

承 认 书

客户名称：_____

物料编码：_____

产品型号： JK-2121RGB共阳

版本编号： 1.20

日 期： 2025-03-06

产品描述：

■ 贴片2121RGB共阳 分光产品 白面支架



承 认 签 章

承 认 签 章		
编制	审核	核准

客 户 确 认

客 户 确 认		
确认	审核	核准

Features 特征

- PLCC-2 Package 垂直型表面贴封装
- Extremely wide viewing angle 发光角度
- Suitable for all SMT assembly and solder process
适用于所有的 SMT 组装和焊接工艺
- Available on tape and reel 适用于载带及卷
- Moisture sensitivity level: 4a 防潮等级: level 3a
- Package: 4000 pcs/reel 包装: 4000 颗/卷
- RoHS compliant RoHS 认证

Description 描述

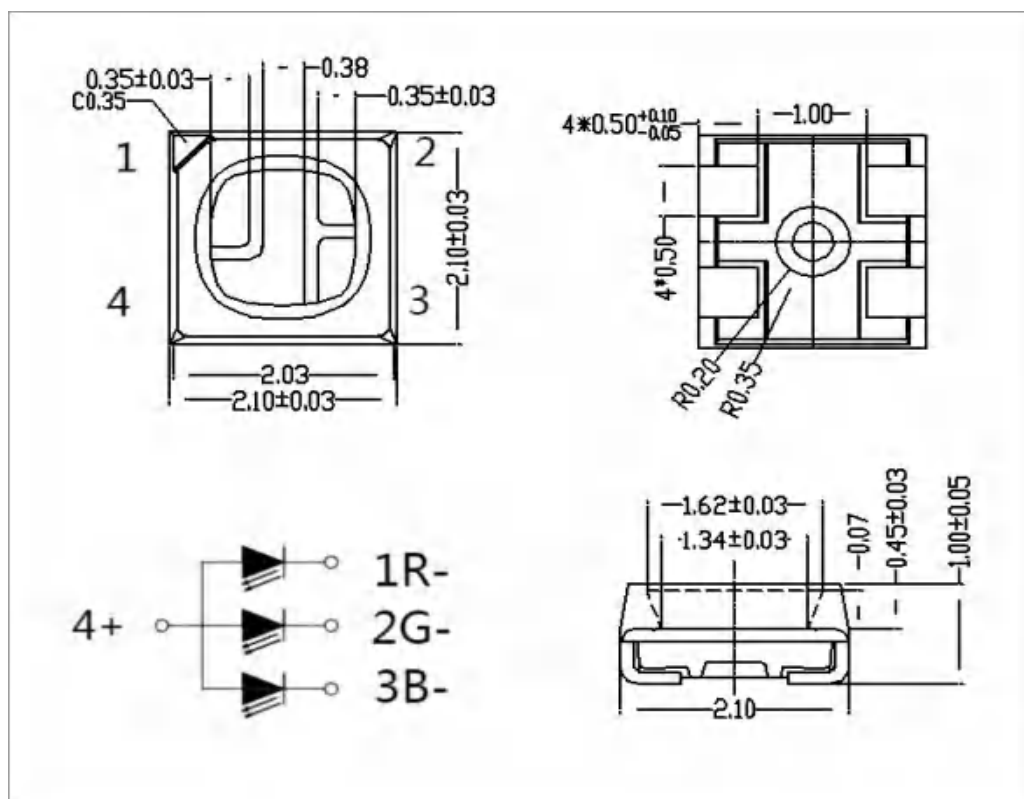
- The Green source color devices are made with InGaN on Substrate Light Emitting Diode
绿光 LED 由 InGaN 三种元素芯片激发而成。
- The Red source color devices are made with AlGaInP on Substrate Light Emitting Diode
红光 LED 由 AlGaInP 四种元素芯片激发而成。
- The Blue source color devices are made with InGaN on Substrate Light Emitting Diode
蓝光 LED 由 InGaN 三种元素芯片激发而成。

