Specification

规格书

Customer Name 客户名称	
Customer P/N 供应品名	5730 暖白光
MODEL P/N 公司型号	5.7*3.0mm 贴片 5.7*3.0mm TOP SMD
SAMPLE DATE 供货日期	

□Technical Reference 技术参考　□Sample 样品　■Mass Product 量产供货

Customer approval 客户审核			approval 审核		
Approval 核准	Audit 确认	Check 检查	Approval 核准	Review 复审	Confirmation 制作
□ Qualified 接受		□ Disqualified 不接受	Date ： **日期：**2021-03-31		

Features 特征

- ❋ PLCC-2 Package. 垂直型表贴封装
- ❋ Extremely wide viewing angle. 发光角度大
- ❋ Available on tape and reel. 适用于载带及卷轴
- ❋ Suitable for all SMT assembly and solder process. 适用于所有的SMT组装和焊接工艺
- ❋ RoHS compliant. RoHS认证
- ❋ Package:4000pcs/reel. 包装：4000颗/卷
- ❋ Moisture sensitivity level: 3. 防潮等级：3

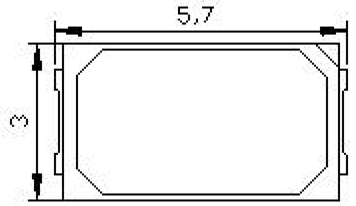
Description 描述

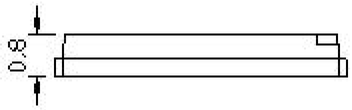
- ❋ The White LED which was fabricated using a blue chip and phosphor
  白光 LED 由芯片激发荧光粉后，混光形成。

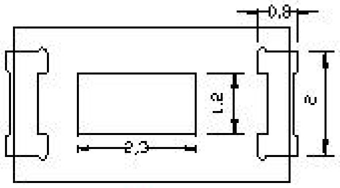
Applications 应用

- ❋ Indoor/outdoor lighting. 室内/室外照明
- ❋ Bulb lighting. 球泡灯
- ❋ fluorescent lamp. 日光灯
- ❋ General use. 其他适合的应用

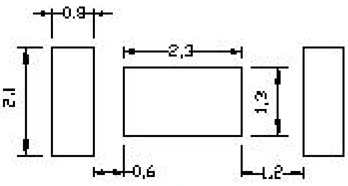
Package Dimension 封装尺寸







View



Soldering Patterns

NOTES:备注

1.All dimensions units are mm. (所有尺寸标注单位为毫米)

2.All dimensions tolerances are 0.1mm unless otherwise noted. (除特别标注外，所有尺寸允许公差为±0.1 毫米)

Electrical - Optical Characteristics at Ta=25℃ 光电特性

Type 类型	Symbol 符号	Test condition 测试条件	Value			Unit 单位
			Min.	Typ.	Max.	
Forward Voltage 正向电压	VF	IF=150mA	2.80	3.00	3.40	V
Color temperature 色温	TC	IF=150mA	2800	3000	3200	K
Luminous Flux 光通量	Φ	IF=150mA	75	--	80	Lm
Reverse Current 反向电流	IR	VR=15V	--	--	5	uA
Viewing Angle 发光角度	2θ1/2	IF=150mA	--	120	--	Deg
Color Rendering Index 显指	RA	IF=150mA	--	--	--	--
Thermal resistance 热阻	Rth(j-s)	IF=150mA	--	--	28	℃/W

Absolute Maximum Ratings at Ta=25℃ 最大参数值

Parameter 参数	Symbol（符号）	Rating（值）	Units（单位）
Power Dissipation 功耗	Pd	500	mW
Forward Current 正向电流	IF	150	mA
Peak Forward Current 峰值电流	IFP	170	mA
Reverse Voltage 反向电压	VR	15	V
Junction temperature 结温	Tj	115	℃
Solder temperature 焊接温度	Ts	240	℃
Operating Temperature 操作温度	Topr	-40～+100	℃
Storage Temperature 储存温度	Tstg	-40～+100	℃
Electrostatic Discharge(HBM) 静电	ESD	2000	V

Note: 备注

1.1/10 Duty cycle, pulse width 10ms. 脉宽10ms,周期1/10.

