



# 样品承认书

## Sample Approval Sheet

产品类别(product type):SMD		
产品名称(product name): 5050 中性白光		
产品编号(Part No.): WEJT5050N-4D1E-2D1		
样品编号(Sample No.):		
承认书编号(Acknowledgement Numbers): T20120628011		
<b>签核 (Signatures)</b>		
<b>核准(Approved)</b>	<b>审核(Checked)</b>	<b>制定(Drawn)</b>

<b>客户 (Customer)</b>		
公司名称(Corporation):		
物料编码(material No.):		
物料名称(Part No.):		
<b>客户确认 (Customer Signatures)</b>		

地址: 深圳市光明新区公明街道玉律社区第六工业区 21 栋

Factory Add:21st Bld yulv 6th industrial Park,Gen yu Road gongming New District,Shenzhen, Guang Dong China

电话(tel): 0755-29785600 29785800 传真(fax): 0755-29785100 联系人(contact person):

网址(web site): [www.wej.cn](http://www.wej.cn)

邮箱(mail): [sale@yongerjia.com](mailto:sale@yongerjia.com)



Part No.:WEJT505N-4D1E-2D1

**Feature**

- \*5.0mmx5.0mm SMT Led, 1.6mm Thickness
- \*Low power consumption
- \*Long life-solid state reliability
- \*Available on tape and reel
- \*ROHS compliant

**Descriptions**

\*The white、red、amber、puregreen、blue source color devices are made with InGaN、AlGaInP/GaAs、AlGaInP/GaAs、InGaN、GaN、light emitting diode.

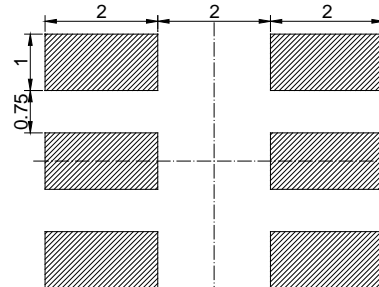
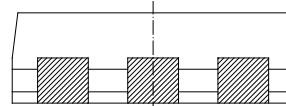
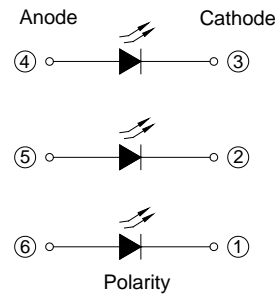
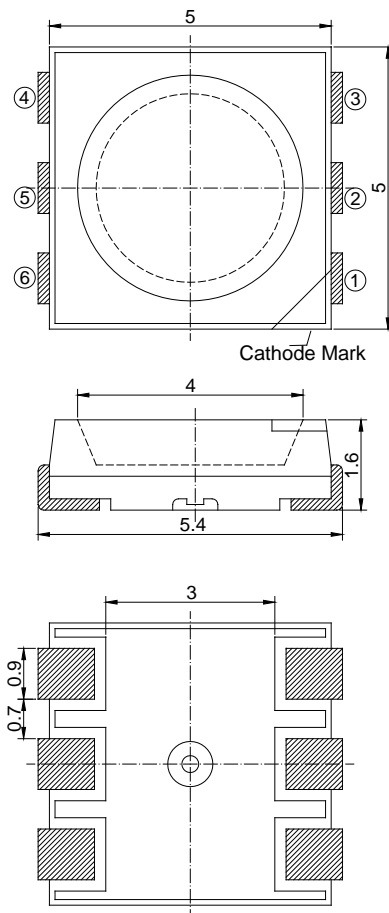
**特征**

- \*5.0x5.0x1.6mm SMT 发光二极管
- \*低能耗
- \*寿命长
- \*易于装贴
- \*符合 ROHS 要求

**描述**

\*白色、红色、琥珀色、绿色、蓝色镓等颜色光源来源于 InGaN、AlGaInP/GaAs、AlGaInP/GaAs、InGaN、GaN 化合物制成的发光二极管

**Package outline dimensions (产品外型尺寸)**



Recommended Soldering Pad

**Note:**

1. All dimensions are in millimeters(mm);
2. X.X is +/-0.1mm, X.XX is +/- 0.05mm unless otherwise noted;
3. The device has a single mounting surface, The device must be mounted according to the specifications.



