



深圳市梵辰光电有限公司

SHENZHEN FANCHEN PHOTOELECTRIC CO., LTD.

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承认书 Approve Sheet

产品 /Product	LED	
型号/Part Number	5050RGB 缺口为正	
物料编码 (Material Code)		
客户规格/customer specification		
客户/Customer		
光通量 (lm) /亮度(mcd)		
电压/VF (V)		
色区等级/Color Bin		
显色指数/CRI		
色容差/SDCM		
备注/remarks		
制定/Maker		
制作/Prepared	审核/Checked	客户回签/Customer Confirmation

※ **Features** (产品特征)

1. Outline Package: 5.0×5.0mm
外型尺寸: 5.0×5.0mm
2. Emitted Color: Warm white
发光颜色: RGB
3. Lens Appearance: Water Clear
胶体颜色: 无色透明

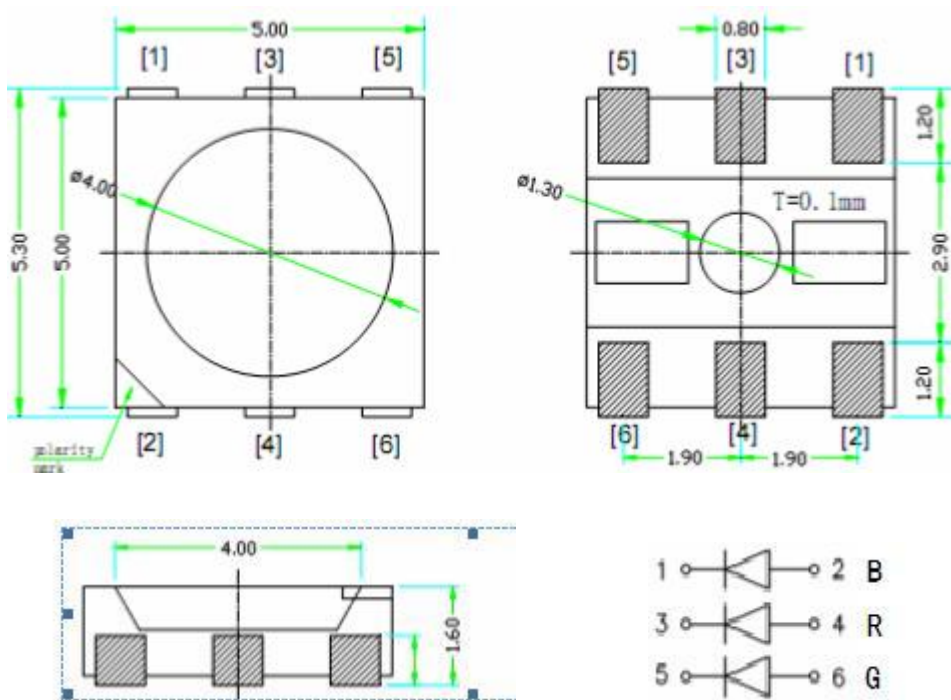
※ **Applications** (产品应用)

1. Indoor and outdoor displays
室内室外显示屏/灯条
2. Optical indicators
光学指示
3. Backlighting
背光

4. Suitable for all SMT assembly methods
适用于所有表面贴装技术组装生产
5. Comply with RoHS
完全符合ROHS 指令

6. Substitution of micro incandescent amps
替代微型白炽灯
7. Signal and symbol luminaire
信号照明

※ **Package Outline Dimensions** 外型尺寸图



1. All dimensions are in millimeters (inches);
单位: 毫米 (英寸)
2. Tolerances are ± 0.2 mm (0.008inch) unless otherwise noted.
未标公差处公差为0.2mm(0.008 寸)

※Absolute maximum ratings at Ta=25℃ 最大绝对额定值

Parameter 参数	Symbol 符号	Value 值	Unit 单位
Power dissipation 功率耗损	Pd	200	mW
Forward current 正向电流	If	60	mA
Reverse voltage 反向电压	Vr	5	V
Operating temperature range 工作温度范围	Top	-40 ~ +100	℃
Storage temperature range 贮存温度范围	Tstg	-40 ~ +100	℃
Peak pulsing current 最大脉冲电流	Ifp	100	mA
Electrostatic Discharge 抗静电能力	ESD	2000 (HBM)	V

NOTE: IFP Conditions: Pulse Width \leq 10msec. and Duty cycle \leq 1/10.

