

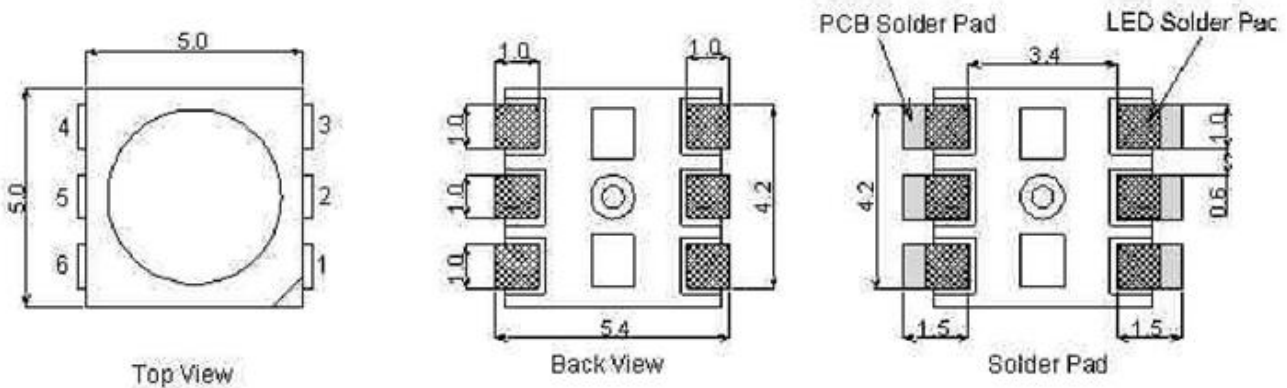
### 主要特点 Main Features

- 采用原装正品芯片、红铜支架，散热性好，质量可靠。  
Good heat dissipation and reliable quality.
- 该灯珠使用防硫化胶水，气密性好、透明度高、耐高温、光泽、固化后柔软性优异。  
Anti - vulcanizing Glue, excellent air tightness, high-temperature resistance.
- RGB 芯片波长、亮度同一 BIN。  
R/G/B chip's wavelength and brightness lie in same BIN.
- 支架分为白色和黑色两种颜色，方便客户的选择。  
White & Black front version available.

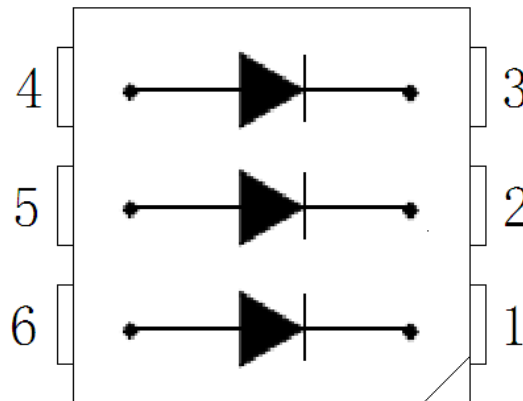
### 主要应用领域 Main Applications

- LED 发光字灯串，LED 模组，LED 软灯条硬灯条。  
LED light string, LED module, LED strip light.

### 机械尺寸 Dimension Drawing



### 引出端排列 PIN Configuration



### 引出端功能 PIN Function

序号 ITM	符号 Symbol	管脚名 PIN
1	R-	RED NEGATIVE
2	G-	GREEN NEGATIVE
3	B-	BLUE NEGATIVE
4	B+	BLUE POSITIVE
5	G+	GREEN POSITIVE
6	R+	RED POSITIVE