2.The above forward voltage measurement allowance tolerance is 0.05 以上所示电压测量误差为 0.05

3.The above color coordinates measurement allowance tolerance is 0.003. 以上所示坐标测量误差为 .003.

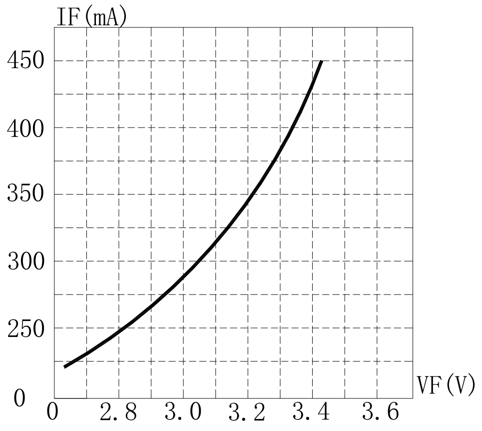
4. The above luminous flux measurement allowance tolerance ±10%.以上所示光通量的测试允许公差为 ±10%.

5. The above color rendering index measurement allowance is ± 1. 以上所示显色指数测量误差为 ±1

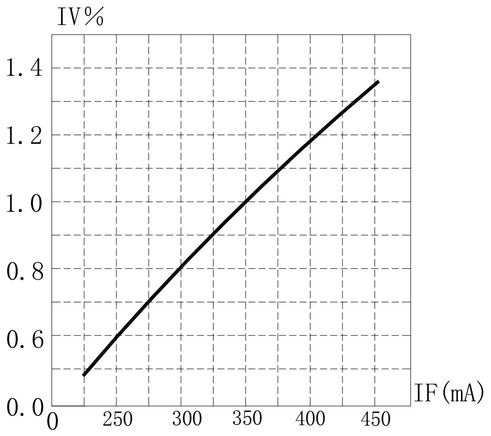
6.Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product. 使用功率不能超过规定的最大参数值。

7.When the LEDs are in operation the maximum current should be decided after measuring the package temperature, junction temperature should not exceed the maximum rate. LED 使用最大电流需根据散热条件确定，结温不能超过最大值。

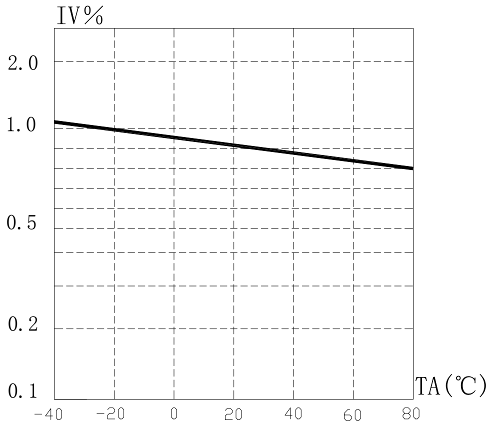
Optica Characteristic curve　光学特性曲线



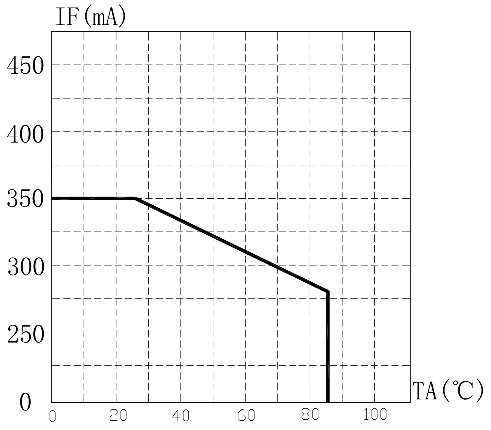
Forward Current vs. Forward Voltage
电压与电流关系曲线图



