

产 品 规 格 书

Specification for approval

客户名称/Customer Name: _____

产品名称/The product name: 1808 白光（数码款高 ESD）

产品型号/Product model: XHY-STH1808UW

编 号/Make no: _____

版 本 号/Version: A1

日 期/Date: 2022-11-01

Client approval 客户审核			Company approval 本公司审核		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
					杨增强
☐ Qualified 接受	☐ Disqualified 不接受		DATE: 日期:2022-11-01		

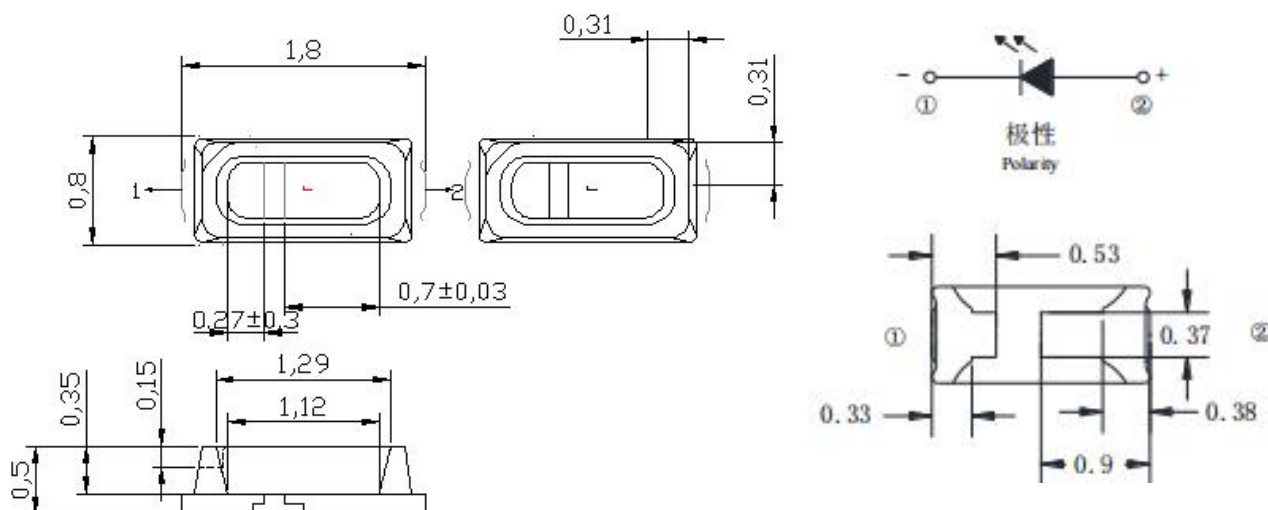
一、产品描述/Features

- 外观尺寸/Package(L/W/H) : 1.8×0.8×0.5mm
- 发光角度大/Extremely wide viewing angle.
- 颜色/Color: 白光/The white light
- 胶体/Lens: 黄色雾状/Yellow Diffused
- EIA规范标准包装/EIA STD Package
- 环保产品, 符合ROHS要求/Meet ROHS, Green Product
- 适用于自动贴片机/Compatible With SMT Automatic Equipmen

二、Applications (产品应用)

- 1.Optical indicators 光学指示
- 2.Indoor display. 室内显示
- 3.Backlight for LCD, switch and Symbol, display. 面板光源、转换器、开关和标志
- 4.LCD Backlighting 背光显示
5. Illuminations 灯饰
- 6.general use 其他适合的应用

三、外形尺寸及建议焊盘尺寸/Package Profile & Soldering PAD Suggested



注/Notes: 1. 单位 : 毫米 (mm) /All dimensions are in millimeters.

2. 公差 : 如无特别标注则为± 0.1 mm/Tolerance is ± 0.10 mm unless otherwise noted.

