广州市东裕光电科技有限公司

# 产品规格书
# SPECIFICATION

| | |
|---|---|
| **客户名称 CUSTOMER** | |
| **产品名称 PRODUCTION** | 贴片　SMD |
| **产品型号 MODEL** | DYWH-S353522-UBC-T350-1T |
| **版本号 VERSION NO** | A1.0 |


厂址(Add)：广东省广州市番禺区石基镇海涌路 3 号 10 号厂房 2 楼

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| 客户确认<br>CUSTOMER CONFIRMATION | 审　核<br>CHECKED BY | 编　制<br>PREPARED BY |
|---|---|---|
| | 周毅兴 | 陈少龙 |


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## 产品描述 Descriptions

- 外观尺寸 3.45*3.45*2.15mm

## 产品特性 Features

- 发光强度高，功耗低 (High Luminous Intensity ,Low Power Dissipation,)
- 可靠性好，使用寿命长 (Good Reliability and Long Life)
- 良好静电防护能力 （Superior ESD protection ）
- 低电压直流工作 （Low voltage DC operated）
- 适用于红外线回流焊制程 (Compatible With Infrared Reflow Solder Process)
- 无铅 (Pb free)
- 符合 RoHS 要求 (This product itself will remain within RoHS compliant version)

## 产品应用 Applications

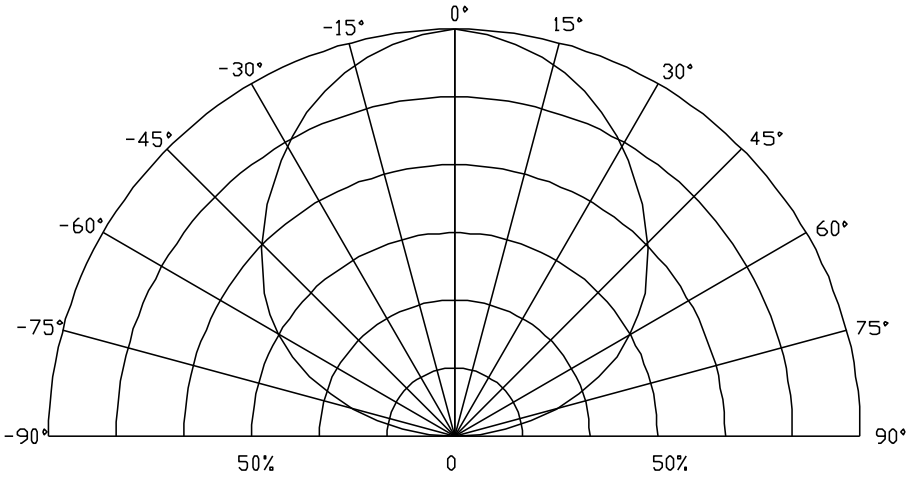


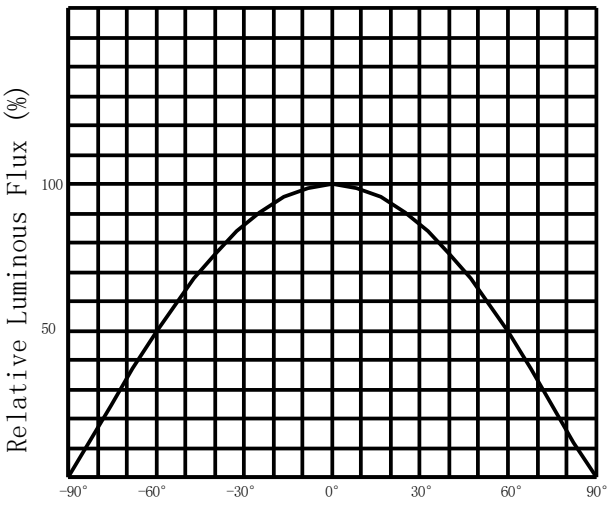
- 景观照明 (Landscape lighting.)
- 情景照明 (Scene lighting)
- 光纤型/装饰/娱乐 (Fiber optic altemative/Decorative/entertainment）
- 一般应用 (General use )

## 包装方式 Packing Quantity Specification

- 编带 1000 个/卷 (1000PCS/rolls)

