

# Technical Data Sheet

Customer Part No.:

Inhere Part No.: S3433EPUE00T-Z01-AM

Part Name: 3433 红光加齐纳 LED

Spec Issue Date: 2025-04-09

Revision No.: A

Product Gradation : AEC-Q102 Compliance

=====

To Customer:

We submit herewith the following information for your approval:

- |                                                                      |                                                              |                                                   |
|----------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------|
| <input checked="" type="checkbox"/> Sample                           | <input type="checkbox"/> OQC Inspection Record               | <input checked="" type="checkbox"/> LED Dimension |
| <input checked="" type="checkbox"/> Electrical Characteristics Curve | <input checked="" type="checkbox"/> Internal Circuit Diagram |                                                   |
| <input checked="" type="checkbox"/> Soldering recommendation         |                                                              |                                                   |

Prepared by : Lily

Checked by : Tom

Approved by : Ares

Date : 2025-04-09

Date : 2025-04-09

Date : 2025-04-09

=====

Customer Opinion

- ☐ Approve and no objection
- ☐ Reject with the following reason:
- =====



东莞市银河光电有限公司

Dongguan Inhere Opto Co.,Ltd.

地址:东莞市莞城科技园 D 幢

ADD: Building D, Guancheng Science & Technology Park,Dongguan

TEL: 0769-23320868 FAX: 0769-23320878

E-mail: bill@inhereopto.com

Http://www.inhereopto.com

## Features

3.40mm×3.30mm LED, 1.90mm thickness

Low power consumption

Wide view angle

Package: 2000pcs/reel

RoHS Compliant

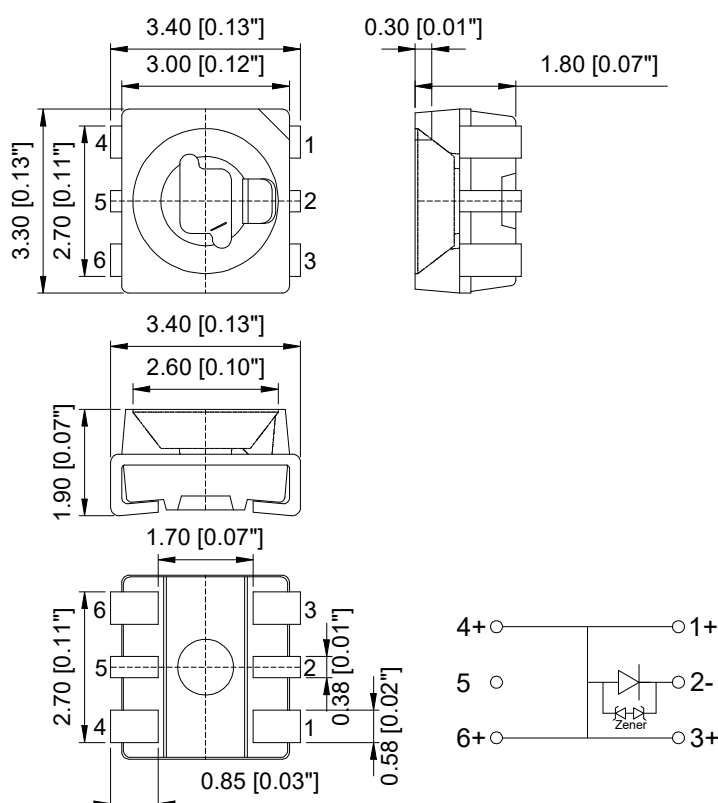
## Applications

Automotive backlighting or indicator

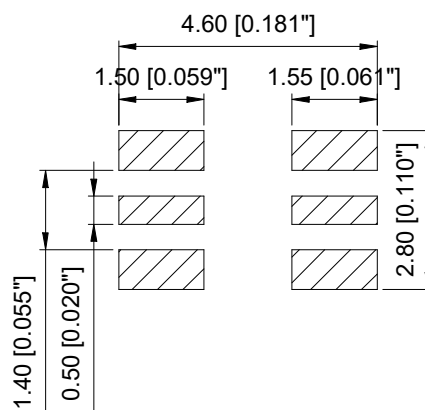
Ideal for back light and indicator

Various colors and lens types available

## Package Outlines



## Recommend Pad Layout



| Part No.            | Emitted color | Dice    | Lens color  |
|---------------------|---------------|---------|-------------|
| S3433EPUE00T-Z01-AM | Red           | AlGaInP | Water Clear |

### Notes:

All dimensions are in millimeters (inches).

Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.

**Absolute Maximum Ratings (Ta=25℃)**

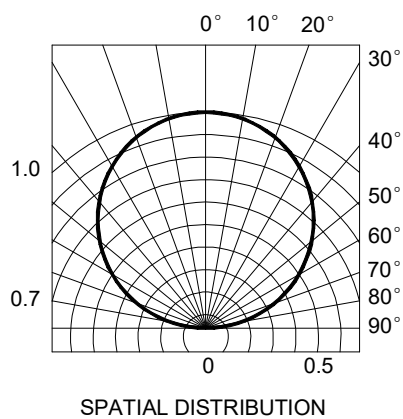
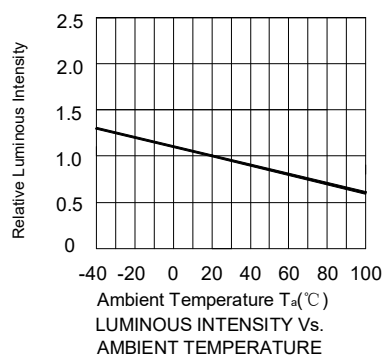
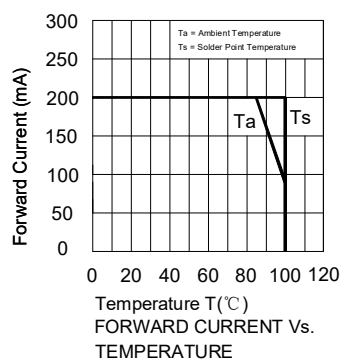
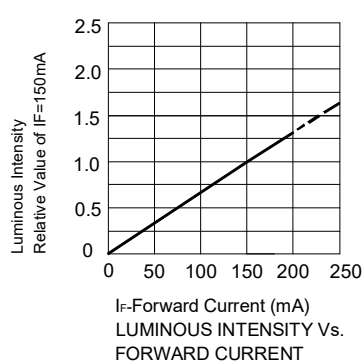
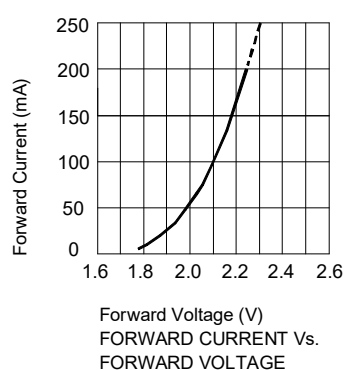
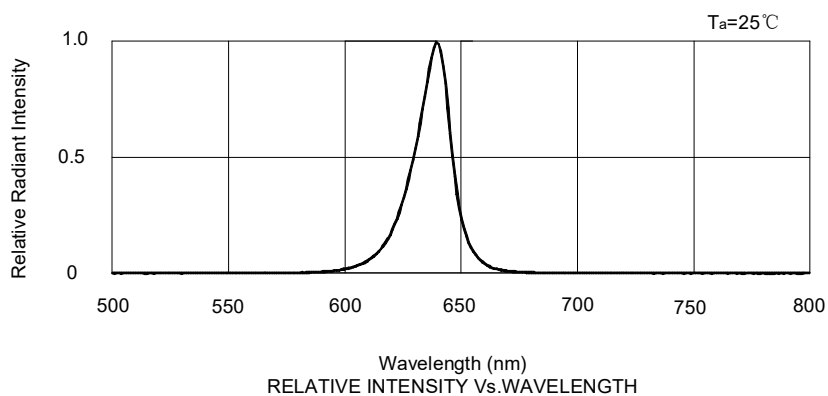
| Parameter                               | Symbol | Value     | Unit |
|-----------------------------------------|--------|-----------|------|
| Forward current                         | If     | 200       | mA   |
| Peak pulsing current (1/10 duty f=1kHz) | Ifp    | 300       | mA   |
| Power dissipation                       | Pd     | 480       | mW   |
| ESD(HBM,R=100kΩ ,C=100pF)               | --     | 8         | KV   |
| Reverse voltage                         | Vr     | 5         | V    |
| Operating temperature                   | Top    | -40 ~+100 | ℃    |
| Storage temperature                     | Tstg   | -40 ~+100 | ℃    |
| Junction temperature                    | Tj     | 125       | ℃    |
| Humidity sensitive level                | MSL    | 2a        | --   |