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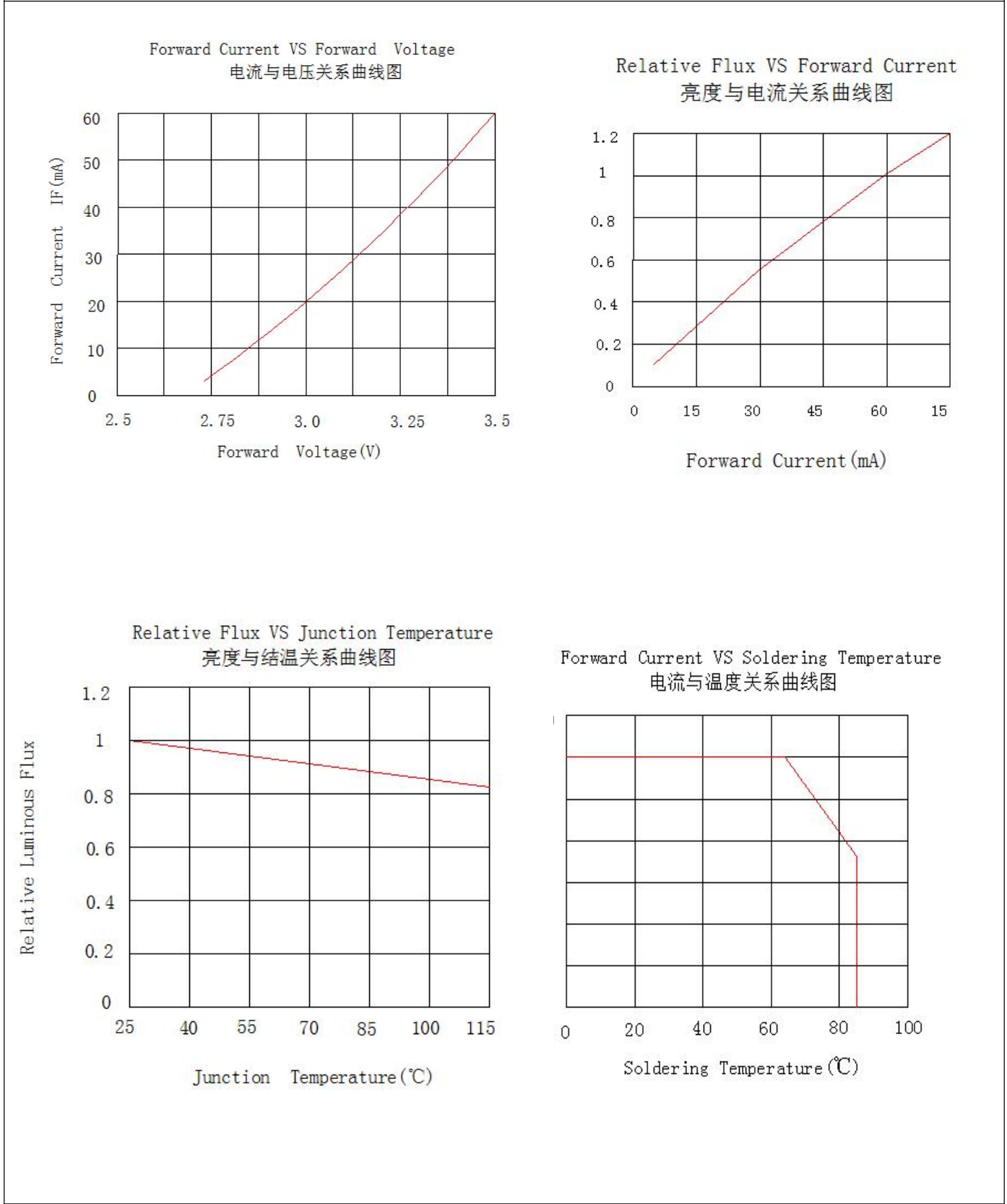
四、光电参数/Photoelectric parameters (Ta=25℃)

最大绝对额定值/Absolute Maximum Ratings (Ta=25℃)			
参数/Parameter	符号/Symbol	数据/Data	单位/Unit
		白光/The white light	
消耗功率/Power Dissipation	PD	100	mW
最大脉冲电流/Peak Forward Current(1/10 占空比, 0.1ms 脉宽)	IFP	60	mA
正向直流工作电流/DC Forward Current	IF	20	mA
反向电压/Backward Voltage	VR	8	V
静电放电/Electrostatic Discharge	ESD	3000	V
存储环境温度/Storage Temperature Range	Tstg	-40℃ to +85℃	
工作环境温度/Operating Temperature Range	Topr	-40℃ to +85℃	
焊接条件/Soldering Condition	Tsol	回流焊/Reflow soldering : 255℃ , 10s max	
		手动焊/Hand soldering : 300℃ , 3s max	

