

# 承 认 书

客户名称：\_\_\_\_\_

物料编码：\_\_\_\_\_

产品型号：JK-2835红光-1W 双电极

编 号：\_\_\_\_\_

日 期：2024-09-04



产品描述：

- 贴片2835红光-1W高亮贴片灯珠 缺口为正极，正极朝孔
- 胶体颜色：透明

## 承 认 签 章

| 编制 | 审核 | 核准 |
|----|----|----|
|    |    |    |

## 客 户 确 认

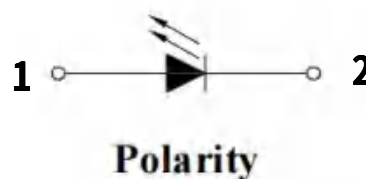
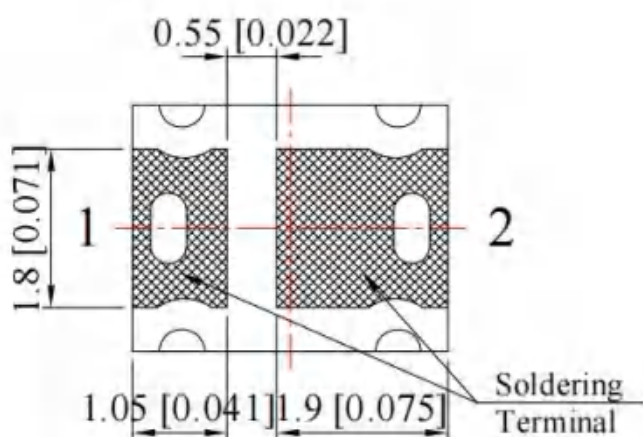
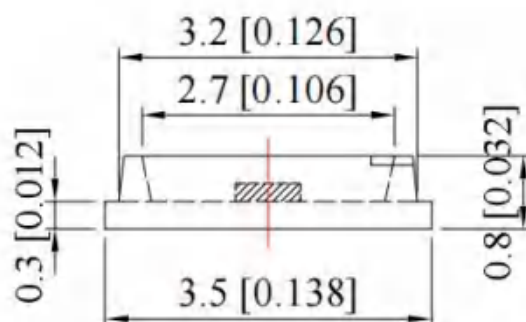
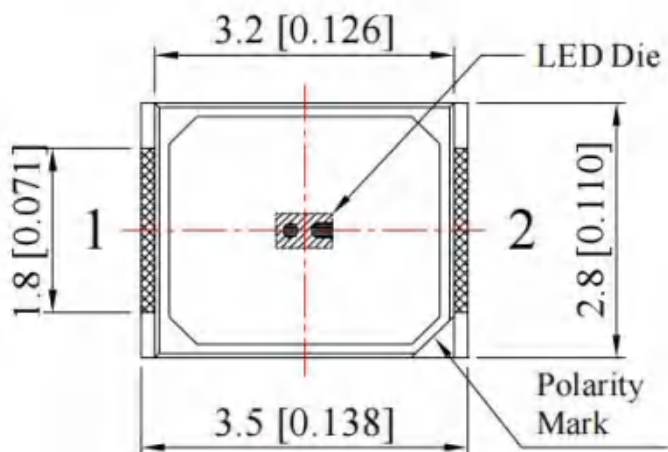
| 确认 | 审核 | 核准 |
|----|----|----|
|    |    |    |

## Features

- Package: 3.5mm\*2.8mm\*0.7mm
- Emitted colour: Red
- Comply ROHS standard
- High intensity
- Extremely wide view angle
- Anti-electrostatic tape package
- Reliable and stable



## Package Outline Dimension



## NOTES

All dimensions are in millimeters (inches);  
Tolerances are  $\pm 0.2\text{mm}$  (0.008inch) unless otherwise noted.

