

3535 Specificatoon

COSTOMER:3535 TV背光冷白灯珠

Date:2018.12..03

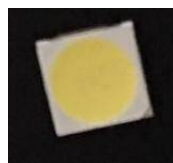
Rev: Rev:0.0

SPECIFICATION FOR APPROVAL



3535 Light 3V 150MA Series Datasheet

Commodity 产品:



- ❖ Outline (L×W×H) 外观尺寸: 3.5mm×3.5mm×0.7mm
- ❖ Forward current 顺向电流: ≤200ma
- ❖ Typical viewing angle 50% Iv角度: 120°
- ❖ Emitting color 发光颜色:冷白光
- ❖ Lens color 胶体颜色:淡黄色
- ❖ Loaded quantit:4000pcs/reel 包装每卷2000PCS
- ❖ Soldring methods:All smt ssembly methods 适用于所有的 SMT组装和焊接工艺
- ❖ MSL 湿敏等级: Level 3 Based on JEDEC J-STD 020
- ❖ RoHS & REACH-compliant 符合 RoHS 和 REACH 要求

Typical Application:

- ❖ Panel Light & Tubular Light & ceiling Light 面板灯、灯管、吊灯
- ❖ Other Indoor Light 室内照明
- ❖ Advertising backlighting, backlight 广告背光、背光
- ❖ Gneral use 一般应用

产品名称 (Product Name) :			3535 系列 LED 贴片灯		
产品型号 (Product Type) :					
供应商确认 Electronic Approval			客户确认 Customer's Approval		
制定	核准	业务部	确认人	核准	采购部
Development	Approved	Marketing Dept	Confirmed by	Approved	Purchasing Dept
结果判定 Judge outcome	刘晓波 2018.12.03		结果判定 Judge outcome		

◆ 承认盖章后请寄回承认书一份 Please return the book that stamp admitted

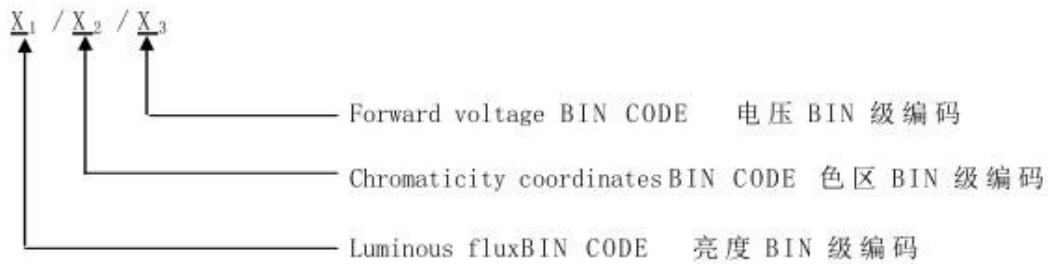
1. ❖ Product Nomenclature 产品编码原则

a) Product system description 物料编码说明

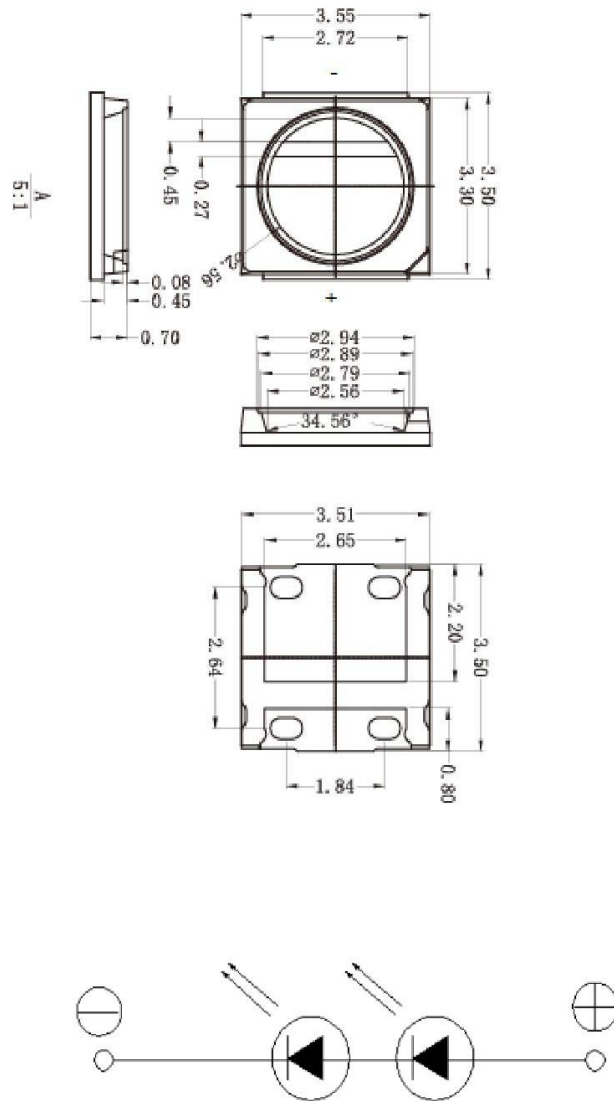
X 1 X 2. X 3 X4. X 5 X6 X7 X8 X9 X10 X11 X12 X13 X14 X15