## 辐射模式 Radiation Pattern

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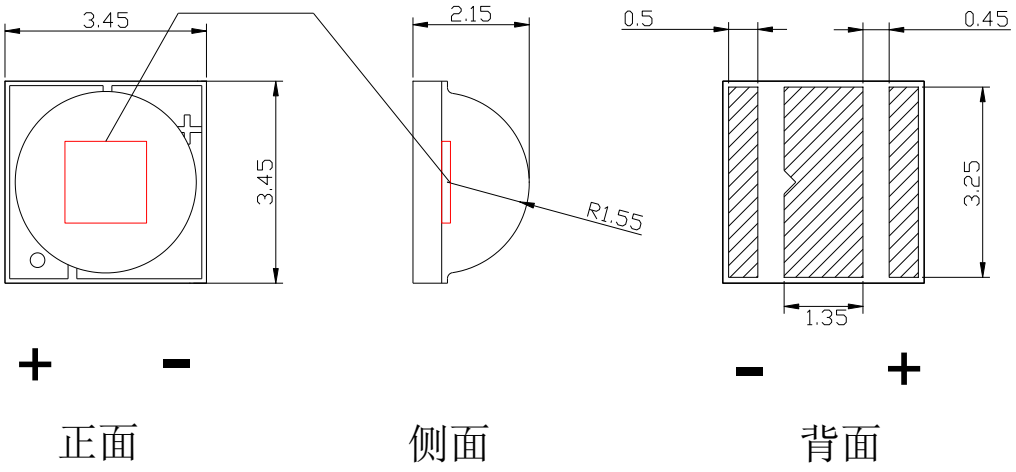
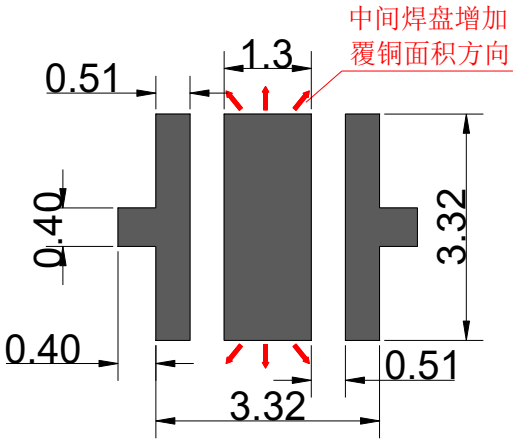
## 一、外形尺寸 Outline dimensions

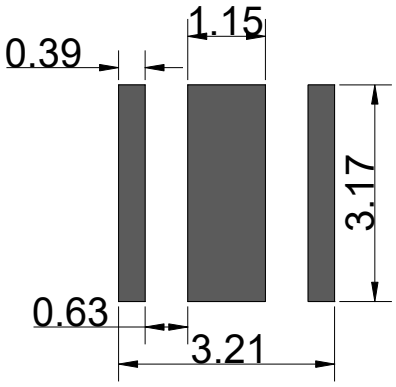



注：所有尺寸均为毫米，除非另有说明，公差为±0.1。
Notes: All dimensions are in mm, tolerance is ±0.1 unless otherwise noted.

## 焊盘及钢网尺寸 Welded plate and steel mesh Dimensions




建议使用的焊盘尺寸




建议使用的钢网尺寸

注：在不影响电路配置时，建议增加中间焊盘覆铜区域，或中间焊盘和负极焊盘连接，能提高产品散热性能。
Notes: When the circuit configuration is not affected, suggested the increase in the middle of the copper area, or the connection between the middle and the pad and the negative electrode can improve the cooling performance of the product.

※备注：承认书之编号和型号可用于查询，客户如有需要，请提供相应的编号和型号。
Remark：P/N & Model in samples approval sheet can be used to inquire，please provide corresponding P/N & model if customer need.

