

# Technical Data Sheet

Customer Part No.:

Inhere Part No.: S2835CPWD-102

Part Name: 2835 白光 LED

Spec Issue Date: 2024-06-20

Revision No.: A/1

Product Gradation: Commercial Product

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

Date : 2024-06-20

Checked by : Tom

Date : 2024-06-20

Approved by : Ares

Date : 2024-06-20

## 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 框

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

TEL: 0769-23320868 FAX: 0769-23320878

E-mail: bill@inhereopto.com

Http://www.inhereopto.com

## Features

2.80mm×3.50mm LED, 0.70mm thickness

Low power consumption

Wide view angle

Package: 4000pcs/reel

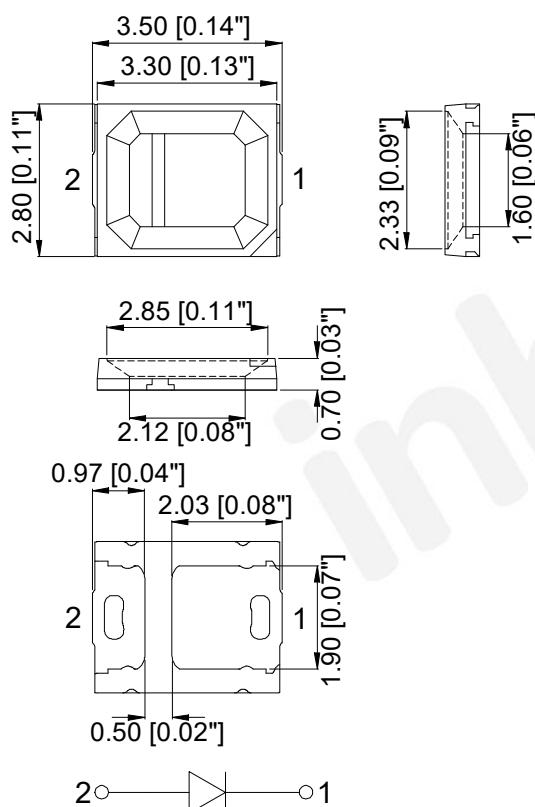
RoHS Compliant

## Applications

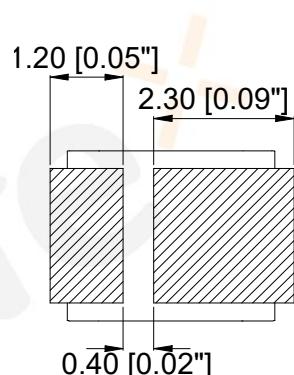
Ideal for back light and indicator

Various colors and lens types available

### Package Outlines



### Recommend Pad Layout



| Part No.      | Emitted color | Dice      | Lens color      |
|---------------|---------------|-----------|-----------------|
| S2835CPWD-102 | White         | InGaN/GaN | Yellow Diffused |

#### Notes:

All dimensions are in millimeters (inches).