Applications 应用

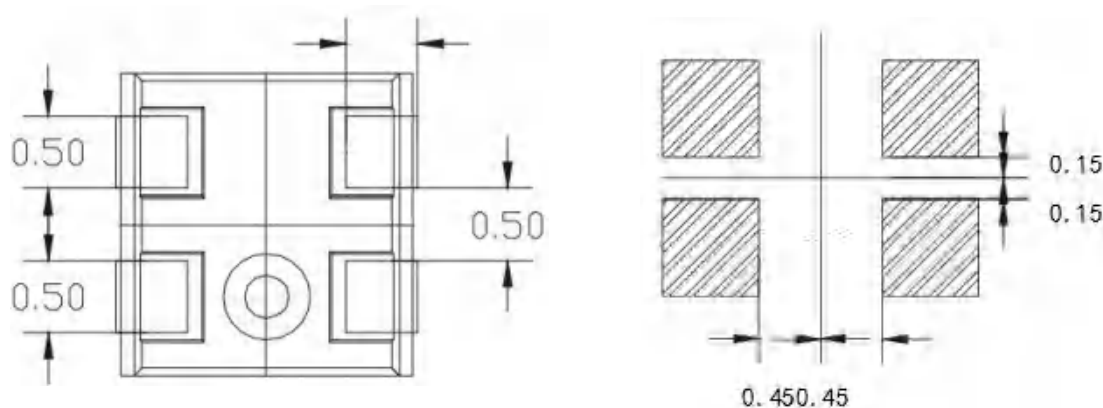
- Optical indicator
光学指示
- Indoor display
室内显示
- Automotive lighting
汽车照明
- Backlight for LCD, switch and Symbol, display
LCD 背光、转换器, 开关和标志, 显示器等
- Tubular light application
用于日光灯管
- General use
一般应用



Package Dimensions 封装尺寸



Recommended Soldering Pattern 建议焊盘尺寸图



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 ± 0.15 mm unless otherwise noted
除特别标注外, 所有尺寸允许公差为 ± 0.15 毫米

Selection Guide 选择指南

Part 型号	Dice	Lens Type 胶体类型	Luminous intensity(mcd) 光强@20mA		Viewing Angle 角度
			Min	Typ	2 θ 1/2
2121RGB	Red (AlGaInP)	Water Clear	150	350	120°
	Blue (InGaN)	Water Clear	40	80	
	Green (InGaN)	Water Clear	400	800	

Note: 备注

1. 2 θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

2 θ 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。

2. the above luminous intensity measurement allowance tolerance is $\pm 10\%$.

上述发光强度的测试允许公差为 $\pm 10\%$ 。

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

Parameter (参数)	Symbol (符号)	Red(红光)			Green (绿光)			Blue (蓝光)			Units 单位	Test Condition s 测试条件
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
Forward Voltage 正向电压	VF	1.2	--	2.1	2.4	--	2.6	2.5	--	2.7	V	IF=8 mA
Reverse Current 反向电流	IR	--	--	10	--	--	10	--	--	10	uA	VR=5V
Dominate Wavelength 主波长	λ_d	615	--	625	525	--	535	460	--	470	nm	IF=8mA

Absolute Maximum Ratings at $T_s=25^{\circ}\text{C}$ 绝对最大额定值

Parameter 参数	Symbol 符号	Rating 值	Units 单位
Power Dissipation 功耗	Pd	190	mw
Forward Current 正向电流	IF	60	mA
Peak Forward Current 峰值正向电流	IFP	80	mA
Reverse Voltage 反向电压	VR	5	V
Electrostatic Discharge (HBM) 静电	ESD	2000	V
Operating Temperature 操作温度	Topr	$-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$	$^{\circ}\text{C}$
Storage Temperature 保存温度	Tstg	$-40^{\circ}\text{C}\sim+100^{\circ}\text{C}$	$^{\circ}\text{C}$
Thermal Resistance (Junction/Soldering point) 热阻	Rthj-s	50	$^{\circ}\text{C}/\text{W}$
Junction Temperature 结温	Tj	115	$^{\circ}\text{C}$

Note: (备注)

1. 1/10 Duty cycle, 0.1ms pulse width.

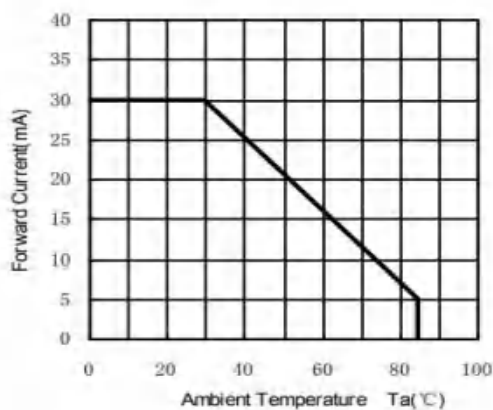
脉宽 0.1ms, 周期 1/10

2. The above forward voltage measurement allowance tolerance is $\pm 0.1\text{V}$.以上所示电压测量误差 $\pm 0.1\text{V}$ 3. The above Dominate Wavelength measurement allowance tolerance is $\pm 1\text{nm}$.以上所示电压测量误差 $\pm 1\text{nm}$

