承 认 书

客户名称：_____

物料编码：_____

产品型号：**JK-020RGB共阳**

版本编号：1.20

日　　期：2023-08-08

承 认 签 章		
编制	**审核**	**核准**
任 慧	**唐 可**	**唐汇炎**

客 户 确 认		
确认	**审核**	**核准**

Features 特征

- Side Mount Surface Mount Package
  侧贴型表面贴封装
- Extremely wide viewing angle 发光角度
- SuitableforallSMTassemblyandsolder 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：level4a
- Package：6000pcs/reel 包装：6000 颗/卷
- RoHS compliant RoHS 认证

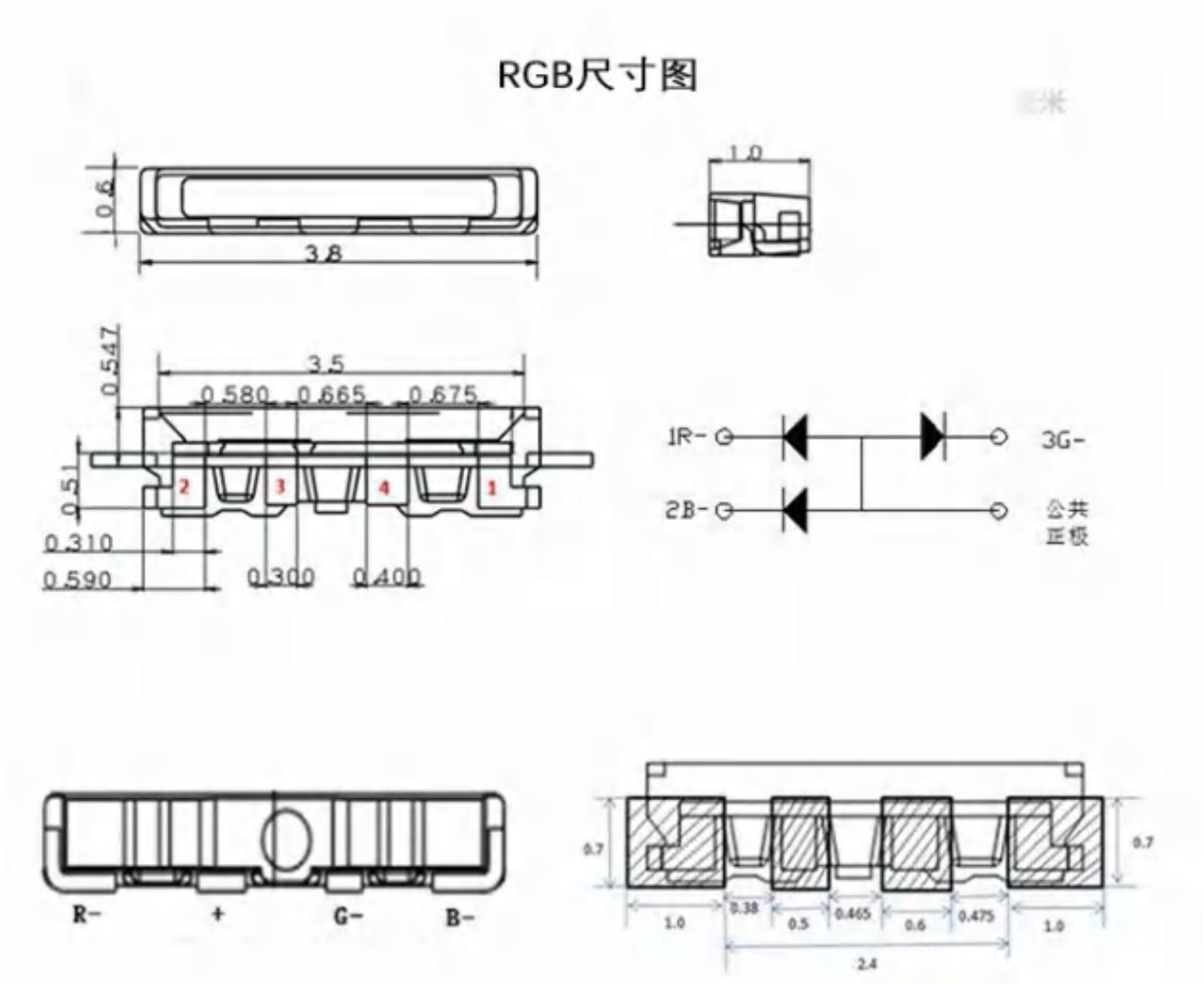
Description 描述

- Red, green and blue leds are excited by the chip.
  红、绿、蓝光 LED 由芯片激发形成。

Applications 应用

- Optical indicator 光学指示
- lndoor display 室内显示
- Backlight for LCD、switch and Symbol、display
  面板光源、转换器、开关和标志
- Tubular light application 用于日光灯管
- General use 其他合适的应用

Package Dimensions 封装尺寸



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

Electrical/Optical Characteristics at Ts=25℃ 电性与光学

Item 项目	Symbol 代号	Condition 测试条件		Min 最小值	Typ 典型值	Max 最大值	Unit 单位
Forward Voltage 正向电压	VF	IF=20mA	R	2.0	2.1	2.2	V
			G	2.9	3.0	3.1	
			B	2.9	3.0	3.1	
Luminous Intensity 发光强度	IV	IF=20mA	R	500	600	700	mcd
			G	1400	1600	1800	
			B	500	550	600	
Wavelength 波长	WD	IF=20mA	R	620	622	625	nm
			G	520	522	524	
			B	462	464	466	