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## 二、光电参数 Electro-Optical Characteristics：

（环境温度 Ambient temperature：25℃，环境湿度 Humidity：RH60%）

| 项目 Item | 符号 Symbol | 测试条件 Test condition | 最小值 Min. | 典型值 Type | 最大值 Max.. | 单位 Unit. |
|---|---|---|---|---|---|---|
| 正向电压 Forward voltage | VF | IF=350mA | 2.8 | – | 3.4 | V |
| 反向电流 Reverse current | IR | VR=5V | – | – | 3 | μA |
| 光通量 Luminous Flux | ΦV | IF=350mA | 20 | 25 | – | lm |
| 辐射功率 Radiation Power | $\Phi_e$ | IF=350mA | – | 510 | – | mW |
| 光量子 Photosynthetic Photon Flux | PPF | IF=350mA | – | 1..98 | – | μmol/s |
| 光合量子效率 Photosynthetic Photon Flux Efficiency | PPE | IF=350mA | – | 1.87 | – | μmol/s |
| 主波长 Dominant wavelength | λd | IF=350mA | 460 | 465 | 470 | nm |
| 视 角 Viewing Angle | 2Θ1/2 | IF=350mA | 120 | – | 140 | deg |

注(Notes)：

（1）光合光子通量的测试范围是 400-700nm。

Photosynthetic Photon Flux includes wavelengths between 400 and 700 nm

（2）测量正向电压误差为±0.1、波长误差为 2.0nm、光通量误差为±5%

Tolerance of measurement of forward voltage±0.1V、peak Wavelength±2.0nm、luminous flux±5%

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# 三、光电参数分 BIN 规格/Photoelectric parameters are divided into BIN specifications

### 3.1 电压分 BIN 规格/ Voltage sub Bin specification

| Min | Max | Unit | Condition |
|---|---|---|---|
| 2.8 | 3.0 | V | IF = 350mA |
| 3.0 | 3.2 | | |
| 3.2 | 3.4 | | |

### 3.2 亮度分级 Brightness bins

| Min | Max | Unit | Condition |
|---|---|---|---|
| 20 | 25 | Im | IF = 350mA |
| 25 | 30 | | |
| 30 | 35 | | |

### 3.3 波长分级 Wavelength bins

| Min | Max | Unit | Condition |
|---|---|---|---|
| 460 | 465 | nm | IF = 350mA |
| 465 | 470 | | |

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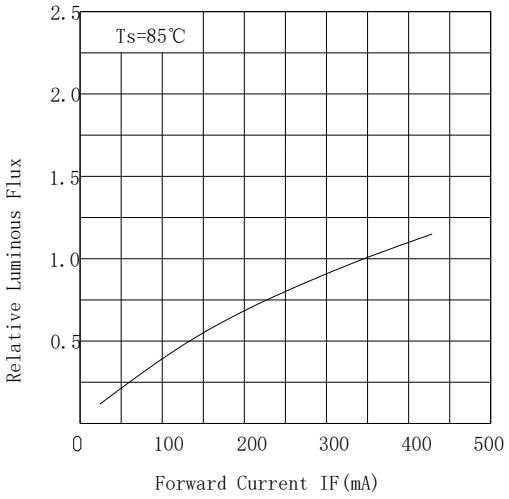
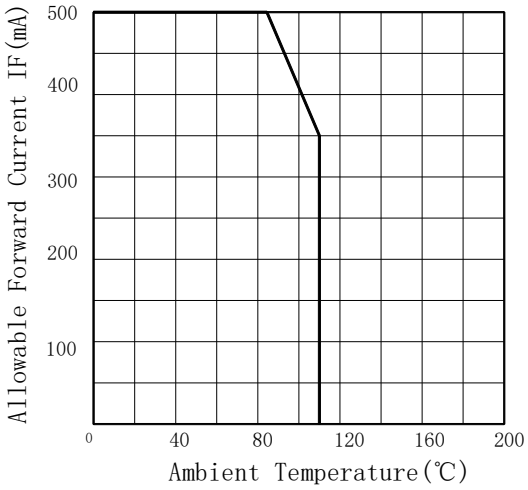
## 四、典型光电特性曲线图 Typical photoelectricity characteristic curve chart：

