旭宇光电
XUYU Optoelectronics

SPECIFICATION
产品规格书

NO. (编号): _____

Part No.(型号): 9.6565UVCAU10WX4FL-QU

Description(描述): 6565 陶瓷紫外

Version NO.(版本): A0

Date(日期): _____

Customer Approved (客户审核)	Approved (确认)	
Xuyu Approved (旭宇审核)	**Approved (确认)**	**Issued (制定)**
☐Sample（样品） ☑Mass Product（量产供货）		

RoHS compliant

LM-80 LED light source maintenance test ENERGYSTAR

EYE 蓝光危害认证 EN62471/IEC TR 62778

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XY-6565UVAU10WBQU(2S2P)

Features 特征

- Aluminum gold and quartz lens package. 氮化铝陶瓷镀金支架+石英透镜
- Extremely narrow viewing angle.发光角度小（60° ）
- Suitable for all SMT assembly and solder process.适用于所有的SMT组装和焊接工艺
- Package:200pcs/magazine.每包装200pcs
- RoHS compliant. 满足RoHS要求

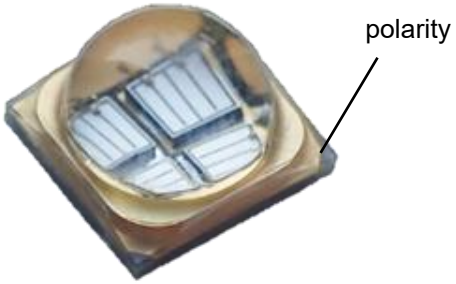
Description 描述

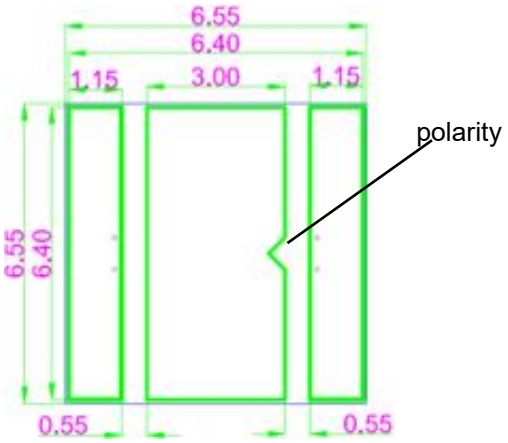
- The UV LED which was fabricated using a UV chip
  紫外LED由紫外芯片发光而形成

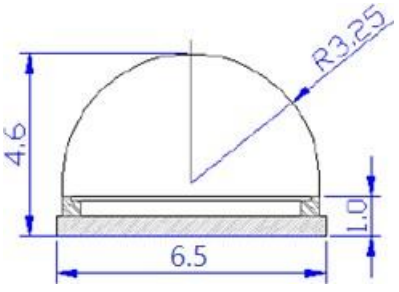
Applications 应用

- Ultraviolet disinfection.紫外消毒
- UV Curing.紫外固化
- UV Ink Curing.油墨固化
- Medical treatment and health.医疗健康
- Nail Care.美甲
- General use.一般应用

