

Product Recognition

产品承认书

客户名称 Customer: _____

客户料号 Customer P/N: _____

产品名称 Product NO: _____

产品规格 Specification: _____

产品版本 REV : _____

日期 Date: _____

Customer Approved 客户确认			
Approval 批准	Audit 审核	Checked 检验	
Result 结果	<input type="checkbox"/> Qualified 接收	<input type="checkbox"/> Disqualified 拒收	<input type="checkbox"/> Others 其它
Customer Opinion 客户意见			

供方地址: _____

联系人: _____ 邮箱: _____

Specification

規 格 书

UVC 3838 Series

MF-IUT38F26A3C1B0-CMZ1 (IF:300-500MA)

Customer approval 客户审核			Supplier approval 厂商审核		
Approval 批准	Audit 审核	Confirm 确认	Approval 批准	Audit 审核	Compile 编制
<input type="checkbox"/> Qualified 接受		<input type="checkbox"/> Disqualified 不接受		Status 状态:	<input type="checkbox"/> Development ■ Mass production
				研发 量产供货	

Deep UV LED PKG

Table of contents 目录

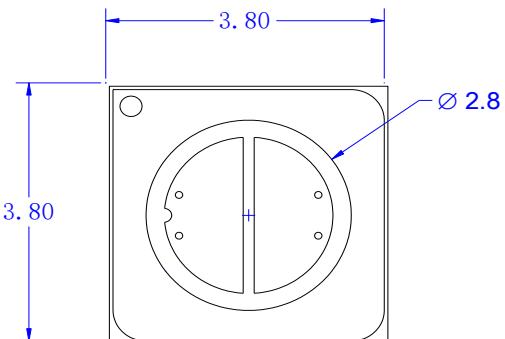
1. Features 产品特性.....	4
2. Outline Dimension 外形尺寸.....	4
3. Application 应用领域.....	5
4. Performance Parameter 性能参数.....	5
5. Bining Structure 产品分档.....	7
6. Typical Characteristic Curve 典型特性曲线.....	8
7. Reliability Test Items 可靠性试验.....	10
8. Packaging 包装.....	11
9. Reflow Soldering Characteristics 回流焊特性.....	14
10. Cautions on Use 使用注意事项.....	15

Deep UV LED PKG

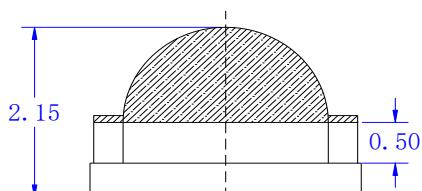
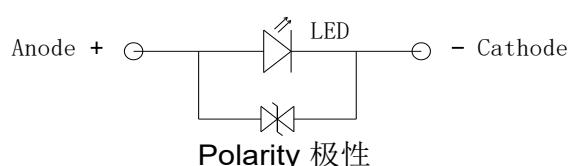
1. Features 产品特性

- ◆ Peak wavelength: 260-270nm (峰值波长: 260-270nm)
- ◆ Dimension 3.8*3.8*2.15 mm (尺寸: 3.8*3.8*2.15mm)
- ◆ Inorganic packaging process, high reliability (无机封装工艺, 高可靠性)
- ◆ Wide viewing angle : 60° or 120° (发光角度: 60° 或120°)
- ◆ General structure design , suitable for all SMT welding process (通用结构设计, 适用于所有SMT焊接工艺)
- ◆ Carrier tape and reel packaging, each reel 1000PCS (载带及卷盘包装, 每卷1000pcs)
- ◆ RoHS compliant (ROHS 标准)

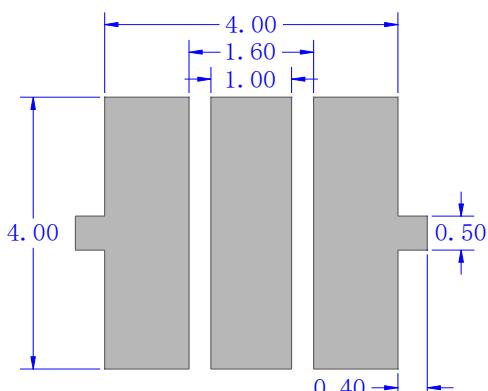
2. Outline Dimensions (mm) 外形尺寸



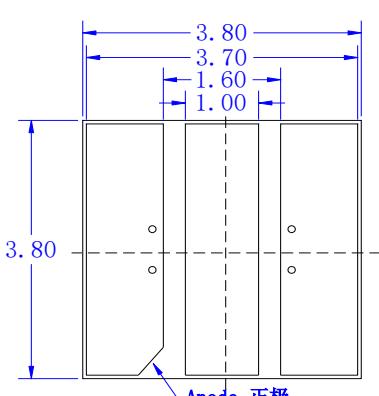
TOP View 正面图



Side View 侧面图



推荐焊盘



Bottom View 背面图 (正面透視)

Deep UV LED PKG

3. Applications 应用领域

- ◆ Surface sterilization (表面消毒杀菌)
- ◆ Fresh storage (生鲜存储)
- ◆ Medical and health care (医疗卫生)
- ◆ Water and air purification (水、空气净化)
- ◆ Biological analysis and detection (生物分析及检测)