Reverse Current 反向电流	IR	VR=5V		0	/	3	uA
Viewing Angle 半光全角	2θ1/2	IF=20mA		-	120	-	deg
Recommend Forward Current 持续正向电流	IF(rec)	IF=20mA		-	20	-	mA

Note： 备注

1. The above forward voltage measurement allowance tolerance is ±0.1V 所示电压测量误差±0.1V.
2. 2θ1/2 is the angle from optical centrline where the luminous intensity is 1/2 the optical Centerline value 2θ1/2 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.
3. The luminous flux error shownis±3Lm 所示光通量误差±3Lm.
4. The error of color temperature shown is ± 100K 所示色温误差±100K.
5. The above colr coordinates measurement allowance tolerance is ±0.003 所示坐标测量误差±0.003
6. The above Color Rendering lndex measurement allowance tolerance is ±2 显色性指数的测试允许公差为±2.
7. The reverse current error shownis±1.5uA 所示反向电流误差±1.5uA.

Absolute Maximum Ratings at Ts=25℃ 绝对最大额定值

Parameter 参数	Symbol 符号	Rating 值	Units 单位
Power Dissipation 功耗	Pd	75	mw
Forward Current 正向电流	IF	20	mA
Peak Forward Current 峰值正向电流	IFP	30	mA
Reverse Voltage 反向电压	VR	5	V
Electrostaic Discharge （HBM） 静电	ESD	2000	V
Operating Temperature 操作温度	Topr	-40~+85	℃
Storage Temperature 保存温度	Tstg	-40~+100	℃
Thermal Resistance (Junction/Soldering point) 热阻	Rthj-s	50	℃/W
Junction Temperature 结温	Tj	115	℃