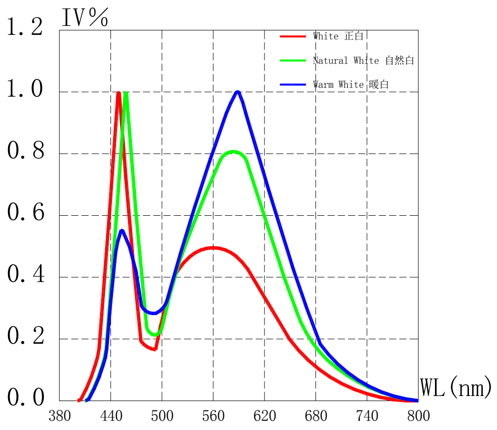
Relative Luminous Intensity vs .Forward Current
亮度与电流关系曲线图



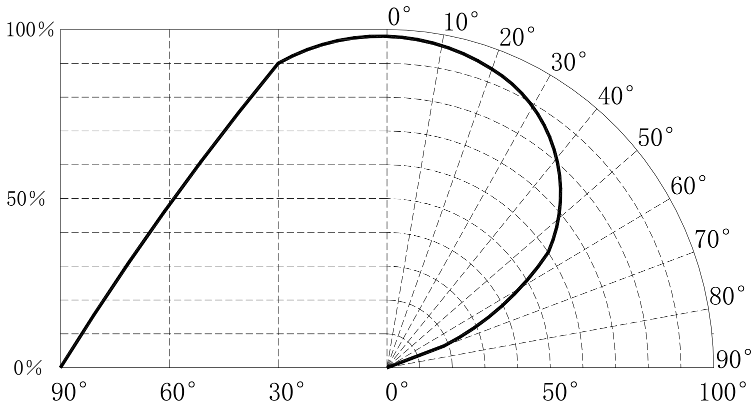
Relative Flux vs. Ambient Temperature
亮度与温度关系曲线图



Forward Current vs. Ambient Temperature
电流与温度关系曲线图



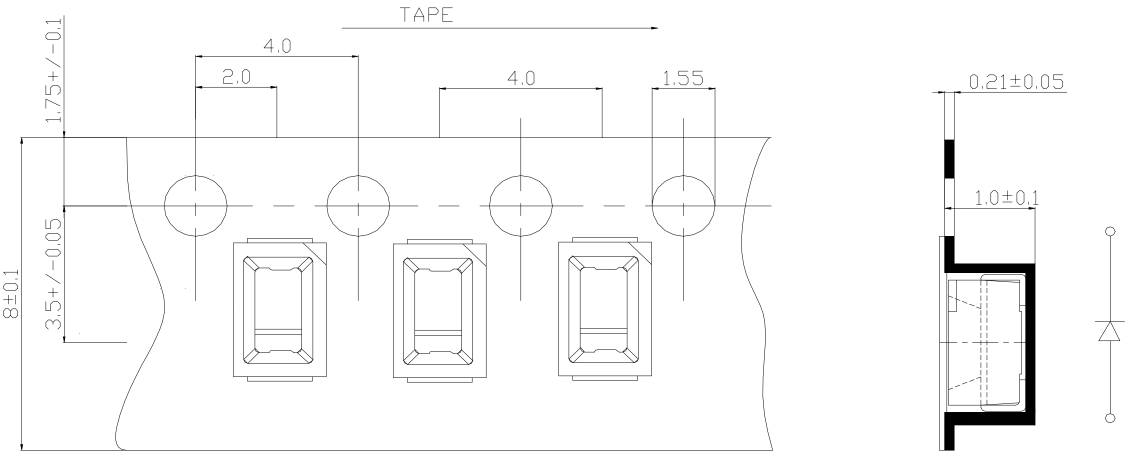
Relative Luminous Flux vs. Wavelength
光谱特性图