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

| Parameter                   | Test Condition | Symbol          | Value |     |     | Unit    |
|-----------------------------|----------------|-----------------|-------|-----|-----|---------|
|                             |                |                 | Min   | Typ | Max |         |
| Wavelength at peak emission | If=150mA       | $\lambda_p$     | --    | 630 | --  | nm      |
| Spectral half bandwidth     | If=150mA       | $\Delta\lambda$ | --    | 20  | --  | nm      |
| Dominant wavelength         | If=150mA       | $\lambda_d$     | 618   | --  | 626 | nm      |
| Forward voltage             | If=150mA       | Vf              | 1.8   | --  | 2.4 | V       |
| Luminous flux               | If=150mA       | $\Phi$          | 18    | --  | 28  | lm      |
| Viewing angle               | If=150mA       | 2 $\theta$ 1/2  | --    | 120 | --  | Deg     |
| Reverse current             | Vr=5V          | Ir              | --    | --  | 10  | $\mu$ A |

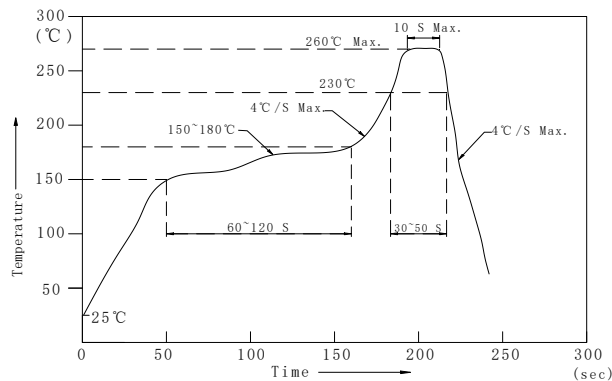
Note: Product with zener diode is needed to discriminate the characteristics of product by fixing current and measuring voltage.

## Optical Characteristic Curves



## Reflow Profile

### ■ Reflow Temp/Time



#### Notes:

1. We recommend the reflow temperature 245°C (±5°C), the maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Times of reflow process shall be 2 or less.

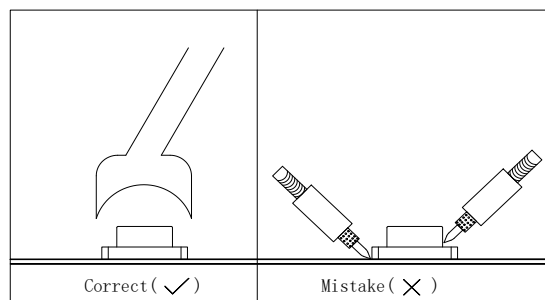
### ■ Soldering iron

Basic spec is ≤ 5sec when 320°C (±20°C). If temperature is higher, time should be shorter (+10°C → -1sec).

Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 350°C.

### ■ Rework

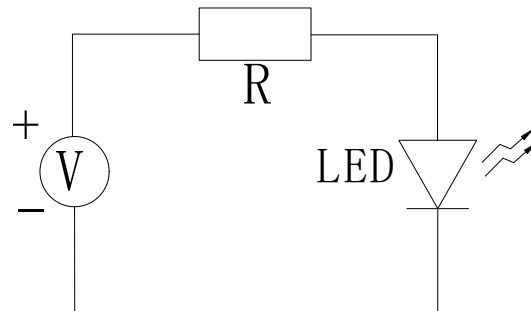
1. Customer must finish rework within 5 sec under 340°C.
2. The head of iron cannot touch copper foil.
3. Twin-head type is preferred.



- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow solder etc.

## Test Circuit and Handling Precautions

### ■ Test circuit



### ■ Handling precautions

#### 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 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature: 5°C~30°C

2.2 Shelf life in sealed bag: 12 month at <5°C~30°C and <30% R.H. after the package is opened, the products should be used within 4 weeks or they should be keeping to stored at  $\leq 20$  R.H. with zip-lock sealed.