4. Performance Parameter 性能参数

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 参数			Unit 单位
			Min 最小值	Typ 典型值	Max 最大值	
Forward Current 正向电流	I _F	~	200	350	500	mA
Peak Wavelength 峰值波长	λ _p	I _F = 350mA	260	265	270	nm
Radiation flux 辐射通量	Φ _e	I _F = 200mA	23	28.5	35	mw
		I _F = 350mA	45	52	60	mw
		I _F = 400mA	48	59	68	mw
		I _F = 500mA	60	70	78	mw
Spectrum Half Width 半波宽	Δλ	I _F = 350mA	---	10	12	nm
Forward Voltage 正向电压	V _F	I _F = 350mA	5.5	6.2	6.8	V
Viewing Angle 发光角度	2θ _{1/2}	I _F = 350mA	60	120	---	deg
Thermal Resistance 热阻	R _{th j-s}	I _F = 350mA	---	9.7	---	°C/W

Deep UV LED PKG

Absolute Maximum Ratings at TA=25°C 绝对最大额定参数

Item 项目	Symbol 符号	Rating 数值	Unit 单位
Power Dissipation 功耗	P _D	3.5	W
Forward Current 正向电流	I _F	350	mA
Peak Forward Current 峰值电流	I _{FP}	420	mA
Junction Temperature 结温	T _j	< 90	°C
Antistatic 抗静电	ESD	2000	V
Operating Temperature Range 操作温度	T _{opr}	- 20°C ~ 75°C	°C
Storage Temperature Range 存储温度	T _{stg}	- 40°C ~ 100°C	°C
Soldering Temperature 焊接温度	T _{sOL}	280°C for 5 sec	°C

Notes (备注) :

- Φ e integrating sphere for measuring the total radiation flux measurement tolerance is plus or minus 10% . (Φ_e为积分球测量的总辐射通量, 其测量公差为±10%) ;
- The measurement tolerance of peak wavelength is ±3nm. (峰值波长测量公差为±3nm) ;
- The voltage measurement tolerance is ±2% .(电压测量公差为±2%) ;
- IFp condition is pulse width 10ms duty cycle 1/10 .
(I_{FP}条件为脉冲宽度≤10ms, 占空比≤1/10);
- R_{thj-s} is the thermal resistance of the fillet welding pad from the chip to the lamp bead .
(R_{thj-s}为芯片到灯珠引角焊盘热阻);
- Use based on or above the maximum rating will affect the reliability of the device or cause irreversible permanent damage .(基于或超出上述最大额定值使用, 会影响器件的可靠性或造成不可逆的永久性损坏) 。