## Electrical characteristics data sheet

### Selection Guide

Part No. (产品型号)	Emitted Color (发光颜色)	Resin color (胶体颜色)	Viewing Angle(1) (发光角度) 2θ1/2
WEJT505N-4D1E-2D1	白光	黄色	120

### Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.

### Absolute Maximum Ratings at Ta=25°C (极限参数)

Parameter	Symbol (符号)	Value (数值)	Unit (单位)
Power dissipation (功率消耗)	Pd	120	mW
DC Forward Current (正向电流) (3)	If	30	mA
Peak Forward Current (1) (峰值电流)	Ifp	100	mA
Reverse Voltage(反向电压)	Vr	5	V
Electro-Static-Discharge(2) (HBM)	ESD	1000	V
Operating Temperature (操作温度)	Topr	-25to+85	°C
Storage Temperature (储存温度)	Tstg	-40to+100	°C
Lead Solder Temperature (焊接温度)	Tsol	250 for 5sec	°C

### Notes:

1. 1/10 duty cycle, 0.1ms pulse width

2. The products are sensitive to static electricity and must be carefully taken when handling products.

3. Per chip

### Electrical/Optical Characteristics Ta=25°C

Parameter (参数)	Symbol (符号)	Condition (4) (条件)	Value (数值)			Unit
			Min.	Typ.	Max.	
Forward voltage (正向电压)	Vf	If=20mA	--	3.2	3.6	V
Luminous intensity (发光强度)	Iv	If=20mA	--	--	--	mcd
Luminous flux(光通量)	Φ	If=20mA	---	19.5	--	lm
Reverse current (反向电流)	Ir	Vr=5V	--	--	10	uA
Dominant wavelength (主波长)	λd	If=20mA	--	--	--	nm
peak wavelength (峰值波长)	λp	If=20mA	--	--	--	nm
Chromaticity coordinate(色坐标)	X	If=20mA	--	0.37	--	--
	Y	If=20mA	--	0.37	--	--
Color temperature(色温)	Tc	If=20mA	--	4000	--	K
Color rendering index(显色指数)	Ra	If=20mA	--	70	--	--
Spectrum Line Half width(半波宽)	Δλ	If=20mA	--	--	--	nm

### Notes:

1. forward voltage: ±0.1V

2. wavelength: ±1.5nm

3. luminous intensity/luminous flux: ±10%

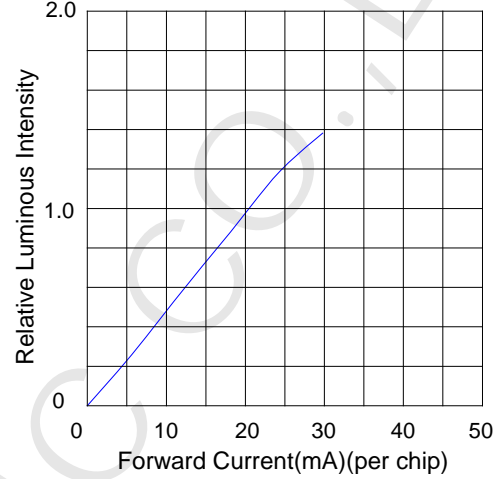
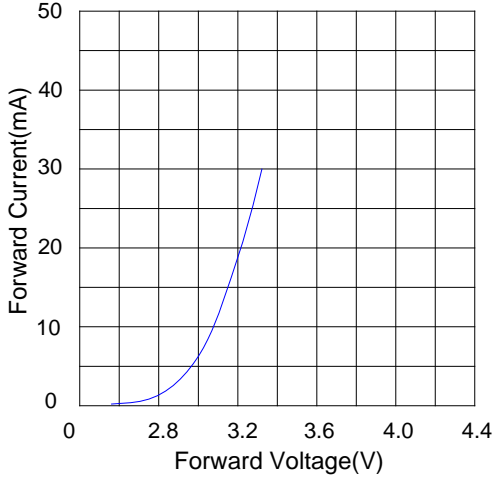
4. Per chip



