



深圳市晶盟电子科技有限公司
Shen zhen jing meng electronic technolodg to LTD

产 品 规 格 书
SPECIFICATION

客户名称CUSTOMER: _____

产品型号MODEL: JM-ZJJM0201

晶盟电子 jingmengelectron		
核准Checked By	审核Approved By	制作Prepared By
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<input type="checkbox"/> 接受 Qualified <input type="checkbox"/> 不接受 Disqualified		

公司：深圳市晶盟电子科技有限公司
 地址：广东省深圳市宝安区西乡三围社区索佳科技园索佳综合楼A902
 电话：0755-23200023
 传真：0755-29593377
 网址：www.uniled.com.cn

产品及特性 Products and Features

产品型号 Model	芯片材料 Chip Materials	发光颜色 Emitting Light	胶体颜色 Lens Color
JM-ZJJM0201	InGaN	White	Yellow

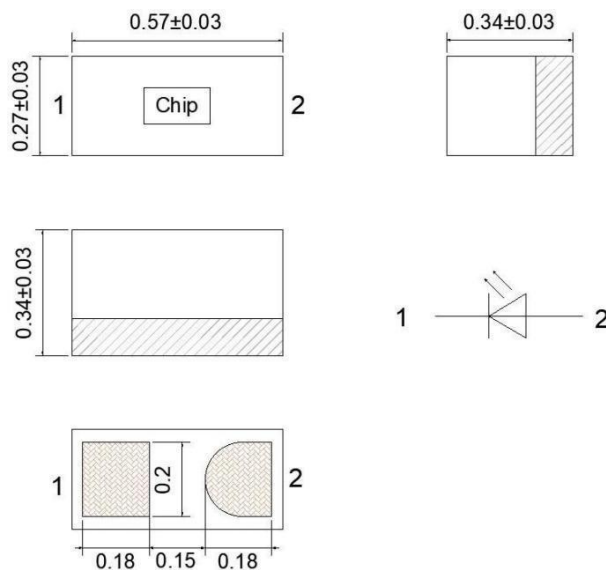
特性 Features

- Mini LED封装技术 Mini LED Packaging technology
- 宽的发光角度 Extremely wide viewing angle
- 低功耗 Low power consumption
- 防潮级别: 2级 Moisture levels: level 2
- 符合RoHS规范 Meet RoHS Certification
- 共金焊接 Common metal welding

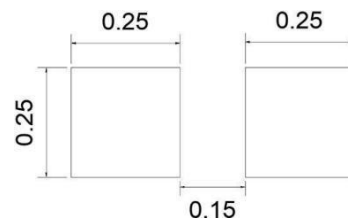
应用 Applications

- 光学指示 Optical indicator
- 室内显示 Ndoor display
- 智能电器 Smart appliances
- 可穿戴和便携式设备 Wearable and portable devices

封装尺寸 Package Dimensions



建议焊盘尺寸图 Recommended Soldering Pattern



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

注意: 操作时应注意静电敏感释放设备装置

Notes: (备注)

1. All dimension units are millimeters. (所有标注尺寸单位为毫米)
2. All dimension tolerance is ± 0.15 mm unless otherwise noted. (除特别标注外, 所有尺寸允许公差 ± 0.05 mm)

性能参数 Performance Parameters

(1) 电性与光学特性 Electrical I Optical Characteristics at Ta=25°C

参数 Parameter	Symbol (符号)	Min. (最小)	Typ. (平均)	Max. (最大)	Units (单位)	Test Conditions 测试条件
正向电压 Forward Voltage	VF	2.6	--	3.4	V	IF=5mA
光通量 Luminous flux	Φ	0.8	--	1.3	LM	IF=5mA
色温 CCT (K)	Tc	6000	6500	7000	K	IF=5mA
显色性指数 Color Rendering Index	Ra	70	--	--		IF=5mA
角度 Viewing Angle	201/2	--	120	--	deg	IF=5mA
反向电流 Reverse Current	IR	--	--	10	μA	VR = 5V

(2) 绝对最大额定值 Absolute Maximum Ratings at Ta=25°C

参数 Parameter	Symbol (符号)	Rating (值)	Units (单位)
功耗 Power Dissipation	Pd	15	mW
正向电流 Forward Current	IF	20	mA
峰值正向电流 Peak Forward Current [6]	IFP	80	mA
反向电压 Reverse Voltage	VR	5	V
静电 Electrostatic Discharge (HBM)	ESD	1000	V
操作温度 Operating Temperature	Topr	-40 ~ +85	°C
保存温度 Storage Temperature	Tstg	-40 ~ +60	°C
结温 Junction Temperature	Tj	≤ 110	°C