## (Ta=85℃ 除非另有注释) Ta=85℃ Unless Otherwise Noted

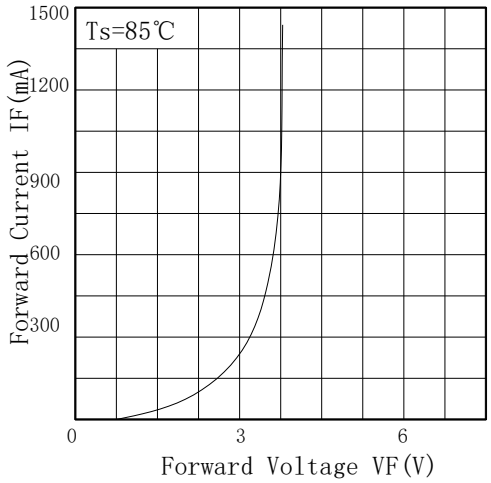
Relative Luminous Flux - IF



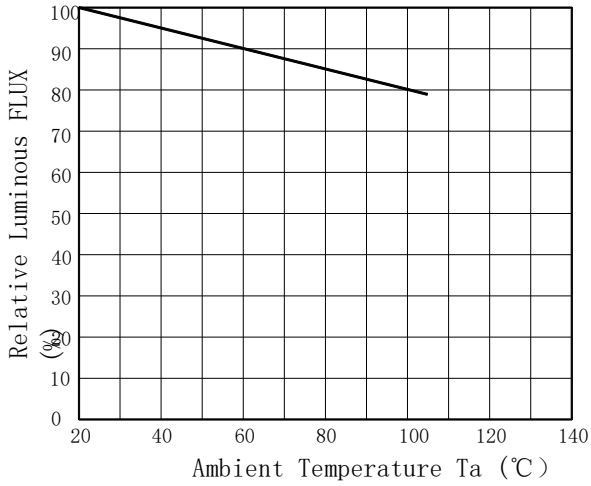

Allowable Forward Current - Ta



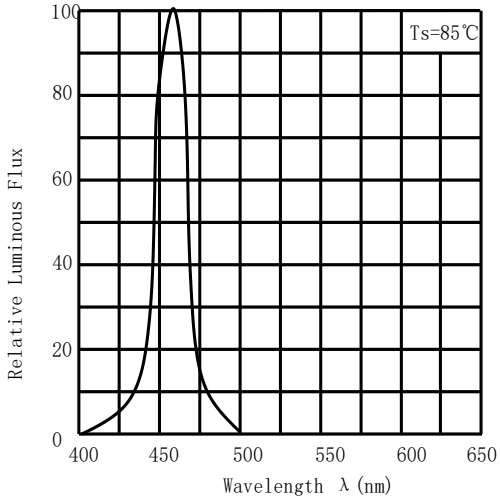

IF - VF




Relative Luminous Flux - Ta




Wavelength Characteristics

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## 五、极限参数 Absolute Maximum Rating：

（环境温度 Ambient temperature：25℃，环境湿度 Humidity：RH60%）

| 项目 Item | 符号 Symbol | 数值 Value | 单位 Unit | 备注 Remark |
|---|---|---|---|---|
| 正向电流 Forward Current | IF | 350 | mA | --- |
| 正向峰值电流 Peck forward current | IFp | 450 | mA | |
| 反向电流 Reverse Current | $I_R$ | 3@5V | uA | --- |
| 耗散功率 Input power | Pi | 1.5 | W | --- |
| 工作环境温度 Operation temperature | Tamb | -35 至+100 | ℃ | --- |
| 贮藏温度 Storage temperature | Tstg | -40 至+100 | ℃ | --- |
| 结温 Junction Temperature | Tj | 115 | ℃ | |
| 反向电压 Reverse voltage | Vr | 不允许反向工作 not designed for reverse bias | | |
| 焊接温度 Soldering Temperature | Tsol | 260 | ℃ | 回流焊 Reflow soldering:260° C for 10 sec |

注(Note):

1,所有高功率的发光 LED 产品安装在铝金属为核心印刷电路板，可直接点亮，但我们不建议在没有一个适当的散热设备时,照明高功率 LED 点亮超过 5 秒，当产品为 350mA 使用，TS 点（负极焊盘）温度控制在 85℃以下

(All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment. When using at 350mA, TS (cathode point) temperature should be controlled below 85℃ . )

2. 波峰焊、浸锡焊接不适合这个产品.

