# Technical Data Sheet
# Top View LEDs

## 62-217D/BRTC-CW2X2Z150/2T

## Features

- Top view white LED
- High luminous flux output
- High current capability
- White package
- Wide viewing angle
- Pb-free
- The product itself will remain within RoHS compliant version.

## Descriptions

- Due to the package design, 62-217D has wide viewing angle, and white LEDs are devices which are materialized by combing blue chip and special phosphor. This feature makes the LED ideal for light guide application.

## Applications

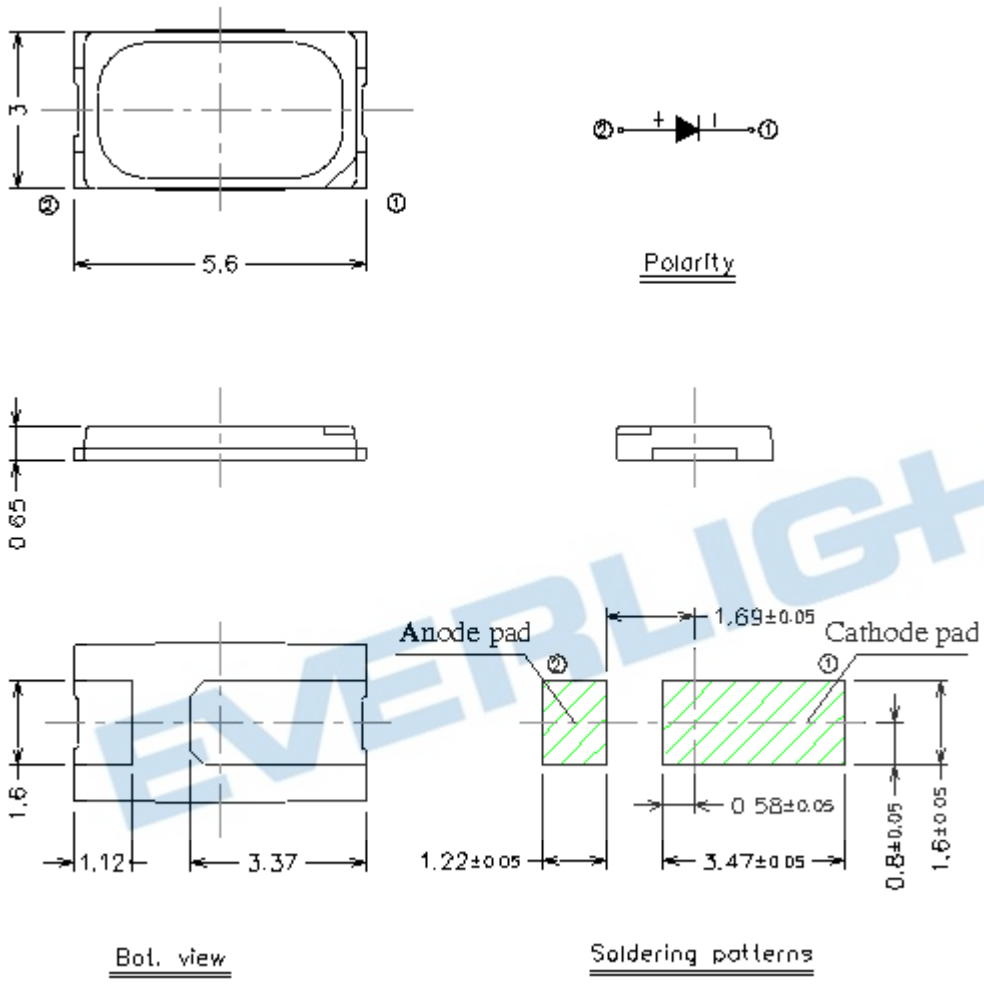
- Backlight for LCD Monitor/TV
- Light pipe application
- Indicator and backlight in office and family equipment
- General use

## Device Selection Guide

| Chip Material | Emitted Color | Resin Color |
|---|---|---|
| InGaN | Blue | Water Clear |