Typical optical characteristics curves 典型光学特性曲线

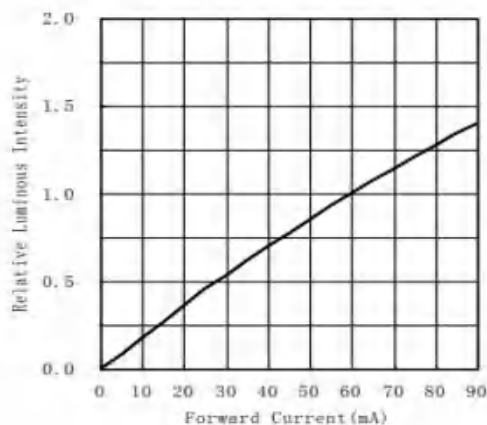
Ambient Temperature vs. Forward Current

环境温度与正向电流特性曲线



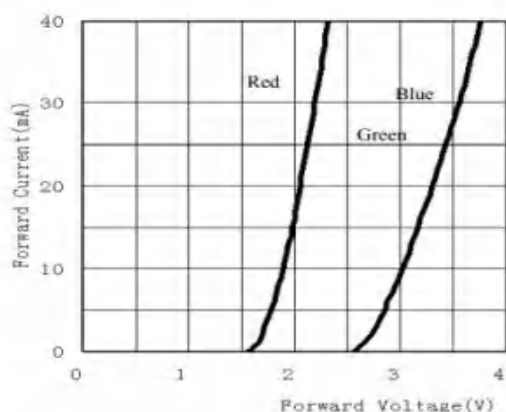
Forward Current VS. Relative Intensity

正向电流与相对光强特性曲线



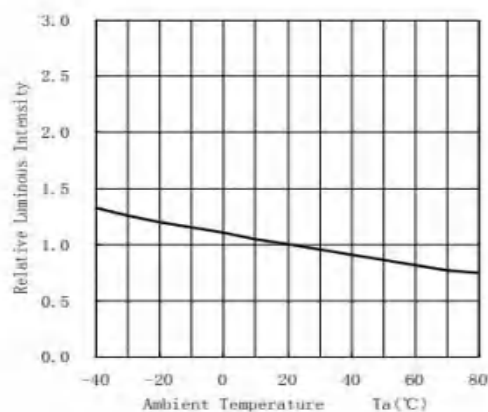
Forward Voltage VS. Forward Current

正向电压与正向电流特性曲线



Ambient Temperature VS. Relative Intensity

环境温度与相对光强特性曲线

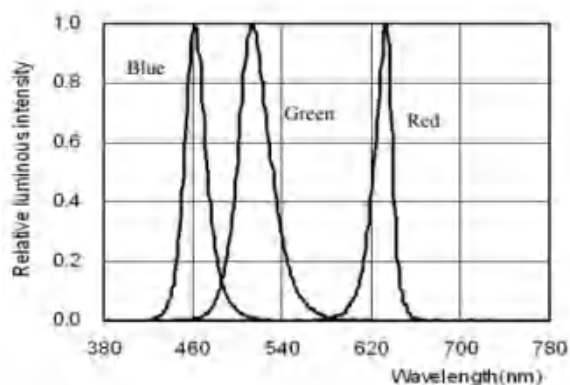


Relative spectral emission

相对光谱分布特性曲线

Relative spectral emission

相对光谱分布特性曲线

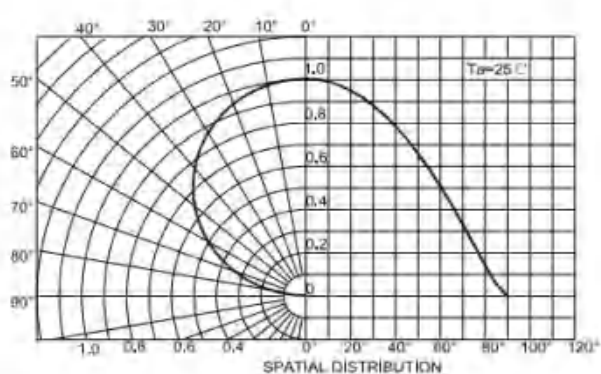


Radiation diagram

辐射图特性曲线

Radiation diagram

辐射图特性曲线



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°C max T=10 sec	3 times.	22Pcs.	0/1
Temperature Cycle 温度循环	JESD22-A104	100°C ± 5°C 30 min. ↑ ↓ 5 min -40°C ± 5°C 30 min.	300 Cycles	22Pcs.	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp: 100°C ± 5°C	1000Hrs.	22Pcs.	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp: -40°C ± 5°C	1000Hrs.	22Pcs.	0/1
Life Test 常温通电	JESD22-A108	Ta=25°C ± 5°C IF=60mA	1000Hrs.	22Pcs.	0/1
High Temperature High Humidity Life Test 高温高湿通电	JESD22-A101	85°C ± 5°C / 85%RH IF=60mA	1000Hrs.	22Pcs.	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=60mA	/	U. S. L*) x1.1
Reverse Current 反向电流	IR	VR = 5V	/	U. S. L*) x2.0
Luminous Flux 光通量	lm	IF=60mA	L. S. L*) x0.7	/

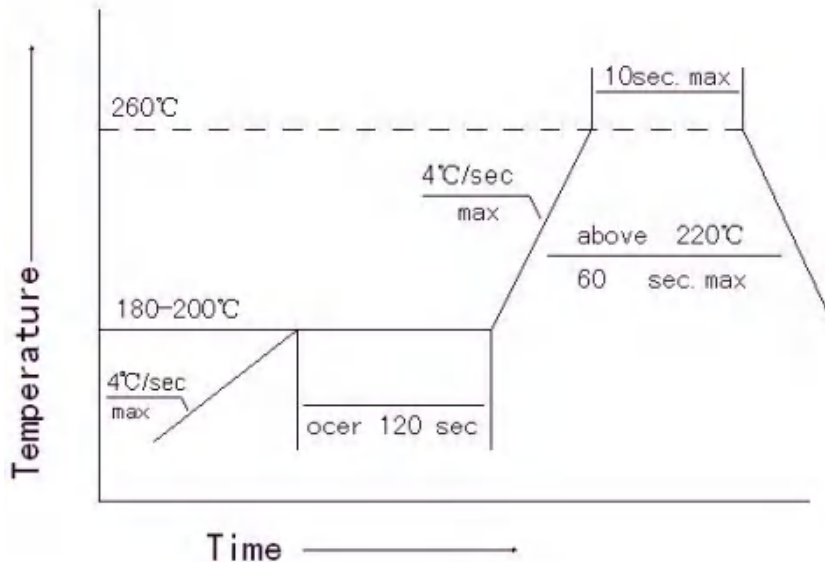
U. S. L.: Upper standard level 规格上限

L. S. L.: Lower standard level 规格下限