Deep UV LED PKG

5. Bining Structure 产品分档

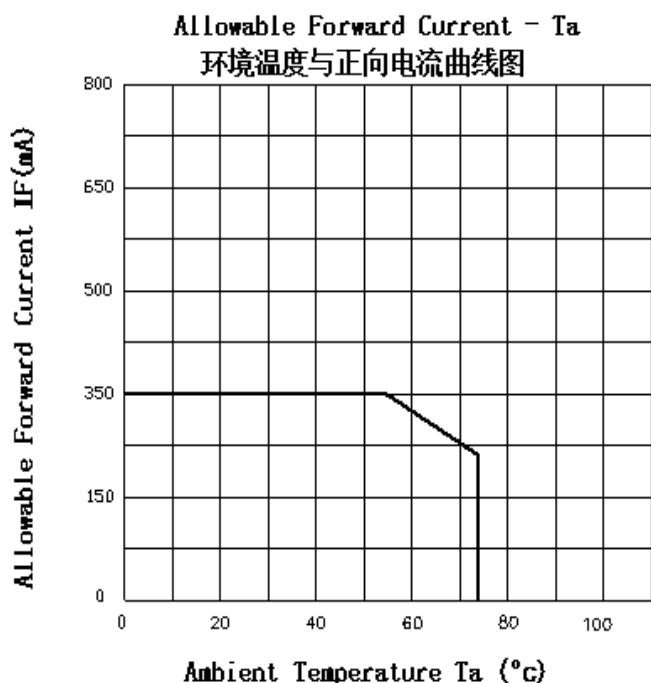
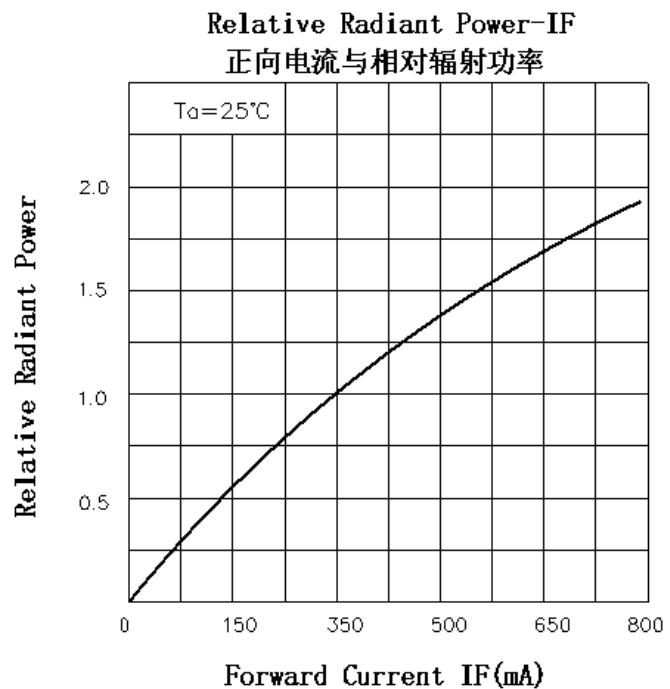
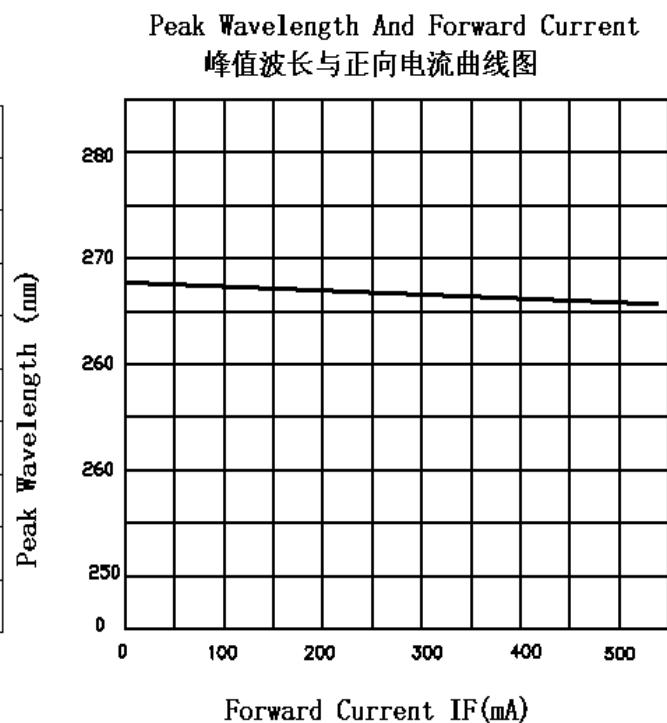
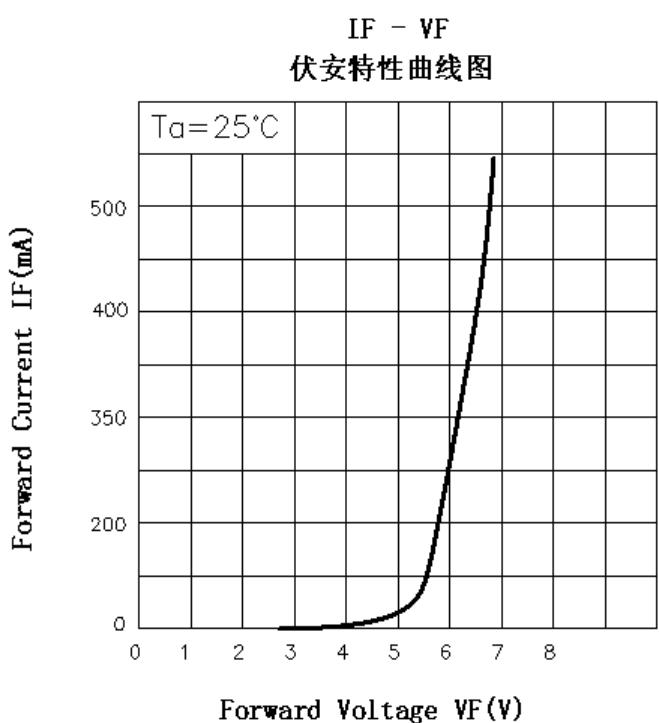
产品分BIN ($I_F = 350mA$ $TA = 25^\circ C$)				
Item 项目	BIN 分档	MIN 最小值	MAX 最大值	Unit 单位
Forward Voltage 正向电压	V11	4.5	6	V
	V12	6	7	
Radiation flux 辐射通量	F32	40	50	mw
	F33	50	60	
Peak Wavelength 峰值波长	C30	260	265	nm
	C31	265	270	

Notes (备注) :