(wave peak and soak-stannum soldering etc.is not suitable for this products)

3. 回流焊不能超过两次,回流焊最高温度建议 260℃，当温度超过 260℃极大可能引起 LED 产品失效

(Reflow soldering should not be done more than two times.The reflow temperature we recommend is 260℃,When the temperature exceeds 260 ℃, the product failure of LED can be caused )

**4.**1/10 占空比，0.1ms 脉冲宽度

.(1/10 Duty Cycle,0.1ms Pulse Width.)

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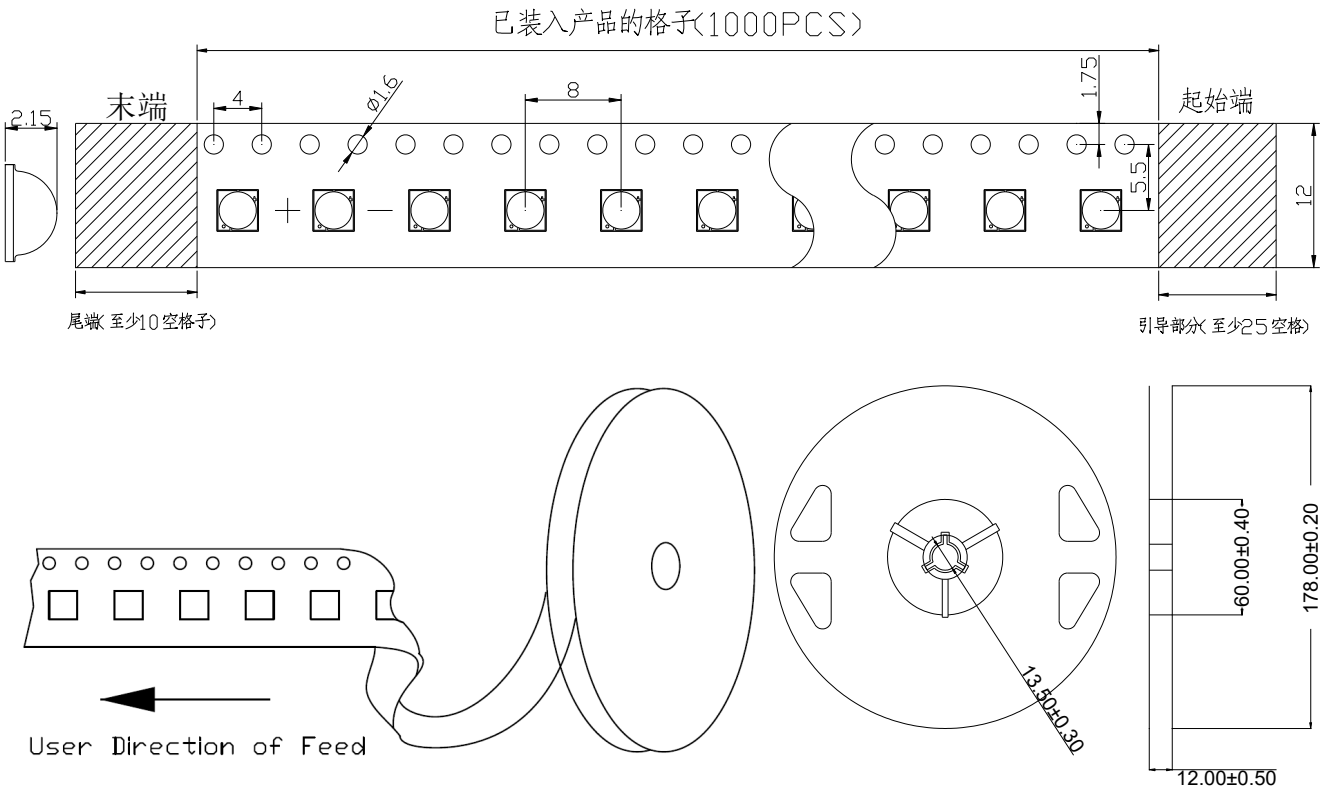
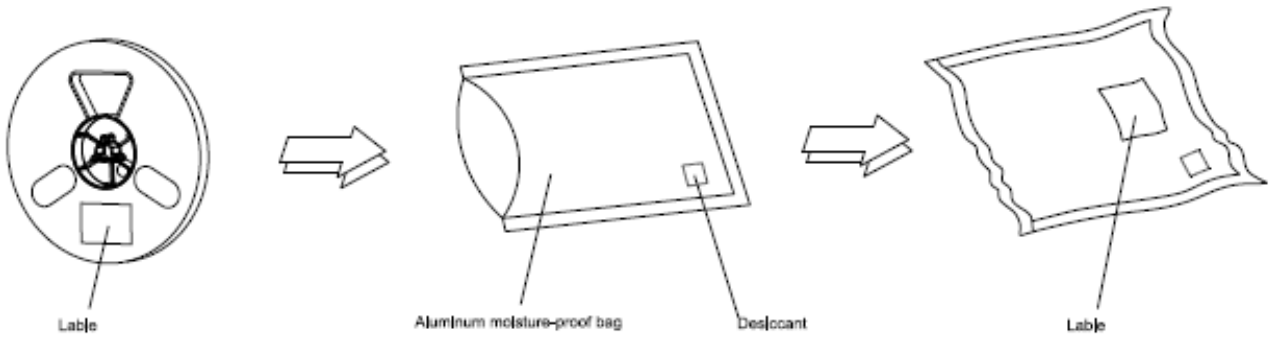
## 六、包装载带与圆盘尺寸 Package carrier and disk dimensions