Part Number Code	description	物料编码	说明
MODEL	Production Type	01	规格型号
Rank	Chip Type	02	Chip TC VF
Reel Lot		03	生产日期 Chip尺寸
QTY		04	数量/盘
BIN		05	
AI	Use current	06	
TC	Colour temperature	K	cold white
IV		LM	
VF			

b) BIN description BIN 级说明



2. ♦ package outline dimension 封装尺寸:



产品特点:

1. 采用原厂正品芯片生产，高亮度，高光效，低衰减
2. 采用红铜优质支架，散热好.
3. 采用 99.99%达博纯金线，导电性能好
4. 寿命长.抗静电能力强
5. 绿色环保，不含铅、汞等有毒有害物质

备注 (NOTES):

1. 所有尺寸单位为毫 All dimensions are in millimeters;
2. 如无其他备注，尺寸公差为 $\pm 0.1\text{mm}$
Tolerances are $\pm 0.1\text{mm}$ unless otherwise note.
3. 规格和图纸版本升级不再做另行通知，所有的版权归公司所有。

Specifications are subject to changes for improvement without advance notice Proprietary data, Drawings, Company confidential all rights reserved

3. ❖ 极限参数 Absolute maximum ratings

(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Value	单位 Unit
Power dissipation 功耗	Pd	800	mW
Forward Current 正向电流	IF	150	mA
Junction Temperature 结温	Tj	≤115	°C
ESD Resistance(HBM) 静电(人体模式)	ESD	2000	V
Soldering Temperature 焊接温度	Reflow soldering (260°C for 10seconds) Hand soldering (300°C for 3 seconds)		
工作环境温度 Operating temperature range	Top	-40~+100	°C
贮藏温度 Storage temperature range	Tstg	-40~+85	°C

4. ❖ 光电特性 Electro-Optical characteristics

(TA=25°C)

参数 Parameter	符号 Symbol	最小 Min	平均 Typ	最大 Max	单位 Unit
Forward Voltage 正向电压	VF	2.8	--	3.0	V
Viewing Angle 发光角度	2θ 1/2	--	120	--	deg
ElectricThermal Resistance 电热阻	Rth(j-s)		35		°C/W
Reverse Current 反向电流	IR		1	μ A	VR=5V

Notes: 备注

① Luminous flux measurement tolerance: ± 5%. 光通量的测试允许公差为± 5%② Forward voltage tolerance is ± 0.05V. 正向电压的测试允许公差为± 0.05V