#### 3. Baking

It is recommended to baking before soldering when the pack is unsealed after 4 weeks.

The Condition is: 65 $\pm$ 5°C/24hrs.

## Test Items and Results of Reliability (1)

| Test Item                                            | Test Conditions                                                                        | Standard<br>Test Method | Note                             | Number of<br>Test |
|------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------|----------------------------------|-------------------|
| External Visual                                      | Ta=25±3℃<br>ψ(%)=40%RH～60%RH                                                           | JESD22 B-101B           | --                               | --                |
| Parametric Verification                              | Ta=25±3℃<br>ψ(%)=40%RH～60%RH                                                           | JESD22 A-108C           | --                               | 0/25              |
| D.P.A                                                | Ta=25±3℃<br>ψ(%)=40%RH～60%RH Random<br>Sample H3TRB, HAST,TC                           | AEC-Q101-004-C          | --                               | 0/3               |
| ESD                                                  | Ta=25±3℃<br>ψ(%)=40%RH～60%RH<br>HBM: R=1.5KΩ C=100pF                                   | JESD22 A-114E           | 3 times<br>Negative/<br>Positive | 0/30              |
| Physical<br>Dimension                                | Ta=25±3℃<br>ψ(%)=40%RH～60%RH                                                           | JESD22 B-100B           | --                               | 0/3               |
| Vibration Variable Frequency                         | Ta=25±3℃<br>ψ(%)=40%RH～60%RH<br>0.06inch displacement,20 to<br>100Hz,50g 100Hz to 2KHz | JESD22 B-103B           | 4times                           | 0/30              |
| Mechanical Shock                                     | Ta=25±3℃<br>ψ(%)=40%RH～60%RH<br>1500g's for 0.5s,5blows,<br>3orientation               | JESD22 B-104C           | 3times                           | 0/30              |
| Temperature Cycling                                  | Ta=-40°-100℃,30min dwell,<br>5min transfer,1000 cycles                                 | JESD22 A-104C           | 1000cycles                       | 0/77              |
| Power Temperature Cycling                            | Ta=-40～85℃<br>20min dwell/1hour transition 2<br>min ON / 2 min OFF                     | JESD22 A-105C           | 1000cycles                       | 0/77              |
| Steady-state Temperature-<br>Humidity Bias Life Test | Ta=85℃,ψ(%)=85%RH                                                                      | JESD22 A-101C           | 1000hrs                          | 0/77              |

## Test Items and Results of Reliability (2)

| Test Item                          | Test Conditions                                   | Standard Test Method | Note       | Number of Test |
|------------------------------------|---------------------------------------------------|----------------------|------------|----------------|
| High Temperature Operating Life    | Ta=100℃                                           | JESD22 A-101C        | 1000hrs    | 0/77           |
| Low Temperature Operating Life     | Ta=-40℃                                           | JESD22 A-101C        | 1000hrs    | 0/77           |
| Low Temperature Storage Life       | Ta=-40℃, non-operating                            | JESD22 A-119         | 1000hrs    | 0/77           |
| High Temperature Storage Life      | Ta=100℃,non-operating                             | JESD22 A-103C        | 1000hrs    | 0/77           |
| Thermal Cycles                     | Ta=-40~100℃,20min dwell,<br><10 second transfer   | JESD22 A-104C        | 1000cycles | 0/77           |
| High Temperature Reverse Bias Test | Ta=85℃,VR=5V                                      | JESD22 A-108C        | 1000hrs    | 0/77           |
| Bond Shear/Die Shear               | Ta=25±3℃<br>ψ(%)=40%RH~60%RH                      | AEC-Q101-D1          | --         | 0/10           |
| Sulphur Resistance                 | Ta=40±3℃<br>ψ(%)=90%RH<br>Concentration:H2S/15PPM | IEC60810             | 336hrs     | 0/10           |
| Salt Atmosphere                    | Ta=35±3℃,PH=6.0~7.5                               | JESD22 A-107B        | 24hrs      | 0/5            |
| Reflow Soldering                   | Ta=260±5℃,Time=10S                                | JESD22 B-106C        | 5 times    | 0/30           |