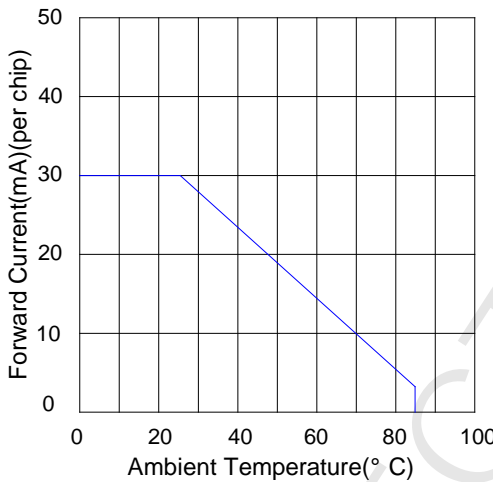
### Typical Electro-Optical Characteristics Curves

Part No.: WEJT505N-4D1E-2D1  
Relative Luminous Intensity VS.  
Forward Current

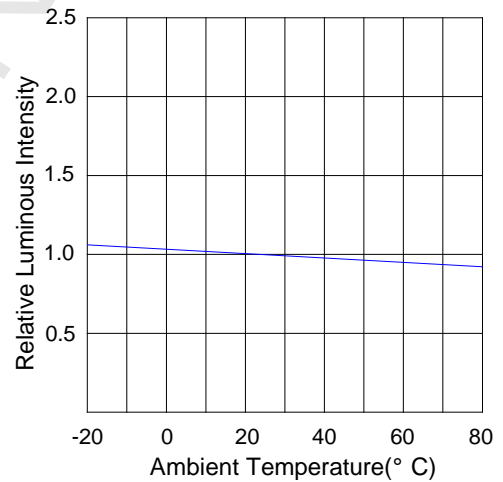
Forward Current VS. Forward Voltage



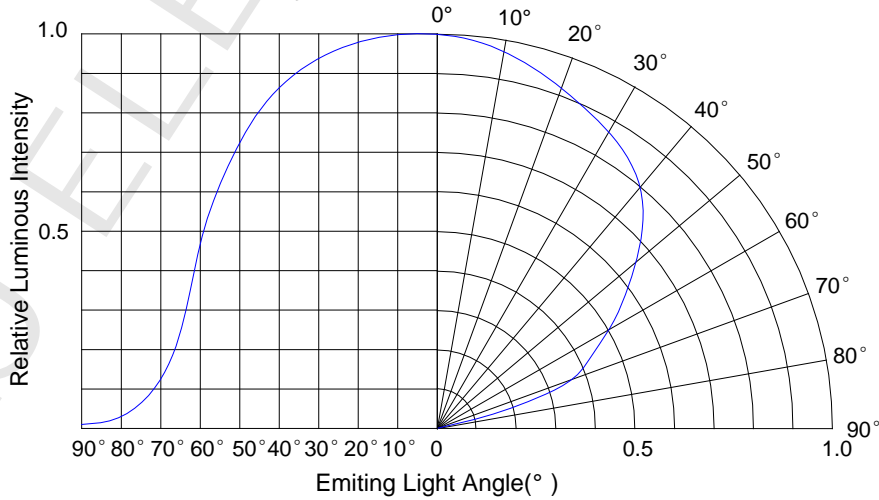
Forward Current Derating Curve



Relative Luminous Intensity VS.  
Ambient Temperature



Typical Spatial Distribution





### Bin Range of Technical Data Sheet

Part No.: WEJT505N-4D1E-2D1

Bin Range of Forward Voltage < VF 值分 BIN 等级 >

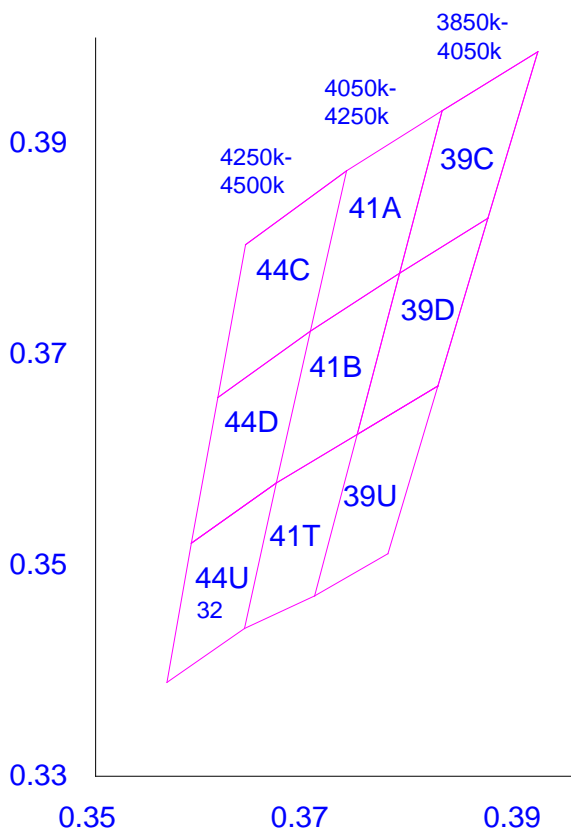
Bin Range of Luminous Intensity < 光强值分 BIN 等级 >

Voltage code (电压等级)			Intensity code(光强等级)		
group	Forward voltage		group	Luminous Flux	
	min	max		min	max
1	3.0	3.2	1	14	17
2	3.2	3.4	2	17	20
3	3.4	3.6	3	20	23
4			4		

Bin Range of Chromaticity Coordinates Block < 色坐标分 BIN 等级 >

The CIE 1931 Chromaticity diagram

Bin Range of Chromaticity Coordinates



BIN	X	Y	BIN	X	Y
44C	0.3615	0.3659	39C	0.3786	0.3777
	0.3641	0.3804		0.3826	0.3931
	0.3736	0.3874		0.3916	0.3987
	0.3702	0.3722		0.3869	0.3829
44D	0.3590	0.3521	39D	0.3746	0.3624
	0.3615	0.3659		0.3786	0.3777
	0.3702	0.3722		0.3869	0.3829
	0.3670	0.3578		0.3822	0.3670
44U	0.3567	0.3389	39U	0.3706	0.3471
	0.3590	0.3521		0.3746	0.3624