### 最大额定值 Absolute maximum ratings (如无特殊说明, TA=25°C/Thermal Pad Temperature @25°C)

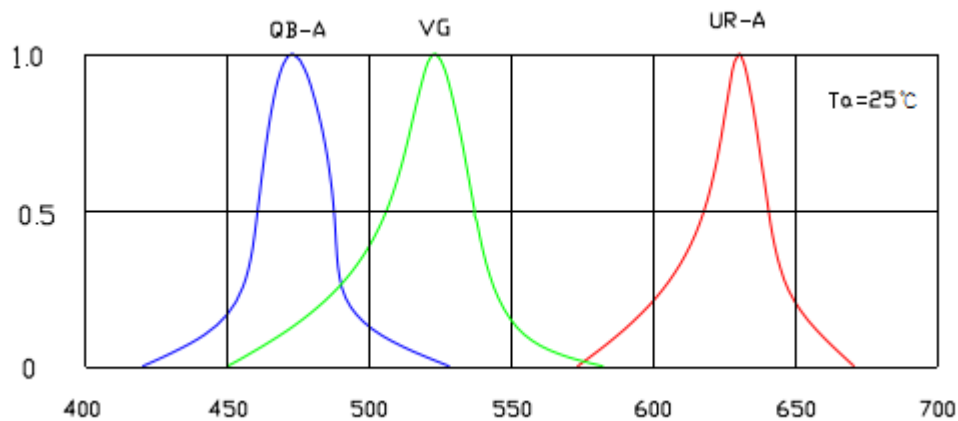
参数 Parameter	颜色 Color	符号 Symbol	最大额定值 Value	单位 Unit
消耗功效 Power Dissipation	GB	Pd	100	mW
	R		75	
顺向电流 Forward Current	RGB	IF	20	mA
顺向峰值电流 Pulse Current	R	IFP	50	mA
	GB		100	
反向电压 Reverse Voltage	RGB	VR	5	V
焊接温度 Soldering Temperature	RGB	Tsol	245°C (s)	°C
工作温度 Operating Temperature	RGB	Topr	-20°C~75°C	°C
储存温度 Storage Temperature	RGB	Tstg	-30°C~80°C	°C

**IFP 条件:** 脉冲不超过 1/10 周期及 0.1ms 宽度

IFP Condition: Pulse current < " 1/10 Cyc, 0.1ms width "

**光电特性参数 Opto-Electronical Specification** (环境温度=25°C/Thermal Pad Temperature @25°C)

参数 Parameter	颜色 Color	符号 Symbol	最小值 Min.	典型值 Typ	最大值 Max.	单位 Unit	测试条件 Condition
顺向电压 Forward Voltage	GB	Vf	3.0	----	3.2	V	IF=20mA
	R		2.0	----	2.2		
发光强度 Luminous Intensity	R	Iv	1.7	----	1.9	lm	
	G		5.2	----	5.4		
	B		1.3	----	1.5		
发光角度 Lighting Angle	RGB	2θ1/2	120	----	----	deg	
反向电流 Reverse Current	RGB	IR		----	10	uA	VR=5V
主波长 Wavelength	R	λD	620	----	625	nm	
	G		520	----	525		
	B		465	----	470		

**典型光电参数曲线 Optical-Electrical Characteristic Graphs**


### Luminous Intensity VS Ambient Temperature

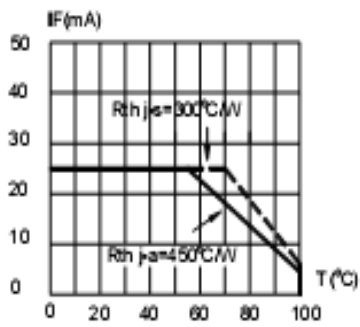
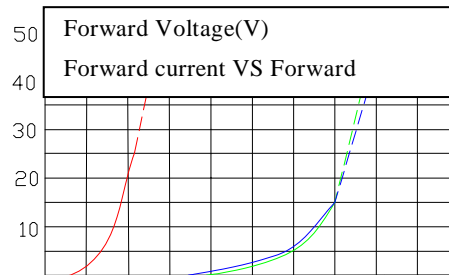
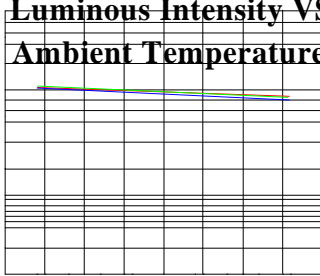


