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 (2θ1/2 =120° )

产品特征

- 封装尺寸：2.8(长) ×3.5(宽) ×0.8(高)mm
- 采用硅胶封装
- 适应多种工作环境
- 超长寿命：50000 小时
- 防紫外线
- 可供白光(2300K- 25000K)
- 宽角度 (2θ1/2 =120° )

## Device Selection Guide 物料选用指南

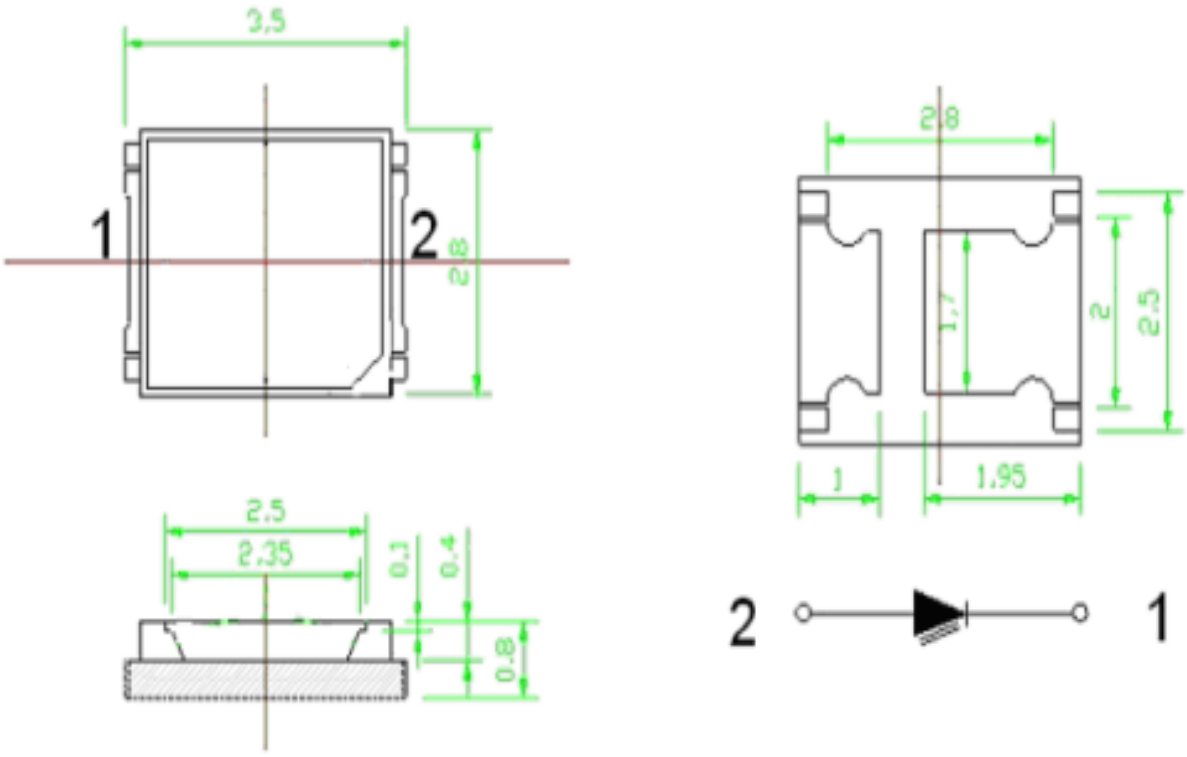
| ITEM 项目 | MATERIALS 物料 |
|---|---|
| Resin 胶体 | Silicon 硅胶 |
| Bonding wire 焊线 | 25 Em Au |
| Lens color 胶体颜色 | Water Clear 水清透明 |
| Dice 晶片 | InGaN |