	0.3670	0.3578		0.3822	0.3670
	0.3640	0.3440		0.3775	0.3511
41A	0.3702	0.3722			
	0.3736	0.3874			
	0.3826	0.3931			
41B	0.3786	0.3777			
	0.3670	0.3578			
	0.3702	0.3722			
	0.3786	0.3777			
41T	0.3746	0.3624			
	0.3640	0.3440			
	0.3670	0.3578			
	0.3746	0.3624			
	0.3706	0.3471			

Notes:

- 1、Tolerance of forward voltage for each Bin limit is  $\pm 0.1v$ .
- 2、Tolerance of luminous intensity for each Bin limit is  $\pm 10\%$ .
- 3、Tolerance of X/Y for each Bin limit is  $\pm 0.005$ .



**Reliability Test Items and Conditions(可靠性试验及条件)**

1、Test items and result(测试项目及结果)

Test Item 测试项目	Ref.Standard 参考标准	Test Condition 测试条件	Note 记录	Number of Damaged 受损数量
Resistance to Soldering Heat 耐热测试	JESD22-B106	Tsld=260°C,10sec	2 times	0/22
Temperature Cycle (冷热循环)	JESD22-A104	-40°C 30min ↓↑ 5min 100°C 30min	1000 cycle	0/100
Thermal Shock (冷热冲击)	JESD22-A106	-40°C 15min ↑↓ 100°C 15min	1000 cycle	0/100
High temperature (高温测试)	JESD22-A103	Ta=100°C	1000 hrs	0/100
Low temperature (低温测试)	JESD22-A119	Ta=-40°C	1000 hrs	0/100
Power temperature Cycling (高温点亮循环测试)	JESD22-A105	On 5min -40°C>15min ↑↓ ↑↓<15min Off5min 100°C>15min	1000 cycle	0/100
Lift Test 寿命测试	JESD22-A108	Ta=25°C IF=20mA	1000 hrs	0/100
High Humidity Heat Lift Test (高温高湿老化)	JESD22-A101	60°C RH=90% IF=20mA	1000 hrs	0/100