③ XY tolerance is ± 0.005. 色坐标允许公差为± 0.005

④ CRI measurement tolerance: ± 1 显色指数的允许公差为± 1

⑤ The datasheet is measured under instrument. 以上数据为实验设备测试结果

⑥ The testing MCPCB thickness=2mm, diameter=20mm. 测试用 MPCB 尺寸为厚度 2mm, 直径 20mm

5. 产品参数

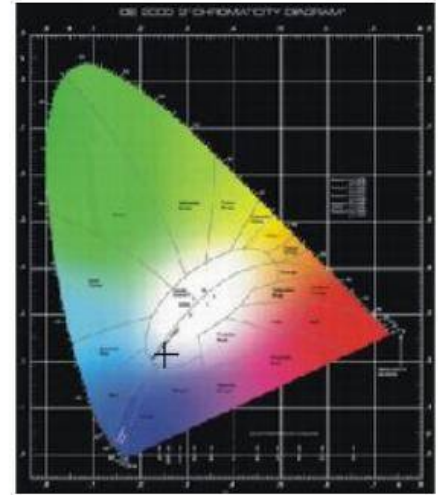
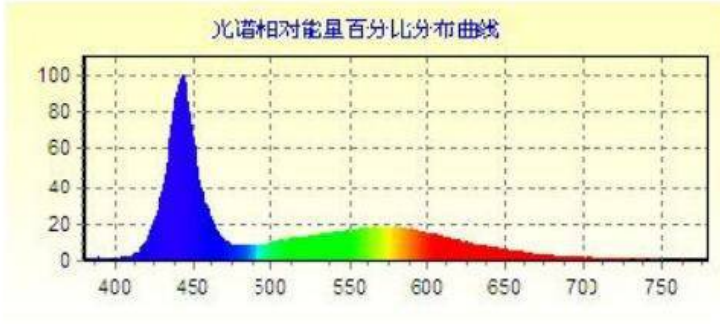
参数 Parameter	测试条件 Test Condition	符号 Symbol	数值 Value			单位 Unit
			Min	Typ	Max	
色温 Color temperature	If=150ma	CCT	18000	--	25000	K
光通量 luminous flux	If=150ma	ϕ	100	--	110	LM
显色指数 Color rendering index	If=150ma	Ra	80	--	85	
正向电压 Direct voltage	If=150ma	ϕ	2.8	--	3.0	v
视角 Viewing angle at 50% IV	If=150ma	2θ 1/2	--	120	--	Deg
主波长 Dominant wavelength	If=150ma	λd	--	--	--	nm
反向电流 Reverse current	Vr=5V	Ir	--	5	--	μA

色区分类

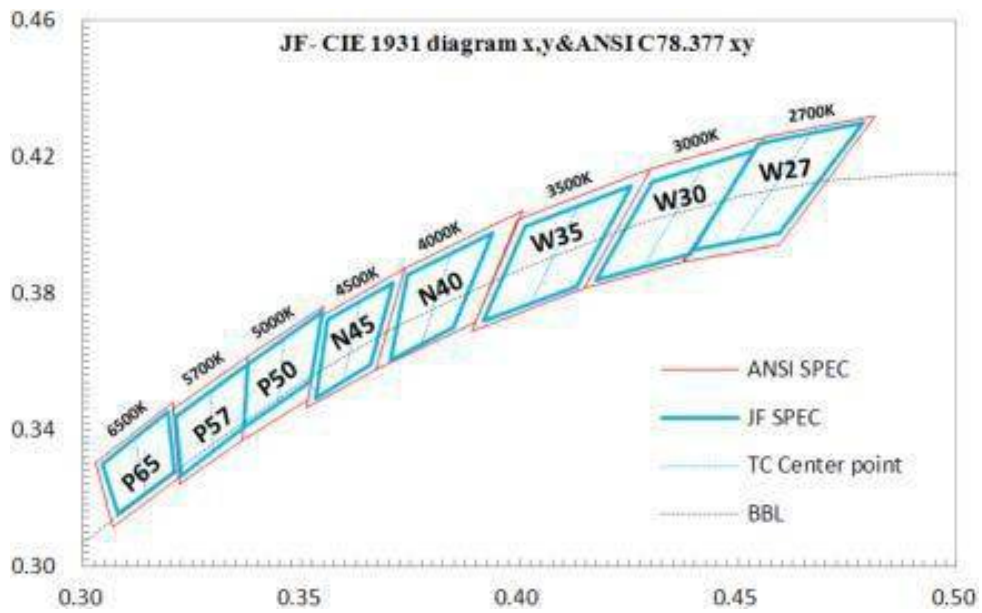
TC(K)	Tolerance(K)	CIE-X	CIE-Y	BIN
30000K	±20000K	0.2560	0.2068	A2
		0.2580	0.2088	A2
		0.2600	0.2090	A3
		0.2620	0.2110	A3