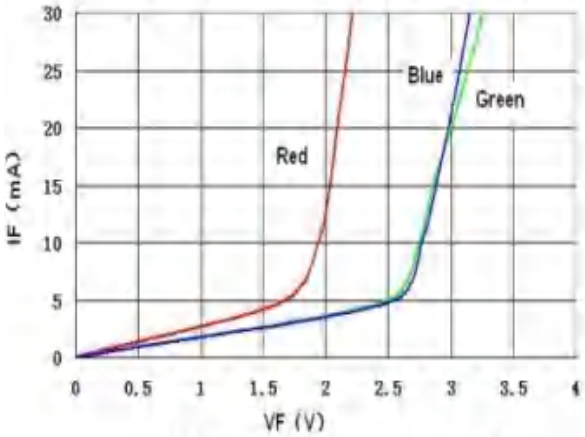
Note：备注

1.1/10 Duty cycle，0.1ms pulse width.脉宽 0.1ms，周期 1/10

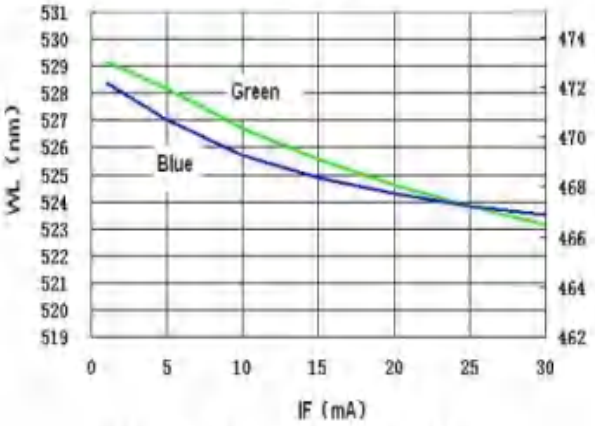
Typical optical characteristics curves 典型光学特性曲线

●光电特性曲线 Typical Electro-Optical Characteristics Curves

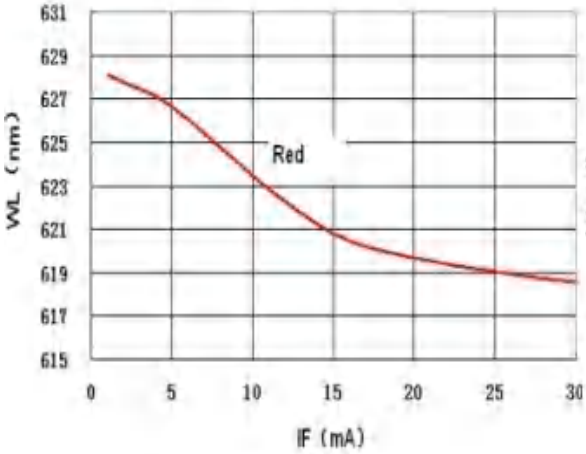
Forward Current vs.Forward Voltage （Ta=25℃）