2、Criteria for judging damage (受损失效判定标准)

Item 项目	Symbol 符号	Test Conditions 测试条件	Criteria for Judgment 判断标准	
			Min 最小	Max 最大
Forward voltage 正向电压	VF	IF=20mA	--	U. S. L*) × 1.1
Reverse current 反向电流	IR	VR=5V	--	U. S. L*) × 2.0
Luminous intensity 光照强度	IV	IF=20mA	L. S. L**) × 0.7	--

Notes:

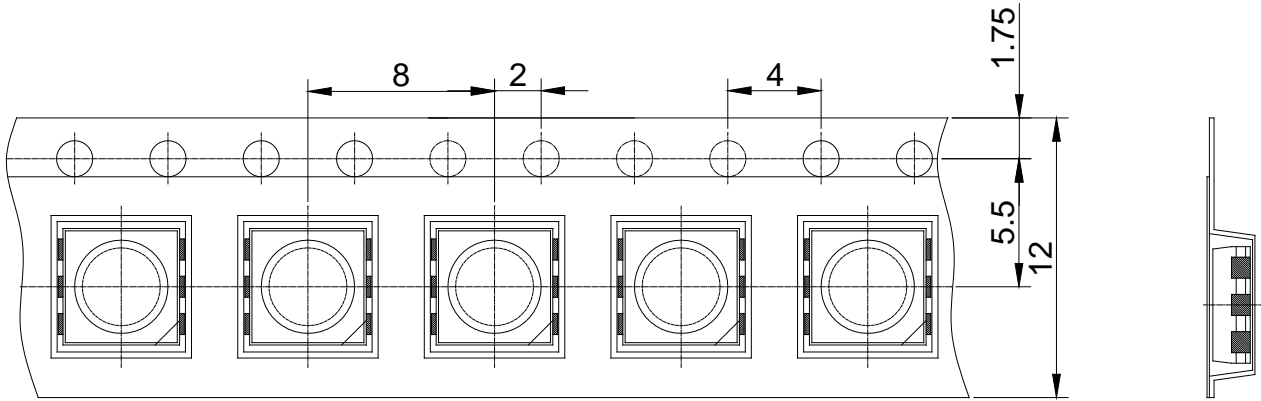
U. S. L. : Upper Standard Level

L. S. L. : Lower Standard Level



### Packaging Dimensions Specification(包装规格)

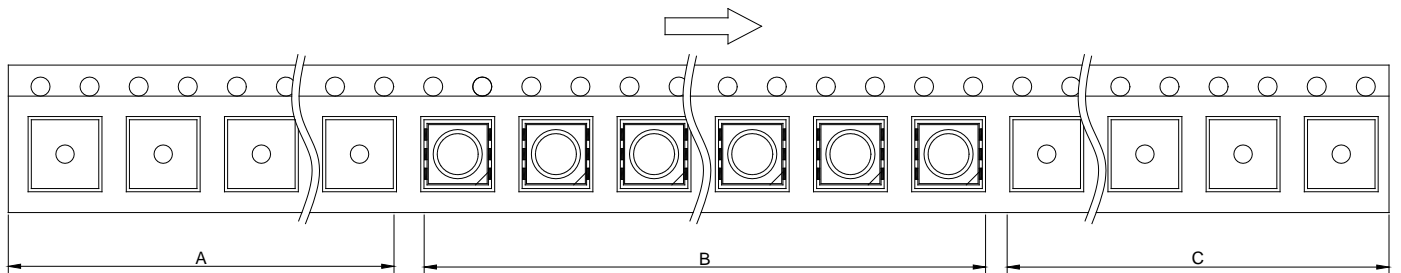
#### 1、Carrier tape dimensions(载带包装)