冷白色区图

光谱相对能量分布曲线

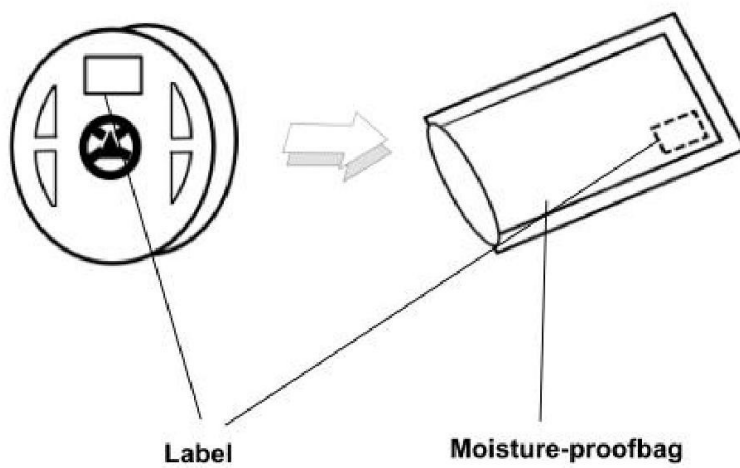
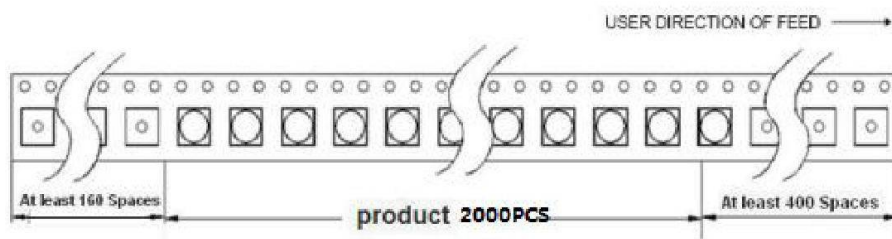


常规色区图



6. Package Information (unit: mm) 包装规格

Loaded quantity: 2000 pcs/ree



7. Label Form Specification 标签规格

Label description 标签说明

- ① Product Type (物料编码)
- ② Product Bin (BIN 级)
- ③ Quantity (数量)
- ④ Produce Date (生产日期)
- ⑤ Produce Batch (生产批号)
- ⑥ Product Tracing Number (追踪码)
- ⑦ Proof-test Seal (检验印章)
- ⑧ RoHS Sign (RoHS 标志)

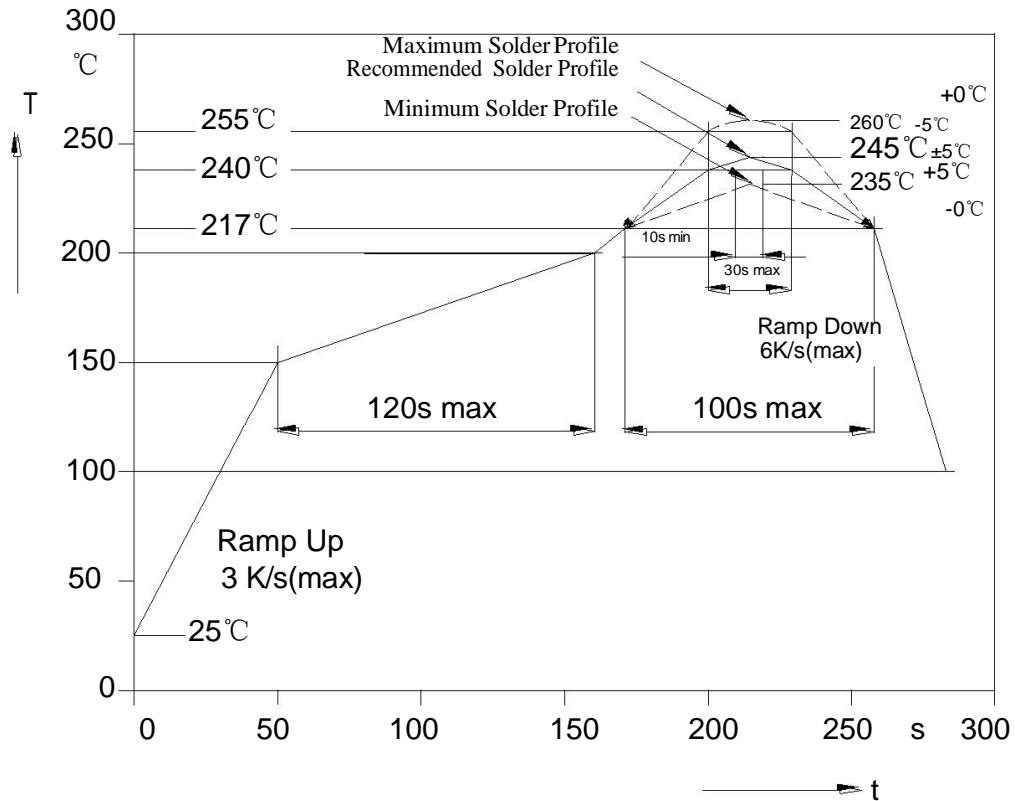
❖ **焊接温度曲线图表 (回流焊)** Soldering temperature curve chart (Reflow solder profile)