Note:(备注)

- q 1/2 是半值角, 指光强是光学中心线光强的 1/2 处到光学中心线的角度
q 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
- 上述发光通量的测试允许公差为±10%
the above luminous flux measurement allowance tolerance ±10%.
- 以上显色性指数的测试允许公差为± 2
The above Color Rendering Index measurement allowance tolerance : ± 3 4.
- 以上所示电压测量误差± 0.1V
The above forward voltage measurement allowance tolerance is ± 0.1V.
- 以上所示坐标测量误差± 0.005
The above color coordinates measurement allowance tolerance is ± 0.005.
- 脉宽 0.1ms, 周期 1/101/10 Duty cycle, 0.1ms pulse width.

典型光学特性曲线图 Typical optical characteristics curves at Ta=25°C

Fig.1 正向电压与正向电流特性曲线

Forward Voltage vs. Forward Current

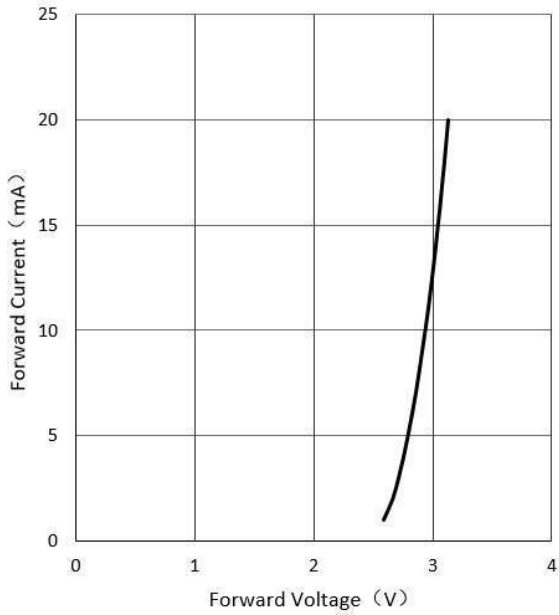


Fig.2 正向电流与相对光强特性曲线

Forward Current vs. Luminous Intensity

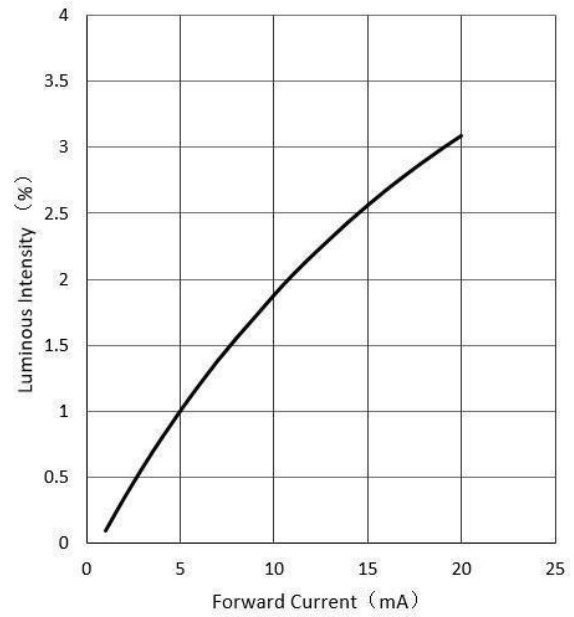


Fig.3 焊盘温度与正向电流特性曲线