Notes:

- 1) All dimensions are in millimeters
- 2) Tolerance is  $\pm 0.25$  unless otherwise noted

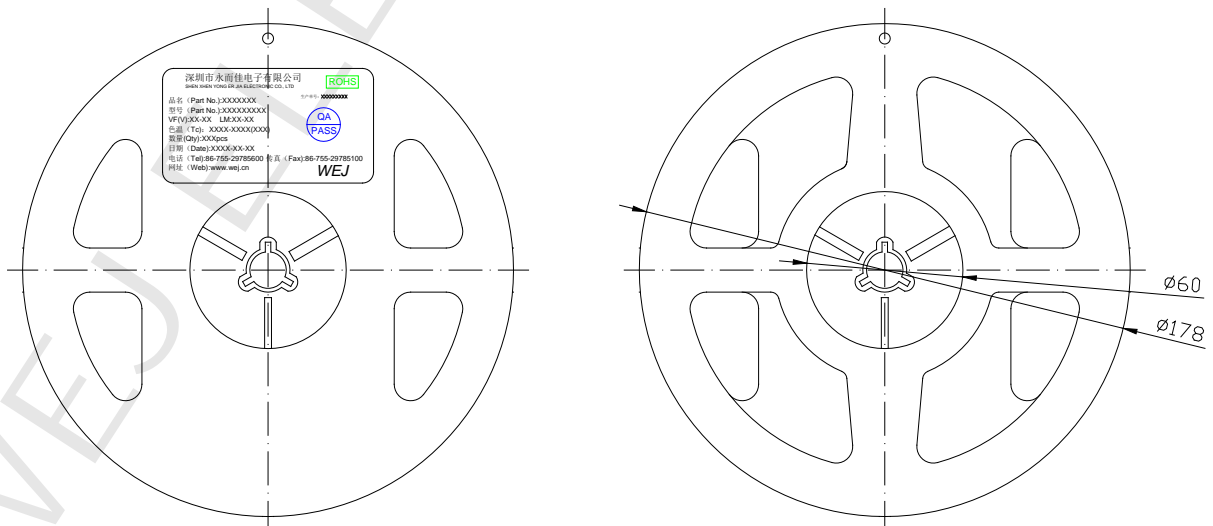
#### 2、Details of carrier tape(编带细节)



Notes:

- A、empty tape; B、loading tape; C、empty tape.

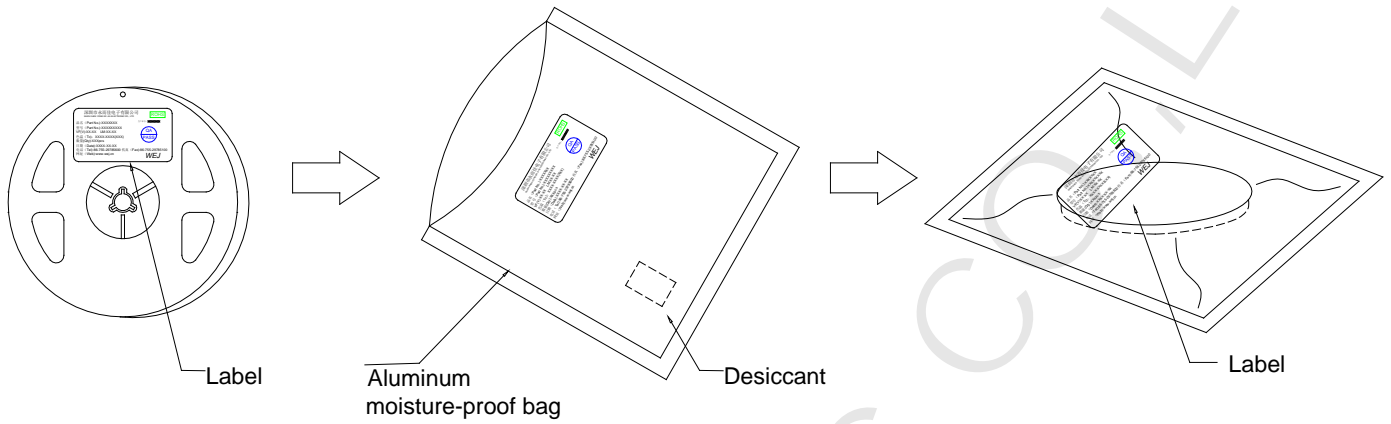
#### 3、Reel dimensions(带盘尺寸)





