# Product Specification Report

| | | | | | |
|---|---|---|---|---|---|
| Customer Name | | | | | |
| Customer NO. | | | | | |
| Product Name | | | SMD2835 | | |
| Product Type | | | SFC2835RRIR-660,850-02 | | |
| Date Prepared | | | | | |
| | | | | | |
| Development | Approved | Marketing Dept | Confirmed by | Approved | Purchasing Dept |
| **Judge outcome** | | | **Judge outcome** | | |

## 1. About the product

Features

- Package Size：2..8(L) ×3.5(W) ×0.8(T)mm
- Silicone Packed
- Suitable for different working environment
- Super long lifetime：50000HRs
- Anti UV
- White colors are available in(2300K- 25000K)
- Wide viewing angle (2 θ 1/2 =120 ° )

Device Selection Guide

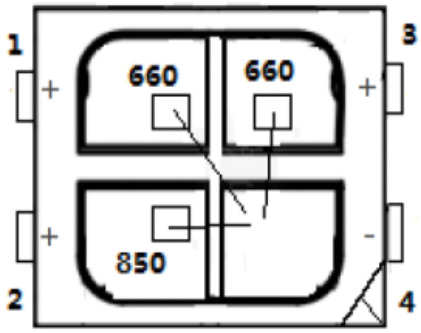
| No | ITEM | MATERIALS |
|---|---|---|
| 1 | Resin | ☑Silicon ☐epoxy |
| 2 | Bonding wire | ☑20☐23☐25En Au |
| 3 | Lens color | ☐transparent<br>☐vaporific<br>☑0ther |
| 4 | Dice | InGaN |

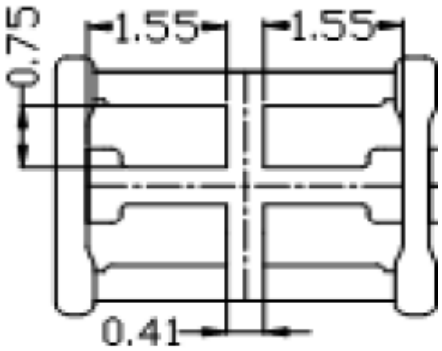
## Applications

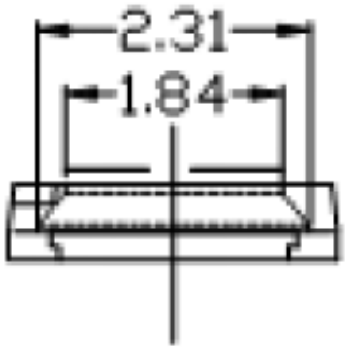
- Indoor lighting: Fluorescent lamp, tube
- Commercial illumination and displays: Advertising words, light box
- LCD Backlighting
- Decorative lighting: light strip
- Automotive interior auxiliary lighting
- Other illumination and displays

## 2. Product size

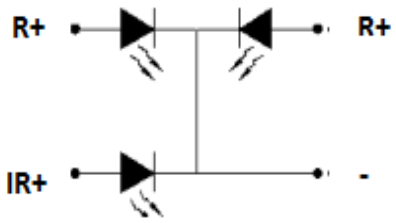
(Structure diagram of bracket）




Schematic diagram of electrical properties




NOTES：

1、 All dimensions are in millimeters (inches)；

2、 Tolerances are 0.2mm (0.008inch) unless otherwise noted

## 3. Product Parameter

| Paramete | Symbol | Rat | Unit |
|---|---|---|---|
| Forward current | I F | 20 | mA |
| Reverse voltage | VR | 5 | V |
| Power dissipation | P | 120 | mw |
| Operating Temperature | TOP | -20 ~+80 | ℃ |
| Storage Temperature | Tstg | -40 ~+80 | ℃ |
| Peak Forward Current ( Duty 1/10 @ 1KHz) | lFP | 60 | mA |
| Lead Soldering Temperature (5mm From Body) | TSOl | 260℃ For 5 Seconds)/℃ | |

| Electro-optical characteristics | (T A =25℃) | | | | | |
|---|---|---|---|---|---|---|
| | Test Condition | Symbo | Value | | | Unit |
| | | | Min | Avg | Max | |
| CIE Coordinates | I F =20mA | X | / | | / | |
| | | Y | / | | / | |
| Wavelength | I F =20mA | λd | 655 | | 665 | K |
| | I F =20mA | λd | 845 | / | 855 | nm |
| Luminous Flux | I F =20mA | ϕ | | | | Lm |
| Luminous intensity | I F =20mA | Iv | / | / | / | mcd |
| Viewing Angle | ////////// | 2θ1/2 | //////// | 120 | /////// | deg |
| Reverse Current | /////////// | IR | //////// | ////// | 1 | uA |