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

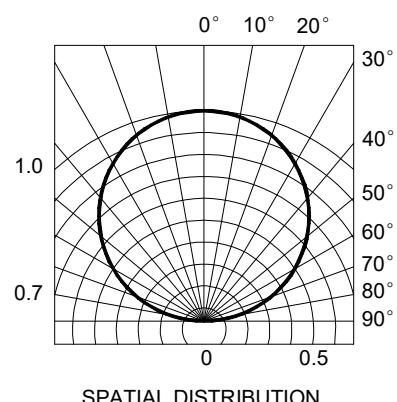
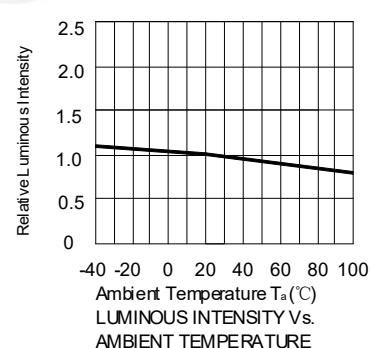
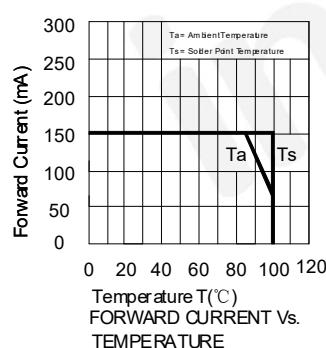
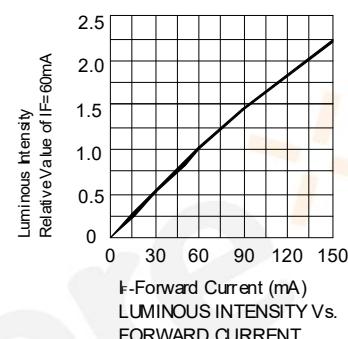
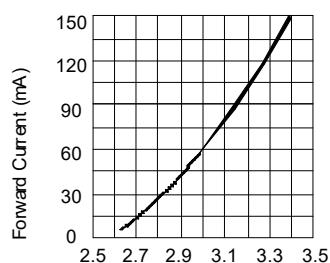
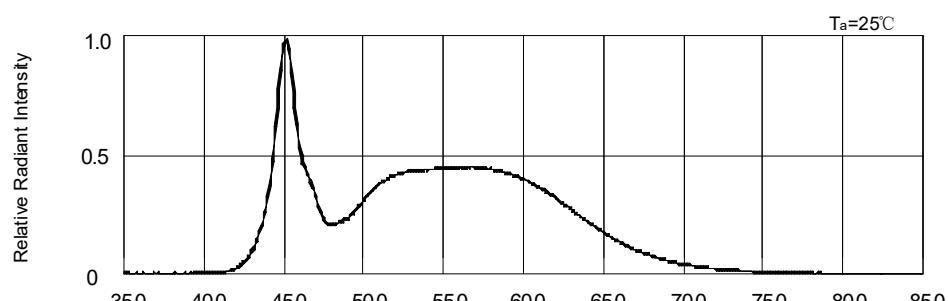
### Absolute Maximum Ratings (Ta=25°C)

| Parameter                               | Symbol | Value     | Unit |
|---|--------|-----------|------|
| Forward current                         | If     | 150       | mA   |
| Peak pulsing current (1/10 duty f=1kHz) | Ifp    | 180       | mA   |
| Power dissipation                       | Pd     | 480       | mW   |
| ESD (HBM,R=100kΩ ,C=100pF)              | --     | 2         | kV   |
| Reverse voltage                         | Vr     | 5         | V    |
| Operating temperature                   | Top    | -40 ~+100 | °C   |
| Storage temperature                     | Tstg   | -40 ~+100 | °C   |
| Humidity sensitive level                | MSL    | 3         | --   |

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

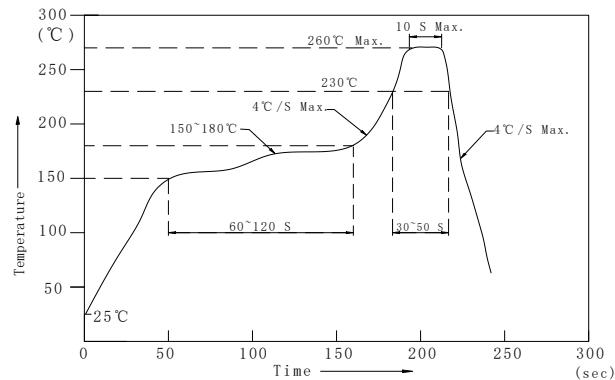
| Parameter             | Test Condition | Symbol  | Value |      |      | Unit |
|-----------------------|----------------|---------|-------|------|------|------|
|                       |                |         | Min.  | Typ. | Max. |      |
| Color temperature     | If=60mA        | CCT     | 6000  | --   | 6500 | K    |
| Forward voltage       | If=60mA        | Vf      | 2.8   | --   | 3.2  | V    |
| Luminous flux         | If=60mA        | Φ       | 28    | --   | 33   | lm   |
| Color rendering index | If=60mA        | Ra      | 80    | --   | --   | --   |
| Viewing angle         | If=60mA        | 2 θ 1/2 | --    | 120  | --   | Deg  |
| Reverse current       | Vr=5V          | Ir      | --    | --   | 10   | µA   |