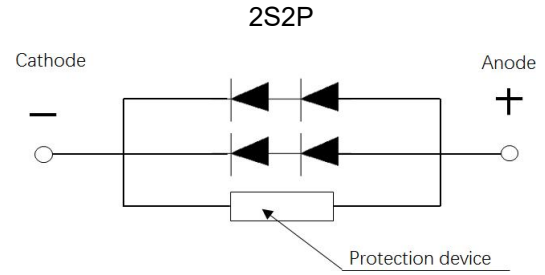
Package Dimension

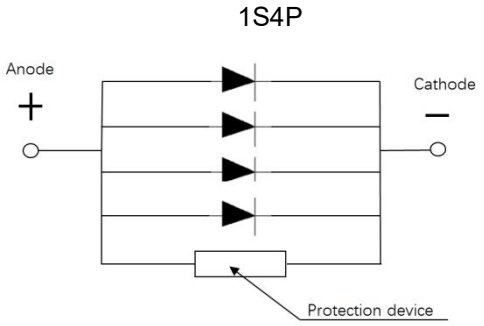


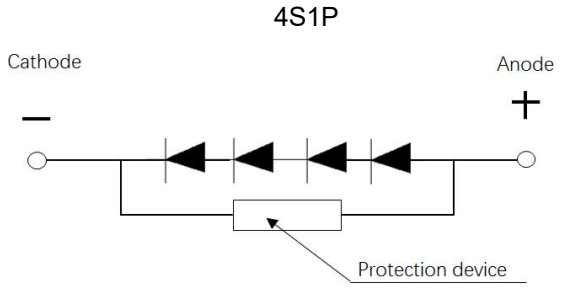




Series and Parallel type







NOTES:

1. All dimensions units are millimeters. (所有尺寸标注单位为毫米)
2. All dimensions tolerances are ±0.2mm unless otherwise noted. (除特别标注外，所有尺寸公差为±0.2 毫米)

Electrical / Optical Characteristics at Ta=25°C 电性与光学特性

Item 项目	Symbol 符号	test condition 测试条件	Value			unit 单位
			Min.	Type	Max	
Forward Voltage	VF	IF=1000mA	6.4	7 .2	7 . 6	V
Reverse Current	IR	VR=20V	---	---	10	uA
Radiation	øe	IF=1000mA	WP:365-380nm Type 4000mW			mW
			WP: 380 415nm Type 5200mW			
Viewing Angle	2Θ1/2	IF=1000mA	---	60	---	Deg
Thermal resistance	Rth(j-s)	IF=1000mA	---	6	---	℃/W

Absolute Maximum Ratings at Ta=25°C 绝对最大值

Parameter （参数）	Symbol （符号）	Rating （值）	Units （单位）
Power Dissipation （功耗）	Pd	6800	mW
Forward Current （正向电流）	IF	1A(365-380nm) 1.4A(WP:>380nm)	
Peak Forward Current （峰值电流）	IFP	1.4A(365-380nm) 2A(WP:>380nm)	
Reverse Voltage （反向电压）	VR	20	V
Electrostatic Discharge (HBM) （静电）	ESD	2000	V
Operating Temperature （操作温度）	Topr	-40 ~ +85	℃
Storage Temperature （储存温度）	Tstg	-40 ~ +100	℃

Note: 备注
1. 1/10 Duty cycle, 0.1ms pulse width. 脉宽0.1ms, 周期1/10.
2. The above forward voltage measurement allowance tolerance is 0.1V. 以上所示电压测量误差 0.1V.
3. The above color coordinates measurement allowance tolerance is 0.003. 以上所示坐标测量误差 0.003.
4. the above luminous intensity measurement allowance tolerance ±10%. 上述发光强度的测试允许公差为±10%.
5. 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值。

Electrical / Optical Characteristics at Ta=25°C 电性与光学特性

Item 项目	Symbol 符号	test condition 测试条件	Value			unit 单位
			Min.	Type.	Max.	
Forward Voltage	VF(4S1P)	IF=500mA	12.0	13.5	15.2	V
	VF(1S4P)	IF=2000mA	3.2	3.4	3.8	V
Reverse Current	IR	VR=20V	---	---	10	uA
Radiation	øe (4S1P)	IF=500mA	WP:365 380nm Type 4000mW			mW
	øe (1S4P)	IF=2000mA	WP:380 415nm Type 5200mW			mW
Viewing Angle	2Θ1/2	IF=500mA	---	60	---	Deg
Thermal resistance	Rth(j-s)	IF=500mA	---	6	---	℃/W