## 包装方法 Package Method（unit:mm）

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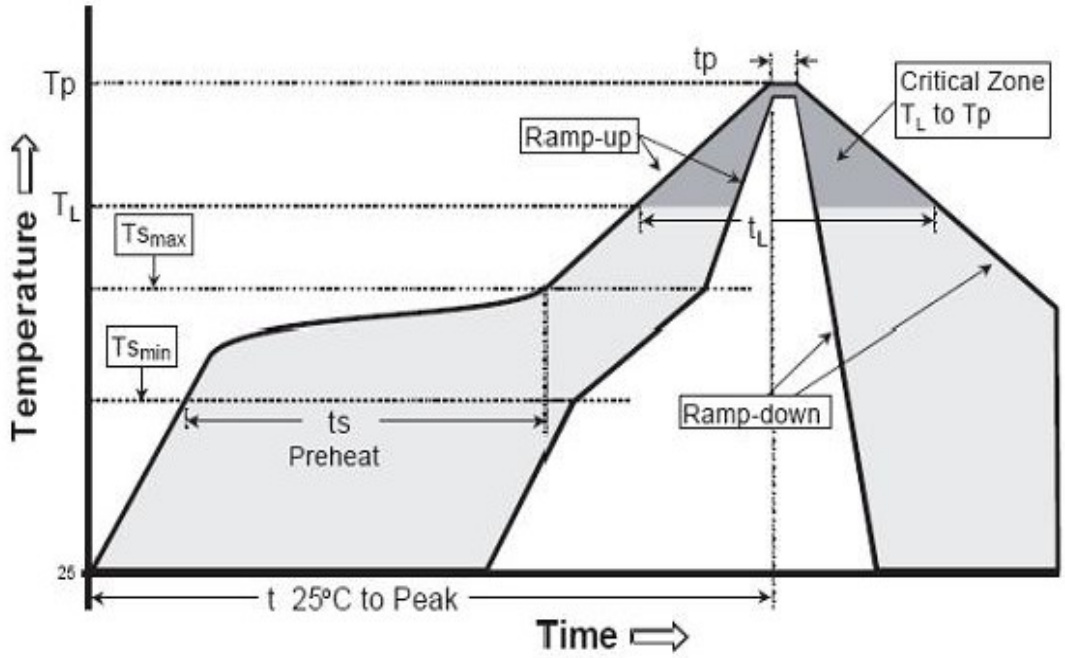
## 七、焊接 Soldering




### Reflow soldering 回流焊

Caution 注意:

1.wave peak and soak-stannum soldering etc.is not suitable for this products.