### Absolute maximum ratings at Ta=25°C

| Parameter                                                    | Symbol           | Typical  | Unit |
|--------------------------------------------------------------|------------------|----------|------|
| Power dissipation                                            | Pd               | 300      | mW   |
| Forward current                                              | If               | 300      | mA   |
| Reverse voltage                                              | Vr               | 5        | V    |
| Operating temperature range                                  | Top              | -40 ~+85 | °C   |
| Storage temperature range                                    | Tstg             | -40~+100 | °C   |
| Lead Soldering Temperature/Time                              | T <sub>SOL</sub> | 240/≤3S  | °C/S |
| Peak pulsing current                                         | Ifp              | 100      | mA   |
| IFP Conditions: Pulse Width ≤ 10msec. and Duty cycle ≤ 1/10. |                  |          |      |

### Electrical-optical characteristics at Ta=25°C

| Parameter               | Test Condition | Symbol  | Typical |      |      | Unit |
|-------------------------|----------------|---------|---------|------|------|------|
|                         |                |         | Min.    | Typ. | Max. |      |
| Forward voltage         | If=150mA       | Vf      | 2.0     | --   | 2.4  | V    |
| Luminous intensity      | If=150mA       | Iv      | 55      | --   | 55   | lm   |
| Dominant Wave Length    | If=150mA       | Tc/λd   |         | --   |      | k    |
| Peak Wave Length        | If=150mA       | λp      | 620     |      | 625  | nm   |
| Color rendering index   | If=150mA       | Ra      | --      |      | --   |      |
| Viewing angle at 50% Iv | If=150mA       | 2 θ 1/2 | --      | 120  | --   | Deg  |
| Reverse Current         | Vr=5V          | Ir      | --      | --   | ≤10  | μA   |