Soldering Temperature vs. Forward Current

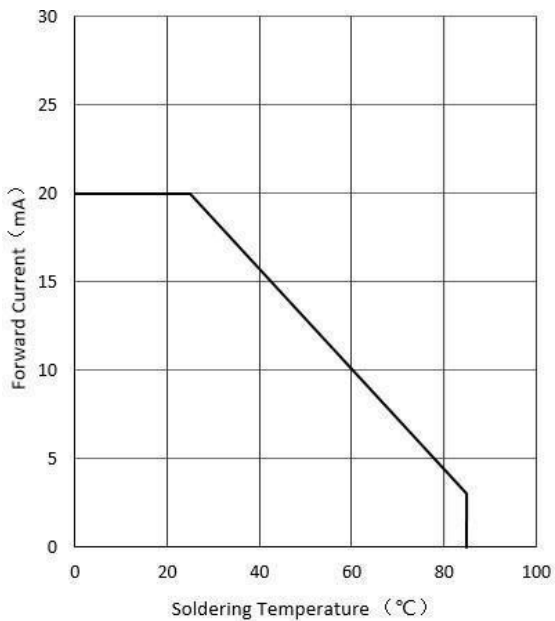
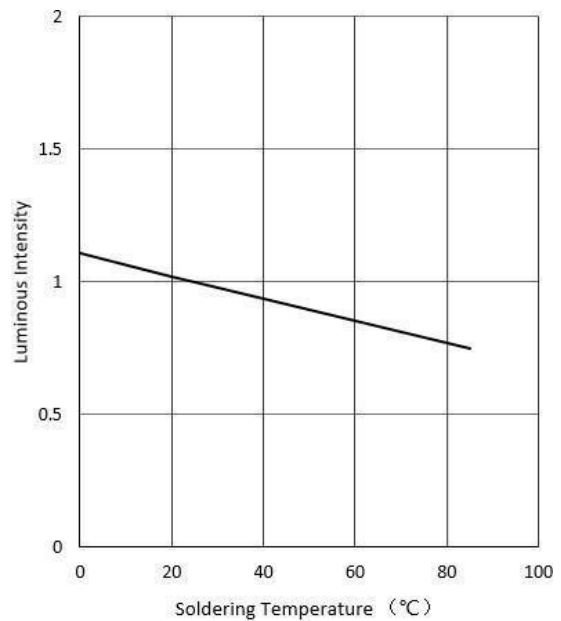


Fig.4 焊盘温度与相对光强特性曲线

Soldering Temperature vs. Luminous Intensity



典型光学特性曲线图 Typical optical characteristics curves at Ta=25°C

Fig.5 相对光谱分布曲线

Relative Intensity Vs. CIE Wavelength

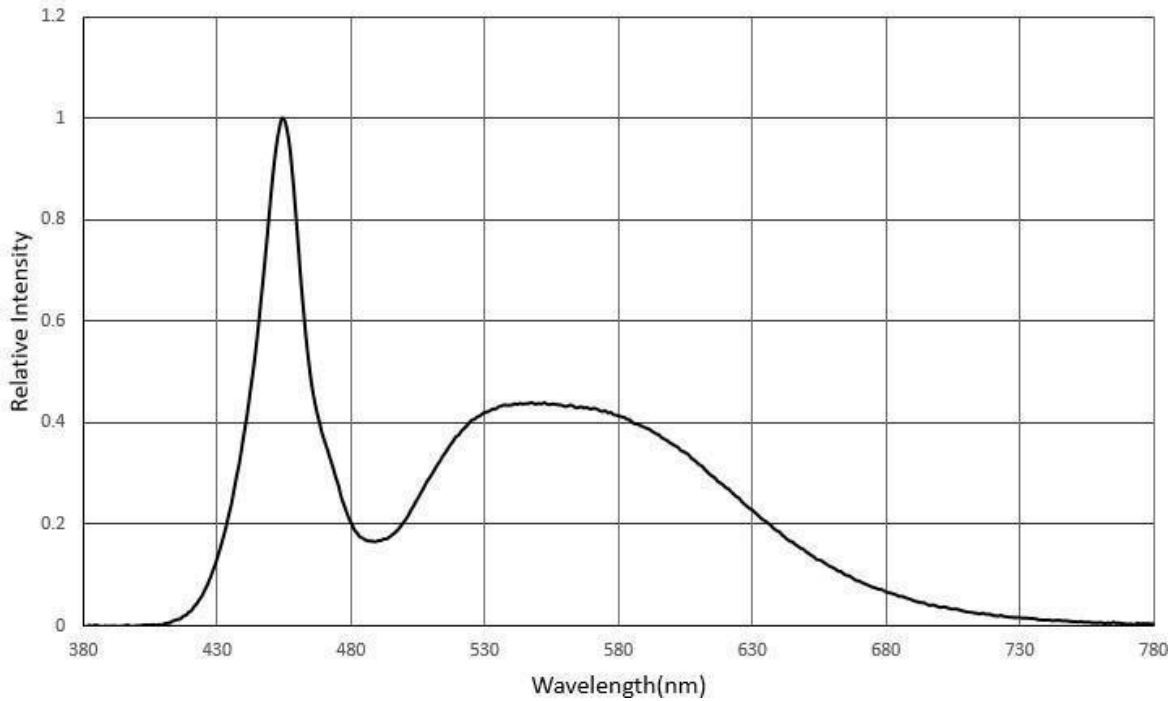
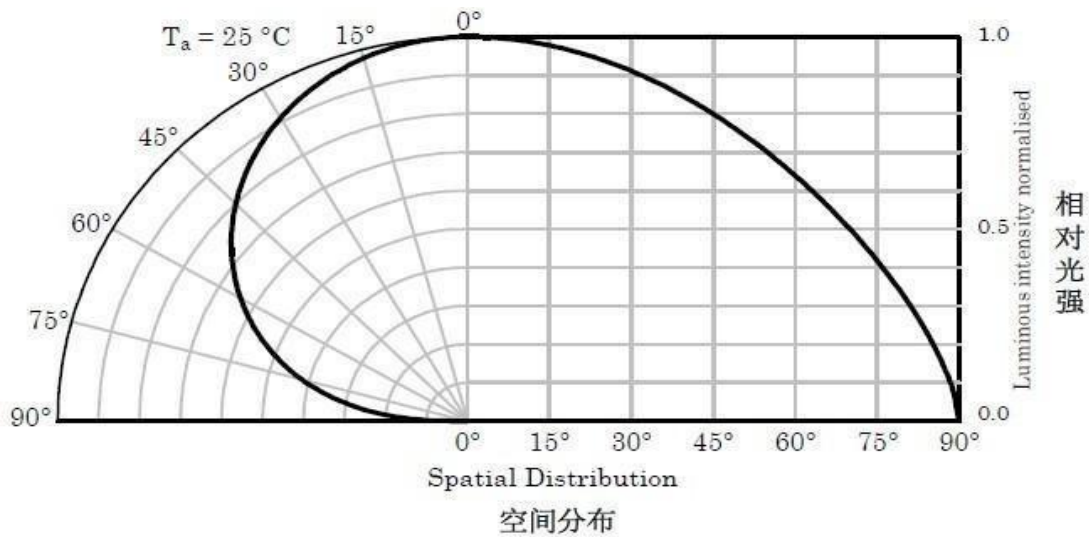