IFP 条件: 脉冲持续时间 \leq 10msec, 占空因素 \leq 1/10

※ Electrical-optical characteristics at Ta=25℃ 电性光电特性

Parameter 参数	Test Condition 测试条件	Symbol 符号	Value 值			Unit 单位
			Min.	Typ.	Max	
Forward voltage 正向电压	If=20mA	Vf (R)	2.0	--	2.2	V
		Vf (G)	3.0	--	3.3	
		Vf (B)	3.0	--	3.3	
Color temperature 波长	If=20mA	Wd (R)	620	--	625	nm
		Wd (G)	520	--	530	
		Wd (B)	465	--	475	
Luminous intensity 发光强度	If=20mA	Iv (R)	150	--	300	mcd
		Iv (G)	600		800	
		Iv (B)	100		300	
Viewing angle at 50% Iv 半功率角	If=20mA	2 θ 1/2		120		Deg
Reverse current 反向电流	Vr=5V	Ir			2	μ A

NOTE: 1. Tolerance of luminous intensity is \pm 10%

发光强度公差为 \pm 10%

2. Tolerance of forward voltage is \pm 0.05V

正向电压公差 \pm 0.05v

3 电压 0.1V 分档

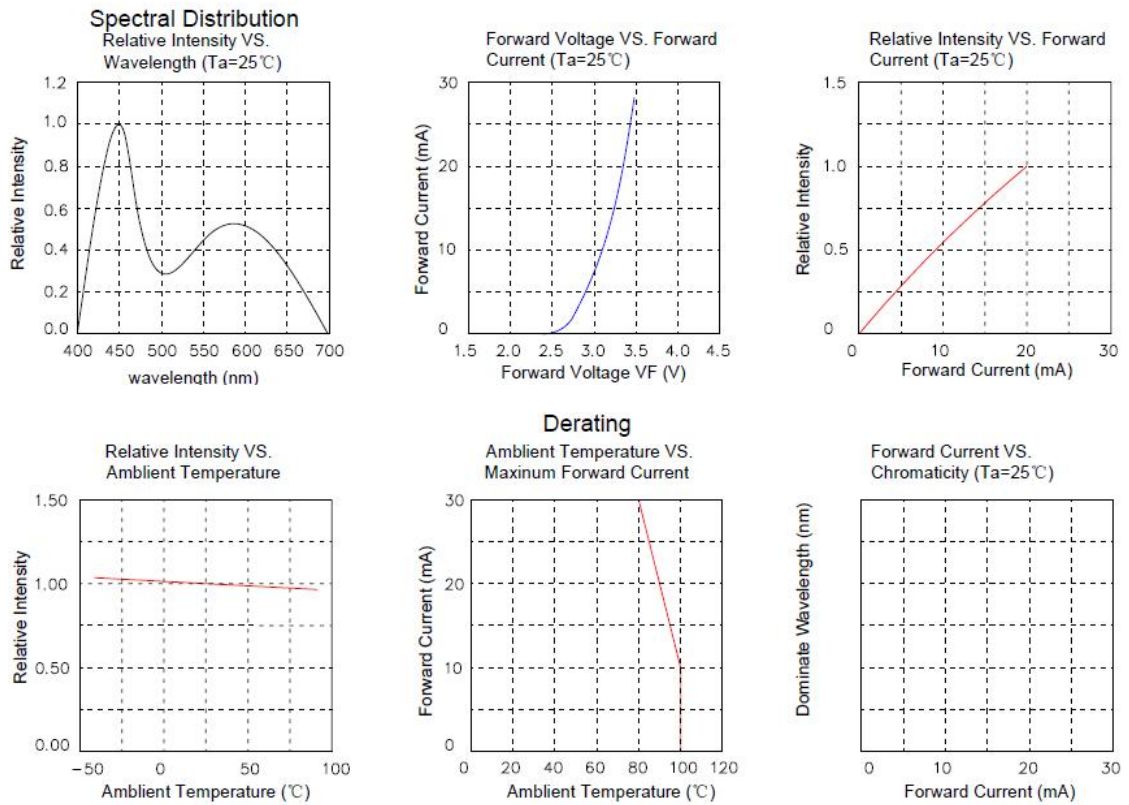
※ Reliability Test Items and Conditions 可靠性测试项目及测试条件