**Forward Voltage Rank Combination (IF=150mA)**

| Rank | Min. | Max. | Unit |
|------|------|------|------|
| 7    | 1.8  | 1.9  | V    |
| 8    | 1.9  | 2.0  |      |
| 9    | 2.0  | 2.1  |      |
| A    | 2.1  | 2.2  |      |
| B    | 2.2  | 2.3  |      |
| C    | 2.3  | 2.4  |      |

**Luminous Flux Rank Combination (IF=150mA)**

| Rank | Min. | Max. | Unit |
|------|------|------|------|
| L18  | 18   | 20   | lm   |
| L20  | 20   | 22   |      |
| L22  | 22   | 24   |      |
| L24  | 24   | 26   |      |
| L26  | 26   | 28   |      |

**Dominant Wavelength Rank Combination (IF=150mA)**

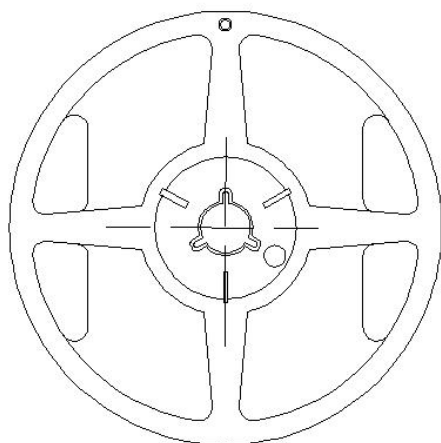
| Rank | Min. | Max. | Unit |
|------|------|------|------|
| Oj   | 618  | 620  | nm   |
| Ra   | 620  | 622  |      |
| Rb   | 622  | 624  |      |
| Rc   | 624  | 626  |      |

**Notes:**

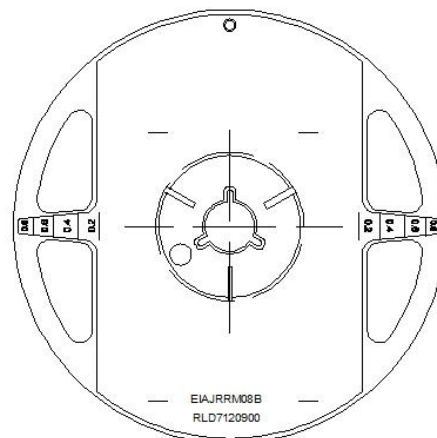
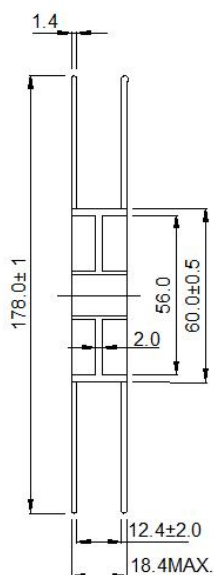
1. The tolerance of forward voltage is  $\pm 0.1V$ .
2. The tolerance of luminous flux ( $\Phi$ ) is  $\pm 11\%$ .
3. The tolerance of dominant wavelength is  $\pm 1nm$ .
4. This specification is preliminary.
5. This specification is a standard specification of our factory, can make in accordance with customer's special requirement.