Note: 备注 1. The Reliability tests are based on NingYuanXingGuang existing test platform.
可靠性测试基于现有的测试标准。

2. The above technical data is only the typical value of the product, only as a reference (in the end the two sides recognized the specification shall prevail), not as a guarantee of any application conditions and application. 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



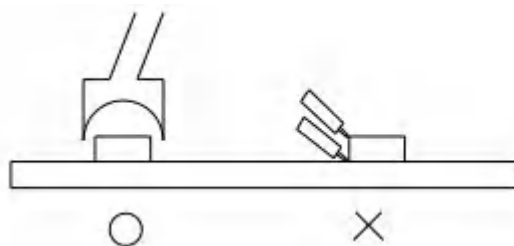
1. Reflow soldering can not be done more than two times 回流焊不可以做两次以上
2. When welding, don't beat the colloid on the surface of the material when heated 当焊接时，不要在材料受热时用力压胶体表面

Soldering iron 烙铁焊接

1. When the manual welding, soldering temperature must be less than 300 degrees, the time is not more than 3 seconds
当手工焊接时，烙铁的温度必须小于 300°C，时间不可超过 3 秒
2. The hand solder should be done only one times
手工焊接只可焊接一次

Repairing 修补

LED after reflow should not repair, when the repair is inevitable, must use the double iron(below), but it must first confirm the will or will not damage the character of LED.
LED 回流焊后不应该修复，当修复是不可避免时，必须使用双头烙铁（如下图），但必须事先确认此种方式会或不会损坏 LED 本身的特性。



Cautions 注意事项

LED packaging for silica gel, so the surface of the LED colloid is soft, hard pressed colloidal surface will affect the reliability of LED, and therefore should be prevented Measures to avoid the pressure on the packaging of the parts, the use of suction nozzle, the pressure on the surface of the colloid should be appropriate.