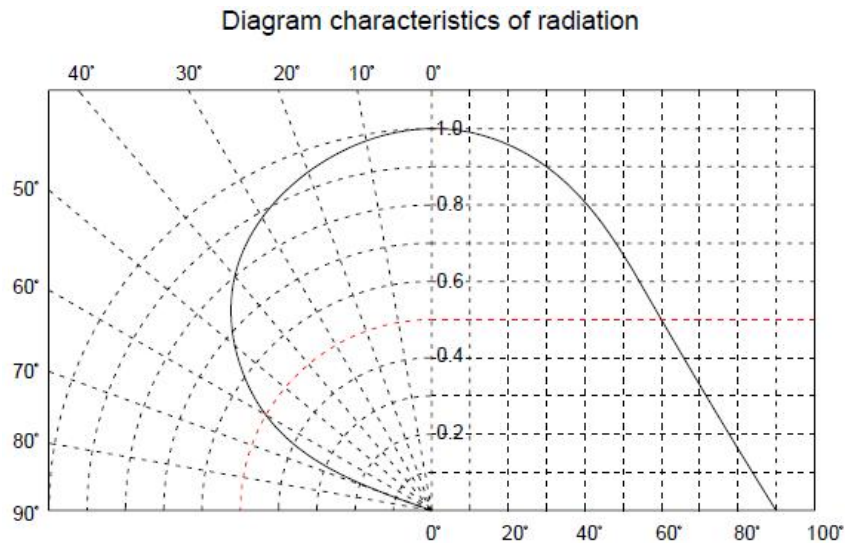
No.	Test Item 测试项目	Test Conditions 测试条件	Note 频次	Number of Damaged 允许破坏数
1	Resistance to Soldering Heat(Reflow Soldering) 回流焊可承受条件测试	Tsld=260℃,10sec	2 times	0/22
2	Temperature Cycle 温度循环测试	-35℃ 30min ↑↓5min 85℃ 30min	100 cycle	0/100
3	Thermal Shock 冷热冲击测试	-35℃ 15min ↑↓ 85℃ 15min	100 cycle	0/100
4	High Temperature Storage 高温贮藏测试	Ta=80℃	1000 hrs	0/100
5	Temperature Humidity Storage 恒温恒湿贮藏测试	Ta=85℃ RH=90%	1000 hrs	0/100
6	Low Temperature Storage 低温贮藏测试	Ta=-35℃	1000 hrs	0/100
7	Power On/off Cycle Test IF=20mA 亮暗测试	On 2 hours ↑↓ Off 10min	100 cycle	0/100
8	Life Test 常温寿命测试	Ta=25℃ IF=20mA	1000 hrs	0/100
9	High Humidity Heat Life Test 恒温恒湿寿命测试	60℃ RH=90% IF=20mA	500 hrs	0/100
10	Low Temperature Life Test 低温寿命测试	Ta=-35℃ IF=20mA	1000 hrs	0/100
11	Drop跌落测试	75cm	3 times	0/100

※ Criteria for Judging the Damage 破坏判定标准

Item 项目	Symbol 符号	Test Conditions 测试条件	Criteria for Judgement 判定标准	
			Min.	Max.
Forward Voltage 正向电压	VF	IF=20mA		U.S.L*)×1.1
Reverse Current 反向电流	IR	VR=5V		U.S.L*)×2.0
Luminous Intensity 发光强度	IV	IF=20mA.	L.S.L**)	×0.7

※ Typical optical characteristics curves 典型光电特性曲线

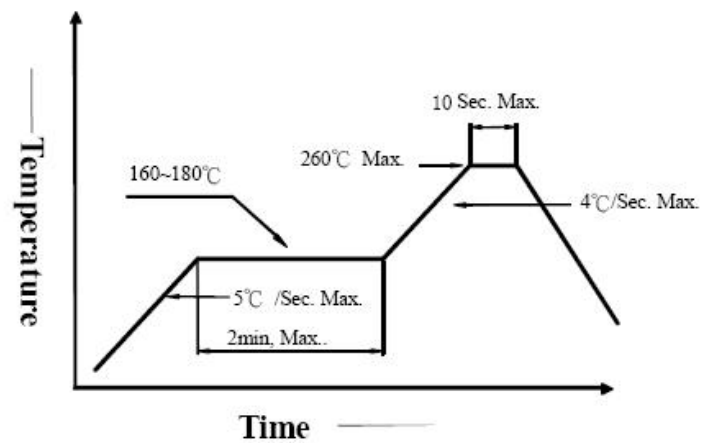




※ Precautions for use 使用规范

Reflow Profile 回流焊规范

Pb-free Solder temperature Profile 无铅产品回流焊温度条件曲线规范



Note:

- a)Reflow soldering should not be done more than two times.
材料焊接次数不超过 2 次。
- b)Do not put stress on the LEDs when soldering.
焊接时请不要重压 LED 灯。
- c)Do not warp the circuit board before it have been returned to normal ambient conditions after soldering.
焊接后温度未回降到常温时请勿扭曲线路板。

Hand Soldering Profile 手工焊接规范

The temperature of the iron should be lower than 300°C and soldering within 3sec per solder-pad is to be observed.