## Optical Characteristic Curves



## Reflow Profile

### ■ Reflow Temp/Time



### Notes:

1. We recommend the reflow temperature  $245^{\circ}\text{C}$  ( $\pm 5^{\circ}\text{C}$ ). The maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

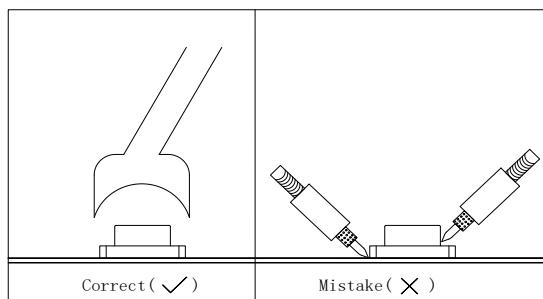
### ■ Soldering iron

Basic spec is  $\leq 5\text{sec}$  when  $320^{\circ}\text{C}$  ( $\pm 20^{\circ}\text{C}$ ). If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ).

Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under  $350^{\circ}\text{C}$ .

### ■ Rework

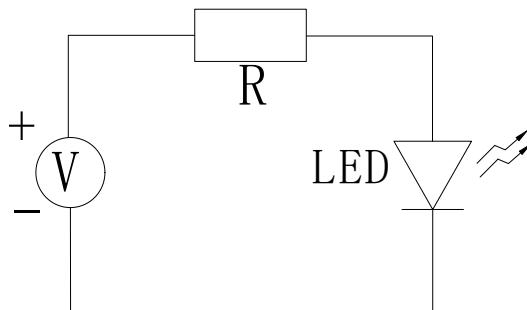
1. Customer must finish rework within 5 sec under  $340^{\circ}\text{C}$ .
2. The head of iron cannot touch copper foil.
3. Twin-head type is preferred.



- 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 168hrs 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 168 hrs.

The Condition is:  $65 \pm 5$  °C/24hrs.

**Test Items and Results of Reliability**

| Test Item                               | Test Conditions  | Standard Test Method | Note      | Number of Test |
|---|--|----------------------|-----------|----------------|
| Reflow Soldering                        | Ta=260±5°C, Time=10±2S                                 | JB/T 10845-2008      | 3times    | 0/22           |
| Temperature Cycling                     | -40±5°C 30±1min<br>↑→(25°C/5±1min)↓<br>100±5°C 30±1min | GB/T 2423.22-2012    | 100cycles | 0/22           |
| Thermal Shock                           | Ta=-40±5°C ~ 100±5°C,<br>15±1min dwell                 | GB/T 2423.22-2012    | 100cycles | 0/22           |
| High Humidity High Temp. Cycling        | Ta=30±5°C ~ 65±5°C,<br>90±5%RH, 24hrs/1cycle           | GB/T 2423.4-2008     | 10cycles  | 0/22           |
| High Humidity High Temp. Storage Life   | Ta=85±5°C, ψ(%)=85±5%RH                                | GB/T 2423.3-2006     | 1000hrs   | 0/22           |
| High Temperature Storage Life           | Ta=100±5°C, non-operating                              | GB/T 2423.2-2008     | 1000hrs   | 0/22           |
| Low Temperature Storage Life            | Ta=-40±5°C, non-operating                              | GB/T 2423.1-2008     | 1000hrs   | 0/22           |
| Life Test                               | Ta=26±5°C, @60mA,<br>ψ(%)=25%RH ~ 55%RH                | --                   | 1000hrs   | 0/22           |
| High Humidity High Temp. Operating Life | Ta=85±5°C,<br>ψ(%)=85%RH                               | GB/T 2423.3-2006     | 500hrs    | 0/22           |
| Low Temperature Operating Life          | Ta=-20±5°C   | GB/T 2423.1-2008     | 1000hrs   | 0/22           |

**Forward Voltage Rank Combination (IF=60mA)**

| Rank | Min. | Max. | Unit |
|------|------|------|------|
| H    | 2.8  | 2.9  |      |
| I    | 2.9  | 3.0  |      |
| J    | 3.0  | 3.1  |      |
| K    | 3.1  | 3.2  |      |