### Packaging Dimensions Specification(包装规格)

#### 4、Moisture-Proof and anti-static electricity(防潮抗静电包装)



#### 5、Label(标签)

**深圳市永而佳电子有限公司**  
WEJ ELECTRONIC CO., LTD

ROHS

生产单号: XXXXXXXXX

品名 (Part No.):XXXXXXXX  
 型号 (Part No.):XXXXXXXXXX  
 VF(V):XX-XX LM:XX-XX  
 色温 (Tc): XXXX-XXXX(XXX)  
 数量(Qty):XXXpcs  
 日期 (Date):XXXX-XX-XX  
 电话 (Tel):86-755-29785600 传真 (Fax):86-755-29785100  
 网址 (Web):www.wej.cn

QA  
PASS

WEJ

#### Label Explanation:

- VF:Forward Voltage(正向电压)
- Tc: Color Temperature(色温)/Wavelength(波长)
- LM:Luminous Flux(光通量)/Lumious intensity(发光强度)

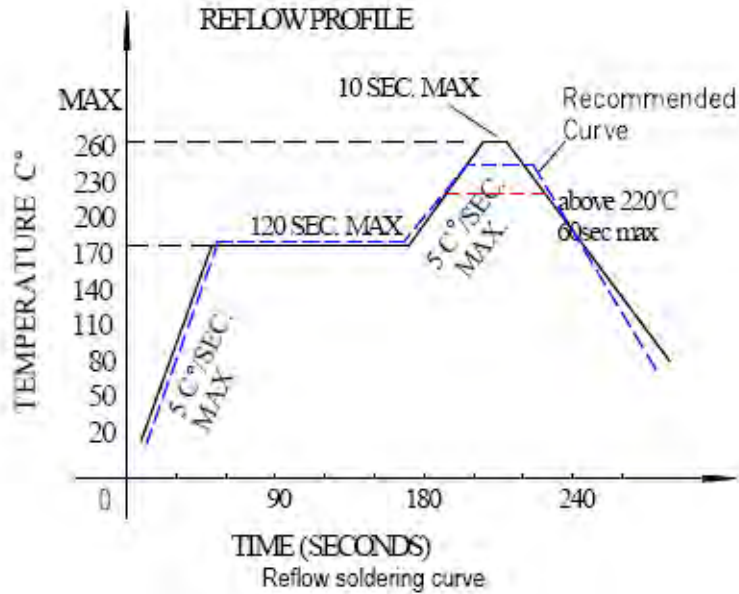




**Precautions(使用注意事项)**

**1、Requirements for application and reflow soldering 应用及回流焊要求:**

Use the recommended curve in the under figure of Pb-free rdflow soldering.



**☆Notes for reflow soldering: 回流焊注意事项**

- 1) No more than twice for reflow soldering.  
注意回流焊不可超过两次
- 2) To ensure the quality of our LEDs, we encapsulate them with silica gels. So please do not put pressure on the LEDs.  
为保证产 LED 质量及可靠性我司采用硅胶封装，胶体表面较软，焊接加热过程中，不可施加压力在 LED 表面。
- 3) Please choose the right nozzle to avoid the damage to products due to the pressure.  
在吸嘴的选取上要选择吸嘴的大小和压力合适的吸嘴，以避免造成压力过大伤害产品。
- 4) Please put on the antistatic hand loop during the use. The worktable should be with antistatic finish. The equipments must be contacted with ground  
LED 为静电敏感产品，使用时请佩带防静电手环，工作台做好防静电处理，机台设备等保证接地。

