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# SPECIFICATION

*PART NO. : LT8A12-43-UR91-T4*

**0805 SMD CHIP LED**



Approved by

Checked by

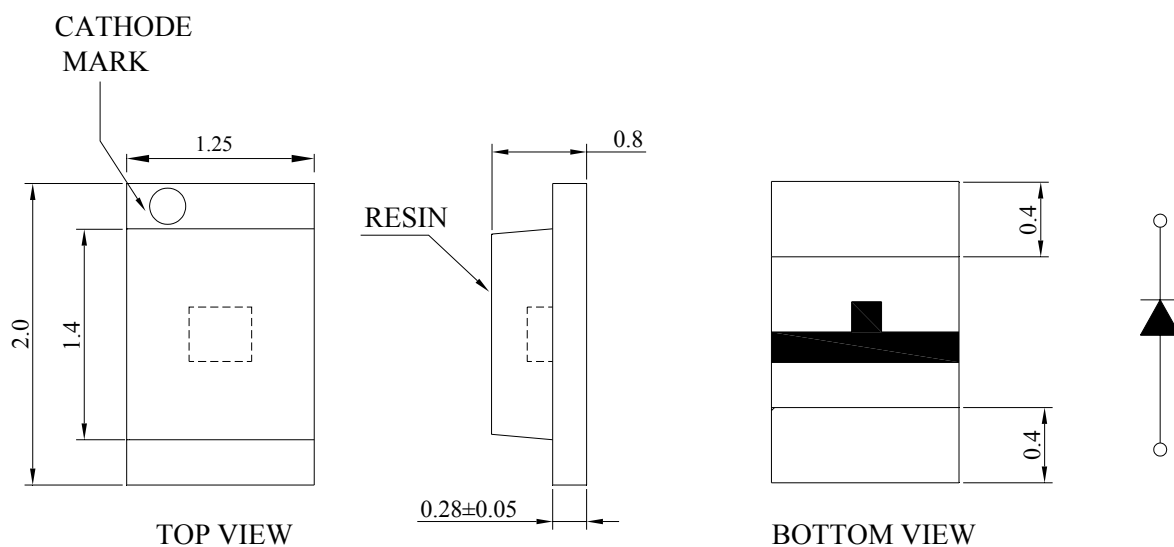
Prepared by

*Tung*

*Lian*

*Ding*

## Package Dimensions



### Notes:

1. All dimensions are in mm.
2. Tolerance is  $\pm 0.1$  mm unless otherwise noted.

## Description

| Part No.          | LED Chip     |                | Lens Color     |
|-------------------|--------------|----------------|----------------|
|                   | Material     | Emitting Color |                |
| LT8A12-43-UR91-T4 | AlGaInP/GaAs | Hyper Red      | White Diffused |

**Absolute Maximum Ratings at Ta=25 °C**

| Parameter                                       | Symbol                | Rating                            | Unit |
|-------------------------------------------------|-----------------------|-----------------------------------|------|
| Power Dissipation                               | P <sub>D</sub>        | 72                                | mW   |
| Reverse Voltage                                 | V <sub>R</sub>        | 5                                 | V    |
| D.C. Forward Current                            | I <sub>f</sub>        | 30                                | mA   |
| Peak Current(1/10Duty Cycle,0.1ms Pulse Width.) | I <sub>f</sub> (Peak) | 80                                | mA   |
| Operating Temperature Range                     | T <sub>opr.</sub>     | -30 to +80                        | °C   |
| Storage Temperature Range                       | T <sub>stg.</sub>     | -40 to +85                        | °C   |
| Soldering Temperature.                          | T <sub>sol.</sub>     | Reflow Soldering:260°C for10 sec. |      |