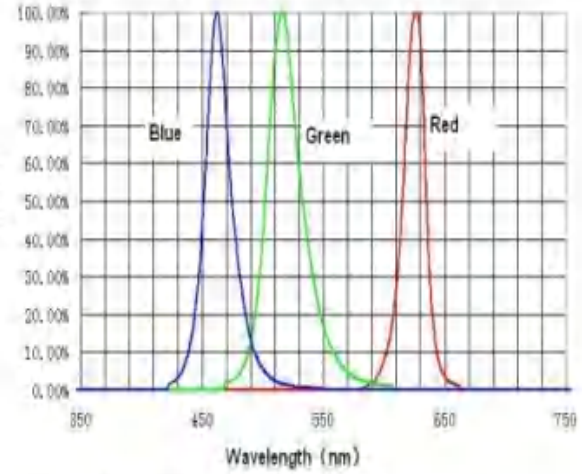
Wavelength vs.Forward Current （Ta=25℃）



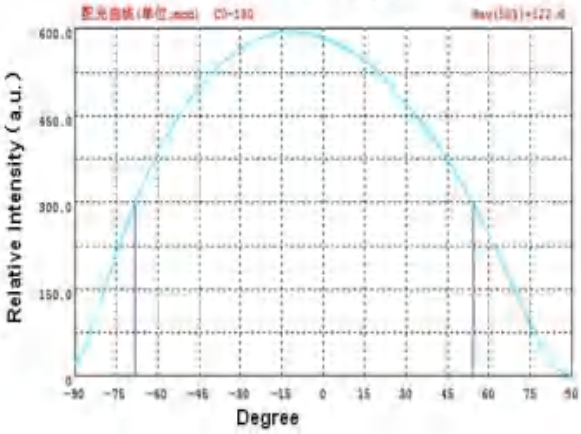
Wavelength vs.Forward Current （Ta=25℃）



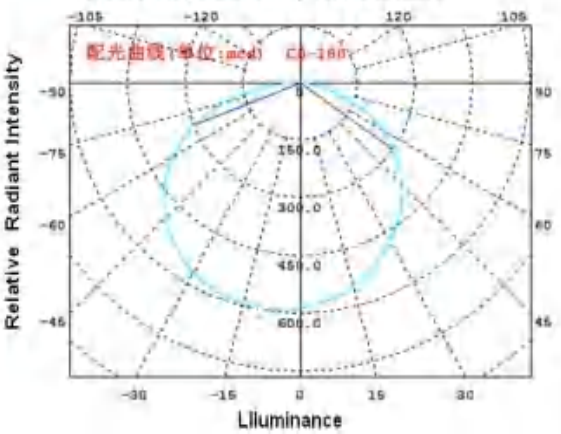
Relative Intensity vs. Wavelength （Ta=25℃）



Relative Intensity vs.Degree



Relative Radiant Intensity vs.Lluminance



Reliability Test ltems 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
Reflow 回流焊	JESD22-B106	Temp:260℃max T=10 sec	3 times.	22Pcs.	0/1
Temperature Cycle 温度循环	JESD22-A104	100℃±5℃ 30 min. ↑ ↓5 min -40℃±5℃ 30 min.	300 Cycles	22Pcs.	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp:100℃±5℃	1000Hrs.	22Pcs.	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp:-40℃±5℃	1000Hrs.	22Pcs.	0/1
Life Test 常温通电	JESD22-A108	Ta=25℃±5℃ IF=20mA	1000Hrs.	22Pcs.	0/1
High Temperature High Humidity Life Test 高温高湿通电	JESD22-A101	85℃±5℃/ 85%RH IF=20mA	1000Hrs.	22Pcs.	0/1

Criteria For Judging Damage 失效判定标准

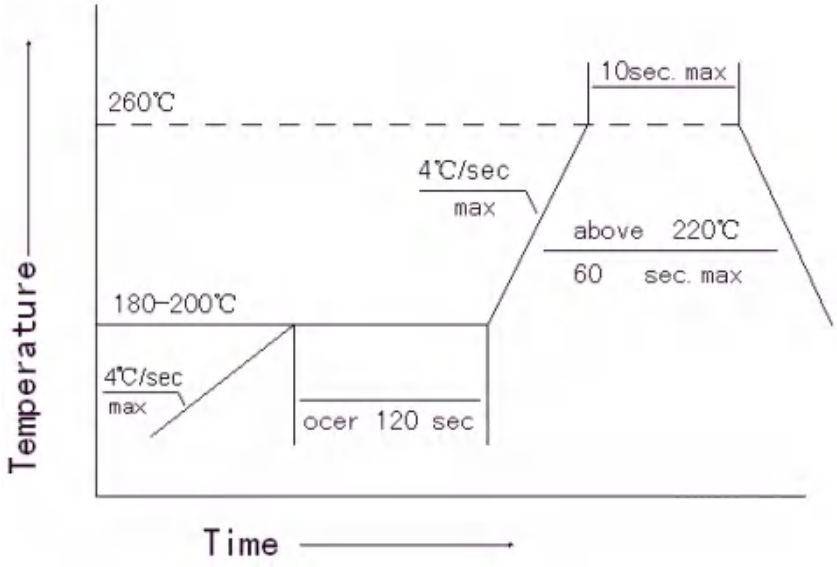
Test Items 项目	Symbol 符号	Test Condition 测试条件	Criteria For Judgement 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	VF	IF=20mA	/	U.S.L*)x1.1
Reverse Current 反向电流	IR	VR = 5V	/	U.S.L*)x2.0
Luminous Flux 光通量	lm	IF=20mA	L.S.L*)x0.7	/
U.S.L: Upper standard level 规格上限			L.S.L: Lower standard level 规格下限	