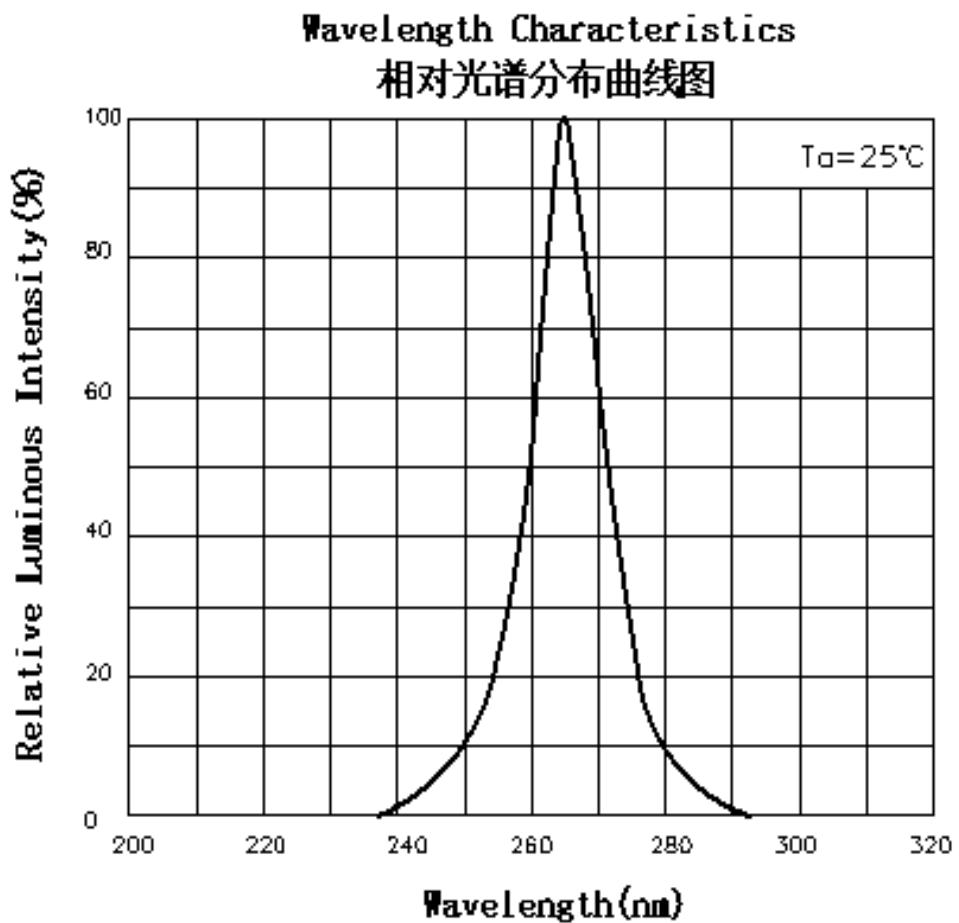
1. Peak Wavelength Measurement tolerance : $\pm 3nm$. (峰值波长测量公差 $\pm 3nm$) ;
2. Radian Flux Measurement tolerance : $\pm 10\%$. (辐射通量测量公差 $\pm 10\%$) ;
3. Forward Voltage Measurement tolerance : $\pm 2\%$. (电压测量公差 $\pm 2\%$) ;
4. $I_F = 350mA$ Standard is BIN : V12-F32-C31 . ($I_F = 350mA$ 标准品分档为: V12-F32-C31) .

Deep UV LED PKG

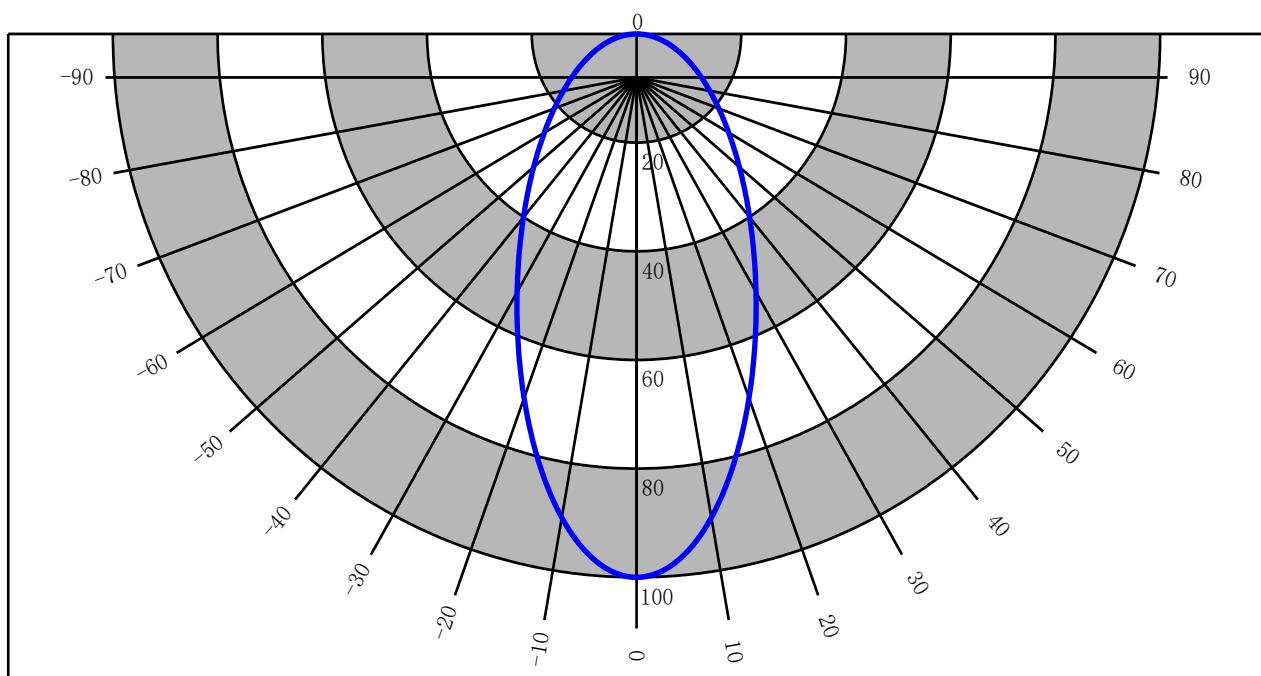
6. Typical Characteristic Curve 典型特性曲线



Deep UV LED PKG



Radiation Characteristics 辐射特性曲线



Deep UV LED PKG

7. Reliability Test Items 可靠性试验

&. Reliability test items and conditions 信赖性试验项目及条件					
Test Items 项目	Ref. Standard 参考标准	Test Condition 测试条件	Test Time 测试时间	Quantity 数量	AC/Re 接收/拒绝
Life Test 常温老化	JESD22-A108	Ta=25°C ±5°C I _F =350MA	1000H	11Pcs	0/1
Temperature Cycle 温度循环	JESD22-A104	-40°C ±5°C 30min. ↓ ↑ 5min -100°C ±5°C 30min.	200 Cycles	11Pcs	0/1
High Temperature High Humidity Storage 高温高湿存储	JESD22-A101	85°C ±5°C/85%RH I _F =350MA	1000H	11Pcs	0/1
Reflow 回流焊	JESD22-B106	Temp:260°C max T= 10 sec	5 times	11Pcs	0/1
High Temperature Stor- age 高温保存	JESD22-A103	Temp:100°C ±5°C	1000H	11Pcs	0/1
Low Temperature Stor- age 低温保存	JESD22-A119	Temp:-40°C ±5°C	1000H	11Pcs	0/1
ESD Test 静电测试	/	2000V (HBM)	15s	11Pcs	0/1

