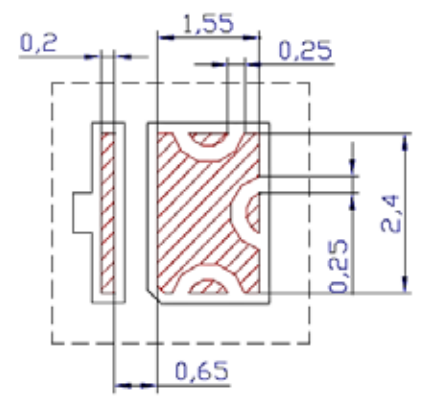
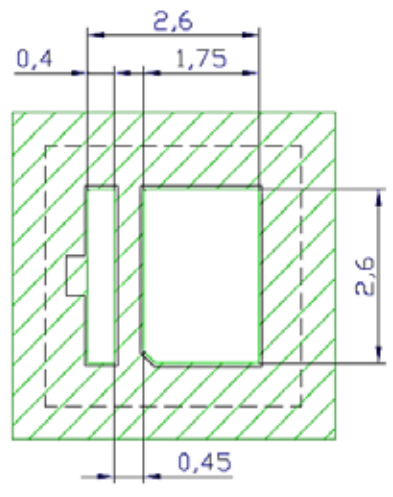
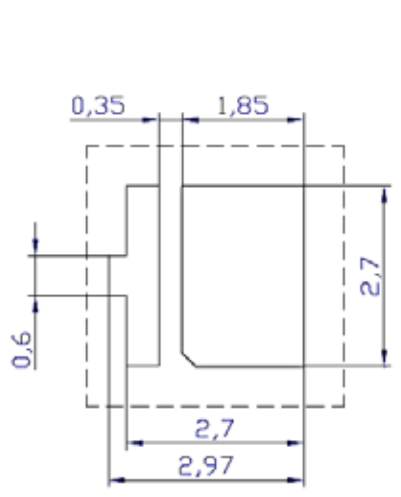
ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)

## RECOMMENDED SOLDER PATTERN



TOP

BOTTOM



□ foot print   □ Cu area

▨ solder resist

▨ solder stencil



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)

**ABSOLUTE MAXIMUM RATINGS**
**(TA=25°C)**

| Parameter                                     | Symbol                | Max Rating | Unit |
|---|-----------------------|------------|------|
| Power Dissipation per Dice                    | P <sub>D</sub>        | 1.75       | W    |
| Continuous Forward Current per Dice           | I <sub>F</sub>        | 700        | mA   |
| Peak Current per Dice (duty cycle 1/10, 1kHz) | I <sub>PF</sub>       | 1000       | mA   |
| Thermal Resistance, Junction-Case             | R <sub>TH, J-C1</sub> | 5          | °C/W |
| Operating Temperature                         | T <sub>OPR</sub>      | -40~+80    | °C   |
| Storage Temperature                           | T <sub>STG</sub>      | -40~+120   | °C   |

**OPTICAL-ELECTRICAL CHARACTERISTICS**
**(TA=25°C)**

| Characteristic           | Symbol         | Condition              | Value |       |      | Unit  |
|--------------------------|----------------|------------------------|-------|-------|------|-------|
|                          |                |                        | Min.  | Type. | Max. |       |
| Forward Voltage per Dice | V <sub>F</sub> | I <sub>F</sub> = 700mA | -     | 2     | -    | V     |
| Peak Wavelength per Dice | λ <sub>P</sub> |                        | 840   | 855   | 870  | nm    |
| Radiant Flux             | Φ <sub>E</sub> |                        | 350   | 500   | -    | mW    |
| Radiant Intensity        | I <sub>E</sub> |                        | -     | 900   | -    | mW/sr |
| Viewing Angle            | 2θ 1/2         |                        | -     | 25    | -    | Deg   |