## 62-217D/BRTC-CW2X2Z150/2T

### Package Outline Dimensions




**Note:** The tolerance unless mentioned is ±0.1, unit = mm.

## 62-217D/BRTC-CW2X2Z150/2T

### Absolute Maximum Ratings (Ta=25℃)

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 5 | V |
| Forward Current | $I_F$ | 150 | mA |
| Peak Forward Current (Duty 1/10 @10ms) | $I_{FP}$ | 300 | mA |
| Power Dissipation | Pd | 500 | mW |
| Electrostatic Discharge(HBM)*1 | ESD | 1000 | V |
| Operating Temperature | Topr | -40 ~ +85 | ℃ |
| Storage Temperature | Tstg | -40 ~ +90 | ℃ |
| Soldering Temperature | Tsol | Reflow Soldering: 260 ℃ for 10 sec.<br>Hand Soldering: 350 ℃ for 3 sec. | |

**Notes:** 1. The products are sensitive to static electricity and must be carefully taken when handling products.

## 62-217D/BRTC-CW2X2Z150/2T

### Electro-Optical Characteristics (Ta=25℃)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---|---|---|---|---|---|---|
| Luminous Intensity | $I_v$ | 1420 | --- | 2850 | mcd | $I_F$ =150mA |
| Viewing Angle | $2\theta_{1/2}$ | --- | 120 | --- | deg | IF =150mA |
| Peak Wavelength | $\lambda_p$ | --- | 468 | --- | nm | IF =150mA |
| Dominant Wavelength | $\lambda_d$ | 449 | --- | 458 | nm | IF =150mA |
| Spectrum Radiation Bandwidth | $\Delta\lambda$ | --- | 25 | --- | nm | IF =150mA |
| Forward Voltage | $V_F$ | 2.75 | --- | 3.65 | V | IF =150mA |
| Reverse Current | $I_R$ | --- | --- | 10 | μA | VR =5V |
| Temperature coefficient of λp | $TC_{\lambda p}$ | --- | 0.06 | --- | nm/K | IF =150mA |
| Temperature coefficient of λd | $TC_{\lambda d}$ | --- | 0.4 | --- | nm/K | IF =150mA |
| Temperature coefficient of $V_F$ | $TC_V$ | --- | -2.3 | --- | mV/K | IF =150mA |

Note:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

## 62-217D/BRTC-CW2X2Z150/2T

### Bin Range of Luminous Intensity

| Bin Code | Min. | Max. | Unit | Condition |
|---|---|---|---|---|
| W2 | 1420 | 1800 | mcd | $I_F$=150mA |
| X1 | 1800 | 2250 | | |
| X2 | 2250 | 2850 | | |

Notes：Tolerance of Luminous Intensity：±11%

### Bin Range of Dominant Wavelength

| Group | Bin Code | Min. | Max. | Unit | Condition |
|---|---|---|---|---|---|
| C | C2 | 449 | 452 | nm | $I_F$=150mA |
| | C3 | 452 | 455 | | |
| | C4 | 455 | 458 | | |