## Typical optical characteristics curves

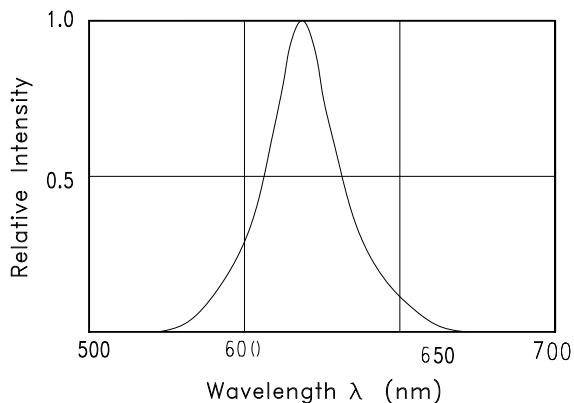


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

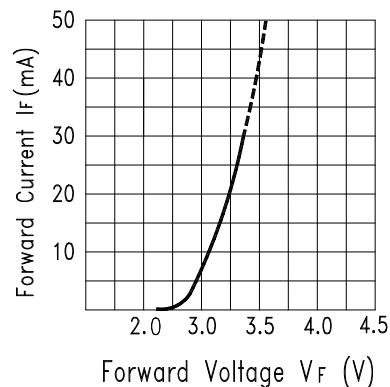


Fig.2 Forward Current vs.  
Forward Voltage

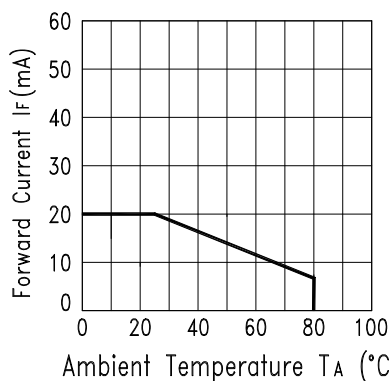


Fig.3 Forward Current Derating Curve

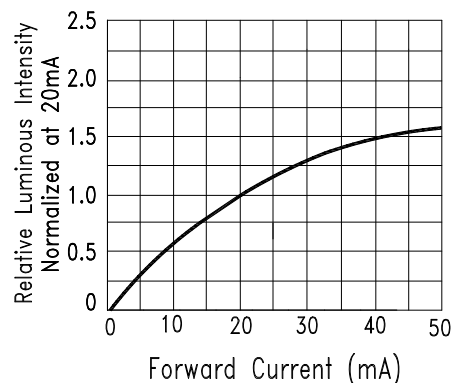


Fig.4 Relative Luminous Intensity  
vs. Forward Current

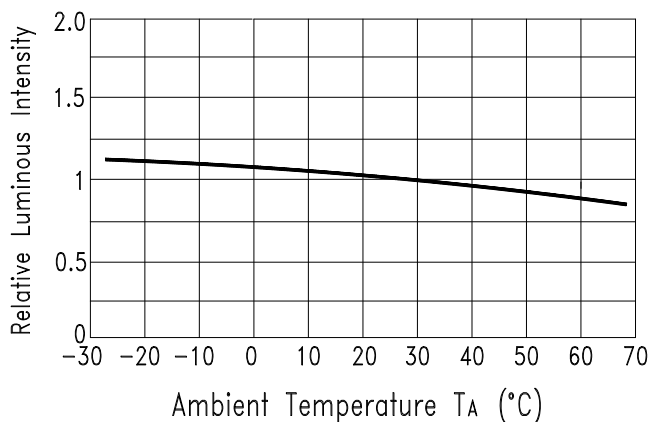


Fig.5 Luminous Intensity vs. Ambient Temperature

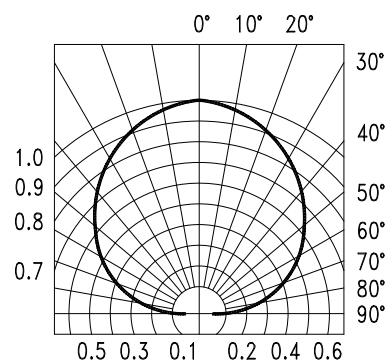
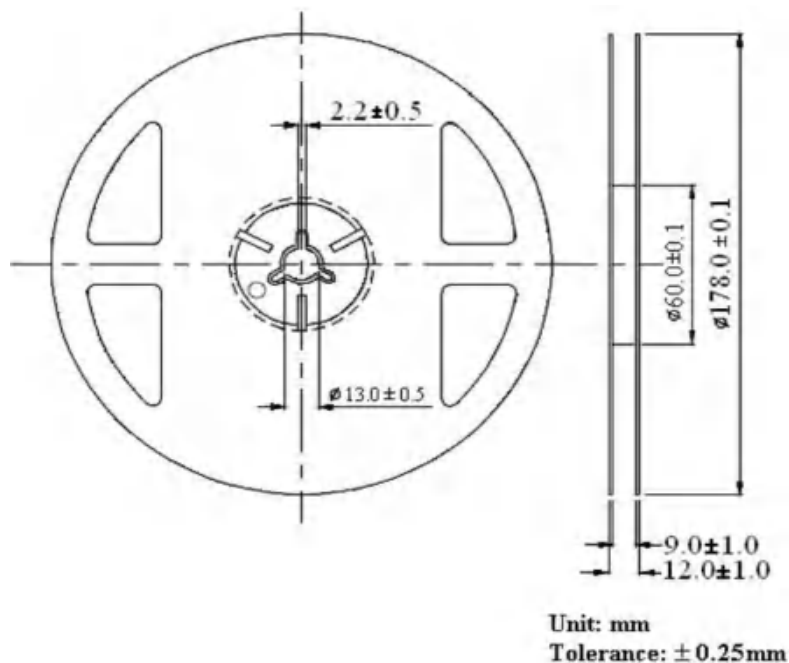