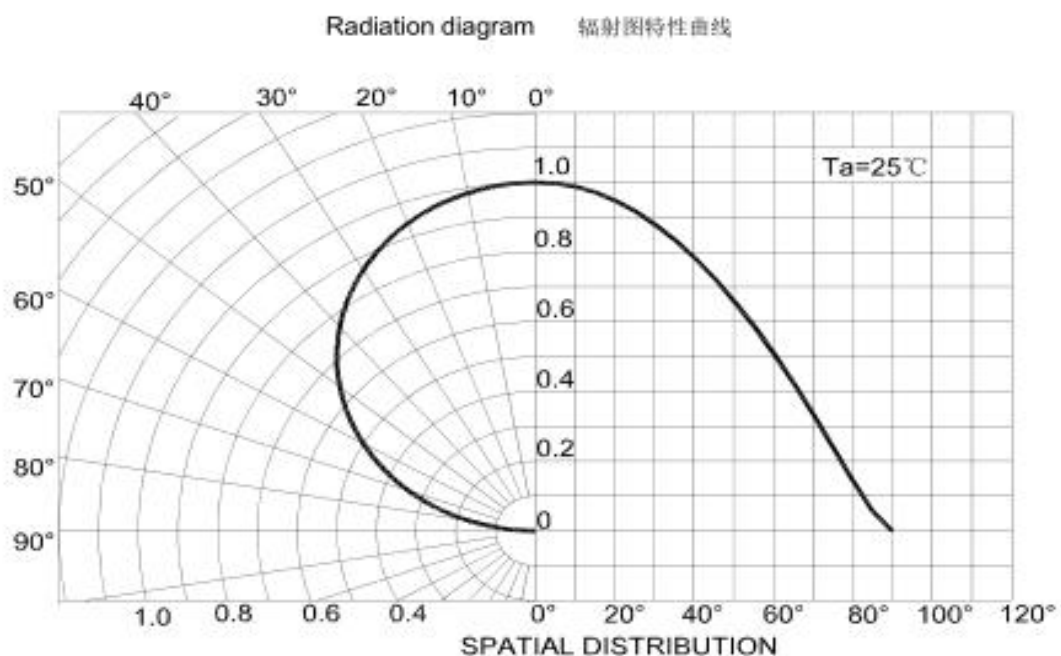
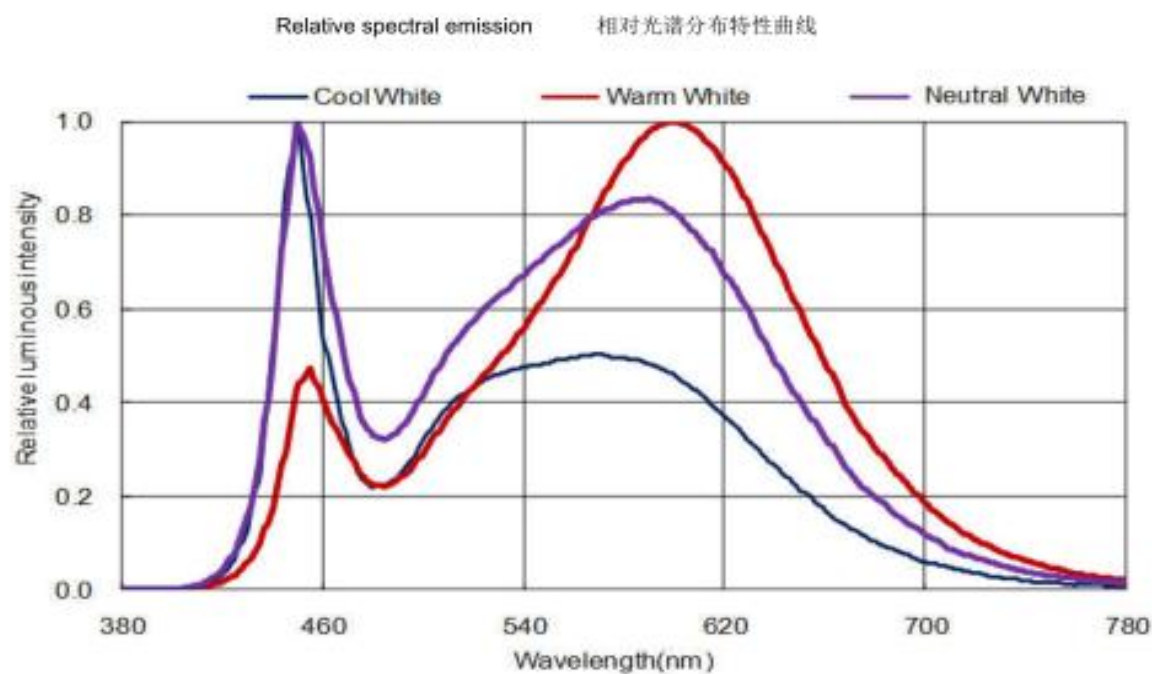
参数/Parameter	符号 Symbol	数据 Data			单位 Symbol	测试条件 Test Condition
		最小值 Min	平均 Average	最大值 Max		
正向电压 Forward Voltage	Vf	2.6	---	2.9	V	IF=5mA
光强 Light Intensity	Iv	450	---	650	mcd	IF=5mA
色温 Color temperature	TC	---	>20000	---	(K)	IF=5mA
色坐标值 Coordinate values (CIE1931 版)	X	---	0.25	---	---	IF=5mA
	Y	---	0.24	---	---	IF=5mA
反向电流 Reverse current	Ir	---	---	1	μ A	VR=5V
半光强视角 Viewing Angle	2 θ 1/2	---	120	---	Deg	IF=5mA