**Electrical and Optical Characteristics:**

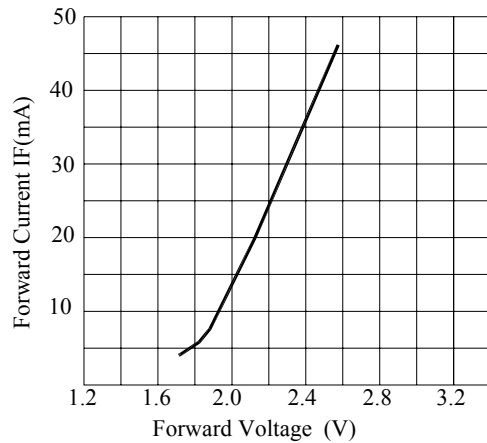
| Parameter               | Symbol         | Condition            | Min. | Typ. | Max. | Unit |
|-------------------------|----------------|----------------------|------|------|------|------|
| Luminous Intensity      | I <sub>v</sub> | I <sub>f</sub> =20mA | 36   | 60   |      | mcd  |
| Forward Voltage         | V <sub>f</sub> | I <sub>f</sub> =20mA | 1.8  |      | 2.4  | V    |
| Peak Wavelength         | λ <sub>p</sub> | I <sub>f</sub> =20mA |      | 632  |      | nm   |
| Dominant Wavelength     | λ <sub>d</sub> | I <sub>f</sub> =20mA |      | 624  |      | nm   |
| Reverse Current         | I <sub>r</sub> | V <sub>r</sub> =5V   |      |      | 100  | μA   |
| Viewing Angle           | 2 θ 1/2        | I <sub>f</sub> =20mA |      | 140  |      | deg  |
| Spectrum Line Halfwidth | Δλ             | I <sub>f</sub> =20mA |      | 20   |      | nm   |

Notes:1.The datas tested by IS tester.

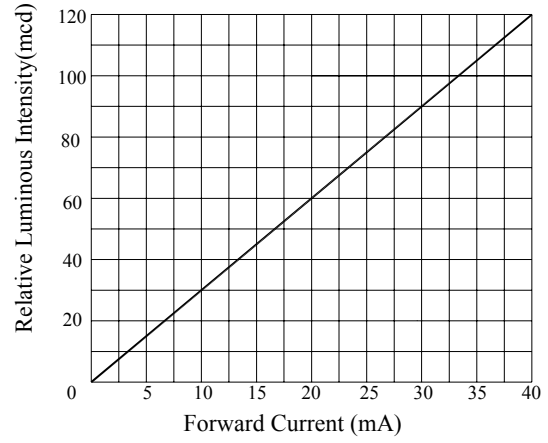
2. Customer's special requirements are also welcome.

## Typical Electrical/Optical Characteristic Curves

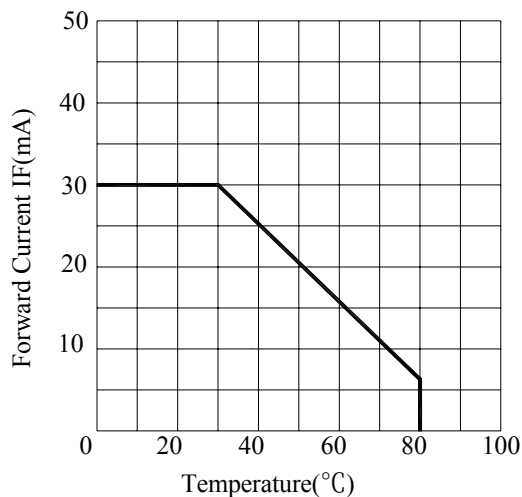
(25°C Ambient Temperature Unless Otherwise Noted)