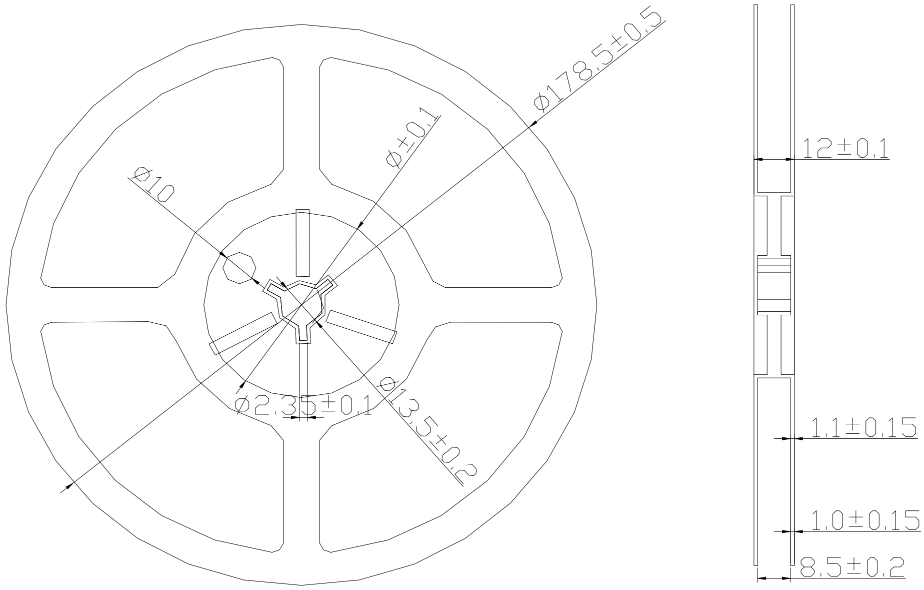
Relative Luminous Intensity vs.Radiation Angle
光通亮与视角

Packaging Specifications 包装规格

- **The LEDs are packed in cardboard boxes after taping** LEDS 在装带之后纸箱包装.
- **Carrier Tape Dimensions** 载带尺寸 (单位:毫米 Uns:mm)



- **Reel Dimension** 卷轴尺寸



Note:备注

The tolerances unless mentioned ±0.1mm. Unit : mm 注：未注公差为±0. 1 毫米，尺寸单位：毫米。

- **The label on the minimum packing unit shows ; Part Number, Lot Number, Ranking, Quantity** 最小包装标签注明以下:产品名称.批号.参数范围.数量.

Reliability Test Items And Conditions 可靠性测试项目与条件

Test Items **测试项目**	**Ref.Standard** **参考标准**	**Test Condition** **测试条件**	**Time** **时间**	**Quantity** **数量**	**Ac/Re** **接收/绝收**
Temperature Cycle 温度循环	JESD22-A104	100℃ 30 min. ↑↓5 min -40℃ 30 min.	200Cycles	22	0/1
Thermal Shock 冷热冲击	JESD22-A106	-40℃ 15min ↑↓10sec 100℃ 15min	300Cycles	22	0/1
High Temperature Storage 高温储存	JESD22-A103	Temp:100℃	1000Hr	22	0/1
Low Temperature Storage 低温储存	JESD22-A119	Temp:-40℃	1000Hrs	22	0/1
Life Test 常温老化	JESD22-A108	Ta=25℃ IF=150mA	1000Hrs	22	0/1
High Temperature High Humidity Life Test 高温高湿老化	JESD22-A101	85℃/ 85%RH IF=150mA	1000Hrs	22	0/1
Reflow 回流焊	JESD22-B106	Temp:240℃max T=10 sec	2times	22	0/1

Criteria For Judging Damage 失效判定标准

Test Items **测试项目**	**Symbol** **符号**	**Test Condition** **测试条件**	**Criteria For Judgement** **判定标准**	**Applicable project** **适用项目**
Forward Voltage 正向电压	VF	IF=150mA	≤±10%	Reflow Temperature Cycle High and Low Temperature Storage Life Test
Luminous Flux 光通量	ф	IF=150mA	Maintenance≥85% 光通维持率	
High Temperature High Humidity Life Test 高温高湿老化	/	IF=150mA	No open circuit, short circuit or flicker 无开路, 短路，闪烁	High Temperature High Humidity Life Test

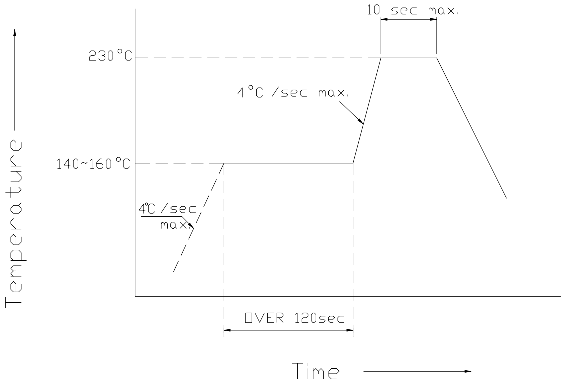
Note: 备注

1.The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.
以上技术数据仅为产品的典型值，只作为参考（以最终双方承认的规格为准），不作为任何应用条件及应用方式的保证。