波峰焊、浸锡焊接不适合这个产品

2.reflow solding should not be done more than one time

此产品只能过一次回流焊

3.The peak reflow temperature is 260℃ +10℃, not more than 40 seconds

回流焊峰值温度为 260℃+10℃，不能超过 40 秒

4.Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, suitable tools have to be used.

焊接后,尽量不要对 LED 进行修复,如要修复,请使用正确的工具.

5.when solding,do not put stress on the LEDs during heating.

焊接时,不要挤压灯头.

6.After soldering, do not warp the LED.do not stack PCBS or assemblies cantaing K Series LEDS so that anything rests on the LED lens.

焊接后,不要将 LED 进行堆压,不要将焊好 LED 的 PCB 板直接堆积,以免使灯头被挤压.

### Test 测试

1.Drive IFP Conditions：Pulse Width≤10msec duty≤1/10.

驱动 IFP 的条件：脉冲宽度≤10 毫秒 占空比≤1/10.

2.All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be li ghted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment.

所有高功率的发光 LED 产品安装在铝基板上，可直接点亮，但我们不建议在没有一个适 当的散热设备时,照明高功率 LED 点亮超过 5 秒.

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## 八、可靠性实验项目 Reliability Test Project：

| 项目 Item | 测试标准 Test criterion | 测试条件 Test condition | 测试时间 Test time | 判定标准 Decision criteria | 数量 Qty. | 失效数量 Fail Qty. |
|---|---|---|---|---|---|---|
| 常温寿命测试 Normal Temperature Oper-ating Life | JESD22-A108D | 25℃ 1500mA 1008H | 168H/1008H | VF≤1.1VF（初始）光通量维持率≥90% | 11 | 0 |
| 冷热冲击测试 Temperature Cycle | JEITA ED-4701 100 103 JEITA ED-4701 300 301 MIL-STD-202G | -40℃--100℃ 30min/1min/30min 500cycle | 10cy/500Cycles | 无死灯 、无外观不良 | 11 | 0 |

## 九、失效判定标准 Criteria For Judging Damage

| Test Items 项目 | Symbol 符号 | Test Condition 测试条件 | Judging For Damage 判定标准 | |
|---|---|---|---|---|
| | | | Min. 最小 | Max. 最大 |
| Forward Voltage 正向电压 | VF | IF=350mA | -- | U.L*x1.1 |
| Reverse Current 反向电流 | IR | VR = 5V | -- | U.L*x2.0 |
| Luminous Intensity 光强 | Mcd | IF=350mA | L.L*x0.7 | -- |

U. L: Upper standard level 规格Max

L. L: Lower standard level 规格Min

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# 十、注意事项 Note

**1.存储时间 Storage time**

为避免受潮的影响，我司建议产品在未开包装前储存条件为 5-30°C，相对湿度小于 60%；已开包装的 LED 光源请在 24H 内使用安装完毕，如未用完之产品，请进行除湿并抽真空后密封保存。开封超过一周或湿度卡发生变化时，请务必进行除湿，除湿条件：60°C±5°C，12H；产品密封保存有效使用期为一年。

To avoid moisture, we recommend storage conditions for the unopened LED +5 ~ +30 °C, relative hu-midity <60%. LED should be used within 24 Hrs. of opening the package. Please make sure to dehumid-ify and vacuum pack the remaining/ unused LED. Dehumidifying condition: +60 ° C ± 5 ° C, 12 Hrs. Effective age for the sealed led is one year.

**2. 组装注意事项(the assembly notes)**

焊接条件：此产品必须使用回流焊接的作业方式，回流曲线最高温度不可超过 260℃。作业或存放过程中 不可有 1000g 以上的外力或尖锐物体作用于透镜表面（如压力，摩擦等外力以及钳子镊子等工具），以 免造成元件损伤；

如果超出此使用条件，鸿利光电将不能保证产品的稳定性，如需使用超出的操作条件，请务必进行风险 评。

Soldering Conditions：This product must be used reflow soldering practices, the maximum temperature of reflow should not exceed 260℃. Please make sure when soldering, there is no external force on the soldering surface (such as pressure, friction or sharp metal nails, etc.), to avoid gold wire deformation or damage and other abnormalities. If beyond recommended conditions, we cannot guarantee the LED stability, please do the risk assessment first.