## 3433 Series SMD Top LED Lamps Packaging Specifications

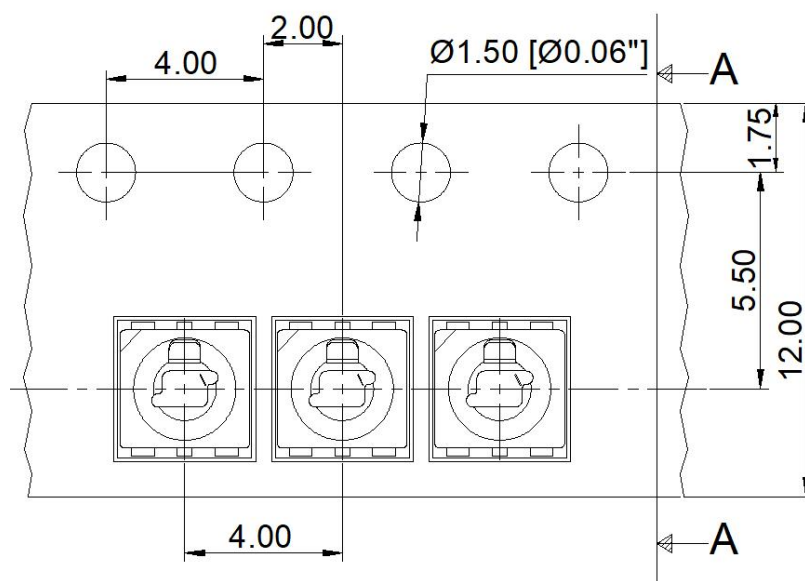
### ● Feeding Direction



### ● Dimensions of Reel (Unit: mm)



### ● Dimensions of Tape (Unit: mm)

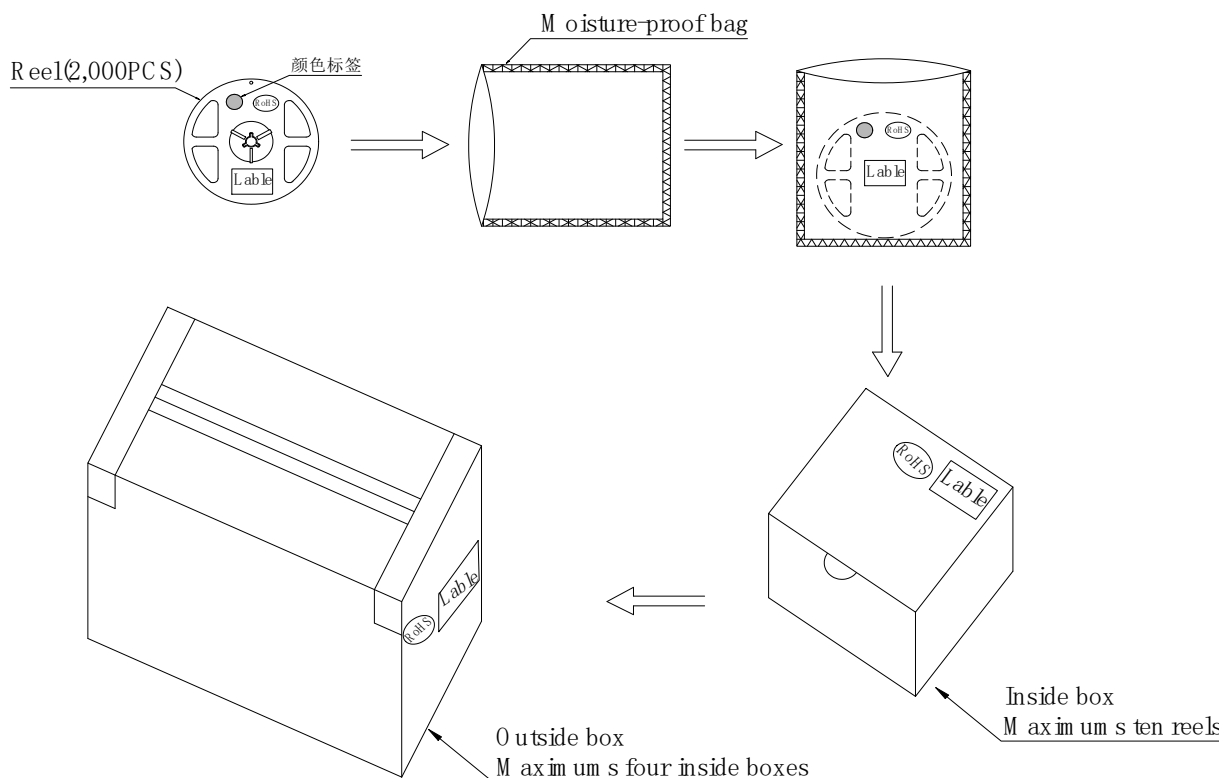


#### Notes:

1. Empty component pockets are sealed with top cover tape.
2. The maximum number of missing lamps is two.
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.
4. 2,000pcs/Reel.

## 3433 Series SMD Top LED Lamps Packaging Specifications

### ● Packaging specifications



#### Notes:

Reeled products (numbers of products are 2,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, ten moisture-proof bag of maximums (total maximum number of products are 20,000pcs) packed in an inside box (about size: 220x 230 x 130mm) and four inside boxes of maximums are put in the outside box (about size: 545mm x 260mm x 250mm) Together with buffer material, and it is packed. (Part No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the label on the cardboard box.) The number of the loading steps of outside box (cardboard box) has it to three steps.