Absolute Maximum Ratings at Ta=25°C 绝对最大值

Parameter （参数）	Symbol （符号）	Rating （值）	Units （单位）
Power Dissipation （功耗）	Pd	6800	mW
Forward Current （正向电流）	IF (4S1P)	500mA(365-380nm)/700mA(WP:>380nm)	
	IF (1S4P)	2A(365-380nm)/2.8A(WP:>380nm)	
Peak Forward Current （峰值电流）	IFP (4S1P)	700mA(365-380nm)/ 1A(WP:>380nm)	
	IFP (1S4P)	2.4A(365-380nm)/3.2A(WP:>380nm)	
Reverse Voltage （反向电压）	VR	20	V
Electrostatic Discharge (HBM)（静电）	ESD	2000	V
Operating Temperature （操作温度）	Topr	-40 ~ +85	℃
Storage Temperature （储存温度）	Tstg	-40 ~ +100	℃

Note: 备注
1. 1/10 Duty cycle, 0.1ms pulse width. 脉宽0.1ms, 周期1/10.
2. The above forward voltage measurement allowance tolerance is 0.1V. 以上所示电压测量误差 0.1V.
3. The above color coordinates measurement allowance tolerance is 0.003. 以上所示坐标测量误差 0.003.
4. the above luminous intensity measurement allowance tolerance ±10%. 上述发光强度的测试允许公差为±10%.
5. 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值。