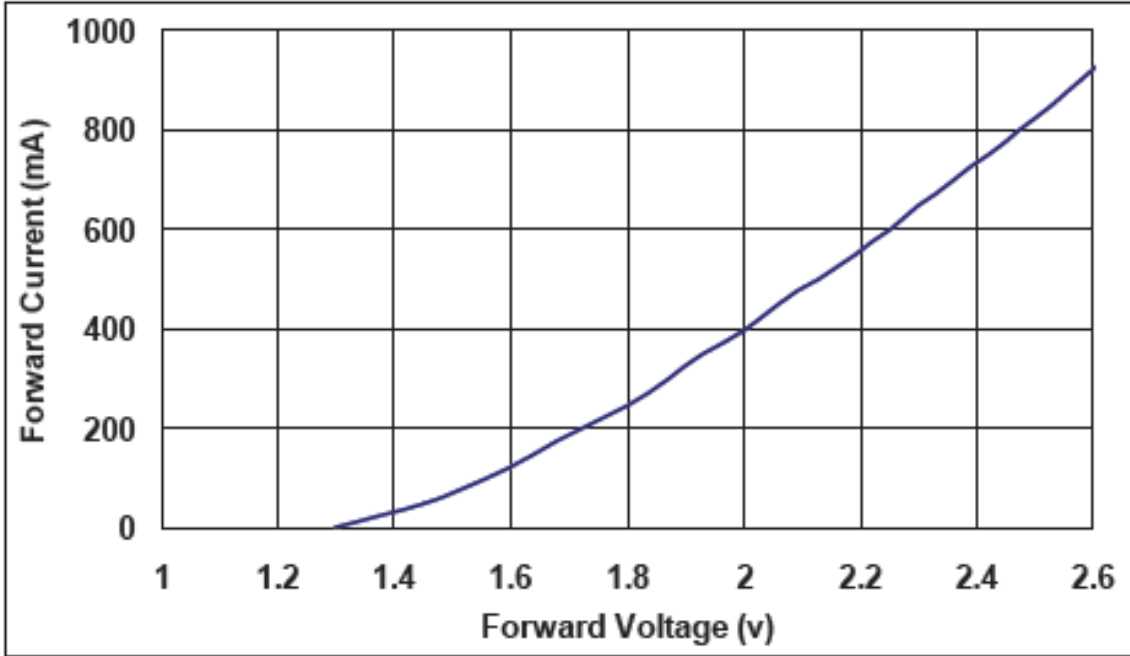
\*Tolerance of viewing angle: -10 / +5 deg.



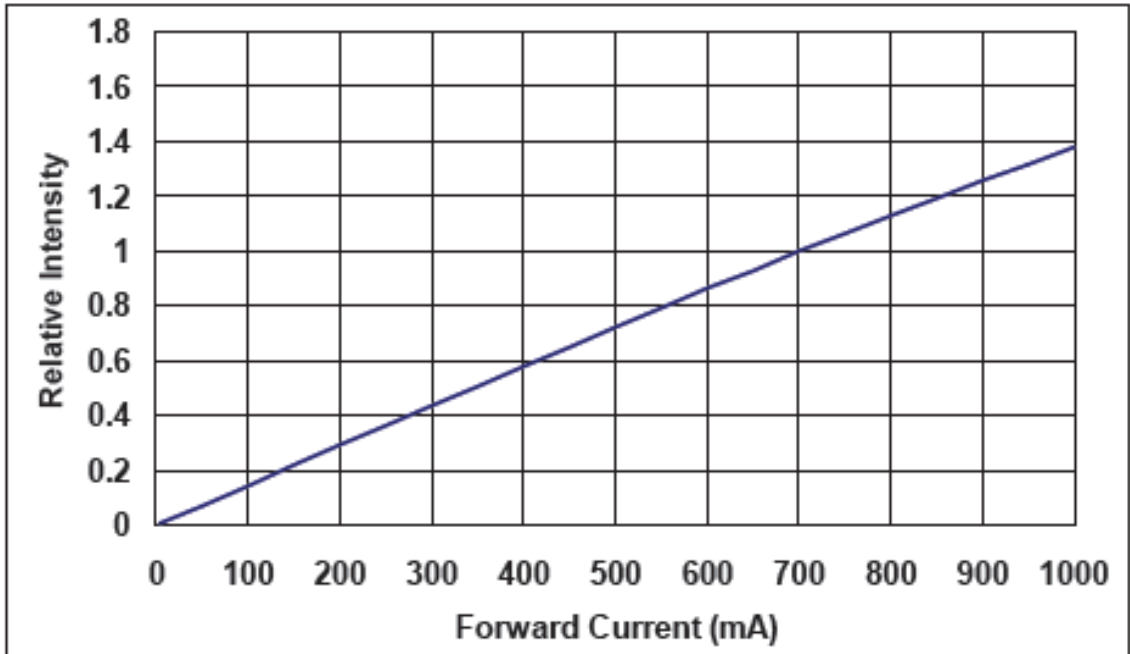
ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)