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON  $T_{jmax}=110^{\circ}\text{C}$

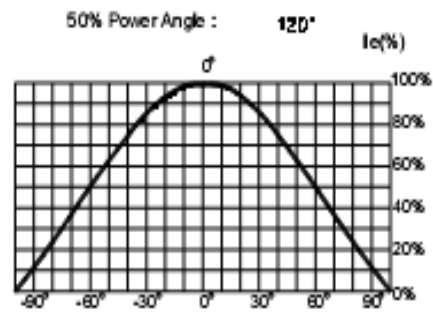
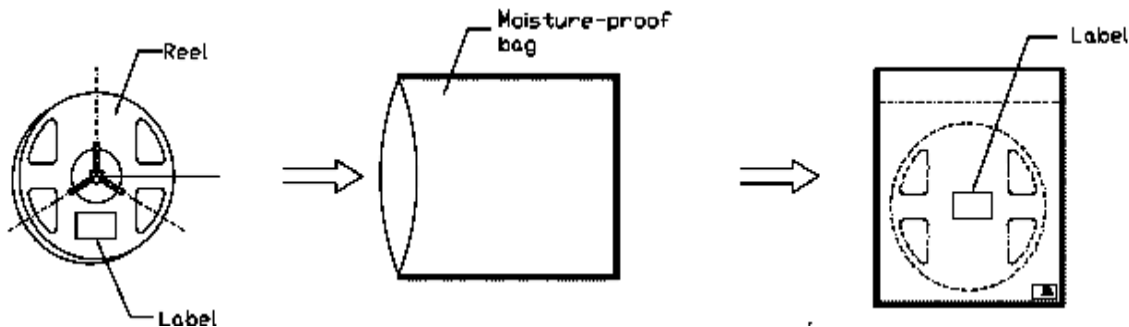
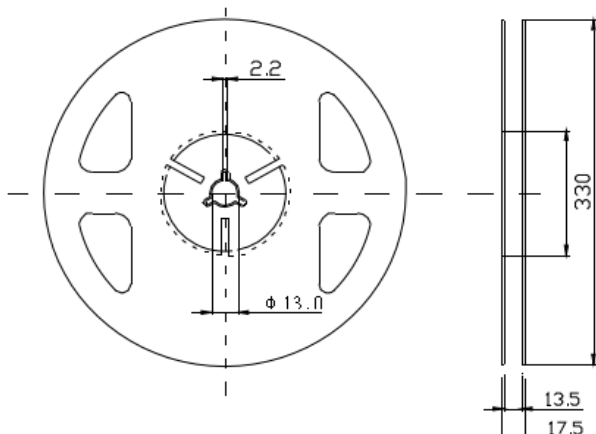
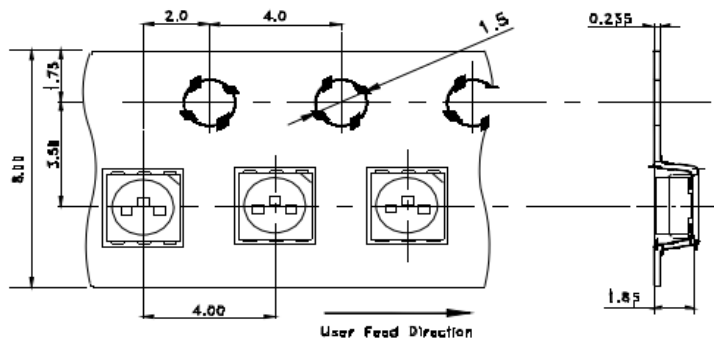


FIG.6 FAR FIELD PATTERN

包装规格参数 Carrier Tape (单位: mm)



\* 备注: 包装标准数量:1000pcs/卷盘。

Remarks: SPQ=1000PCS per reel.