Notes：Tolerance of Dominant Wavelength：±1nm

### Bin Range of Forward Voltage

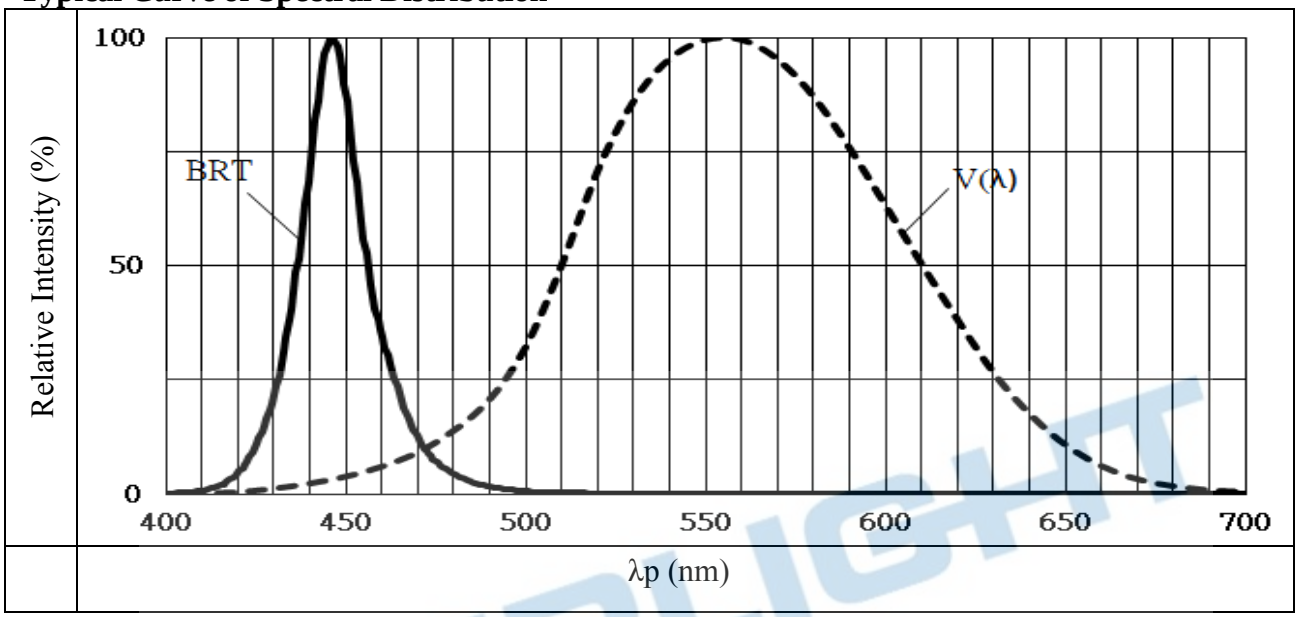
| Group | Bin Code | Min. | Max. | Unit | Condition |
|---|---|---|---|---|---|
| E | 5 | 2.75 | 3.05 | V | $I_F$=150mA |
| | 6 | 3.05 | 3.35 | | |
| | 7 | 3.35 | 3.65 | | |

Notes：Tolerance of Forward Voltage: ±0.05V

## 62-217D/BRTC-CW2X2Z150/2T

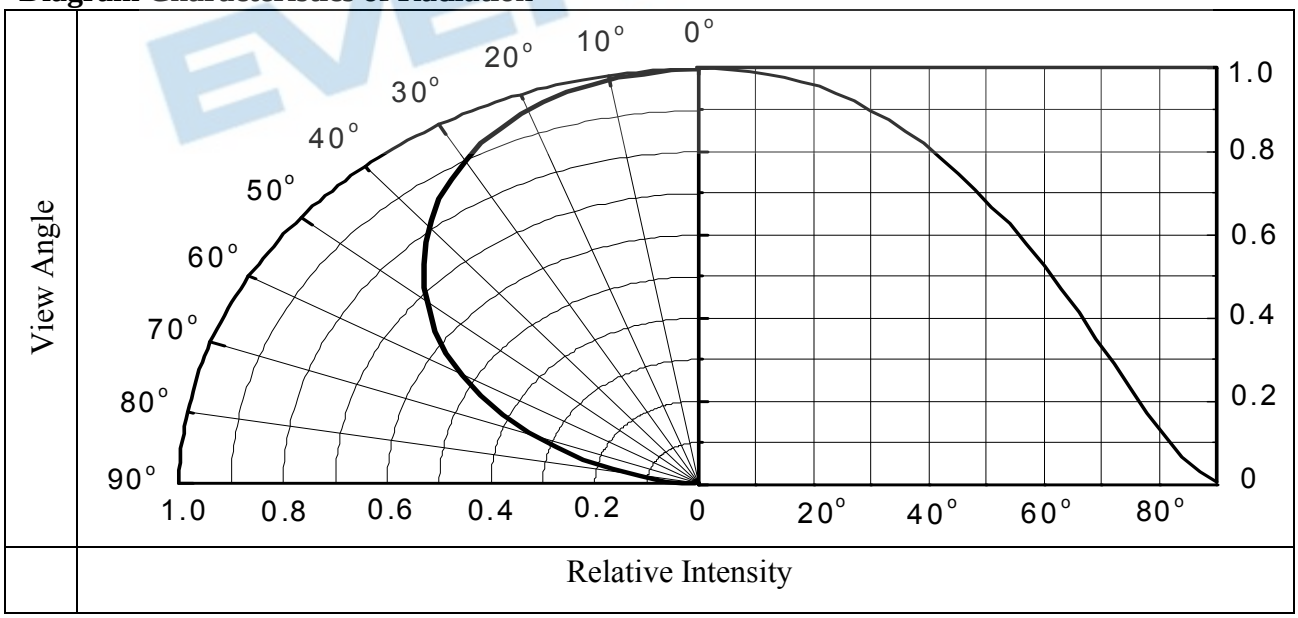
### Typical Electro-Optical Characteristics Curves