## 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

REFLECTOR COATING TYPE HIGH-PERFORMANCE LEDs

High Performance SMD Single-Color Top LEDs




NOTES：

1、 All dimensions are in millimeters (inches)；

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

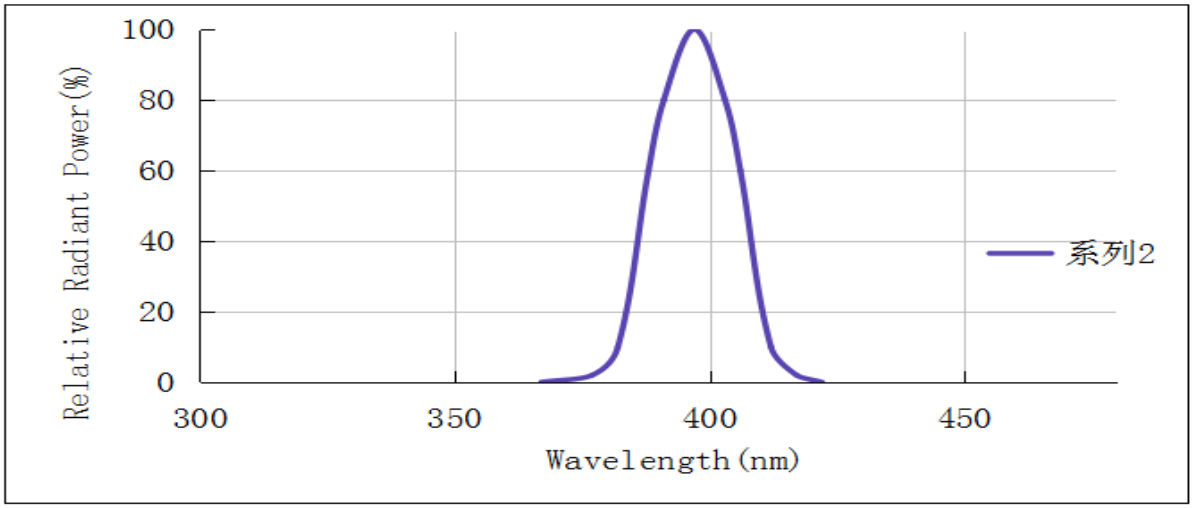
## Absolute maximum ratings (TA=25℃)

| Paramete | Symbol | Rat | Unit |
|---|---|---|---|
| Forward current | I F | 60 | mA |
| Reverse voltage | VR | 5 | V |
| Power dissipation | Pd | 0.2 | W |
| Operating Temperature | TOP | -20 ~+80 | ℃ |
| Storage Temperature | Tstg | -40 ~+80 | ℃ |
| Peak Forward Current ( Duty 1/10 @ 1KHz) | lFP | 150 | mA |
| Lead Soldering Temperature (5mm From Body) | TSOl | 260℃ For 5 Seconds)/℃ | |

## Electro-optical characteristics (T A =25℃)

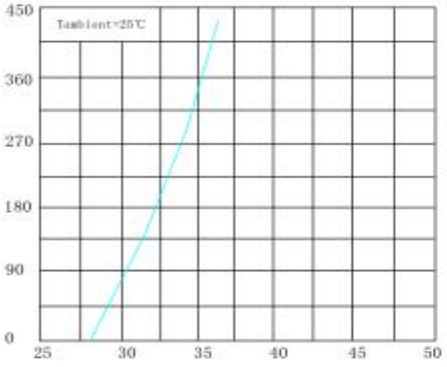
| Parameter | Test Condition | Symbo | Value | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min | Avg | Max | |
| CIE Coordinates | I F =60 mA | X | | | | |
| | | Y | | | | |
| Forward voltage | I F =60 mA | Vf | 2.8 | — | 3.6 | V |
| Wavelength | I F =60 mA | nm | 385 | — | 390 | nm |
| radiant flux | I F =60 mA | Φ e | 65 | — | 85 | mW |
| Luminous intensity | I F =60 mA | Iv | | | | mcd |
| Viewing Angle | ////////// | 2θ1/2 | //////// | 120 | //////// | deg |
| Reverse Current | ////////// | IR | //////// | ////// | 10 | EA |

相对光谱功率



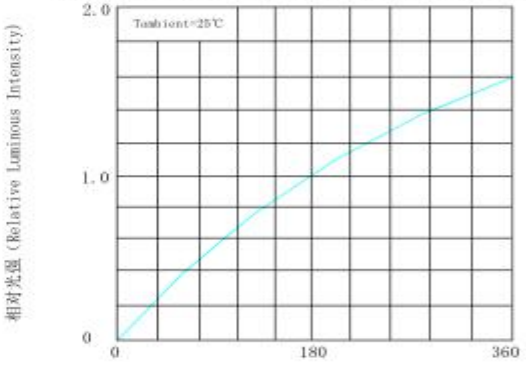

**Optical-Electrical Characteristic）**

伏安特性
Volt-Ampere Characienistics



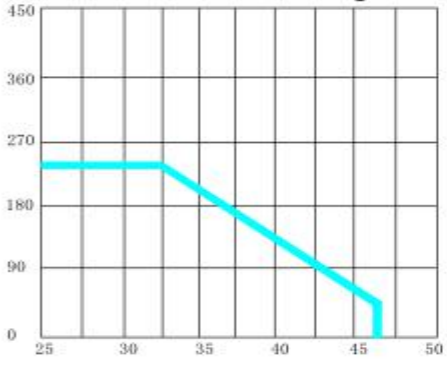

正向电压（Forward Voltage)(V)