&. Criteria For Judging Damage 失效判定标准

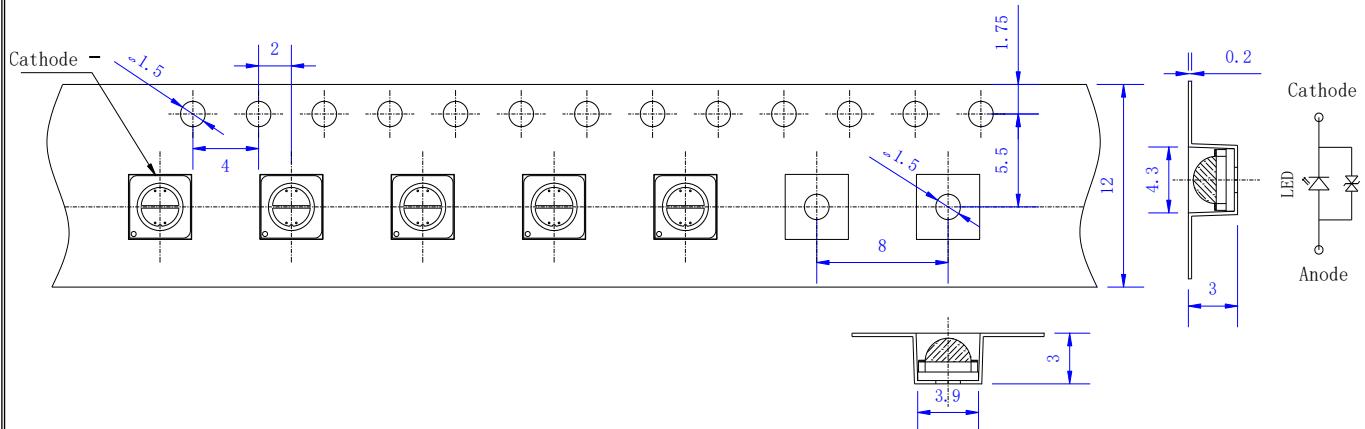
Test Items 项目	Ref. Standard 参考标准	Test Condition 测试条件	Failure Criteria 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	V _F	I _F =350mA	---	U .S .L *)x 1.1
Radiation flux 辐射通量	Φe	I _F =350MA	L .S .L *)x 0.7	---

备注: 1. U.S.L : Upper Specification Limit 规格上限 , L.S.L : Lower Specification Limit 规格下限 ;
 2. 根据产品实际使用环境和要求以上测试项目为基本测试仅供参考, 不作为应用保证。