**Typical Curve of Spectral Distribution**




Note: V(λ)=Standard eye response curve

**Diagram Characteristics of Radiation**



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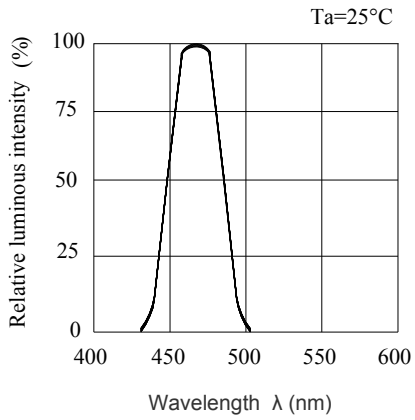
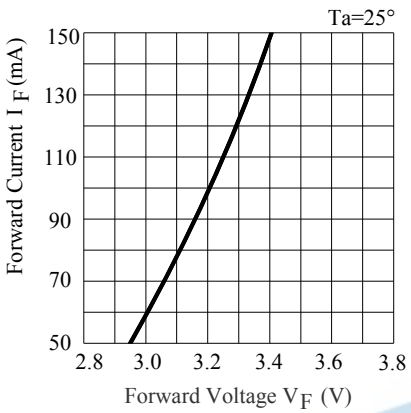
### Typical Curve of Spectral Distribution