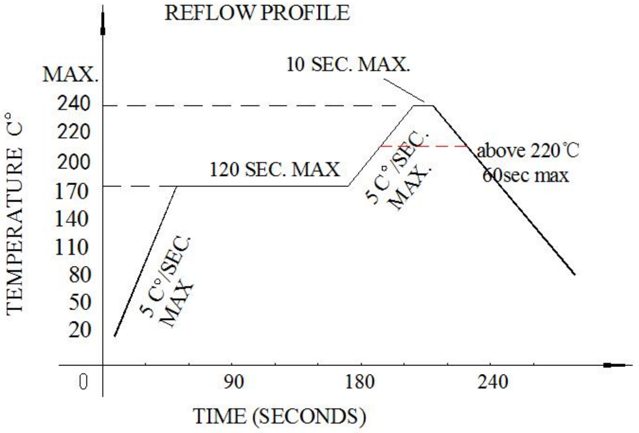
SMT Reflow Soldering Instructions SMT 回流焊说明

Reflow Soldering 回流焊接			手工焊接 Hand Soldering	
	Lead Solder有铅	Lead-free Solder 无铅	Temperature 温度	350°C Max.
Pre-heat 预热温度	140 ~ 160°C	180 ~ 200°C	Soldering time 焊接时间	3 sec. Max. (one time only)
Pre-heat time 预热时间	120 sec. Max.	120 sec. Max.		
Peak temperature 峰值温度	230°C Max.	240°C Max.		
Soldering time 焊接时间	10 sec. Max.	10 sec. Max.		
Condition 条件	参考下图	参考下图		

Lead Solder 有铅回焊



Lead-Free Solder 无铅回焊



1.Reflow soldering should not be done more than two times. In the case of more than 24 hours passed soldering after first, LEDs will be damaged. 回流焊次数不可以超两次，两次回流焊时间间隔如果超过24小时，LED可能由于吸湿而损坏

2.When soldering , do not put stress on the LEDs during heating 当焊接时，不要在材料受热时用力压胶体表面。

◆ **Soldering Iron** 烙铁焊接

1.When hand soldering, keep the temperature of iron below less 300℃ less than 3 seconds

当手工焊接时，烙铁的温度必须小于300℃，时间不可超过3秒。

2.The hand solder should be done only one time.手工焊接只可焊接一次。

◆ **Repairing** 修补

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable,a double-head soldering ironshould be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not bedamaged by repairing. LED回流焊后不应该修复，当必须修复时，必须使用双头烙铁，而且事先应确认此种方式会不会损坏LED本身的特性。

Cautions 注意事项

1.The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when usethe picking up nozzle, the pressure on the silicone resin should be proper. LED封装胶为硅胶，表面较软，用力按压胶体表面会影响LED可靠性，因此应有预防措施避免在按压器件，当使用吸嘴时，胶体表面的压力应是恰当的。

2. Components should not be mounted on warped (non coplanar) portion of PCB. After soldering, do not warp the circuit

Board. LED灯珠不要焊接在弯曲的PCB板上，焊接之后，也不要弯折线路板。

3. Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering.Do not rapidly cool device after soldering. 回流焊之后冷却过程中，不要对材料实加外力，也不要有震动，回流焊后，不要采用激剧冷却的方式。

Handling Precautions 使用注意事项

1、LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material. This is provided for informational purposes only and is not a warranty or endorsement. LED工作环境及与LED适配的材料中，硫元素及化合物成份不可超过100PPM，单一的溴元素含量要求小于900PPM，单一氯元素含量要求小于900PPM，溴元素与氯元素总含量必须小于1500PPM（检测含量为与LED直接接触面上元素含量）。