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五、光电参数代表值特征曲线/Typical Electrical-Optical Characteristics Curves

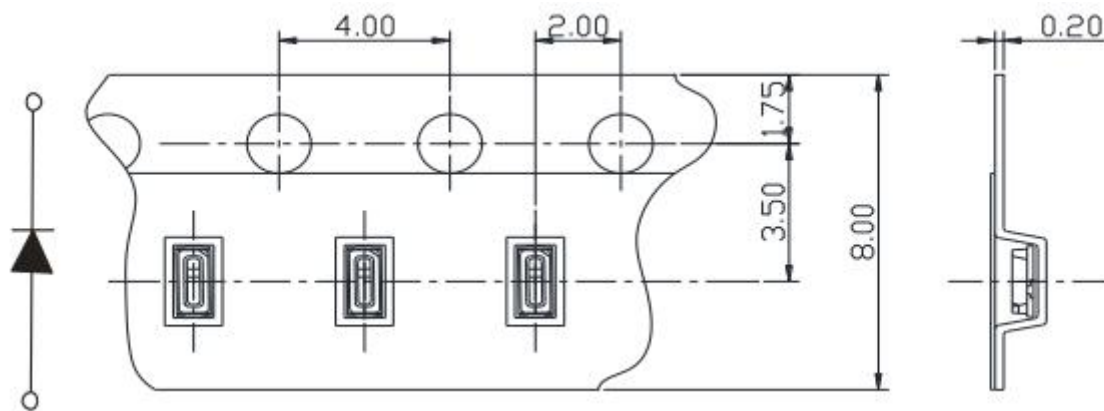


注：如无另外注明，测试环境温度为/Note: If not otherwise indicated, the test environment temperature is 25 + 5°C.



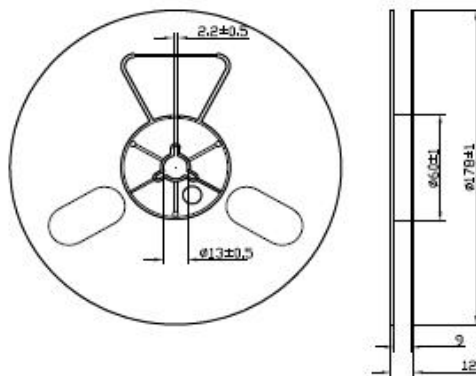
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六、包装载带与圆盘尺寸/Reel And Tape Dimensions