Typical optical characteristics curves 典型光学特性曲线

Fig.1- Spectrum Distribution 光谱分布特性曲线

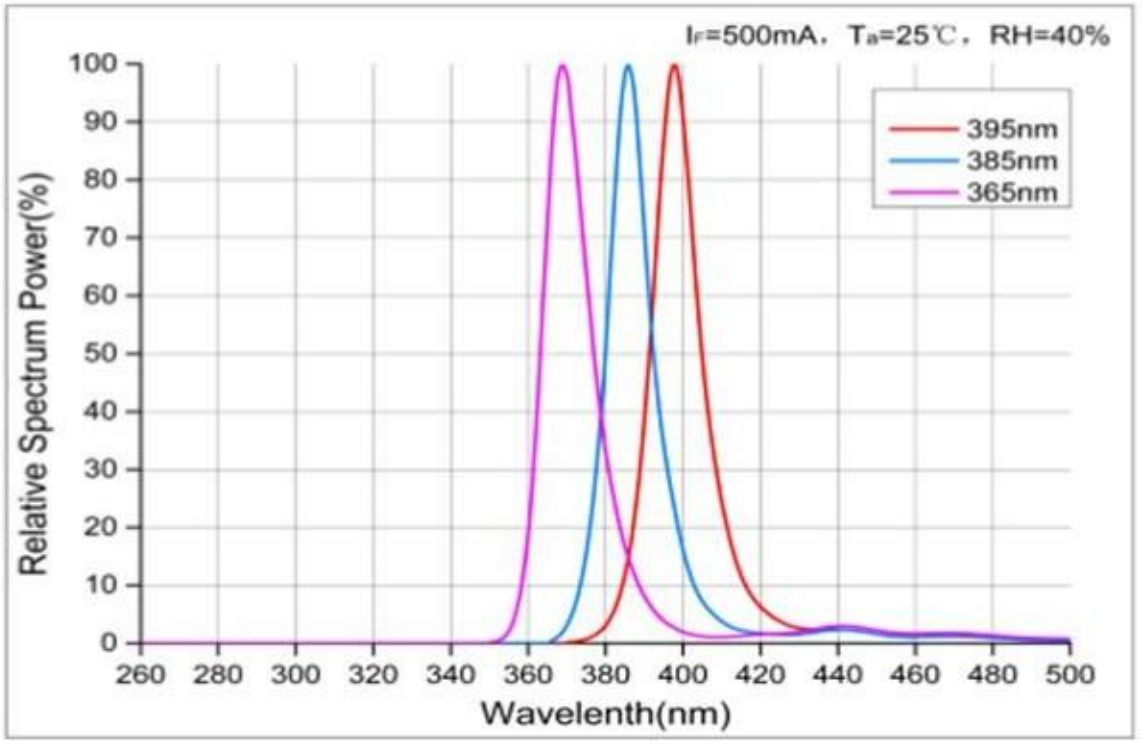


Fig.2- Forward Voltage Vs. Forward Current Intensity 伏安特性曲线