1. 推荐回流焊接规格如下图：Recommend soldering paste specifications:
2. 焊接时，应不要让任何助焊溶剂和焊料滴落在 LED 胶体上。

Remark: If not lead free soldering, the recommended solder profile is 230°C and max solder profile is 245°C.

Do not dip the epoxy encapsulation part of LED into any soldering paste liquid and solder.

SMD-Reflow Soldering Profile for lead free soldering(Acc.to J-STD-020B)



3. 焊接后，应不再做二次焊接移动 LED 位置。

After soldering, do not adjust the location of the LED anymore.

4. 不建议使用电烙铁和波峰焊进行焊接。

Don't recommend using the soldering iron and wave soldering to solder.

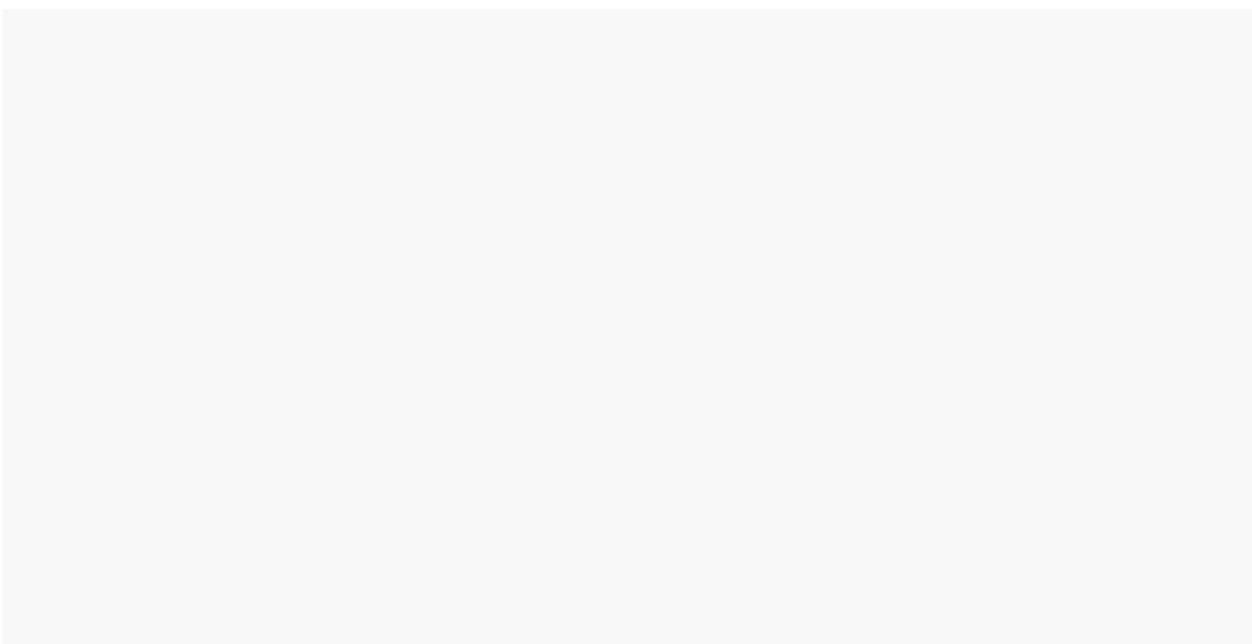
5. 如果必须要通过波峰焊炉，需要对 LED

胶体进行保护，且温度、时间和次数都不能超过极限条件，以避免损伤 LED。

If have to through the wave soldering machine, shall be protect the LED resin and within limit temperature / timing /times as avoid LED to be damaged