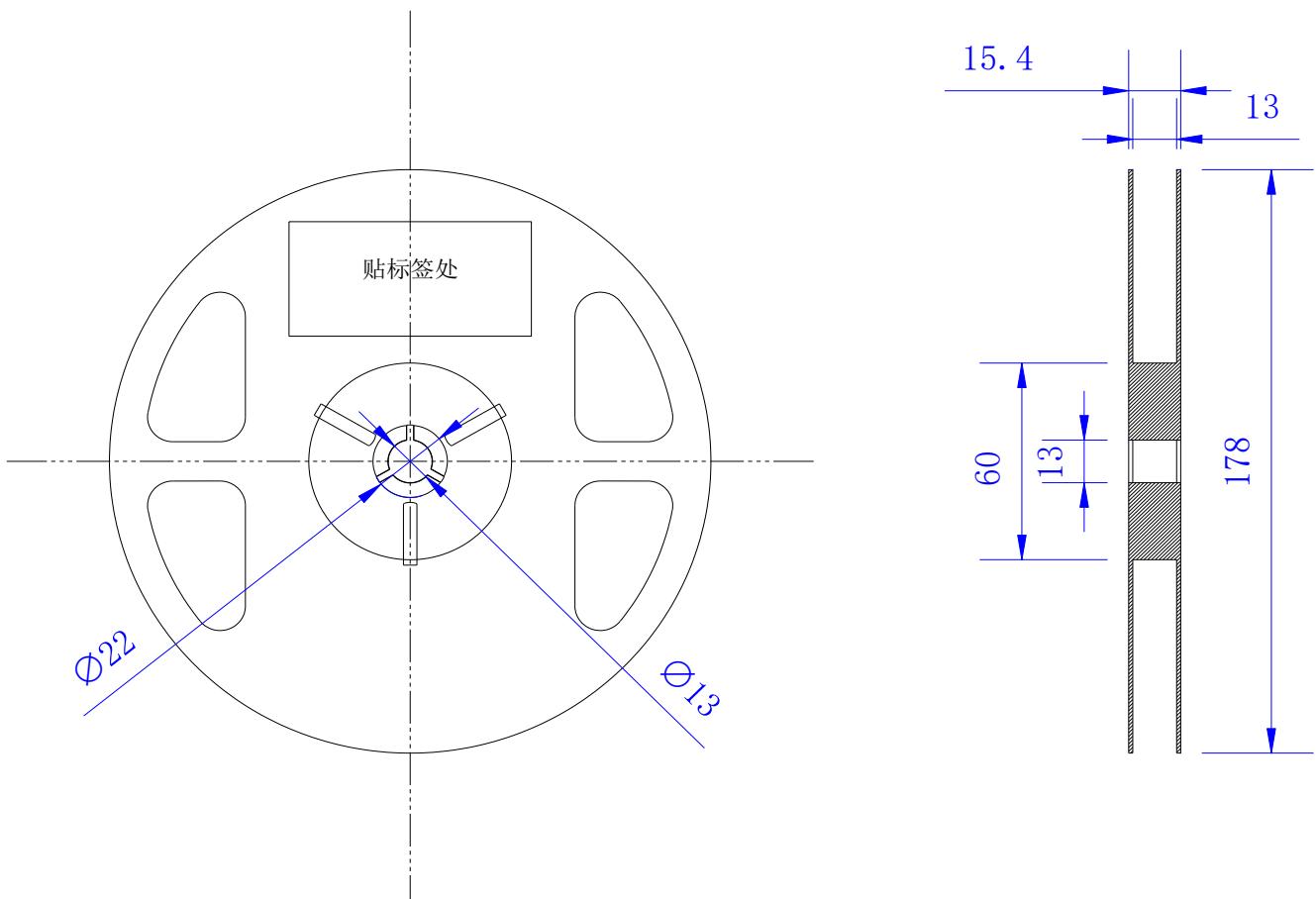
Deep UV LED PKG

8. Packaging 包装

► Carrier Tape (mm) 载带



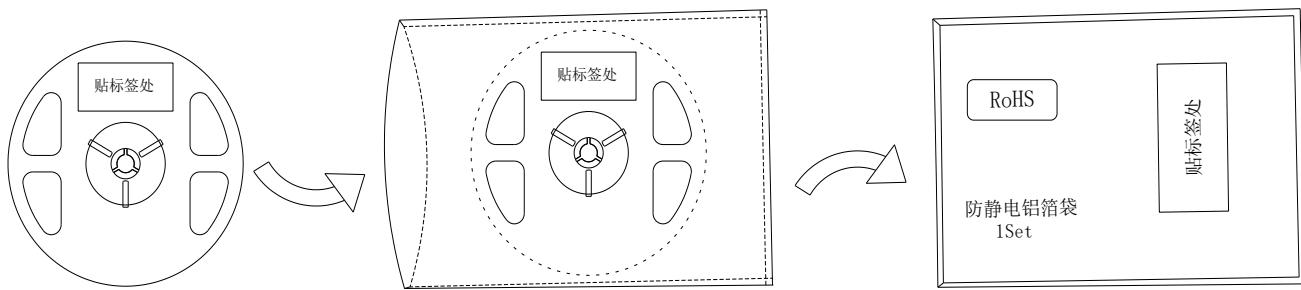
► Reel Dimension (mm) 卷盘



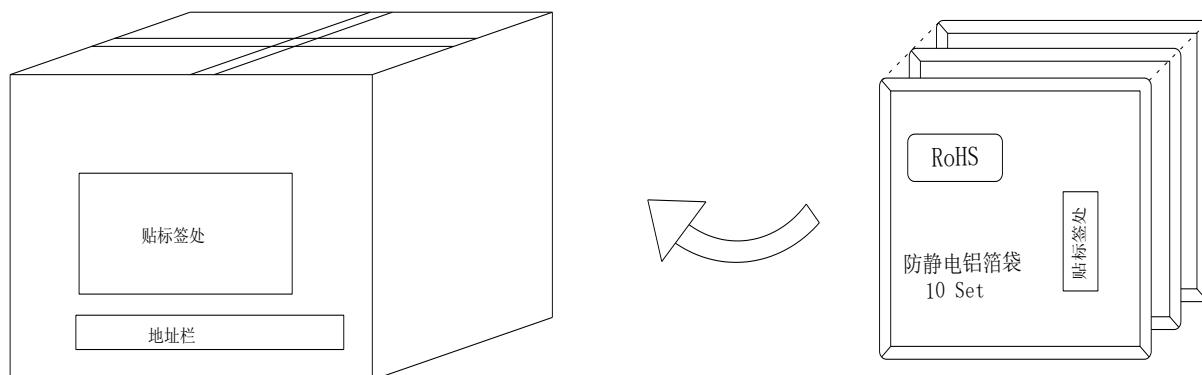
Deep UV LED PKG

8. Packaging 包装

► Anti-static and moisture-proof packing 防静电防潮包装



► Carton Packing 纸箱包装



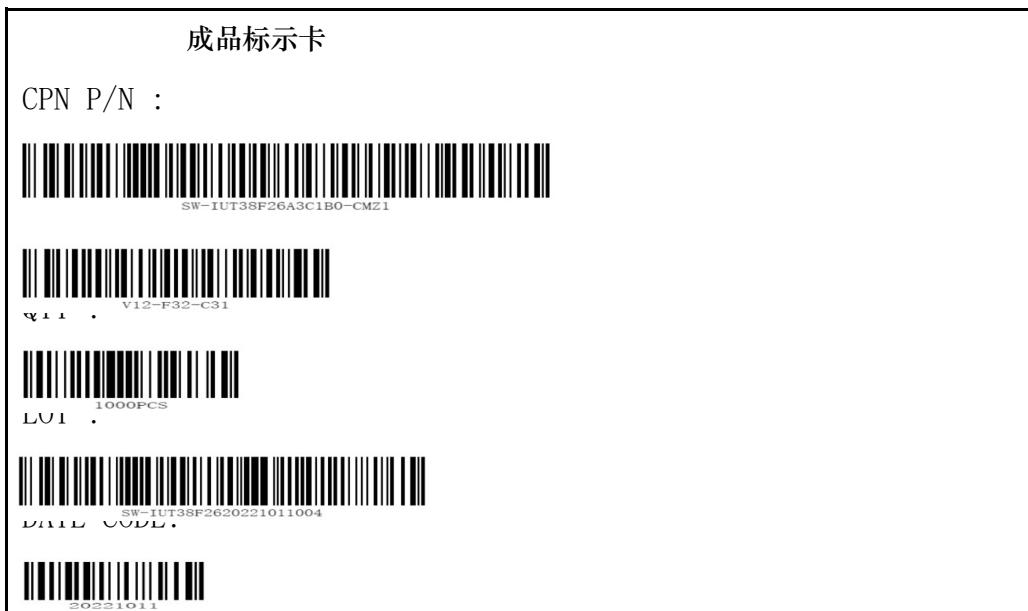
Notes (备注):