Fig.6 Spatial Distribution

**(1) TEST ITEMS AND RESULTS**

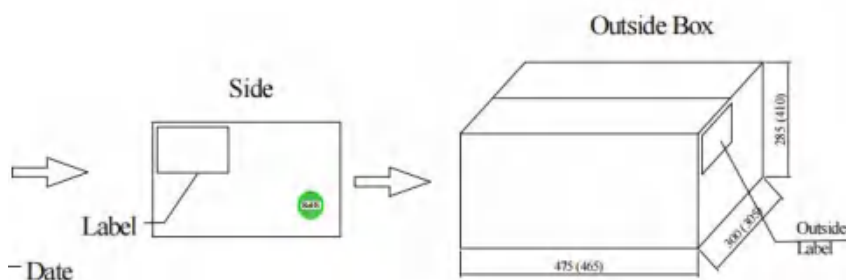
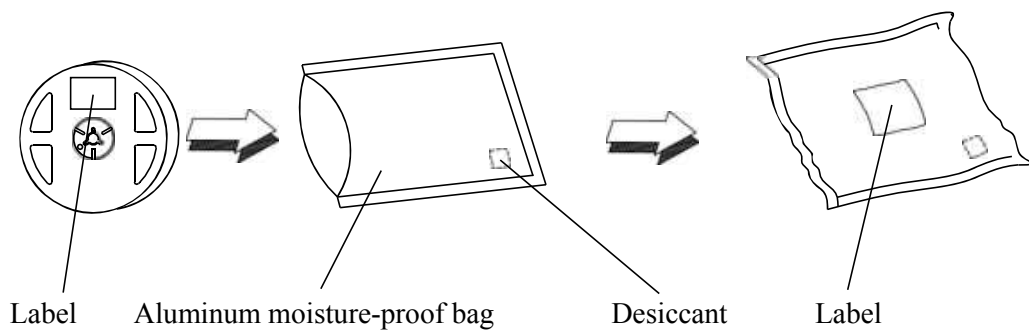
| Test Item                                            | Standard Test Method     | Test Conditions                                       | Note              | Number of Damaged |
|------------------------------------------------------|--------------------------|-------------------------------------------------------|-------------------|-------------------|
| Resistance to Soldering Heat<br>(Reflow Soldering)   | JEITA<br>ED-4701 300 301 | Tsld=260℃, 10sec.<br>(Pre treatment 30℃, 70%, 168hrs) | 2 times           | 0/50              |
| Solderability<br>(Reflow Soldering)                  | JEITA ED-4701<br>300 303 | Tsld=215±5℃, 3sec.<br>(Leader Solder)                 | 1time over<br>99% | 0/50              |
| Thermal Shock                                        | JEITA ED-4701<br>300 307 | -40℃~100℃<br>5min. 5min.                              | 100cycles         | 0/50              |
| Temperature Cycle                                    | JEITA ED-4701<br>100 105 | -40℃~25℃~100℃~25℃<br>30min. 5min. 30min. 5min.        | 100cycles         | 0/50              |
| High Temperature Storage                             | JEITA ED-4701<br>200 201 | Ta=100℃                                               | 1000 hrs          | 0/50              |
| High Temperature<br>High Humidity Storage            | JEITA ED-4701<br>100 103 | Ta=80℃, 80%RH                                         | 1000 hrs          | 0/50              |
| Low Temperature Storage                              | JEITA ED-4701<br>200 202 | Ta=-40℃                                               | 1000 hrs          | 0/50              |
| Steady State Operating Life                          |                          | Ta=25℃, IF=20MA                                       | 1000 hrs          | 0/50              |
| Steady State Operating Life of<br>High Temperature   |                          | Ta=85℃, IF=5mA                                        | 1000 hrs          | 0/50              |
| Steady State Operating Life of<br>High Humidity Heat |                          | 60℃, 90%RH, IF=15mA                                   | 500 hrs           | 0/50              |
| Steady State Operating Life of<br>Low Temperature    |                          | Ta=-30℃, IF=20MA                                      | 1000 hrs          | 0/50              |

## Reel Dimensions:



## Packing & Label Specifications:

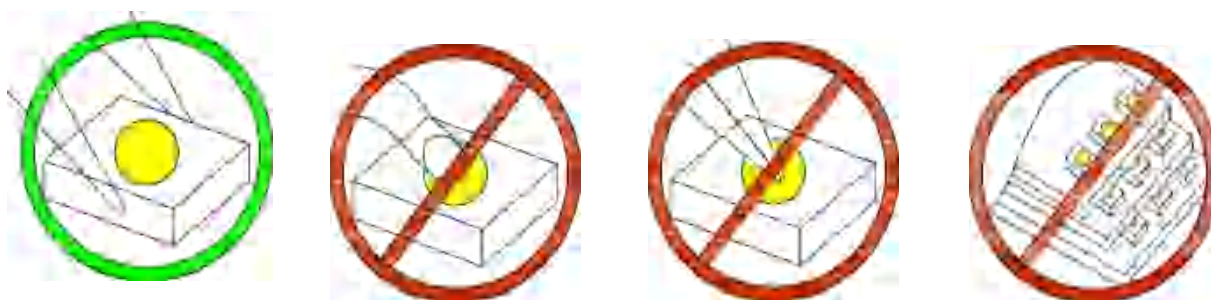
### Moisture Resistant Packaging:



## CAUTIONS

### 1. Handling Precautions:

- 1.1. Handle the component along the side surfaces by using forceps or appropriate tools.
- 1.2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.
- 1.3. Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry.



Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

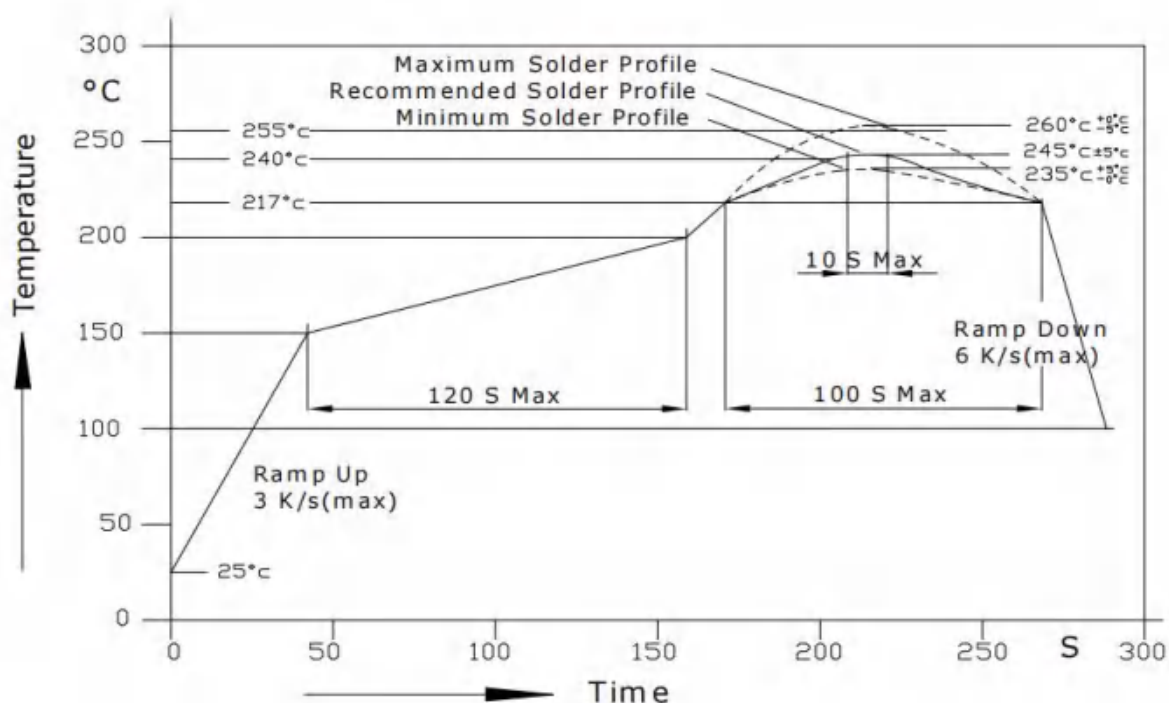
### 2. Storage

- 2.1. Do not open moisture proof bag before the products are ready to use.
- 2.2. Before opening the package, the LEDs should be kept at 30°C or less and 60%RH or less.
- 2.3. The LEDs should be used within a year.
- 2.4. After opening the package, the LEDs should be kept at 30°C or less and 60%RH or less.
- 2.5. The LEDs should be used within 24 hours after opening the package.

If the moisture adsorbent material has fabled away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment: 65±5°C 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.

3.5. Recommended soldering conditions:

| Reflow soldering |                              | Soldering iron |                 |
|------------------|------------------------------|----------------|-----------------|
| Pre-heat         | 150~200°C                    | Temperature    | 300°C Max.      |
| Pre-heat time    | 120 sec. Max.                | Soldering time | 3 sec. Max.     |
| Peak temperature | 260°C Max.                   |                | (one time only) |
| Soldering time   | 10 sec. Max.(Max. two times) |                |                 |

3.6. Because different board designs use different number and types of devices, solder pastes, reflow ovens, and circuit boards, no single temperature profile works for all possible combinations.

However, you can successfully mount your packages to the PCB by following the proper guidelines and PCB-specific characterization.



#### 4. Drive Method

4.1. An LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit A below.



- a. Recommended circuit.
- b. The brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

#### 5. ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Suggestions to prevent ESD damage:

- Use of a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- All devices, equipment, and machinery must be properly grounded.
- Work tables, storage racks, etc. should be properly grounded.
- Use ion blower to neutralize the static charge which might have built up on surface of the LED's plastic lens as a result of friction between LEDs during storage and handling.

ESD-damaged LEDs will exhibit abnormal characteristics such as high reverse leakage current, low forward voltage, or “no lightup” at low currents. To verify for ESD damage, check for “lightup” and  $V_f$  of the suspect LEDs at low currents. The  $V_f$  of “good” LEDs should be  $>2.0V@0.1mA$  for InGaN product and  $>1.4V@0.1mA$  for AlInGaP product.

**Terms and conditions for the usage of this document**

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Wanshengfeng will not be responsible for any subsequent issues.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Wanshengfeng representative for further assistance.
5. The contents and information of this document may not be reproduced or re-transmitted without permission by Wanshengfeng.