**OPTICAL CHARACTERISTIC CURVES**

Forward Current vs. Forward Voltage



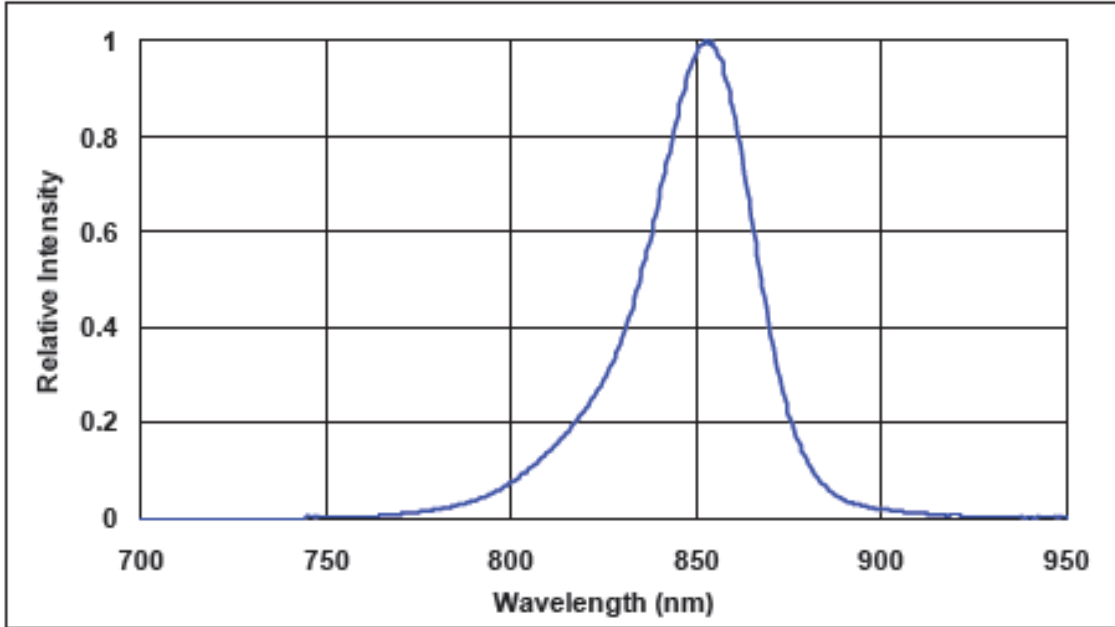
Relative Intensity vs. Forward Current



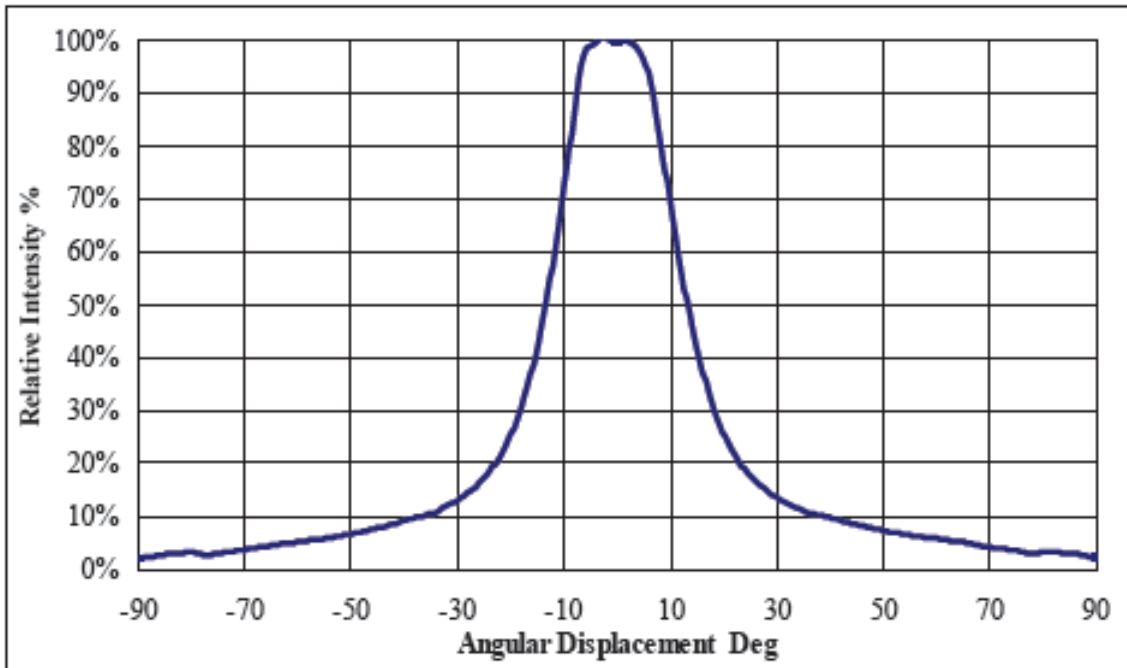
ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)