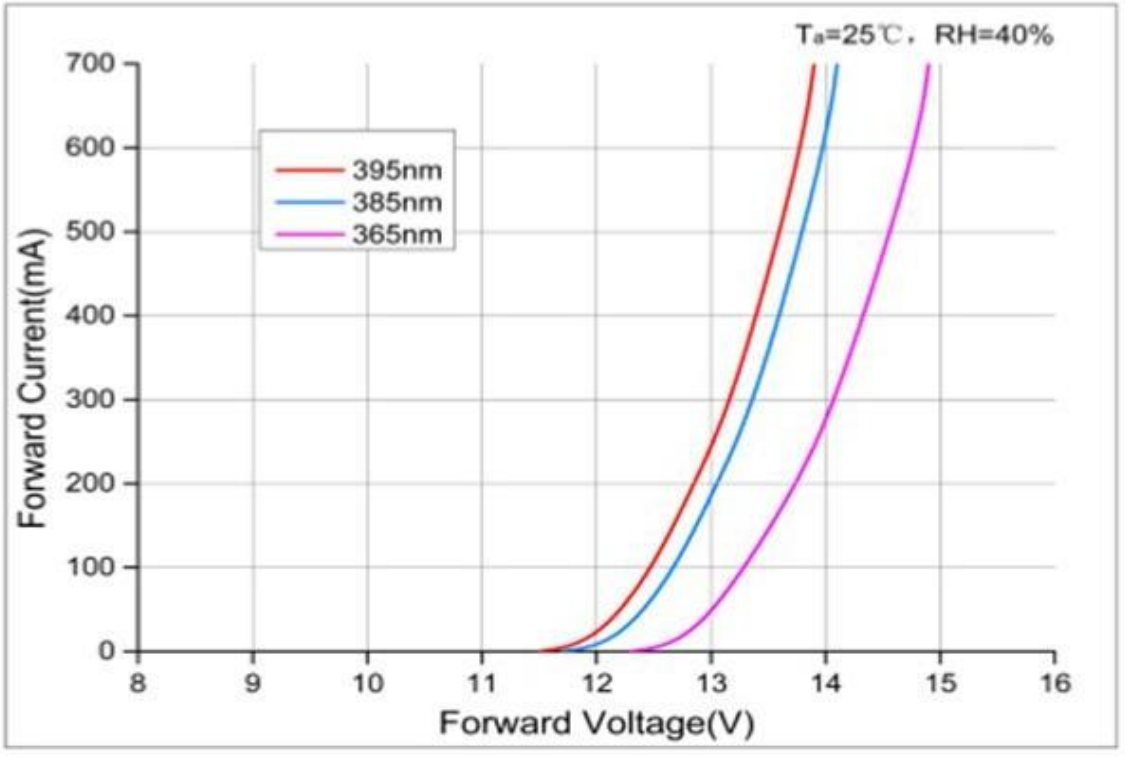


Fig.3- Forward Current Vs. Relative Power 正向电流与相对光功率特性曲线

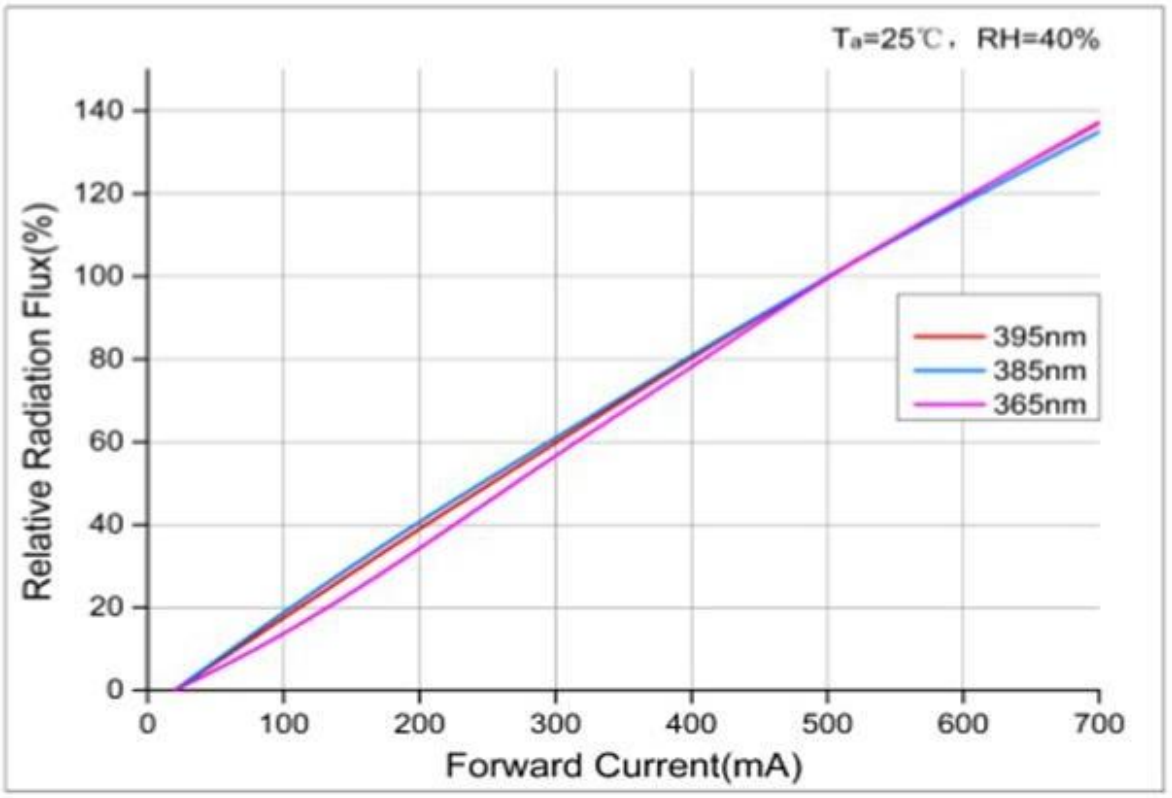
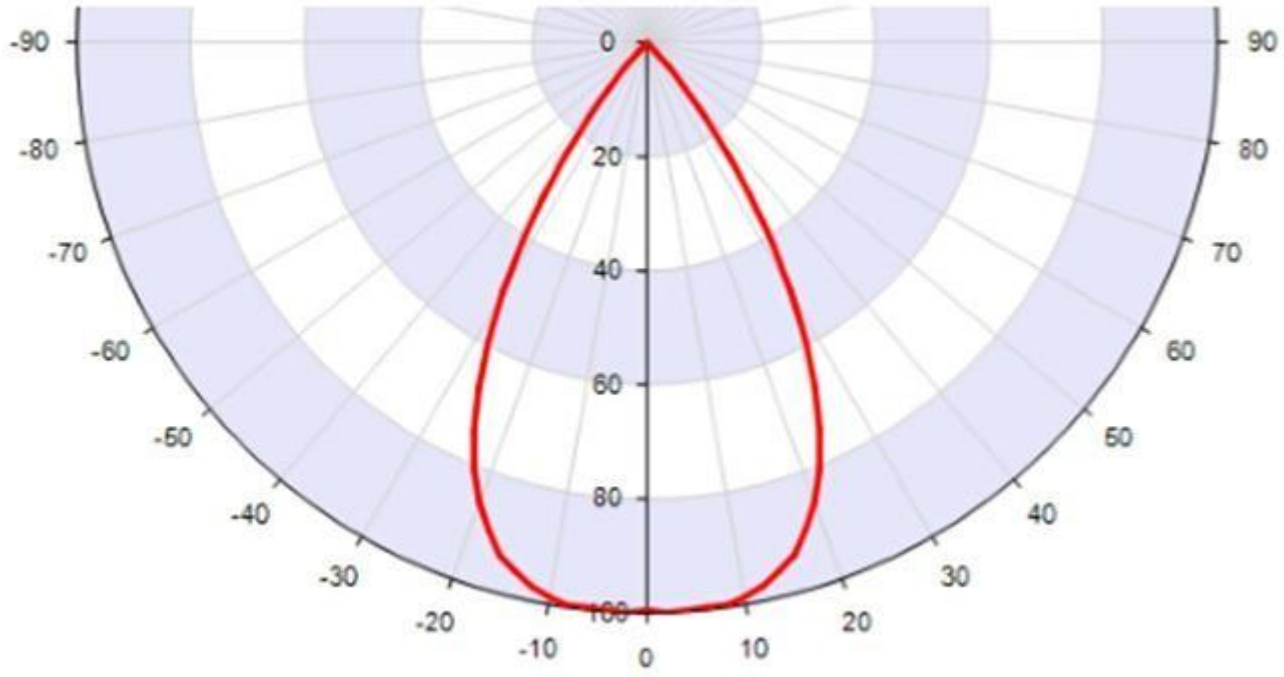