2、VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues. J.T.X. advises against the use of any chemicals ormaterials that have been found or are suspected to have an adverse affect on device performance or reliability.To verify compatibility, J.T.X. recommends that all chemicals and materials be tested in the specific applicationand environment for which they are intended to be used. Attaching LEDs, do not use adhesives that outgasorganic vapor. 应用套件中的挥发性物质会渗透到LED内部，可能对LED性能或者可靠性不利，在通电情况下会加剧影响。因此客户需提前验证，避免套件材料或其他组装原物料存在未经验证的挥发性物质，针对特定的用途和使用环境，嘉特鑫建议对所有的物质和材料进行相容性的测试。

3、Handle the component along the side surface by using forceps or appropriate tools; do not directly touch orHandle the silicone lens surface, it may damage the internal circuitry.

通过使用适当的工具从材料侧面夹取，不可直接用手或尖锐金属压胶体表面，它可能会损坏内部电路。

4、In designing a circuit,the current through each LED must be 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. The driving circuit must be designed to allow forward voltage only when it is ON or OFF.If the reverse voltage is applied to LED, migration can be generated resulting in LED damage. 设计电路时，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电流变化，可能导致产品损毁。电路设计必须保证只有在开启或者关闭的时候出现正向电压的变化，不要施加反压，否则会损坏LED。

5、Thermal Design is paramount importance because heat generation may result in the Characteristics decline,such as brightness decreased,Color change and so on.Please consider the heat generation of the LEDs when making the system design. LED容易因为自身的发热和环境的温度改变而改变，温度升高会降低LED发光效率，影响发光颜色，所以在设计时应充分考虑散热问题。

6、Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust，requiring special care during processing. In cases where a minimal level of dirt and dust particles cannot be guaranteed, a suitable cleaning solution must be applied to the surface after the soldering of components. J.T.X. suggests using isopropyl alcohol for cleaning. In case other solvents are used, it must be assured that these solvents do not dissolve the package or resin. Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED. 与其他封装胶相比，硅胶通常较软，表面易吸附脏物，应用时应特别注意，当对产品洁净度要求较高时，应当采用恰当的清洗方式，我们推荐用异丙醇作清洗剂，如需要用到其他清洗剂，必须保证不会破坏封装体，超声清洗可能会对LED带来损害，不推荐这种清洗方式。

7、 Storage 储存

Conditions 种类	Temperature 温度	Humidity 湿度	Time 时间

Storage 储存	Before Opening Aluminum Bag 拆包前	≤30℃	≤75%	Within 6 Month from Delivery Date 6 个月内
	After Opening Aluminum Bag 拆包后	≤30℃	≤60%	24hours 24 小时
Baking 烘烤		65±5℃	-	≥24hours 大于 24 小时

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed after unpacking and based on the following condition: (65±5)℃ for above 24 hours。
如果干燥剂或包装失效，或者产品不符合以上有效储存条件，需拆包后进行烘烤，烘烤条件：65±5℃，大于24小时。

If the package is flatulence or damaged, please notify the sales staff to assist。
如果包装袋胀气或者破损，请通知销售人员协助处理。

8、Similar to most Solid state devices; LEDs are sensitive to Electro-Static Discharge (ESD) and ElectricalOver Stress (EOS). LED为半导体器件，对静电敏感，生产和使用时需要做好防护。

9、There should be Revalidated when there is any change on the use condition(like fixture type, raw material, Radiating change) after the approval.产品承认后，如需变更使用环境条件（如：转换产品种类和结构），必须重新验证。

10、When you have special quality requirement for the product, please kindly contact to our sales.对产品有特殊质量要求时，请提前咨询销售人员以取得相关信息。

11、When using LED, clients shall pay attention to the defined specs and using environment requires. will give no quality guarantee on the situation: if using in conditions that out of specs or over reference conditions which withoutverifying,客户在应用LED时，需参考此规格书参数及使用环境要求，未经验证情况下超出参数或标准条件使用，不作任何品质担保。

12、The customer shall not disassemble or analyze the LEDs without having consent from When defective LEDs are found, the customer shall inform . in writing directly before disassembling or analysis.
在取得同意前，客户不应对产品进行拆解分析，如发现失效产品，请直接书面通知。

13、Other points for attention, please refer to our LED user manual.
其它注意事项请参照 LED 使用手册。