## OPTICAL CHARACTERISTIC CURVES

Typical Relative Intensity vs. Wavelength

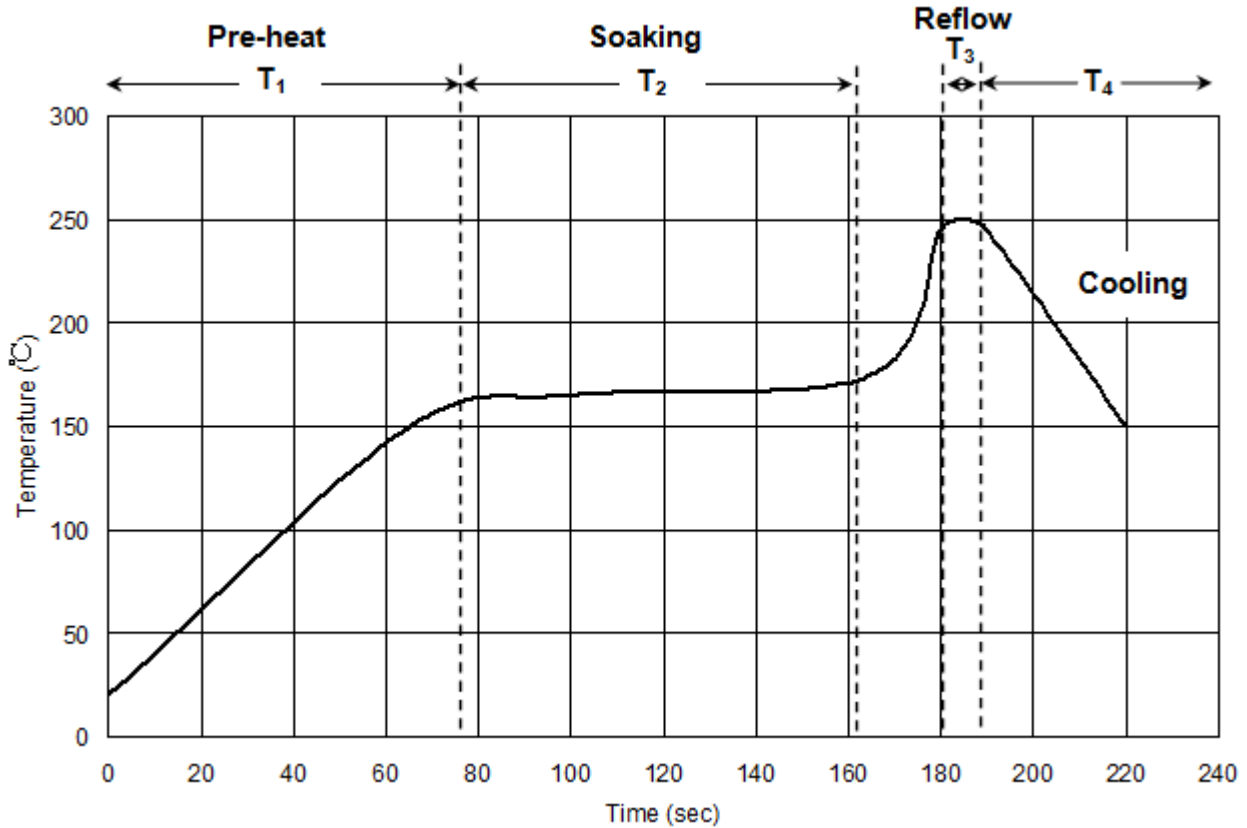


Radiation Pattern



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)