Fig.4-Radiation diagram 辐射特性曲



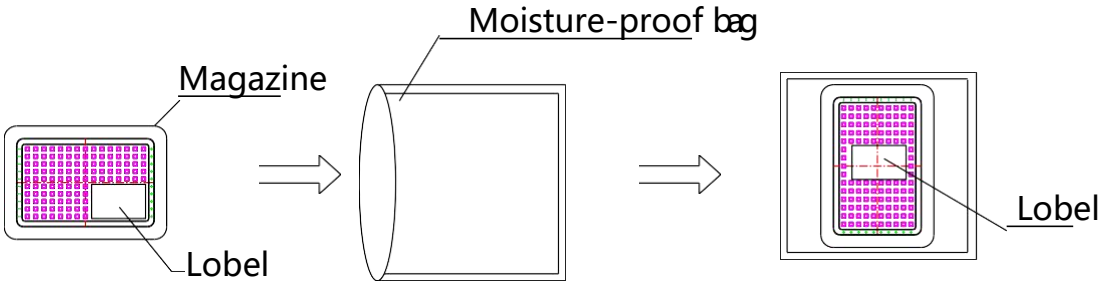
■ Label Form Specification 标签规格

PART NO.
SPEC NO.
LOT NO.

BIN CODE
Φe:
Wlp:
V
F :
QTY:
DATE:

PART NO.	Part Number
SPEC NO.	Spec Number
LOT NO.	Lot Number
BIN CODE	Bin Code
Φe	Radiation Power
Wlp	Chromaticity Bin
VF	Forward Voltage
QTY	Packing Quantity
DATE	Made Date

■ Moisture Resistant Packing Process 防潮包装过程



Reliability Test Items And Conditions 信赖性测试项目及条件

Test Items 项目	Ref.Standard 参考标准	Test Condition 测试条件	Time 时间	Quantity 数量	Ac/Re 接收/拒收
Reflow 回流焊	JESD22-B106	Temp:260℃max T=10 sec	2times.	10Pcs.	0/1
Temperature Cycle 温度循环	JESD22-A104	100℃ 30 min. ↑↓5 min -40℃ 30 min.	100 Cycles	10Pcs.	0/1
Thermal Shock 冷热冲击	JESD22-A106	-40℃ 15min ↑↓ 100℃ 15min	300 cycle	10Pcs.	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp:100℃	1000Hrs.	10Pcs.	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp:-40℃	1000Hrs.	10Pcs.	0/1
Life Test 常温通电	JESD22-A108	Ta=25℃ IF=1000 mA	1000Hrs.	10Pcs.	0/1