**☆Handwork soldering 手工焊接:**

- 1) During the soldering, the electronic soldering iron must be kept under the temperature of 300°C and the soldering time must not be beyond 3 seconds. No touch between the electronic soldering iron and colloid.  
手工焊接时，要保持电烙铁温度在300 摄氏度以下，并且焊接时间小于3 秒，电烙铁不可接触胶体。
- 2) Handwork soldering is only allowed once. We won't take responsibility for more than that.  
手工焊接只可进行一次，重复焊接不保证产品是否完好。
- 3) Avoid using sharp objects to compress products Colloidal Part directly.  
避免使用尖锐的物体直接接触产品胶体部分。
- 4) Please put on the antistatic hand loop during the use. The worktable should be with antistatic finish. The equipments must be contacted with ground.  
LED 为静电敏感产品，使用时请佩带防静电手环，工作台做好防静电处理，机台设备等保证接地。



## 2、Storage(储存)

☆ Moisture proof and anti-electrostatic package with moisture absorbent material is used, to keep moisture to a minimum.

Before opening the package, the product should be kept at 30°C or less and humidity less than 60%RH, and be used within six months.

本产品使用密封防潮防静电袋包装，并附有干燥剂，以保证产品不会吸潮，产品包装在开封前，产品须放在温度不高于 30°C，湿度不高于 60%RH 的环境中。

☆ After opening the package, the product should be stored at 30°C or less and humidity less than 10%RH, and be soldered within 24 hours. It is recommended that the product be operated at the workshop condition of 30°C or less and humidity less than 60%RH

产品包装开封后，产品必须储存在温度不高于 30°C，湿度不高于 10%RH 的环境中，且应该在 24 小时内使用完，建议工作环境为温度不高于 30°C，湿度不高于 60%RH。

☆ If the moisture absorbent material has faded away or the LEDs have exceeded the storage time, baking treatment should be performed based on the following condition (75±5) °C for 24 hours.

对于尚未焊接的 LED，如果吸湿材料或包装失效，或者产品没有符合以上有效储存条件，烘烤可以起到一定的性能恢复效果，烘烤条件：75±5 °C，持续 24 小时。

## 3、Static electricity (静电防护)

☆ Static electricity or surge voltage damages the LEDs. Damaged LEDs will show some unusual characteristics such as the forward voltage becoming 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.

静电或电涌会导致产品特性发生改变，例如正向电压降低，如果情况严重甚至会损毁产品，所以在使用时必须采取有效的防静电措施；所有相关的设备和机器都应该正确接地，同时必须采取其他防止静电和电涌的措施，使用静电手环，防静电垫子，防静电工作服，工作鞋，手套，防静电容器，都是有效的防止静电和电涌的措施。

## 4、Vulcanization(硫化)

☆ LED curing is due to sulfur being in bracket and the +1 price of silver in the chemical reaction generated Ag<sub>2</sub>S 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 avoid vulcanization, such as to avoid using sulphur volatile substances and keeping away from high sulphur content of the material.

LED 硫化是由于环境中的硫进入支架内部与 +1 价的银发生化学反应生成黑色 Ag<sub>2</sub>S 的过程。该过程会导致支架镀银层的反光能力下降，色温漂移和光衰严重，很大程度上影响了产品性能。因此，在使用时应注意采取相应的防硫措施，如避免使用挥发性强的含硫物质，避免接触含硫较高的物质。

## 5、Safety advice for human eyes(眼睛防护)

☆ 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.

LED 发光时，请勿直视发光光源，特别是对于一些光强较高的 LED，强光可能伤害你的眼睛。

## 6、Design consideration(设计建议)

☆ In designing a circuit about LED, the current through each LED must not exceed the absolute maximum rating specified for each LED. In the meanwhile, resistors for protection should be applied, otherwise slight voltage shift will cause big current change, burn out may happen.

设计带有 LED 产品的电路时，通过 LED 的电流不能超过规定的最大值，同时还需使用保护电阻，否则微小的电压变化将会引起较大的电流变化，可能导致产品损毁。