LED 封装为硅胶，故 LED 胶体表面较软，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封装的零件上的强大压力，当使用吸嘴时，胶体表面的压力应是恰当的。

Handling Precautions 处理防备措施

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible, Although its characteristic significantly reduces thermal stress, it is more prone to damage by external mechanical force. As a result, special handling precautions must be observed during assembling using silicone encapsulated LED products, Failure to comply might leads to damage and premature failure of the LED

相对环氧树脂较硬而言，硅胶封装较柔软且有弹性，虽然它的特性大大减少了热应力，但易受机械外力损坏，因此在手工处理方面须要对硅胶封装材料做预防措施，若未按要求操作，可能会导致 LED 损坏和光衰

1. Handle the component along the side surface by using forceps or appropriate , 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



2. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible, A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup, The dimensions of the component must be accurately programmed in the pick and place machine to insure precise pickup and avoid damage during production

为防止气压泄露，SMD 吸咀外径不可以超过 LED 尺寸，吸咀内径尺寸应尽可能大，吸咀顶端材质建议采用柔软材料以防在吸取期间刮伤或损毁 LED 胶体表面，元件的尺寸必须在取放机里准确的编程好，以确保精确的吸取和避免生产过程中的损害

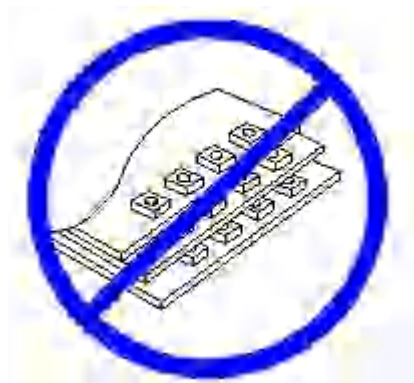


3. Do not stack together assembled PCBs containing LEDs, impact may scratch the silicone lens or damage the internal circuitry

不可将模组材料堆积在一起，它可能会损坏内部电路

4. Not suitable to operate in acidic environment $\text{PH} < 7$

不可用在 $\text{PH} < 7$ 的酸性场所



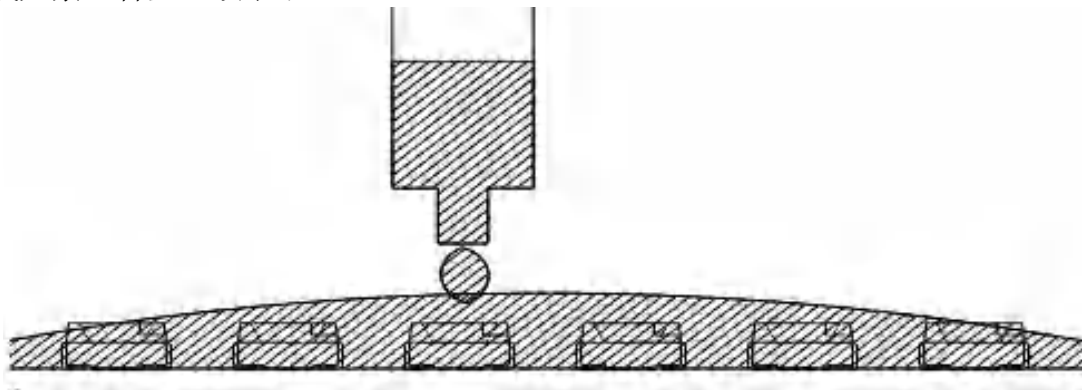
5. LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material