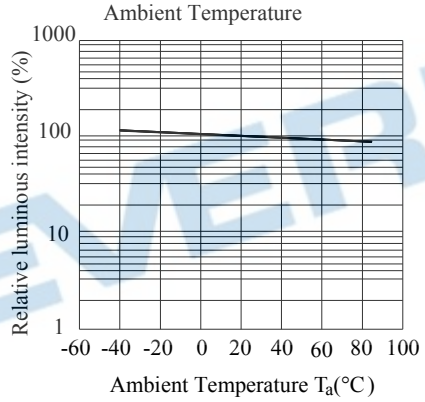
Spectrum Distribution



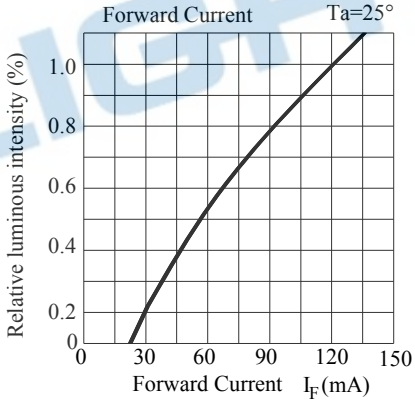

Forward Voltage



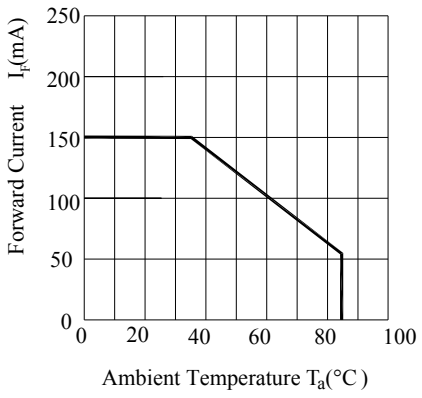

Relative Luminous Intensity vs. Ambient Temperature



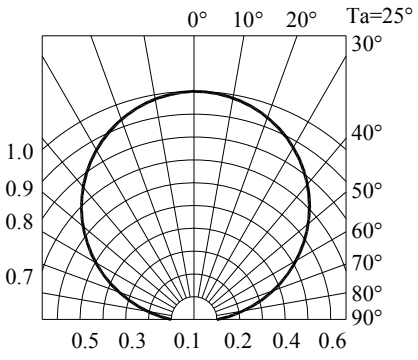

Relative Luminous Intensity vs. Forward Current




Forward Current Derating Curve




Radiation Diagram

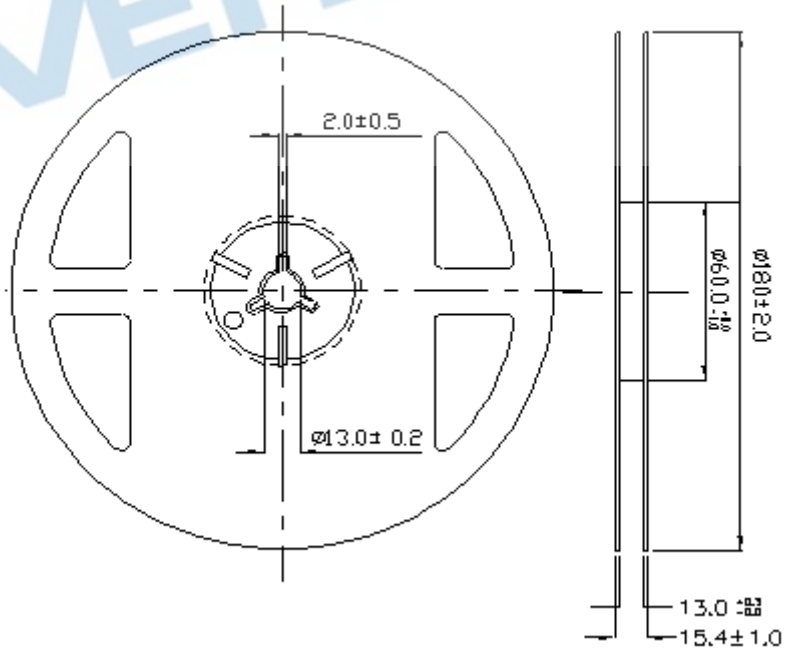


**62-217D/BRTC-CW2X2Z150/2T**

## Label Explanation

- CPN: Customer’ s Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

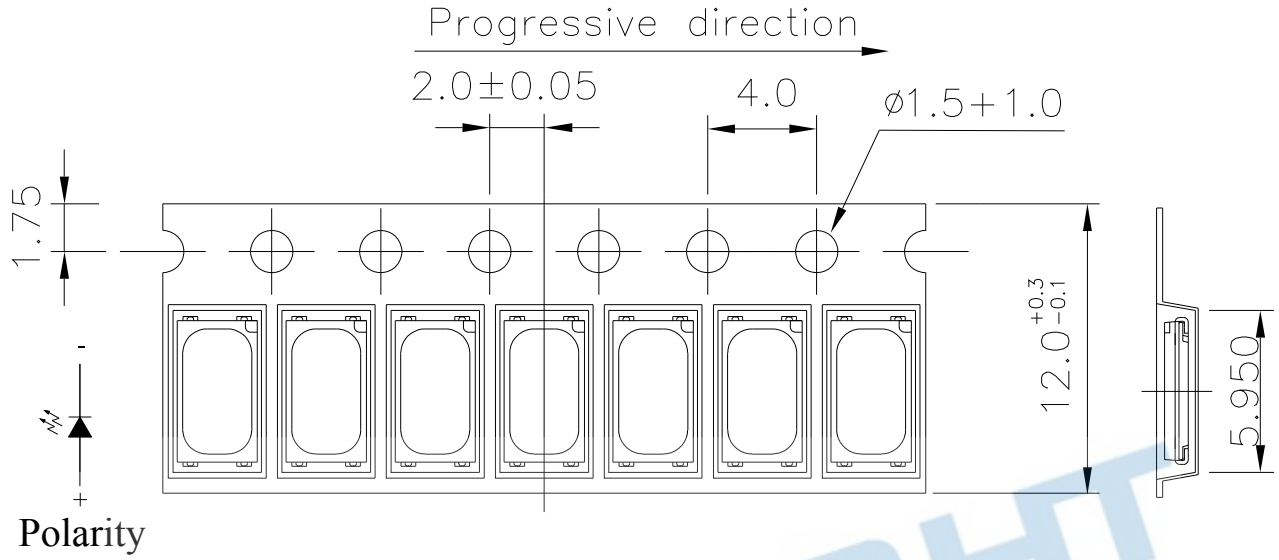