**3.防静电措施(anti-Static Measures)：**

请采取足够的措施来防止静电产生，比如带静电环或防静电手指套等；每个制造工程关于产品（工厂、 设备、机器、载波机和运输单位）应当连接地面，避免产品电气带电。

Please take adequate measures to prevent electrostatic generation, such as wearing electrostatic ring or anti-static fingerstall etc; any relative products like plant equipment, machinery, carrier and transportation units shall be connected to discharging unit/ ground. After assembly, please make sure to discharge Static Electricity with proper ESD equipment.

**4.温度控制 temperature Control**

保证散热前提条件为：TS 点（负极焊盘）为 75/85 摄氏度以下，在此温度以下，散热符合产品寿命要求；为确保在组装时降低接触热阻，请注意在组装过程中，散热片采用良好品质的导热膏涂布均匀且分布面积合理，不可出现太少或高低不平等现象。散热介质需保证电介质耐压测试至少通过 500V

Recommended temperature conditions for enhanced product life: TS (Cathode Point) is <75/85°C . During assembly, please ensure that a good quality thermal paste is applied and distributed evenly over the surface. While using thermal pad (Heat Sink), make sure LED is firmly tightened and there is no gap between surfaces. The need to ensure the cooling medium dielectric withstand test at least through 500V.

**5.驱动控制(**drive control)**：**

本产品需使用恒流源进行驱动，且输出电流符合规格书上的功率使用范围，如需使用恒压源或其他使用条件，请进行使用效果风险评估。

Drive this product at constant current. Output current range specifications should be according to the operational and other conditions, as mentioned in data sheet. Before using a constant voltage source or altered specifications, other than recommended, please consider risk factors.

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**6.其他(other)：**

本产品不可在以下条件下使用，如果产品在以下条件下使用，评估其使用效果和风险是有必要的： ---直接或间接的打湿或受潮，比如淋雨等； ---被海水损害或侵蚀； ---被暴露于腐蚀性气体(如 Cl2,H2S、NH3、SOx、NOx等） ； ---被暴露于粉尘、液体或油；

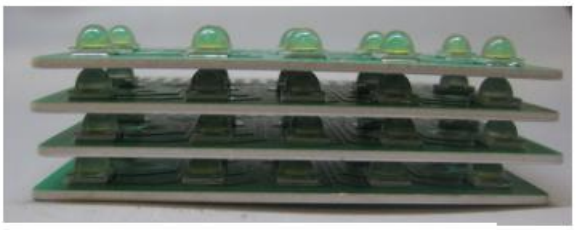
---符合使用手册情况下，产品质保期为 24 个月，有保质协议的则以保质协议为准；

---产品生命周期后进行回收处理。

Product is not suitable to use in following conditions; —-Direct or indirect wet / damp conditions, such as rain, etc; —-in contact with sea water and erosive materials; —-Exposed to corrosive gases (e.g., Cl2, H2S, NH3, SOx, NOx, etc.); —-Exposed to dust, liquids or oils; —-In accordance with the user manual, the product shelf lift is 24 months, If there is a warranty agreement, the warranty agreement shall prevail; —-After the product life cycle for recycling.



OK



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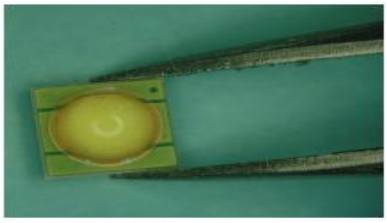

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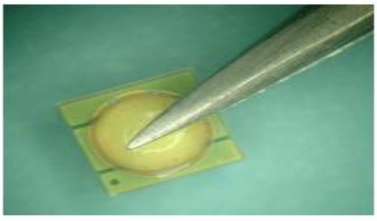

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**7.其他 Others**

（1）依规格要求，本公司保留调整产品材料组合的权利。

TONYU reserves the rights on the adjustment of product material mix for the specification.

（2）如果超出规格书以外而进行使用时，出任何问题我们都将不承担责任 。

We will not be responsible for any problem if it is used beyond the specification.

（3）在使用产品之前，应与我们交流，了解更详细的规格要求。

Before using the product, you should communicate with us for more detailed specifications.

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