LED 工作环境及与 LED 适配的材料中硫元素及化合物成分不可超过 100PPM

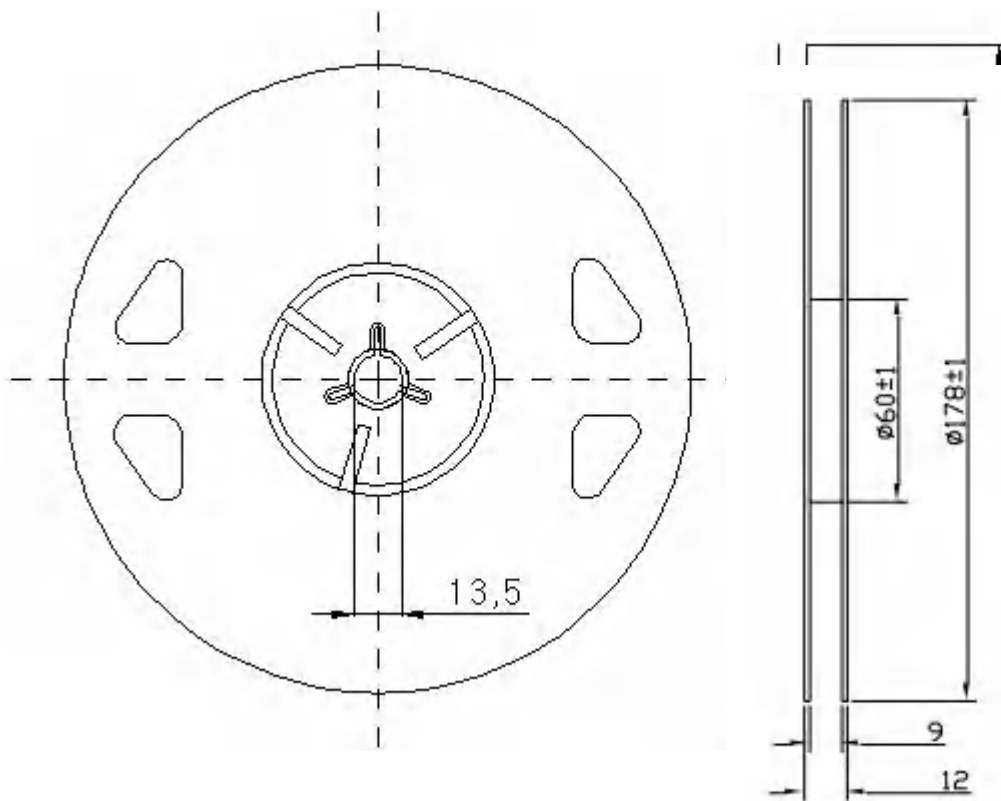
6. When we need to use external glue applied LED products, should ensure that the external sealing glue to match, because most of the LED packaging glue for the silicone, it has strong oxidizing and strong hygroscopicity, must prevent the sealing material into LED internal to cause LED damage, a single bromine content requirements of less than 900PPM, a single chlorine content requirements of less than 900PPM, in the application of LED products require external sealing plastic bromine and

chlorine element total content must be less than 1500PPM

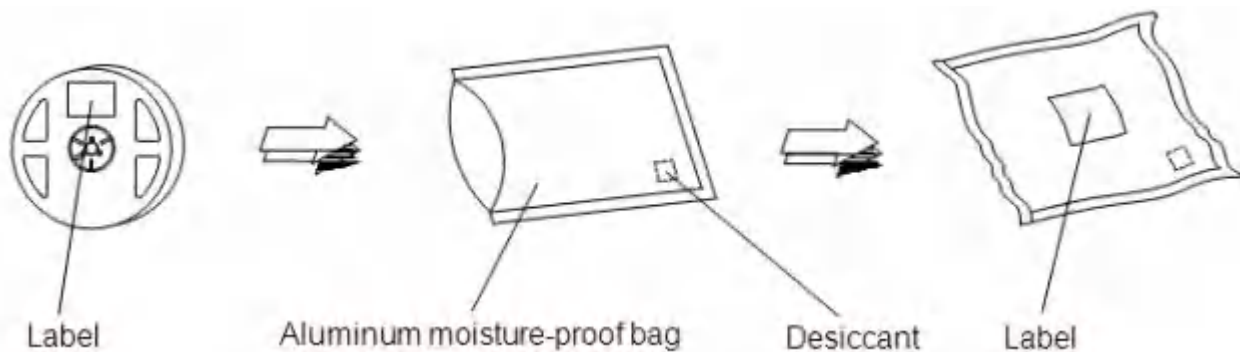
当我们需要使用外封胶涂抹 LED 产品时，应确保外封胶水相匹配，因为大多数 LED 的封装胶水为硅胶，它有较强的氧化性和较强的吸湿性，必须防止外封材质进入 LED 内部以造成 LED 的损伤，单一的溴元素含量要求小于 900PPM，单一氯元素含量要求小于 900PPM，在涂抹 LED 产品时要求外封胶溴元素与氯元素总含量必须小于 1500PPM



Reel Dimensions 卷轴尺寸



Moisture Resistant Packaging 防潮袋包装



Tape Specifications (Unit:mm) 载带规格 (单位: mm)