## Reel Dimensions




**Note:** The tolerance unless mentioned is ±0.1, unit = mm.

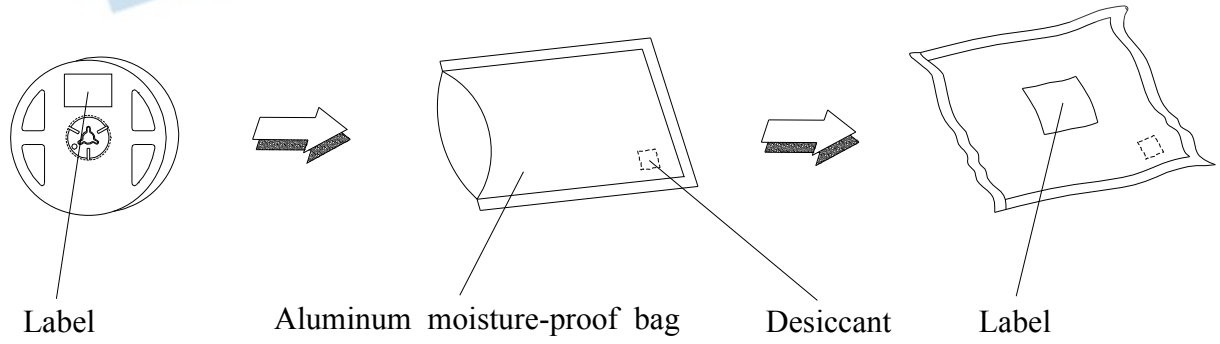
**62-217D/BRTC-CW2X2Z150/2T**

## Carrier Tape Dimensions: Loaded Quantity 2000 pcs. Per Reel




**Note:** 1.The tolerance unless mentioned is ±0.1, unit = mm.
2.Minimum packing amount is 250/500/1000/2000 pcs per reel

## Moisture Resistant Packaging



**62-217D/BRTC-CW2X2Z150/2T**

## Reliability Test Items and Conditions

The reliability of products shall be satisfied with items listed below.
Confidence level：90%
LTPD：10%