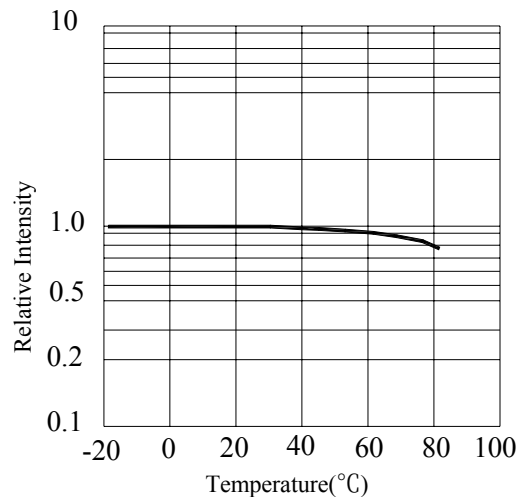
FORWARD CURRENT VS. APPLIED VOLTAGE



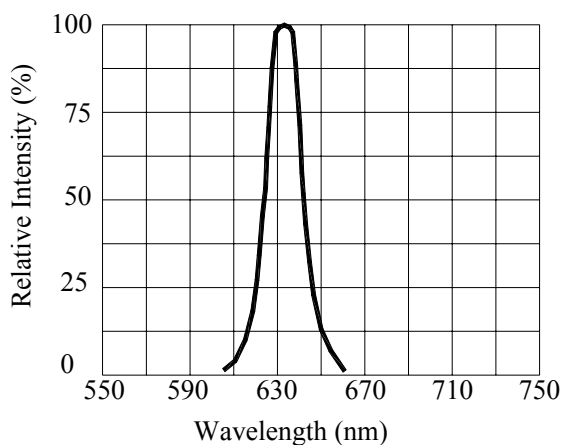
RELATIVE INTENSITY VS. FORWARD CURRENT



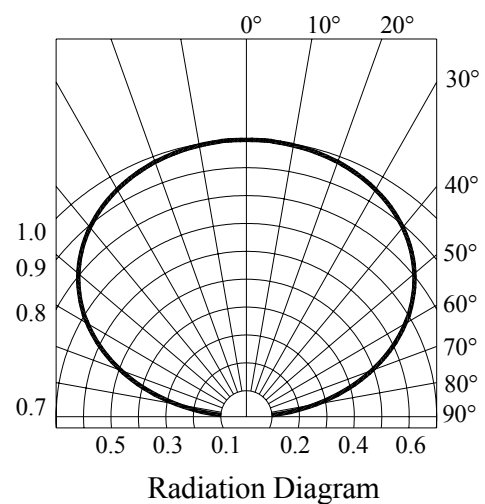
FORWARD CURRENT VS. AMBIENT TEMPERATURE



RELATIVE INTENSITY VS. AMBIENT TEMPERATURE



RELATIVE INTENSITY VS. WAVELENGTH



Radiation Diagram

## Precautions in Use:

### Storage

Recommend storage environment

Temperature :  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$  ( $41^{\circ}\text{F} \sim 86^{\circ}\text{F}$ )

Humidity : 60% RH Max.

Use within 7 days after opening of sealed vapor/ESD barrier bags.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment :  $60 \pm 5^{\circ}\text{C}$  for 24 hours. Fold the opened bag firmly and keep in dry environment.

### Soldering

#### Reflow Soldering

Recommend use of upper and lower heater type reflow furnace.

$260^{\circ}\text{C}$  Max for up to 10 seconds, one time only.

Pre-heat is  $150^{\circ}\text{C}$  Max for up to 2 minutes Max.

In case of screen-printing, keep metal mask thickness between 0.2mm and 0.3mm.

### Cleaning

Surface condition of this device may change when organic solvents such as trichloroethylene or acetone were applied.

Avoid using organic solvent.

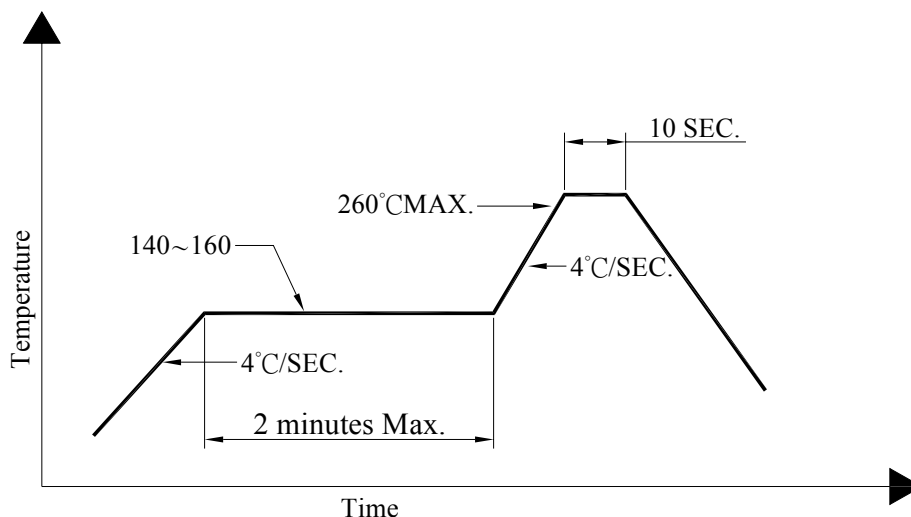
Recommend ultrasonic method 300W Max.