❖ 可靠性实验项目 Test items and results of reliability

类别 Type	测试项目 Test item	参照标准 Standard	测试条件 Test Conditions	备注 Note	不良数量 Number of Damaged
End use sequence	高低温循环 Temperature Cycle	JIS C 7021 (1977)A-4	-25°C 30min ↑↓5min 80°C 30min	100 cycle	0
	热冲击 Thermal Shock	MIL-SLD-107D	-25°C 15min ↑↓5min 80°C 15min	100 cycle	0
	高湿度热循环 High Humidity Heat Cycle	JIS C 7021 (1977)A-5	30°C (<=>) 65°C 90%RH 24hrs/1cycle	10 cycle	0
	高温存储 High Temperature Storage	JIS C 7021 (1977)B-10	T _a =80°C	1000hrs	0
	高温高湿存储 Humidity Heat Storage	JIS C 7021 (1977)B-11	T _a =60°C RH=90%	1000hrs	0
	低温存储 Low Temperature Storage	JIS C 7021 (1977)B-12	T _a =-30°C	1000hrs	0
Oper ation Seque nce	常温寿命测试 Life Test	JIS C 7035 (1985)	T _a =25°C I _F =150ma	1000hrs	0
	高温高湿寿命测试 High Humidity Heat Life Test		60°C RH=90% I _F =150ma	500hrs	0
	低温寿命测试 Low Temperature Life Test		T _a =-25°C I _F =20ma	1000hrs	0



请参考可靠性测试标准规范。

Refer to reliability test standard specification for in this line.

LED Usage and Handling Instructions

尊敬的客户：

Dear valued clients:

非常感谢您选用我司 LED 产品，LED 使用应遵循以下说明：

Thank you for choose our LED products. LEDs are delicate semiconductor product that should be handle according to the below instructions:

A.Storage 仓储：

1. 贴片式 LED 应储存在室温低于 30 °C相对湿度低于 90 %的密闭有干燥剂的包装袋内，其储存期限应不超过 1 年。

SMD LEDs should be stored in a sealed container at less than 30°C and 90 % (RH) with silica gel desiccants to ensure their shelf life will not exceed 1 year.

2. 贴片式 LED 是湿敏组件，湿敏等级 JEDEC MSL 3 级相当与，它的使用储存应遵循 IPC/JEDEC STD-020 的标准。

SMD LED is a humidity sensitive product it complies with JEDEC MSL 3 or equivalent see IPC/JEDEC STD-020 for moisture-sensitivity details.

2.1 Shelf life shee

条件 Conditions		温度 Temperature	湿度 Humidity	时间 Time
储存 Storage	打开袋子前 Before opening bag	≤30 °C	≤90%RH	从交付之日起 1 年 Within 1 year from Delivery Date
	打开袋子后 After opening bag	≤30 °C	≤60%RH	168 小时内 ≤168Hrs
除湿烘烤 Baking		65+/-5°C	≤10%	48 小时以上 ≥48Hrs

3. 贴片式LED吸湿后，当经过高温焊接时，会造成硅胶与支架分层，而引起LED光电性能下降，甚至损坏。当防潮袋中的干燥剂或湿度卡由蓝色变为红色说明在运输和储存过程中湿气已经穿透袋子。

Absorbed moisture in LED packages can vaporize and expand during soldering, which can cause interface delamination and result in optical performance degradation. Products are packed in moisture-proof bags to minimize moisture absorption during transportation and storage. Included silica gel desiccants change from blue to red if moisture had penetrated bags.

4. 打开防潮袋后，贴片LED应在上表规定的时间内进行焊接，剩下的尾数应保存在原来的防潮袋中，并放入干燥剂密封包装储存。

After opening the moisture-proof bag, the LEDs should go through the soldering

process within the range of the conditions stated above. Unused remaining LEDs should be stored with silica gel desiccants in a hermetically sealed container, preferably the original moisture-proof bags for storage.