Fig.6 相对光强分布特性曲线

The intensity distribution curve



Reliability Test Items And Conditions 信赖性测试项目

No.	项目 Items	参考标准 Reference	测试条件 Test Condition	测试 Test Hours/ Cycles	试验数量 Quantity	判据 Criterion
1	回流焊 Soldering	GB/T 4937.20-2018	Tsol: 245 0-5 °C	5-10 sec	1000 pcs	0/1000
2	冷热冲击 Thermal Shock	JESD22-A104-C	125°C ~ -40°C 15min 15min	200Cycles	1000 pcs	0/1000
3	ESD 测试 ESD Test	ACE(Q101-002)	500V-4000V	5 Hrs	10 pcs	0/10
4	沾锡性测试 Tin staining test	EIAJ ED-4701/300	Temp:100°C	1000Hrs	22 pcs	0/22
5	渗透测试 Penetration test	/	回流焊后纯红墨水浸泡	24Hr s	64 pcs	0/64
		/	回流焊后高压蒸煮	20mins	64 pcs	0/64
6	高温高湿 High Temperature & Humidity	GB/T2423-50	Temp:85°C RH: 85%	1000Hrs	20pcs	0/20

Criteria For Judging Damage 失效判定标准

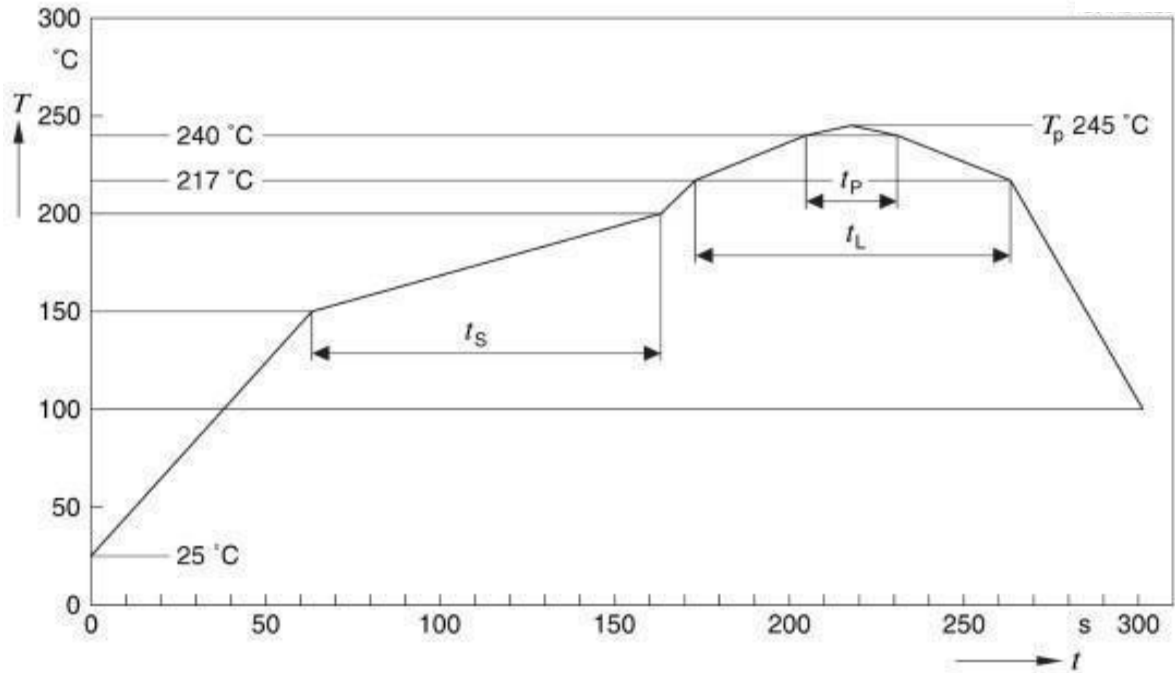
项目 Items	符号 Symbol	测试条件 Test condition	判断标准 Failure Criteria
正向电压 Forward Voltage	V_F	$I_F = 5\text{mA}$	初始值 ± 10% The initial value plus or minus 10%
反向电流 Reverse Current	I_{GB}	$V_B = 5\text{V}$	$I_R \leq 10 \mu\text{A}$
亮度 Luminous Intensity	I_{LEDV}	$I_F = 5 \text{mA}$	平均 I_{LEDV} 衰减 ≤ 30%，单个 I_{LEDV} 衰减 ≤ 50% Average I_{LEDV} attenuation 30% or less, a single I_{LEDV} attenuation 50% or less
回流焊 Soldering		$I_F = 5 \text{mA}$	材料无内部裂痕、无材料间爆裂、无剥离、无死灯 Material without internal cracks, no material between stripped no deaded light

Note:(备注)

1. T_{sol}为回流焊时锡液的温度; Temp为实验温度
T_{sol} for reflow soldering tin fluid temperature; Temp for experimental temperature
2. 数据工作表中所示的技术信息仅限于典型特征和电路实例引用的产品. 它既不构成工业特性的保证, 也不构成任何许可的授权。
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.

回流焊温度曲线图 Temperature curve of reflow soldering

LED is recommended for reflow soldering and soldering profile is shown below.



曲线特征	符号	无铅组装			单位
		最小值	推荐值	最大值	
预热升温速率 25°C至 150°C			2	3	K/s
时间 t_s T_{Smin} 至 T_{Smax}	t_s	60	100	120	s
峰值升温速率 T_{Smax} 至 T_p			2	3	K/s
液相线温度	T_L		217		$^{\circ}\text{C}$
超过液相线温度的时间	t_L		80	100	s
峰值温度	T_p		/	245	$^{\circ}\text{C}$
温度保持在指定峰值温度 T_p -5K 的 5°C 范围内的时间	t_p	10	20	30	s
降温速度 T_p 至 100°C			3	6	K/s
时间 25°C 至 T_p				480	s