- 1、1set:1000PCS . 单个铝箔袋装1000PCS ;
- 2、1Box:10set=10kPCS (about1kg). 一箱10袋, 单箱装10000PCS (重约1kg) ;
- 3、Box size (L*W*H) = 260*235*190mm . 纸箱尺寸 (长*宽*高) : 260*235*190mm 。

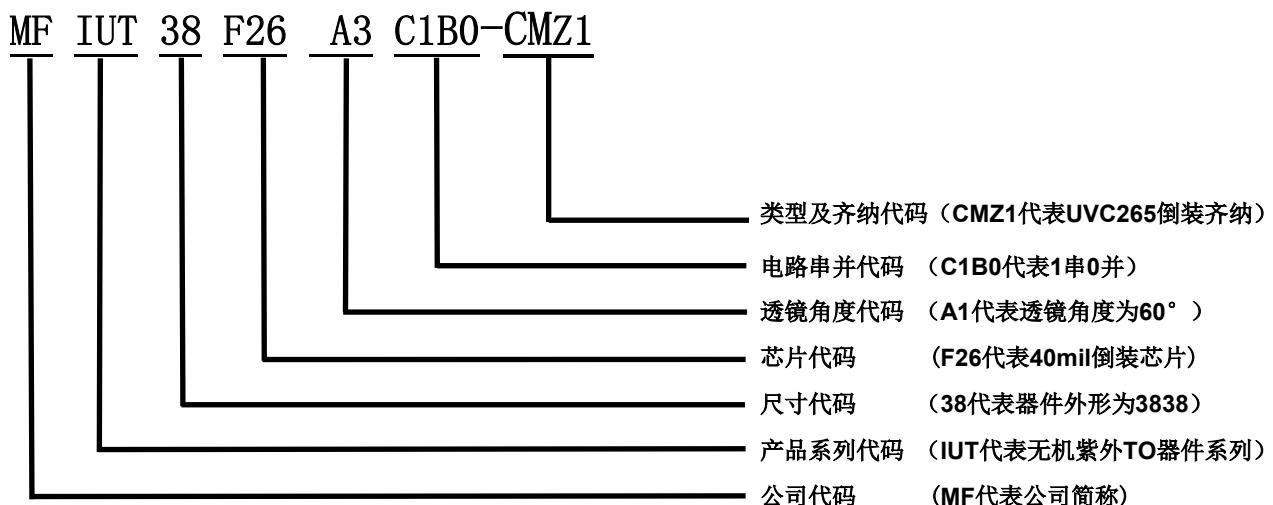
Deep UV LED PKG

8. Packaging 包装

► Specification of Label 标签规格



► Specification of Label 产品命名规则

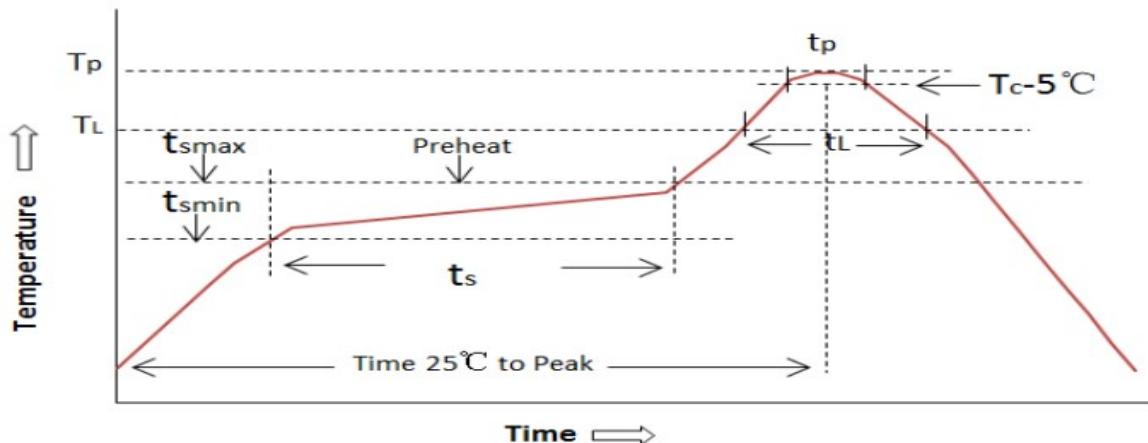


Notes (备注) :