### 可靠度试验及条件 Reliability Test

序号 ITM	试验项目 Test	测试条件 Conditions	样品大小 Sample Size	不良数/测试数 Number of Damaged
1	寿命试验 Life Test	测试电压(Voltage): 20mA 温度(Temperature): 25℃ 测试时间(Time): 1000h	20	0/1
2	高温高湿 (静态试验) High Temperature&Moisture	温度(Temperature): 85℃ 湿度(Humidity): 95%RH 测试时间(Time): 1000h	20	0/1

3	冷热冲击 Hot/Cold Temperature Shock	-35°C~80°C 20min - 10s - 20min 周期(Cycles): 50 Cycles	20	0/1
4	高温储存 High Temperature Storage	温度(Temperature): 100°C 测试时间(Time): 1000h	20	0/1
5	低温储存 Low Temperature Storage	温度(Temperature): -40°C 测试时间(Time): 1000h	20	0/1
6	温度循环 Temperature Cycle	-40°C~100°C 3min - 5min - 30min 周期(Cycles): 20 Cycles	20	0/1
7	回流焊 Reflow Soldering	预热(Preheat): 140°C - 160°C (Time < 120S) 高温工作区(High Temperature WS): 260°C (Time < 5S)	20	0/1

● **Judgment Criteria 信赖度试验不合格判定标准**

- IV: 衰减不超过30% ( $\Delta\% < 30\%$ )
- VF: 变化不超过10% ( $\Delta\% < 10\%$ )
- IR: 超过上限的2倍 ( $< 20\ \mu\text{A}$ )

● **Remarks 备注**

1. 同一项试验结果的测试需在 2 小时之内完成。The tests of the same experimental result should be completed within 2 hours.
2. 测试必须在每项实验完成后，材料恢复正常环境条件下才能进行。After the completion of each test, materials is needed to return to normal state in order to carry out the next.

**使用注意事项 Cautions**

- a. 客户使用时须和LED电流相符，或者在电流上加限流电阻，保证在额定电流下工作。否则，微小VF变化可能会导致电流的巨大变化，从而破坏LED结构。Used under rated current or adding a current-limiting resistor to prevent damage.
- b. 同时，在开关电路中，必须注意避免产生瞬间高压，以免超过LED负载。Avoid the damage of the momentary on the LEDs.
- c. 储存条件 Storage Conditions
  - ① 在使用之前，请勿打开防潮袋 /DO NOT open the moisture-proof bag before use.
  - ② 室温密封存储：20°C ~ 30°C，40% ~ 60%RH，产品有效期为 1 周 /Room temperature sealed storage: 20°C ~ 30°C，40% ~ 60%RH, product is valid for ONE week.

- ③ 防潮密封存储: 20℃~30℃, 25%~60%RH, 产品有效期为 2 周 /Moisture-proof sealed storage: 20℃~30℃, 25%~60%RH, product is valid for TWO weeks.
- ④ 产品拆包开封后, 建议 2 小时内使用完成, (环境条件温度<30℃, 湿度<60%) /Use up with 2 hours after removing from packages.(Environmental conditions for temperature <30℃, relative humidity<60%)
- ⑤ LED 产品超出以上规定期限, 或者由于其他原因受潮, 建议客户做除湿处理后再使用。  
除湿方法: 70℃-75℃/48±2 小时。We recommend to do dehumidification if they exceed the valid storage period of products or dampened due to other reasons. Dehumidification Method: 70℃-75℃/48±2 Hours