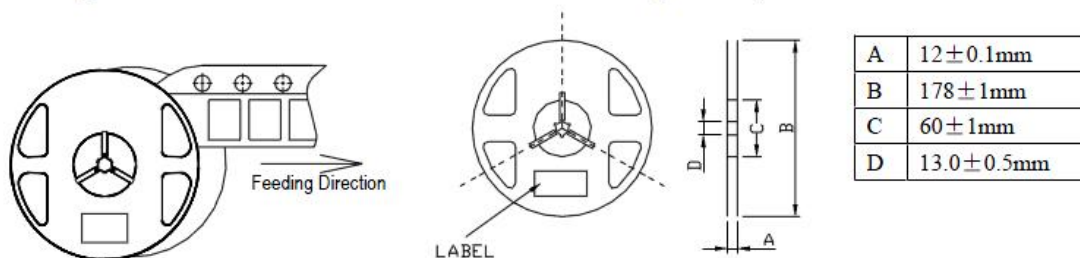
手工焊接时，烙铁温度不高于 300°C，每个焊脚焊接时间不超过 3 秒。

Storage Profile 贮存规范

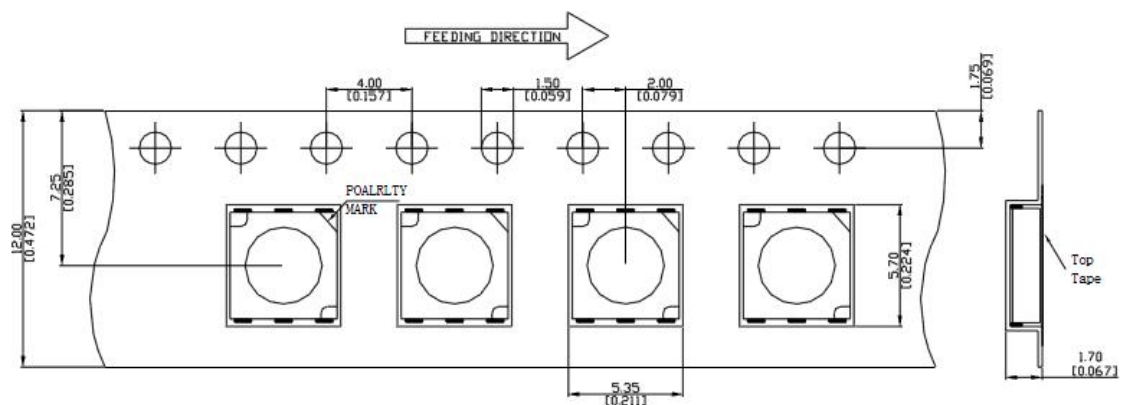
1. Do not open the moisture proof bag before ready to use the LEDs
请在未准备使用 LED 之前不要打开防静电袋子。
2. The LEDs should be kept at 30°C or less and 60%RH or less before opening the package.The max. storage period before opening the package is 1 year.
LED 在未开封之前应保存在 30°C 以下，湿度在 60% 以下的环境中，最长保存期为 1 年。
3. After opening the package, the LEDs should be kept at 30°C/40%RH or less, and it should be used within 7 days.
打开包装待后，LED 需保存在 30°C/40%湿度以下的条件，且必须在 7 天内使用完。
4. If the LEDs be kept over the condition of 3, baking is required before mounting.
Baking condition as below: 60±5°C for 12 hours.
如果 LED 超出了第 3 点要求，则 LED 必须经过烘烤才能使用，烘烤条件为：60±5°C，12 个小时。

※ Packaging Specifications 包装规格

Feeding Direction 卷带输送方向 • Dimensions of Reel (Unit: mm) 卷盘尺寸



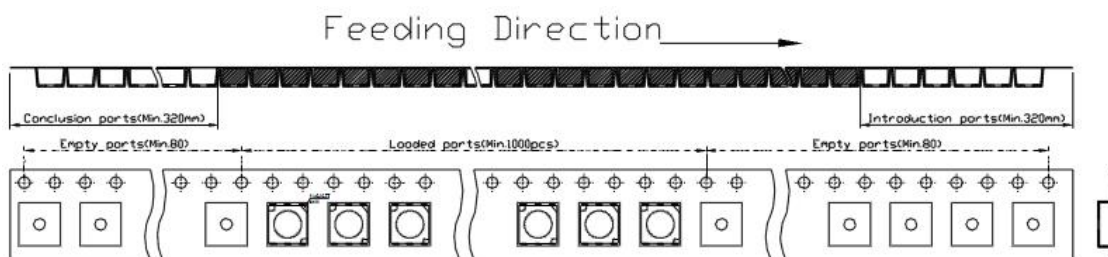
● **Dimensions of Tape (Unit: mm)** 卷带尺寸



● **Arrangement of Tape** 卷带排列规格

NOTES

1. Empty component pockets are sealed with top cover tape;
无材料部分同样用上封带密封
2. The maximum number of missing lamps is two;
一卷材料对大差异数为2
3. The cathode is oriented towards the tape sprocket hole
材料负极方向与卷带齿孔方向一致
4. 1,000 pcs/ Reel.
1000pcs/卷



※ Packaging Specifications in box 纸箱包装规格