**Luminous Flux Rank Combination (IF=60mA)**

| Rank | Min. | Max. | Unit |
|------|------|------|------|
| L28  | 28   | 33   | lm   |

**Color Temperature Ranks Combination (IF=60mA)**

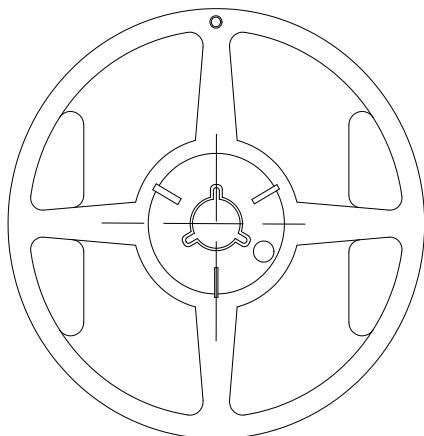
| Rank        | Min. | Max. | Unit |
|-------------|------|------|------|
| CCT60006500 | 6000 | 6500 | K    |

## Notes:

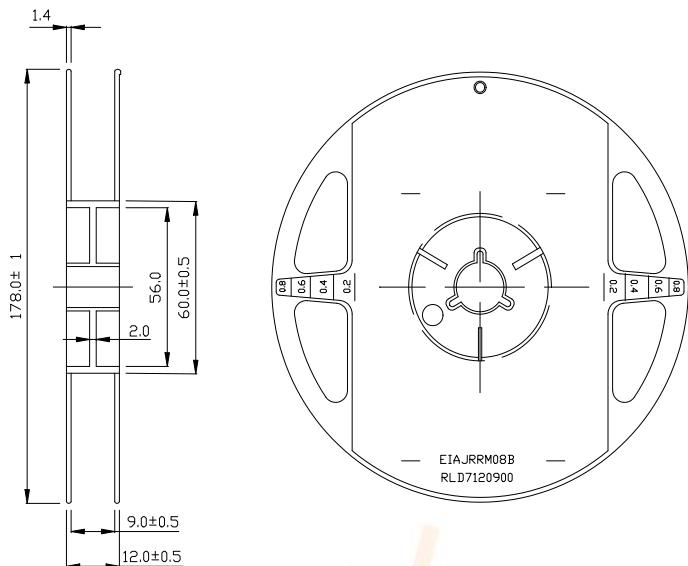
1. The tolerance of forward voltage is  $\pm 0.05V$ .
2. The tolerance of luminous flux ( $\Phi$ ) is  $\pm 15\%$ .
3. The tolerance of CIE coordinates(X,Y) is  $\pm 0.01$ .
4. This specification is preliminary.
5. This specification is a standard specification of our factory, can make in accordance with customer's special requirement.