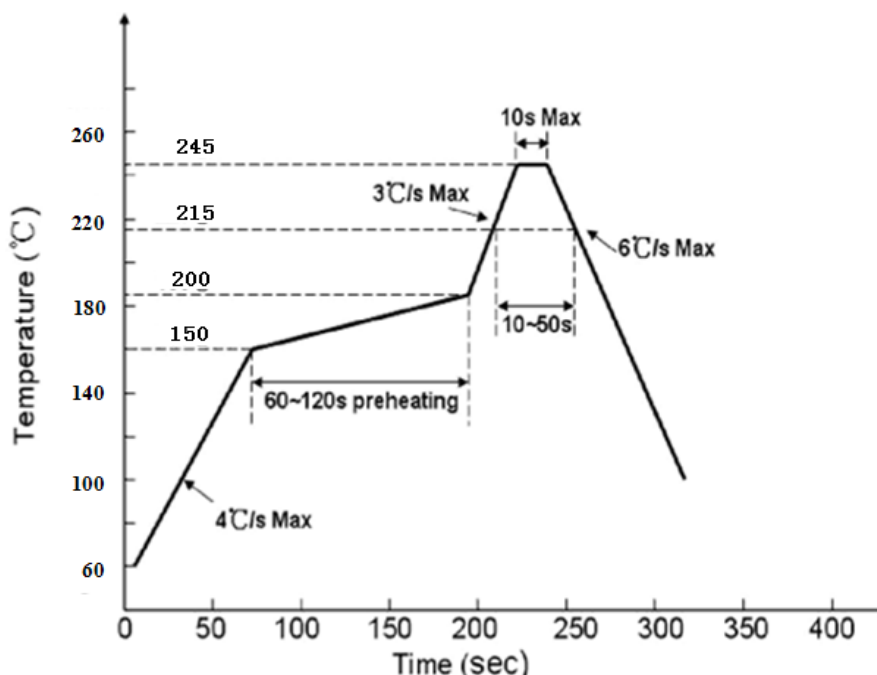
### A”手焊 Manual Soldered

手工焊接时, 操作人员必须佩戴防静电手腕带, 且必须使用恒温防静电烙铁, 以免操作过程中产生的静电将 LED 击伤; 烙铁温度必须控制在 300℃以下, 并且每个焊接时间不超过 3 秒, 以免因温度过高将 LED 烫伤。

LED is an electrostatic sensitive component, although the LED products are with excellent anti-static ability, they will cause a certain damage by any electrostatic discharge. By taking some electrostatic measures to avoid the damages when using the LEDs, such as wearing anti-static gloves and anti-static bracelet, etc..



### B”无铅回流焊: 温度曲线如下 Lead-free Reflow Instructions/SMT



曲线说明 Curve Description	无铅回流焊 Lead-free Reflow Solder/SMT
最低预热温度 The lowest preheat temperature (T <sub>min</sub> )	150°C
最高预热温度 The highest preheat temperature (T <sub>max</sub> )	200°C
预热区时间 Preheating time (T <sub>min</sub> to T <sub>max</sub> ) (ts)	60-180 S
平均升温速率 Average rate of temperature rise (T <sub>max</sub> to T <sub>p</sub> )	<3°C/S
液相温度 LIQUID REGION temperature (TL)	217°C
液相区保温时间 LIQUID REGION Holding Time (tL)	60-150 S
峰值温度 Peak Temperature (T <sub>p</sub> )	245 °C
高温区停留时间 High Temperature Region(T <sub>p</sub> =-5°C) Holding Time (tp)	<10 S
降温速率 Cooling Rate	<6°C/S
室温至峰值温度停留时间 Room Temperature to Peak Holding Time	<6 min

### 文件更改记录 Modify Records

版本号 Version №	状态 Status Bar	修改内容概要 Modify Content Summary	日期 Date	修订人 Reviser	批准人 Approved
V1.0	N	New	20170523	Shen JinGuo	Yin HuaPing
V1.1	M	Opto-Electrical Specification	20171125	Shen JinGuo	Yin HuaPing

注：初始版本号V1.0；每次修订批准后，版本号顺序加“0.1”；

状态包括：N--新建，A--增加，M--修改，D--删除。

Remarks: Initial version: V1.0; Version number plus "0.1" after each revision;

Status bar: N--New, A--Add, M--Modify, D--Delete.