1. 回流焊不可以做两次以上

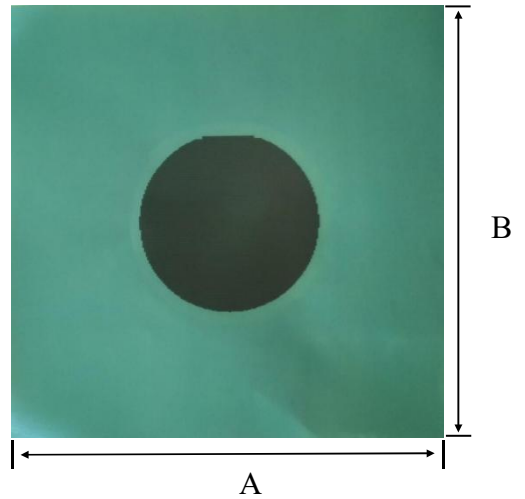
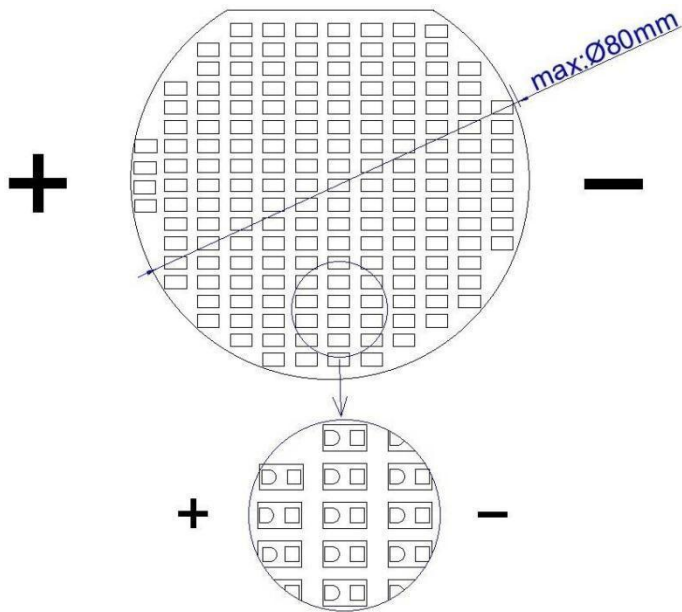
Reflow soldering should not be done more than two times.

2. 当焊接时，不要在材料受热时用力压胶体表面

When soldering, do not put stress on the LEDs during heating

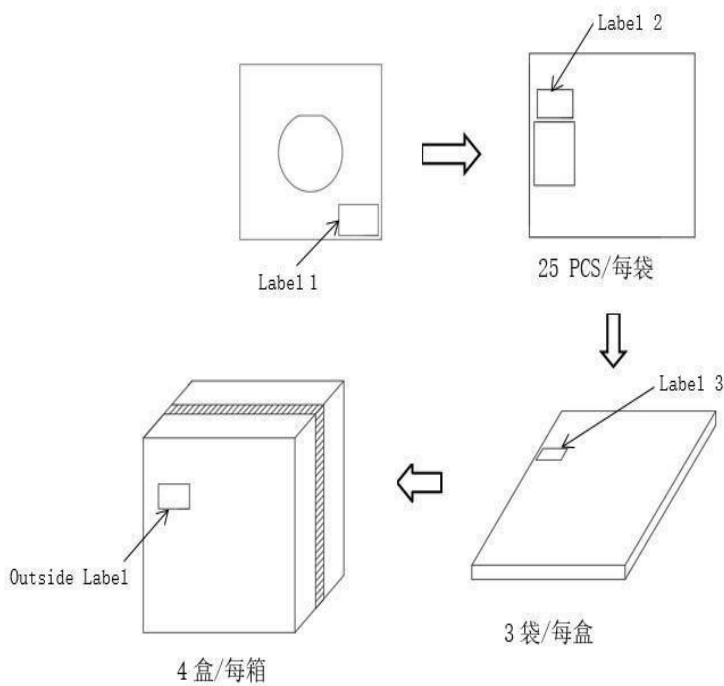
包装 Packaging

(1) 蓝膜尺寸单位 Blue Tape Dimension (Units : mm)



蓝膜尺寸 (AxB) = 200*200 mm
Blue Tape (AxB) = 200*200 mm

(2) 包装方式 Package Method



标签格式 Label Mode





修补 **Repairing**

LED 回流焊后不应该修复，当修复是不可避免时，必须使用加热平台或热风枪进行修复，但必须先确认此种方式会或不会损坏LED 本身的特性。

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, Must use heating platform or hot air gun to repair . It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.

注意事项 **Cautions**

本产品为MINI LED 封装器件，尺寸非常小，结构相对脆弱，用力按压产品可能会造成产品断裂或暗裂，影响可靠性。因此应有预防措施避免在封装的零件上的施加强大压力，当使用吸嘴时，产品表面的压力应是恰当的。

This product is a MINI LED packaged device with a very small size and a relatively fragile structure. Pressing the product forcefully may cause the product to break or crack and affect its reliability. Therefore, preventive measures should be taken to avoid applying strong pressure on the packaged parts. When using suction When mouth, the pressure on the surface of the product should be appropriate.

本产品是静电敏感器件，使用过程中应注意静电防护，避免LED 芯片被静电击穿损坏。

This product is an electrostatic sensitive device. Pay attention to electrostatic protection during use to prevent the LED chip from being damaged by electrostatic breakdown.