## 2835 Series SMD Top LED Lamps Packaging Specifications

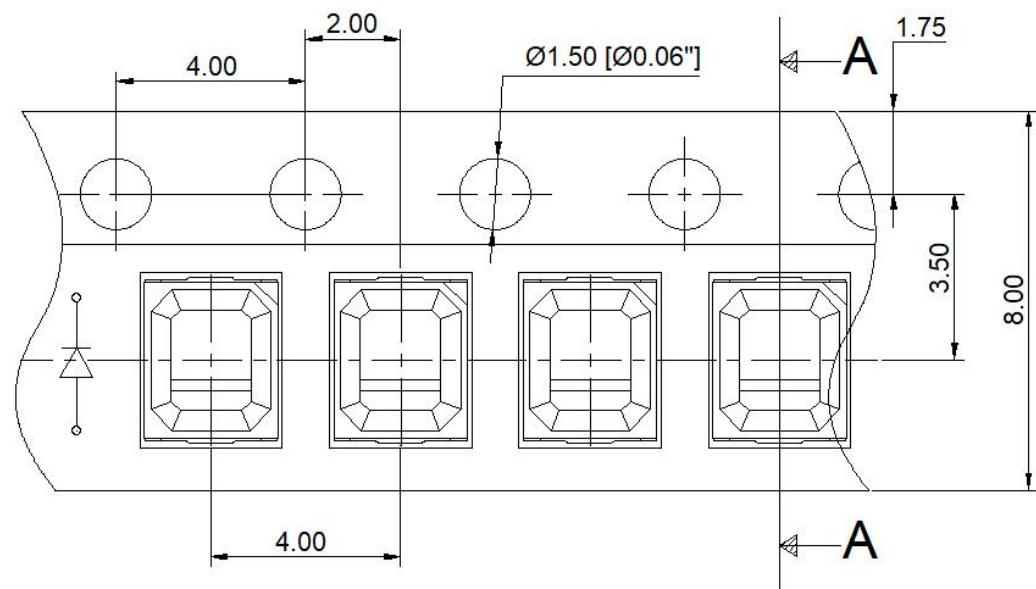
### ● Feeding Direction



### ● Dimensions of Reel (Unit: mm)



### ● Dimensions of Tape (Unit: mm)

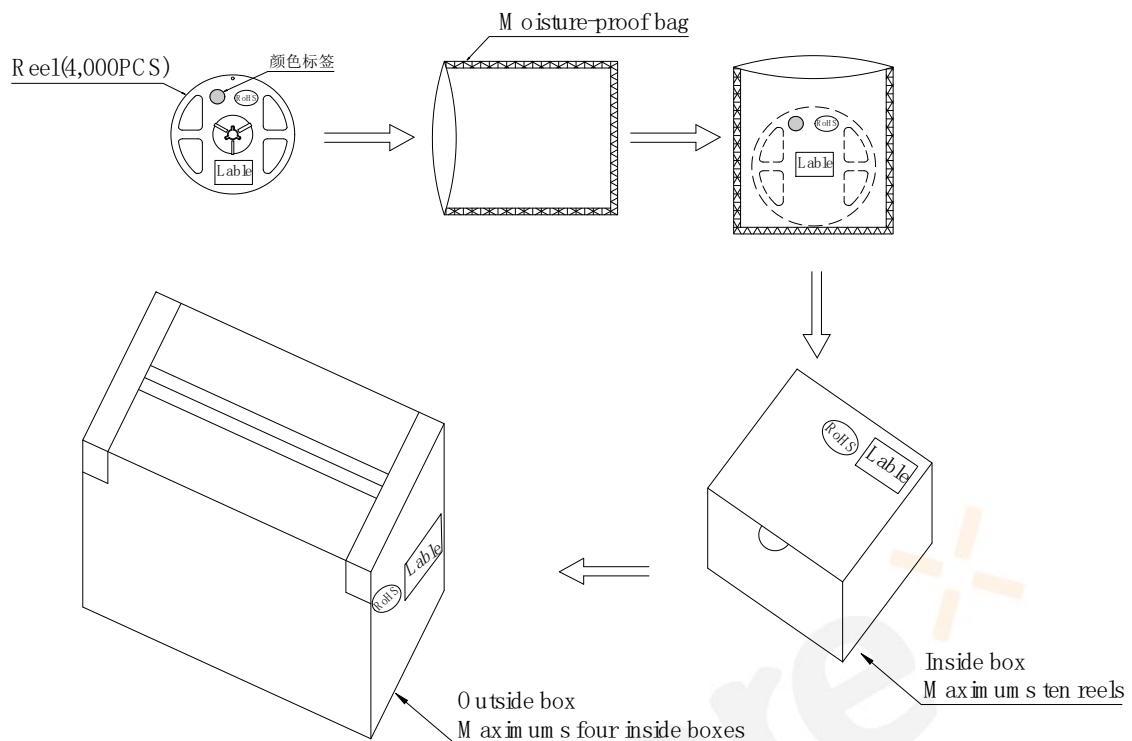


#### Notes:

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. 4,000pcs/Reel.

## 2835 Series SMD Top LED Lamps Packaging Specifications

### ● Packaging specifications



#### Notes:

Reeled products (numbers of products are 4,000pcs) 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 40,000pcs) packed in an inside box (about size: 240x 230x 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.