- 1、Product packaging for anti-static, moisture-proof vacuum packaging .
(产品包装为防静电、防潮真空包装)；
- 2、Handle with care during transportation to avoid damage to packaging and products.
(运输过程中需轻拿轻放，以免损坏包装及产品)。

9. Reflow Soldering Characteristics 回流焊特性

► Reflow Profile 温度曲线



温度分布特性	锡铅焊料	无铅焊料
Tsmin	100°C	150°C
Tsmax	150°C	200°C
ts(tsmin 到 tsmax)	60~120sec	60~120sec
升温速率 (Tsmax 到 Tp)	3°C/sec Max	3°C/sec Max
液相温度	183	217
峰值温度(Tp)	235	260
峰温持续时间 (tp)	20 sec	30sec
降温速率	6°C/sec Max	6°C/sec Max
25°C 到峰值温度时间	6 minutes Max	8 minutes Max

Notes(备注):

- 1、The maximum temperature of reflow soldering is not more than 260°C .
(回流焊最高温度不易超过260°C，原则上建议使用无铅锡膏)；
- 2、The number of reflow welding of the same product is not more than two times, and no external force is allowed to act on the LED surface during the welding process .
(同一产品回流焊次数不易超过两次，焊接过程中不得有外力作用在LED表面)；
- 3、The cooling zone shall be cooled slowly, and the welding shall be done after the product is cooled to room temperature .
(降温区应缓慢降温，焊接完成后待产品降至室温在做相关后续处理)；
- 4、The above temperature curve is only a common reference, the actual welding should show the specific solder paste types, characteristics and finished materials to make appropriate adjustments
(以上温度曲线仅供参考，实际焊接中要视具体锡膏种类特性及成品材质做适当调整)。

10. Cautions on use 使用注意事项

1. Storage 储存

To avoid the moisture penetration ,we recommend storing product in a dry box (or a desiccator) with a desiccant. The recommended conditions are temperature 5 to 30 degrees Centigrade. Humidity 60% maxi-mum. (避免湿气的渗透,我们建议产品储存 在干燥的盒子里(或干燥器中)并放置干燥剂. 建议的条件是温度5~30℃, 相对湿度不能超过60% 。)

2. Precaution after opening packing 拆包后的注意事项

2. 1. Soldering should be done right after opening the package (within 24Hrs).
(拆包后24小时内须焊接完成。)

2. 2. If the package has been opened than 1 week or the color of desiccant changed, components should be dried for 10-12 Hrs at 60±5°C. (如果开封超过一周或湿度标示卡发生改变, 产品必须在60±5℃条件下进行12小时除湿。)

3. Soldering 焊接

3. 1. Stress on the LEDs should be avoided during heating in soldering process, It will cause fatal damage on this product. (在焊接加热过程中应避免应力作用在LED灯珠上, 以防对产品造成损伤。)

3. 2. After soldering, do not deal with the product before its temperature drop down to room temperature. (焊接后, 不能将产品迅速冷却至室温。)

4. Static Electricity 静电

The product is sensitive to static electricity. Relevant equipment, instruments and work surfaces should be properly grounded during use or operation. The operator should wear anti-static bracelet and check its effectiveness regularly. (产品对静电敏感, 使用或操作过程中相关设备、仪器及工作台面需确保正确接地, 操作人员需佩戴防静电手环, 并定期检测其有效性)

5. The product use 产品取用

Tweezers should be applied to both sides of the product when it is used to avoid light window pollution or damage caused by direct contact with the glass surface with hands or other objects, which will affect the optical characteristics (产品取用时应用镊子夹取两侧, 避免用手或其它物体直接接触玻璃表面造成光窗污染或损伤, 影响光学特性。)

6. Safety Protection 安全防护

The light emitted by this product when lit is deep ultraviolet, which is easy to cause damage to human eyes and skin. Please do not direct your eyes or expose to ultraviolet light for a long time. If necessary, the operators and users should take self-protective measures, such as wearing effective anti-ultraviolet clothing and anti-ultraviolet glasses to reduce the impact of prolonged exposure to the corresponding environment.

(本产品点亮时发出的光为深紫外, 对人眼和皮肤易造成伤害, 请勿眼睛直视或长时间暴露在紫外光照射环境下。如因工作需要相关操作与使用人员需做好自我防护措施, 如穿戴有效防紫外服及防紫外眼镜以减轻长时间处在相应环境中对您的影响。)

Deep UV LED PKG

Revised Version 版本修订

版本修订记录	序号	版本	修订内容	日期	备注
	1	A0	新产品规格书编制	2022. 10. 11	内部审核版
	2	A1	新产品规格书确认	2022. 10. 13	发行版
	3	A1	部分参数更新	2022. 12. 27	量产版