4.File specification

## 4-1.Intensity And Color Bin Limits(IF=20MA)

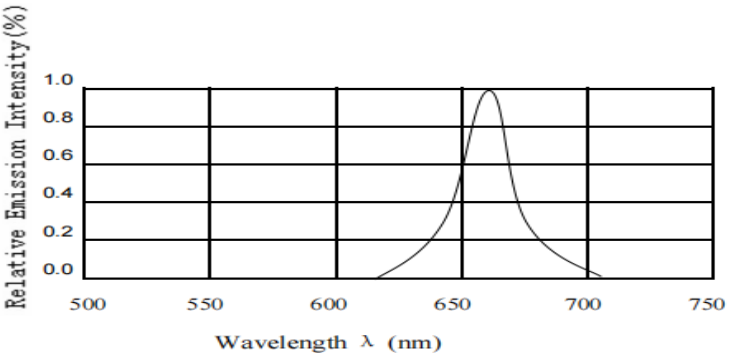
| Grade | NR-660 | IR-850 | UNIT |
|---|---|---|---|
| Range | 1.8-2.3 | 1.2-1.6 | V |

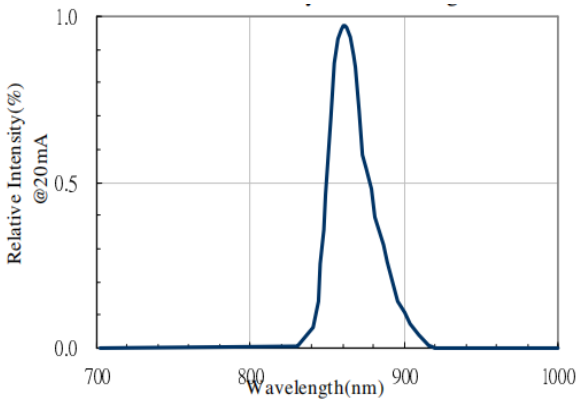
BIN CAT Bin Limits(IF=20MA)

| Grade | L1-1 | L1-2 | UNIT | |
|---|---|---|---|---|
| color | NR | IR | | |
| Range | 100-300 | 2- 6 | mcd | mW |