Note: 备注

1. The Reliability tests are based on NingYuanXingGuang existing test platfom。
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 o any application conditions and application.以上技术数据仅为产品的典型值，只作为参考

SMT Reflow Soldering lnstructions 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

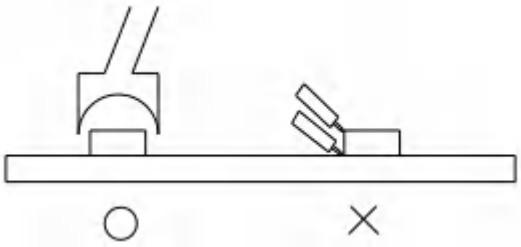
Soldering iron 烙铁焊接

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℃，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。

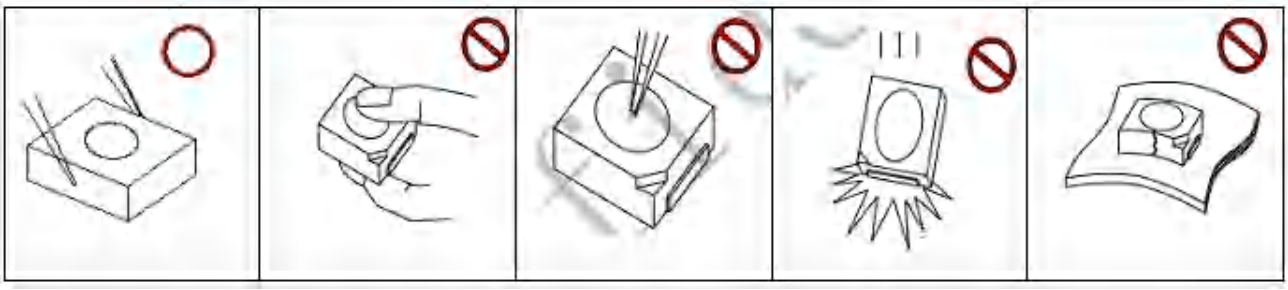
Handling Precautions 处理防备措施

Compare to epoxy encapsulant that is hard and brittle,silicone is softer andflexible ,AlthouGh its characteristic significantly reduces thermal stress,it is more prone to damage by exterNal mechani cal force.AS a result,Special handling precautions must be observed during asse Mbling using sili c one encapsulated LED products,Failure to comply might leads to damage and premature failure ofThe 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

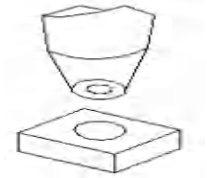
1. Handle the component along the side surface by using forceps or appropriate ，do not directlyTouch or Handle the silicone lens surface，it may damage the intemal circuitry

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

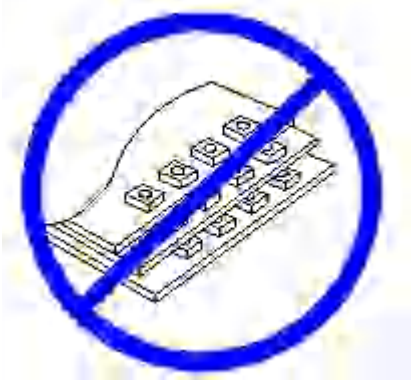


2. Thr outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent airleaks.The inner diameter of the nozzle should beas large as possible,A pliable material is suggested for the nozzle tip to avoid scrtching or damaging the LED surface during pickup,The dimensions of the 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 吸咀外经不可以超过 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, lmpact 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 envi ronment PH＜7

不可用在 PH＜7 的酸性场所

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