5. 打开防潮袋后，再次密封包装储存时间超过规定时间或者干燥剂或湿度卡不是蓝色的，则需要对LED进行除湿烘烤，方可进行高温焊接，除湿条件参考2.1表。

After the “Period after opening” storage time has been exceeded or silica gel desiccants are no longer blue, the products should be baked. Baking should only be done once.

6. 建议客户在不使用LED时，将LED储存在一个密封的容器中，如果将LED暴露在有腐蚀性的环境中，可能会导致LED焊脚镀层变暗，导致LED可焊性和电气性能下降，推荐使用原本的防潮袋密封包装未使用的LED。

Customer is advised to keep the LEDs in an airtight container when not in use. Exposure to a corrosive environment. May cause the plated metal parts of the product to tarnish, which could adversely affect soldering and optical characteristics. It is also recommended to return the LEDs to the original moisture proof bags and reseal.

7. 当设计成品时应考虑LED的工作环境，不能让其暴露在有腐蚀性气体的环境中。比如含有卤素的松香或者一些可能腐蚀镀银层的元素。

After assembly and during use, silver plating can be affected by the corrosive gases emitted by components and materials in close proximity of the LEDs within an end product, and the gases entering into the product from the external atmosphere. The above should be taken into consideration when designing. Resin materials, in particular, may contain substances which can affect silver plating, such as halogen.

8. 成品中不要使用含硫的材料，比如一些密封圈和粘合剂中可能含有硫，硫对LED支架的镀银层腐蚀是非常严重的，可能会导致电路开路，推荐使用硅胶类的密封圈

Do not use sulfur-containing materials in end of products. Some materials such as seals and adhesives may contain sulfur. The extremely corroded or contaminated plating of LEDs might cause an open circuit. Silicone rubber is recommended as a material for seals.

9. 注意预防水汽冷凝到LED表面，所以请最大限度的包装储存LED的温度和湿度不能有大的突变。

To prevent water condensation, please avoid large temperature and humidity fluctuations for the storage conditions.

10. 不要将LED 储存在一个落满灰尘的环境中。

Do not store the LEDs in a dusty environment.

11. 不要将LED放置在阳光直接照射的环境下，那里的温度比室温要高很多。

Do not expose the LEDs to direct sunlight and/or an environment where the temperature is higher than normal room temperature.

B. 人体安全 Eye Safety

1. 请使用符合政府规定的科技安全等级使用 LED。

Please comply with government electrical safety code while using the LEDs.

2. 不要直接正面对视发光的 LED，可能会使我们的眼睛感到不舒服。

Do not look directly into a lit LED; it could feel uncomfortable the eyes.

3. 不要直接目视紫外 LED，可能会在几秒钟内损伤我们的眼睛。（紫外 LED 主要用于验钞设备和医疗消毒器械）。

Do not look directly into powered UV LEDs; it could damage the eyes after only a few seconds. (UV LEDs are mainly used in currency validating machines and the Sterilize instruments)

4. 在 2006 年，IEC 建立光生物安全标准 IEC62471:2006, 并将 LED 纳入其范围。另一方面，IEC 又从激光安全标准 IEC60825-1:2007 将 LED 移除。可是一些国家和地区采用的标准是激光安全标准 IEC60852-1:20112001, 这个标准包含了 LED。

我司的大多数 LED 产品可以归类到豁免 或者 1 级风险目录中，高功率能够发射蓝光波段的光的 LED 产品可能应归类到 2 级风险目录中。

In 2006, the International Electrical Commission (IEC) published IEC 62471:2006 photobiological safety of lamps and lamp systems, which added LEDs in its scope. On the other hand, the IEC60825-1:2007 laser safety standard removed LEDs from its scope. However, please be advised that some countries and regions have adopted standards based on the IEC laser safety standard IEC60852-1:20112001, which still includes LEDs in its scope. Most of our LEDs can be calssified as belonging into either the Exempt Group or Risk Group1. High-power LEDs, that emit light containing blue wavelengths, may be classified as Risk Group2.

5. 观察一个闪烁光会造成眼睛不适，当您的产品使用到 LED 时，请注意避免光对人体刺激造成的不良影响。

Viewing a flashing light may cause eye discomfort. When incorporating the LED into your product, please be careful to avoid adverse effects on the human body caused by lighting stimulation.