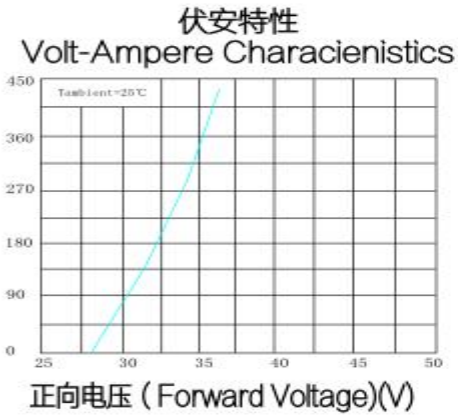
## 5. Photoelectric performance curve

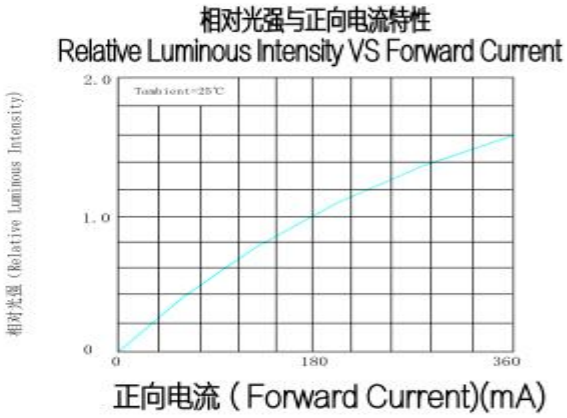
### 5-1. Spectrograph

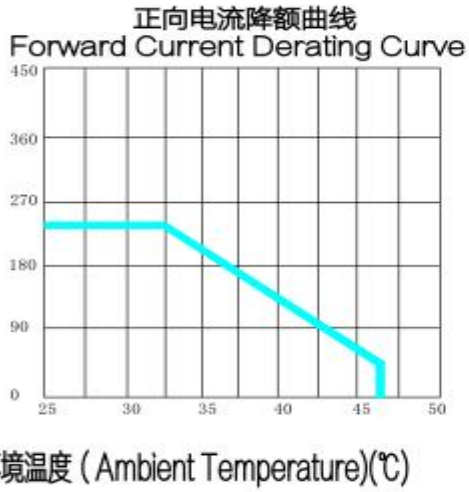


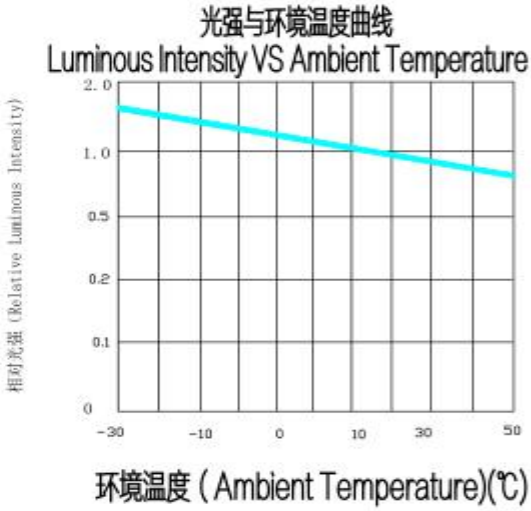




### 5-2. Voltage and current curve diagram



## 6. Reliableexperimentalreport

**Reliability Test Items And Conditions**

| TestItems | Reference | Test Conditions | Time | Quantity | Criterion |
|---|---|---|---|---|---|
| Thermal Shock | MIL-STD-202G | -40℃（30min）<br>-100℃（30min） | 100Cycles | 22 | 0/22 |
| Temperature | JEITA ED-4701 200 203 | -10℃~65℃；<br>0%~90%RH | 10cycles | 22 | 0/22 |
| High Temperature Storage | JEITA ED -4071 200 201 | Ta=100℃ | 1000H | 22 | 0/22 |
| Low Temperature Storage | JEITA ED -4071 200 202 | Ta=-40℃ | 1000H | 22 | 0/22 |
| High temperature high humidity storage | JEITA ED -4071 100 103 | Ta=60℃； RH=90% | 1000H | 22 | 0/22 |
| High temperature life | JESD22-A108D | Ta=80℃ | 1000H | 22 | 0/22 |
| Normal temperature life test | JESD22-A108D | Ta=25℃<br>IF=150mA | 1000H | 22 | 0/22 |
| Resistant to soldering heat | GB/T 4937,Ⅱ，2.2&2.3 | Tsol*=(240±5)℃<br>10secs | 2 times | 22 | 0/22 |

**Criteria For Judging Damage**

| TestItems | Symbol | Test Conditions | Criteria For Judging Damage |
|---|---|---|---|
| ForwardVoltage | V F | I F =I FT | Initial Data±10 % |
| RecerseCurrent | I R | V R =5V | I R ≤10uA |
| LuminousIntensity | IV | I F =I FT | Average IV attenuation≤30%; single IV attenuation≤ 50% |
| Resistant to soldering heat | | | No internal cracks, no inter-material bursts, peeling, no dead lights |