# REFLOW SOLDERING CHARACTERISTICS



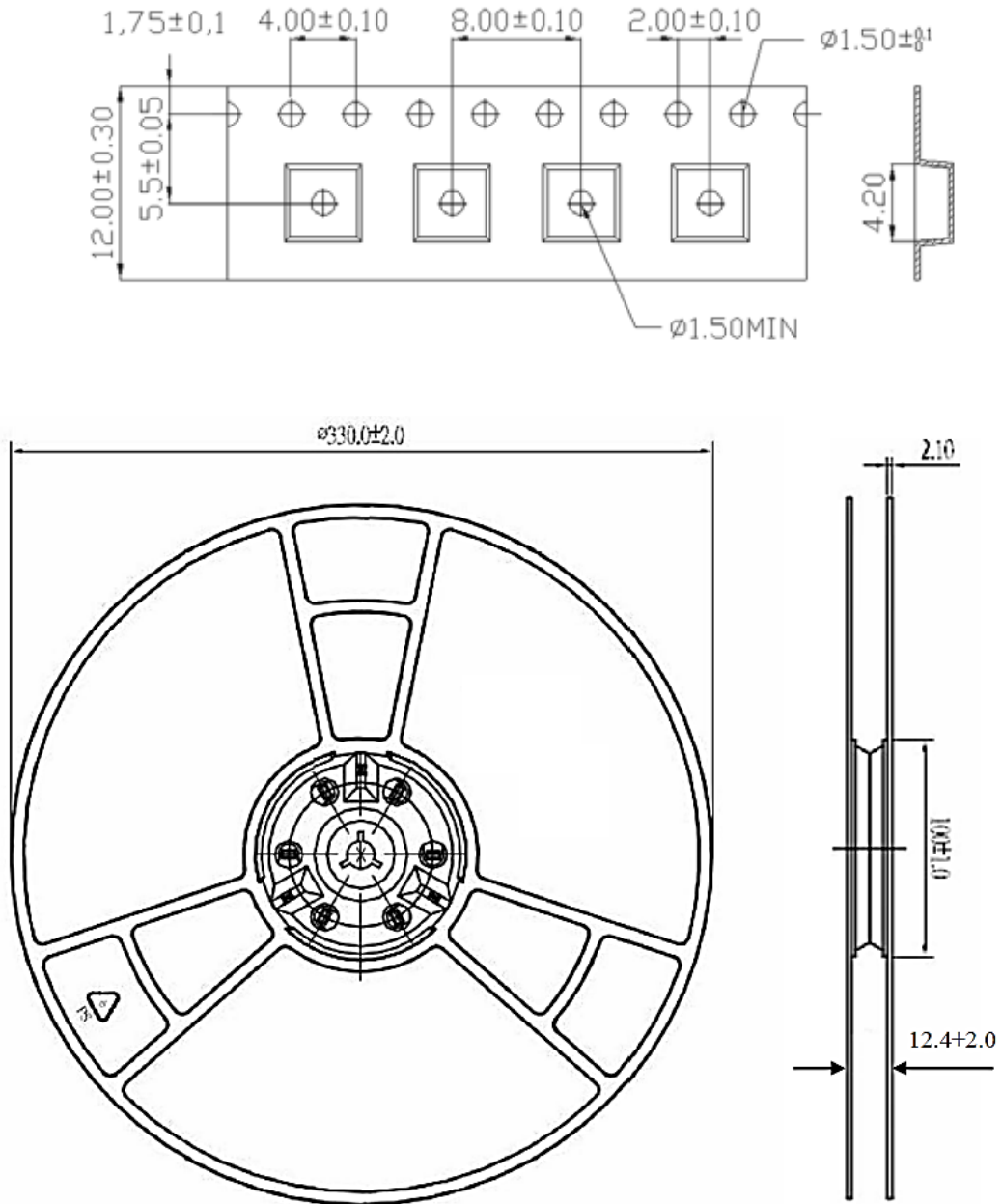
|    |                            |                |
|----|----------------------------|----------------|
| T1 | Ramp up rate               | 1.0~3.0 °C/sec |
|    | Pre-heat time              | 50~80 sec      |
| T2 | Soaking temperature        | 155~185 °C     |
|    | Dwell time during soaking  | 60~120 sec     |
| T3 | Reflow temperature         | 240~250 °C     |
|    | Reflow time                | Max 10 sec     |
| T4 | Ramp up rate during reflow | 1.2~2.3 °C/sec |
|    | Cooling                    | 1.0~6.0 °C.sec |

Note: suggest using Sn96Ag3Cu0.5 lead free solder



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)

## PACKAGE DIMENSIONS (Unit: mm)



Notes:

1. 2500 pcs/reel (MAX).



ChromeLED Corp. reserves the right to make changes at any time in order to supply the best product possible. The most current version of this document will always be available at: [www.chromeled.com](http://www.chromeled.com)