Criteria For Judging Damage 失效判定标准

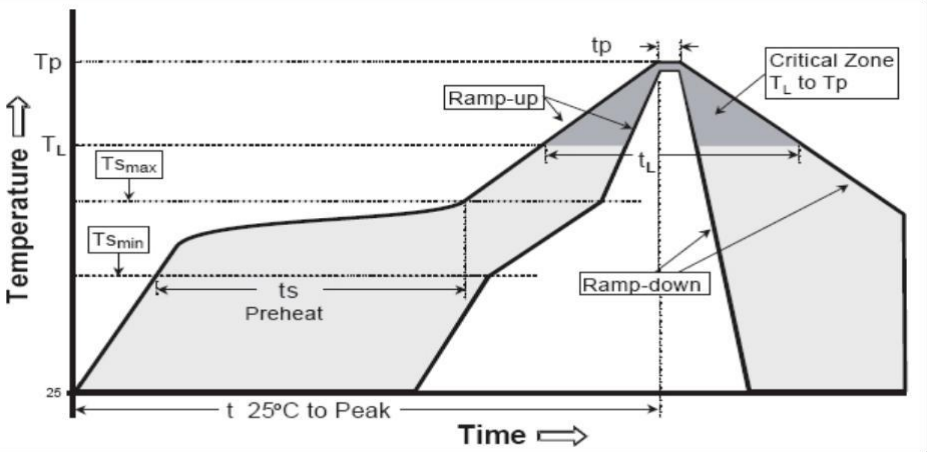
Test Items 项目	Symbol 符号	Test Condition 测试条件	Criteria For Judgement 判定标准	
			Min. 最 小	Max. 最 大
Forward Voltage 正向电压	VF	IF=1000 mA	-	U.S.L*)x1.1
Reverse Current 反向电流	IR	VR = 20V	-	U.S.L*)x2.0
Radiation Power 辐射功率	mw	IF= 1000mA	L.S.L*)x0.7	-

U.S.L: Upper standard level 规格上限 L.S.L: Lower standard level 规格下限

Note: 备注

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。

SMT Reflow Soldering Instructions　SMT回流焊说明



平均升温速度（Tsmax 至　Tp）	最　高　3 °C/秒	最　高　3 °C/秒
预热：最低温度　(Tsmin)	100 °C	150 °C
预热：最高温度　(Tsmax)	150 °C	200 °C
预热：时间（tsmin 至　tsmax）	60 - 120 秒	60 - 180 秒
限时维持高温：温度　(TL)	183 °C	217 °C
限时维持高温：时间　(tL)	60 - 150 秒	60 - 150 秒
峰值　/ 分类温度　(Tp)	215 °C	260 °C
与实际峰值温度　(tp) 相差　5 °C 以内的保持时间	10 - 30 秒	20 - 40 秒
降温速度	最　高　6 °C/秒	最　高　6 °C/秒
25 °C 升至峰值温度所需时间	最　多　6 分钟	最　多　8 分钟

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过两次，两次回流焊的时间间隔如果超过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 3seconds
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 iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged 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。