***Note Tsol-Temperature of tin liquid**

**Useful hint：**

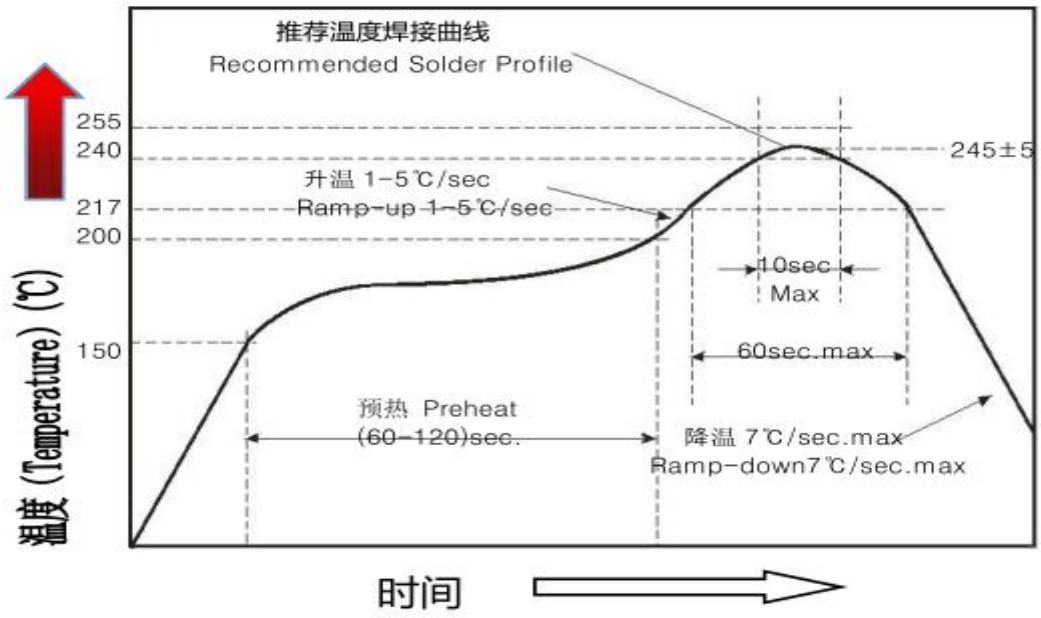
**1.**

**A soldering iron of less than 20W is recommended to be used in Hand Soldering.Please keepthe temperature fo the soldering iron under 360℃ while soldering.Each terminal fo the LED is to go for less than 3 second and for one time only.**

**Be careful because the damage of the product is often started at the time of the hand soldering.**

**2.**

**Reflow Soldering:Use the conditions shown in the under Figure of Pb-Free Reflow Soldering**




**Reflow soldering only allowed to do once**

**Stress on the LEDs should be avoided during heating in soldering process**

**After soldering,do not deal with the product before its temperature drop down to room Temperature.**

**Precautions(1)**

**1.**
**Storage**

**● Moisture proof and anti-electrostatic package with moisture absorbent material is used, to keep moisture to aminimum.**

**●Before opening the package, the product should be kept at 30℃ or less and humidity less than 60 % RH, and beused within a year.**

**●After opening the package, the product should be stored at 30℃ or less and humidity less than 10%RH, and besoldered within 24 hours (1day). It is recommended that the product be operated at the workshop condition of 30℃ or less and humidity less than 60%RH.**

**●If the moisture absorbent material has fade away or the LEDs have exceeded the storage time, baking treatment should be performed based on the following condition: (70±5)℃ for 24 hours**

**2.**
**Static Electricity**

**Static electricity or surge voltage damages the LEDs. Damaged LEDs will show some unusual characteristic such as the forward voltage becomes lower, or the LEDs do not light at the low current. even not light.**

**All devices, equipment and machinery must be properly grounded. At the same time, it is recommended that wrist bands or anti-electrostatic gloves, anti-electrostatic containers be used when dealing with the LEDs.**

**Precautions (2)**

**3.**
**Vulcanization**

**LED curing is due to sulfur being in bracket and the +1 price of silver in the chemical reaction generated Ag2S in the process. It will lead to the capacity of reflecting of silver layer reducing, light color temperature drift and serious decline ,seriously affecting the performance of the product.So we should take corresponding measures to avioding vulcanization, such as to avoid using sulphur volatile substances and keeping away from high sulphur content of the material.**

**4.**
**Safety Advice For Human Eyes**
**Viewing direct to the light emitting center of the LEDs, especially those of great Luminous Intensity will cause great hazard to human eyes. Please be careful.**