### Packaging

EIA-481A standard package.

In 8mm tape on 4000 pcs diameter reels sealed in vapor/ESD barrier bags.

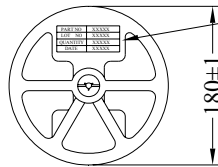
## Reflow Temp/Time:



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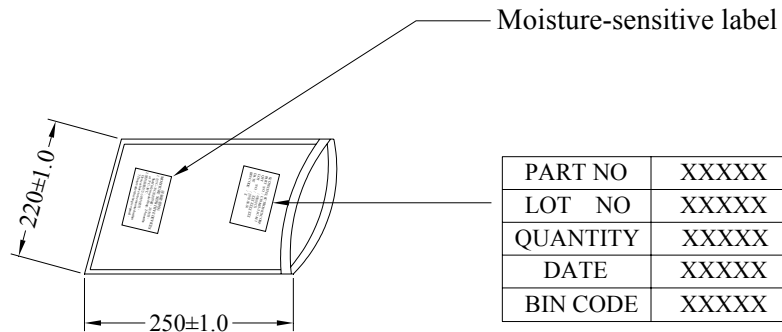
## Dimensions for Tape

**Reel : 4,000PCS**



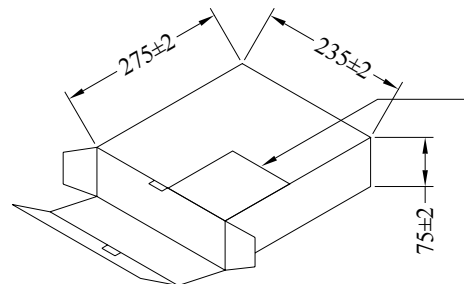
|          |        |
|----------|--------|
| PART NO  | XXXXXX |
| LOT NO   | XXXXXX |
| QUANTITY | XXXXXX |
| DATE     | XXXXXX |
| BIN CODE | XXXXXX |

**Bag : 4,000PCS**



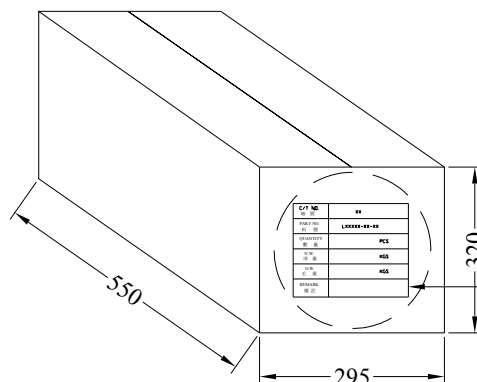
|          |        |
|----------|--------|
| PART NO  | XXXXXX |
| LOT NO   | XXXXXX |
| QUANTITY | XXXXXX |
| DATE     | XXXXXX |
| BIN CODE | XXXXXX |

**5 Bags : 20,000PCS**



|          |        |
|----------|--------|
| PART NO  | XXXXXX |
| LOT NO   | XXXXXX |
| BIN CODE | XXXXXX |
| QUANTITY | XXXXXX |
| DATE     | XXXXXX |

**8 Boxes : 160,000PCS**



|          |        |
|----------|--------|
| C/T NO   | XX     |
| PART NO  | XXXXXX |
| QUANTITY | PCS    |
| N. W.    | KGS    |
| G. W.    | KGS    |
| REMARK   |        |

### Notes:

- 1.7 inch reel-4000 pieces per reel.
- 2.Minimum packing quantity is 500 pieces for remainders.
- 3.The maximum number of consecutive missing lamps is two.