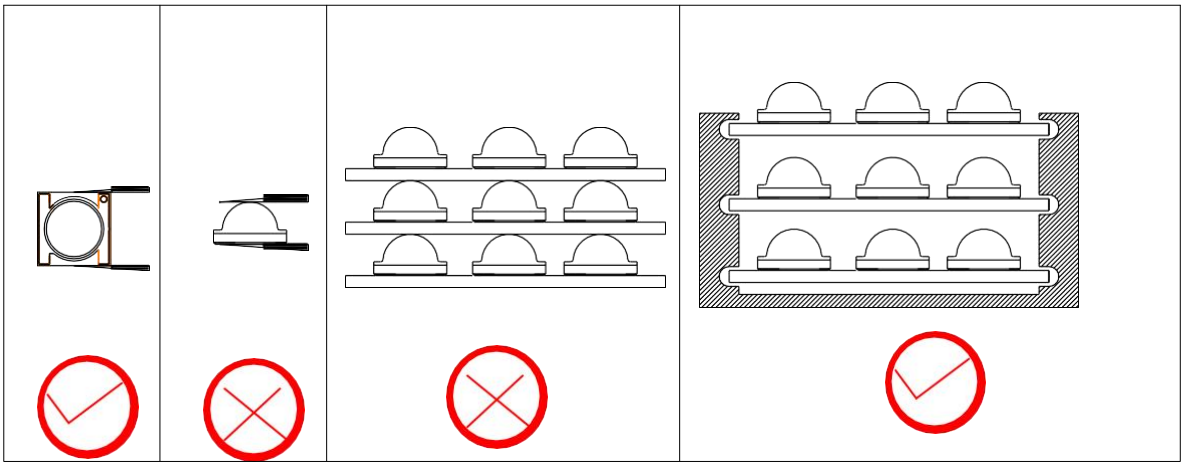
Handling Precautions 使用注意事项

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.这只是一个建议，不作任何品质担保。

2>.In order to prevent ex- ternal material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM, the single content of Chlorine element is required to be less than 900PPM,the total content of Bromine element and Chlorine element in the external materials of the application products is required to be less than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement.为了防止外界物质进入LED内部以造成LED的损伤，所处环境及所用套件等等，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. 这只是一个建议，不作任何品质担保。

3>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. Advises against the use of any chemicals or materials that have been found or are suspected to have an adverse affect on device performance or reliability. To verify compatibility, Recommends that all chemicals and materials be tested in the specific application and environment for which they are intended to be used. Attaching LEDs, do not use adhesives that outgas organic vapor. 应用套件中的挥发性物质会渗透到LED内部，在通电产生光子及热的条件下，会导致LED变色，进而造成严重光衰，提前了解套件材料能够避免产生这些问题。反对使用任何对LED器件的性能或者可靠性有害的物质或材料，不管这些材料是已经证实了的还是仅仅怀疑有害。针对特定的用途和使用环境，建议对所有的物质和材料进行相容性的测试。 在贴装LED时候，不要使用能产生有机挥发性气体的粘结剂。

4>.Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle 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。



5>.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。

6>.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。

7>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. We 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，回流焊以后需要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。

8> To avoid the moisture penetration, we recommend store in a dry box with a desiccant. The recommended storage temperature range is 5℃ to 30℃ and a maximum humidity of RH50%. If the color of the desiccant changes, components should be dried for 10-12hr at 60±5℃.为了避免湿气进入，产品应该保存在干燥的地方，同时需要使用干燥剂， 推荐的储存温度是5℃到30℃，最大湿度不能超过50%,如果湿度卡和干燥剂变色了，需要烘烤10-12小时，烘烤温度为60±5℃。

9>Similar to most Solid state devices; LEDs are sensitive to Electro-Static Discharge (ESD) and Electrical Over Stress (EOS). 像其他的半导体电子器件一样，LED对静电过流击穿非常敏感，需要做好防护。

10> When the UV led is lighting, users must not look straight at the UV leds, or, the UV light will damage your eyes permanently;When it lighting a long time , human or other animals must keep away from it ,only if they put on the UV protective clothing(include your eyes).紫外LED使用或者点亮时人眼不可直视发光器件，这将会对人的眼睛造成无法恢复的伤害；当紫外LED长期点亮时，人或者其他动物不可长期停留在相同空间，除非人和 其他动物均有有效的紫外防护措施。