| No. | Items | Test Condition | Test Hours/Cycles | Sample Size | Ac/Re |
|---|---|---|---|---|---|
| 1 | Reflow Soldering | Temp. : 260℃±5℃<br>Min. 10sec. | 6 Min. | 22 PCS. | 0/1 |
| 2 | Temperature Cycle | H : +100℃ 15min<br>∫ 5 min<br>L : -40℃ 15min | 300 Cycles | 22 PCS. | 0/1 |
| 3 | Thermal Shock | H : +100℃ 5min<br>∫ 10 sec<br>L : -10℃ 5min | 300 Cycles | 22 PCS. | 0/1 |
| 4 | High Temperature Storage | Temp. : 100℃ | 1000 Hrs. | 22 PCS. | 0/1 |
| 5 | Low Temperature Storage | Temp. : -40℃ | 1000 Hrs. | 22 PCS. | 0/1 |
| 6 | DC Operating Life | $I_F$ = 20 mA | 1000 Hrs. | 22 PCS. | 0/1 |
| 7 | High Temperature / High Humidity | 85℃/ 85%RH | 1000 Hrs. | 22 PCS. | 0/1 |

**62-217D/BRTC-CW2X2Z150/2T**

## Precautions for Use

1. Over-current-proof

   Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

   2.1 Don't open moisture proof bag before the products are ready to use.

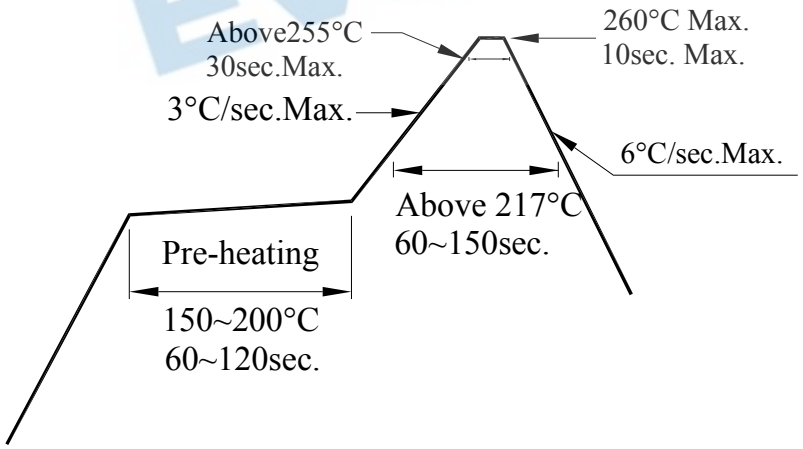
   2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

   2.3 After opening the package: The LED's floor life is 72Hrs under 30℃ or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

   2.4 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±5℃ for 24 hours

3. Soldering Condition

   3.1 Pb-free solder temperature profile:




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

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

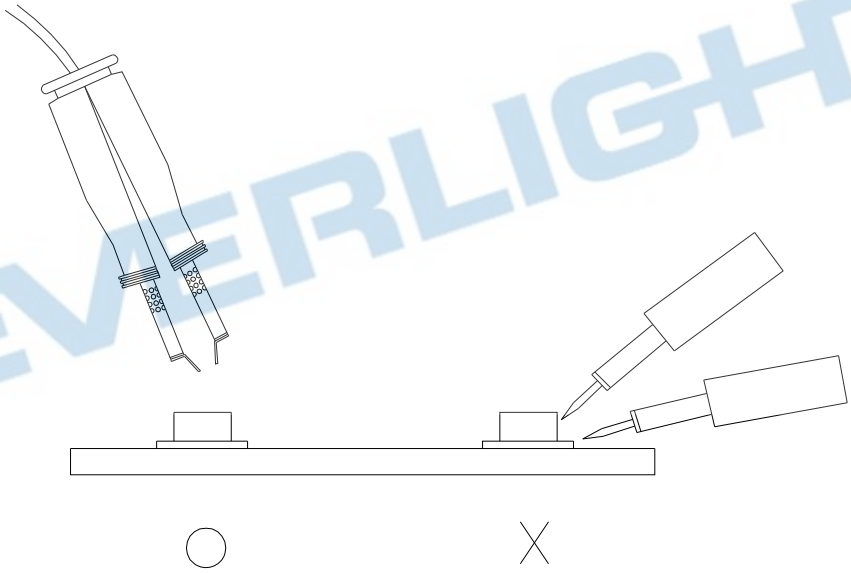
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350℃ 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.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



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