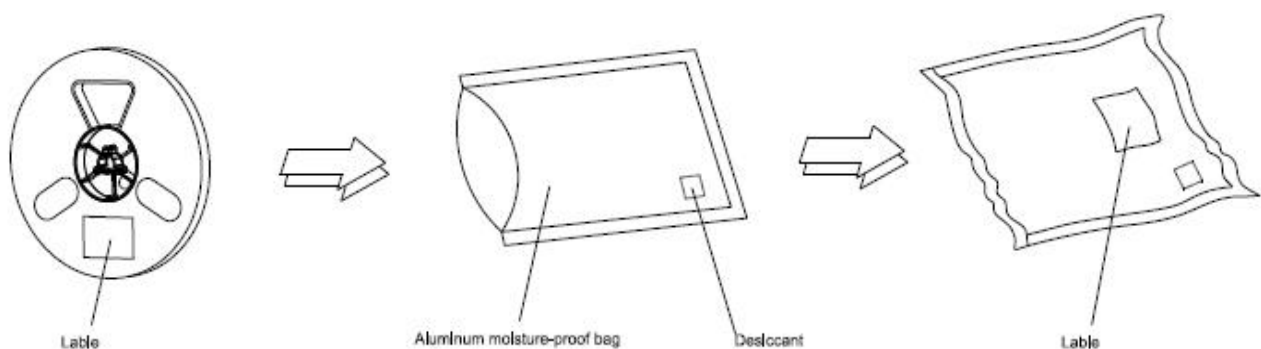


Reel Dimensions

卷轴尺寸



Moisture Resistant Packaging 防潮带包装



Note:The tolerances unless mentioned is $\pm 0.1\text{mm}$,Unit:mm 注:标注公差为 $\pm 0.1\text{mm}$,单位:mm

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七、亮度、电压、颜色等级区分/Distinguish between brightness, voltage and color levels

1. 亮度等级/Brightness level (IF=5mA)

等级/level	白光/The white light	
	最小值/Min (mcd)	最大值/Max (mcd)
L1	450	540
L2	540	650

每组数据公差为/The tolerance of each set of data is 10%.

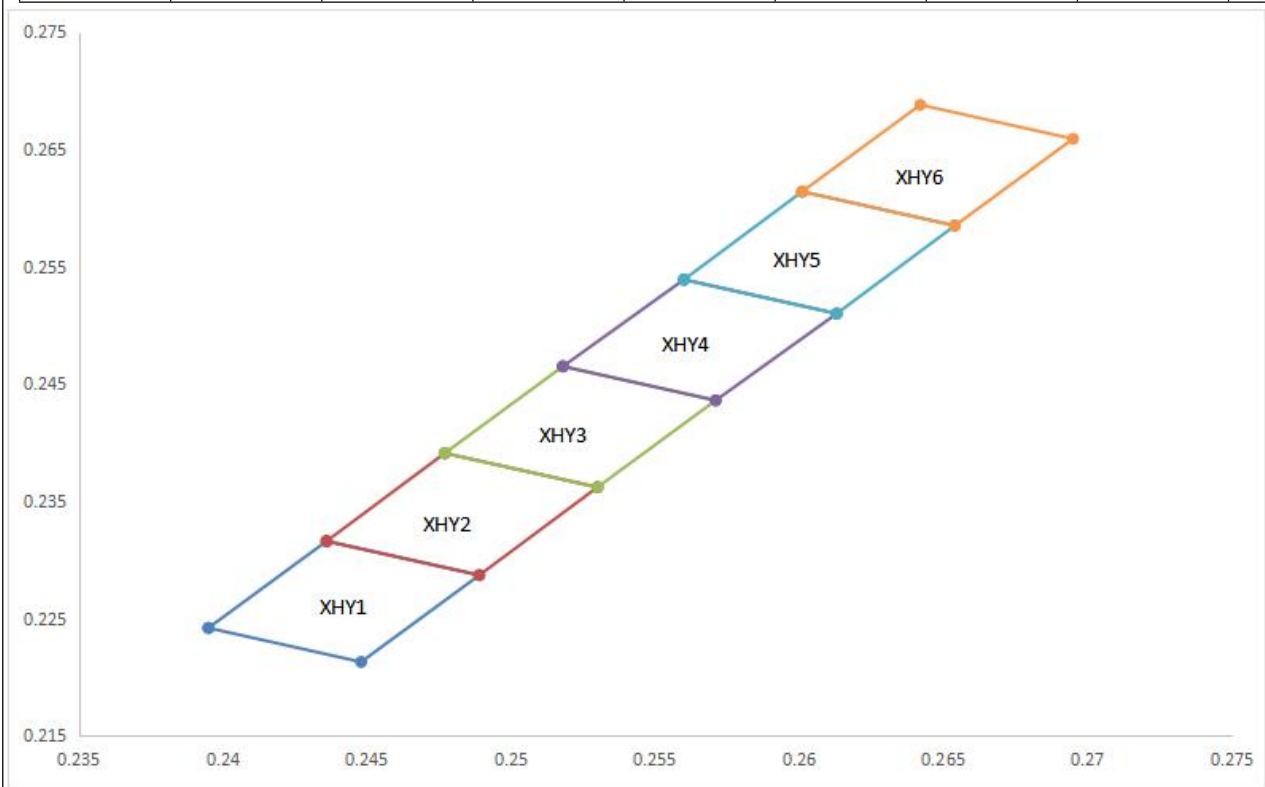
2. 电压等级/Voltage grade (IF=5mA)