相对光强与正向电流特性
Relative Luminous Intensity VS Forward Current



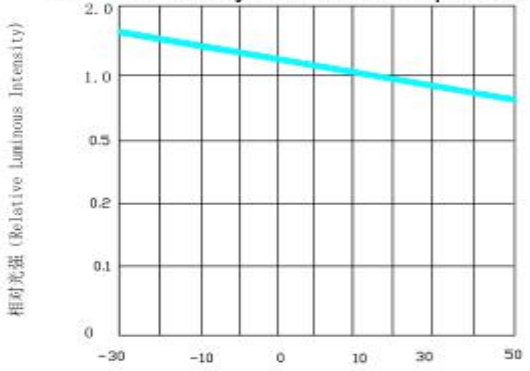

正向电流（Forward Current)(mA)

正向电流降额曲线
Forward Current Derating Curve




环境温度（Ambient Temperature)(℃)

光强与环境温度曲线
Luminous Intensity VS Ambient Temperature




环境温度（Ambient Temperature)(℃)

## Reliability Test Items And Conditions

| Test Items | Reference | Test Conditions | Time | Quantity | Criterion |
|---|---|---|---|---|---|
| Thermal Shock | MIL-STD-202G | -40℃（30min）<br>-100℃（30min） | 100 Cycles | 22 | 0/22 |
| Temperature | JEITA ED-4701<br>200 203 | -10℃~65℃；<br>0%~90%RH | 10 cycles | 22 | 0/22 |
| 高温储存 | JEITA ED -4071<br>200 201 | Ta=100℃ | 1000H | 22 | 0/22 |
| 低温储存 | JEITA ED -4071<br>200 202 | Ta=-40℃ | 1000H | 22 | 0/22 |
| 高温高湿储存 | JEITA ED -4071<br>100 103 | Ta=60℃；<br>RH=90% | 1000H | 22 | 0/22 |
| 高温寿命 | JESD22-A108D | Ta=80℃ | 1000H | 22 | 0/22 |
| 常温寿命试验 | JESD22-A108D | Ta=25℃<br>IF=150mA | 1000H | 22 | 0/22 |
| 耐焊接热 | GB/T 4937,Ⅱ,<br>2.2&2.3 | Tsol*=(240±5)℃<br>10secs | 2 次<br>2 times | 22 | 0/22 |

## Criteria For Judging Damage

| Test Items | 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 | 平均 I V 衰减≤30%；单个 I V 衰减≤50% |
| 耐焊接热 | | | 材料内部无裂痕、无材料间爆裂、剥离、无死灯 |

*Note Tsol-Temperature of tin liquid

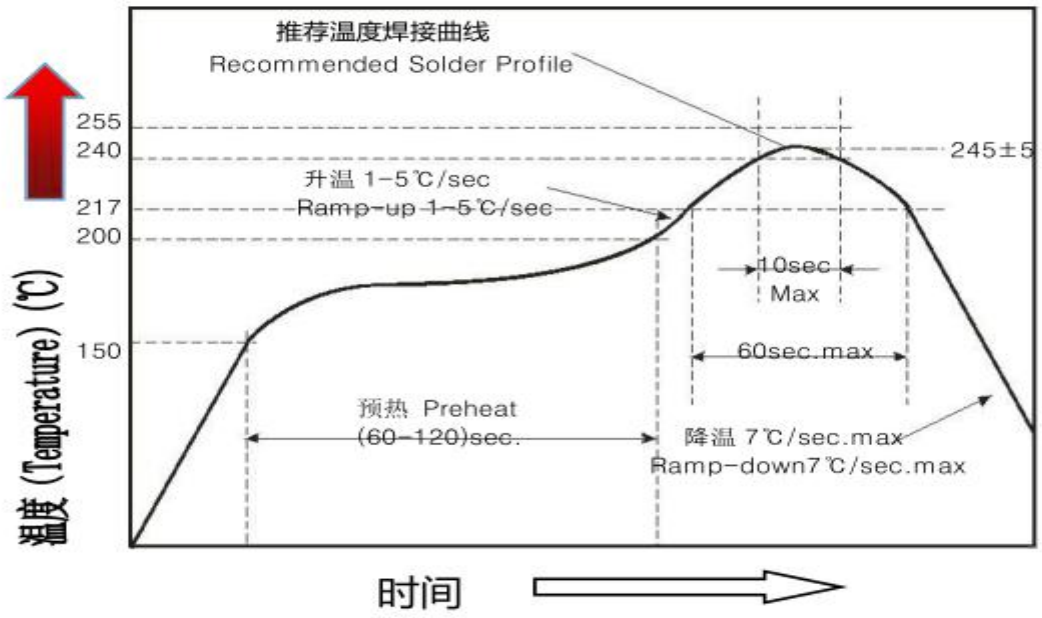
**（Useful hint）：**

**1、Hand Soldering**

**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.**

**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.**

### 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.**