等级/Grade	V1	V2	V3
范围/Range	2.6-2.7	2.7-2.8	2.8-2.9

每组数据公差为/The tolerance of each set of data is ±0.05V.

3. 色区等级/Band level (IF=5mA)

色区代码	X1	Y1	X2	Y2	X3	Y3	X4	Y4
XHY1	0.2395	0.2242	0.2448	0.2213	0.2489	0.2287	0.2436	0.2316
XHY2	0.2436	0.2316	0.2489	0.2287	0.253	0.2362	0.2477	0.2391
XHY3	0.2477	0.2391	0.253	0.2362	0.2571	0.2436	0.2518	0.2465
XHY4	0.2518	0.2465	0.2571	0.2436	0.2613	0.251	0.256	0.2539
XHY5	0.2560	0.2539	0.2613	0.2510	0.2654	0.2585	0.2601	0.2614
XHY6	0.2601	0.2614	0.2654	0.2585	0.2695	0.2659	0.2642	0.2688



每组数据公差为/The tolerance of each set of data is ±0.005

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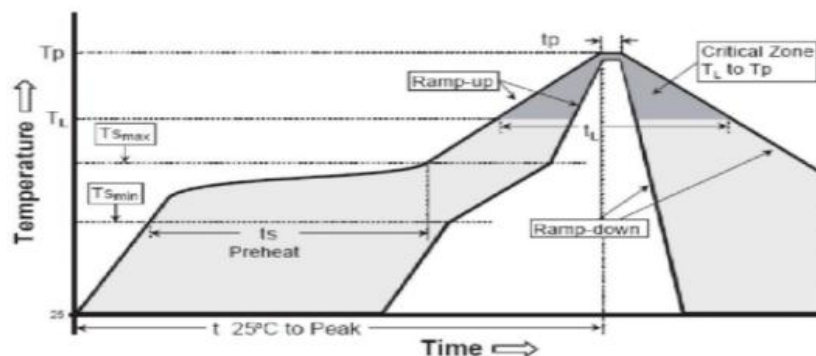
八、判断受损的标准/CRITERIA FOR JUDGING THE DAMAGE

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	—	$U. S. L^{*}) \times 1.1$
Reverse current 反向电流	IR	VR=5V	—	$U. S. L^{*}) \times 2.0$
Luminous intensity 光照强度	IV	IF=20mA	$L. S. L^{**}) \times 0.7$	—

U. S. L. : Upper Standard Level

L. S. L. : Lower Standard Level

九、SMT回流焊说明/SMT Reflow Soldering Instructions



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 (Tsmmin)	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

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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 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 use the 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, 不要对材料施加外力, 也不要震动, 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)。

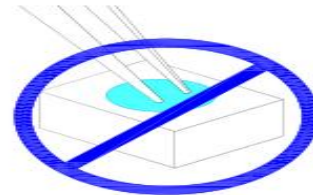
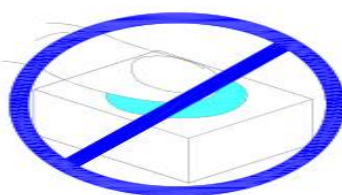
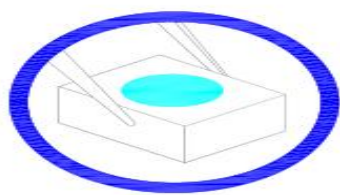
2. VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues. 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.

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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，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，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 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。



4. 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. 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. Similar to most Solid state devices; LEDs are sensitive to Electro-Static Discharge (ESD) and Electrical Over 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。