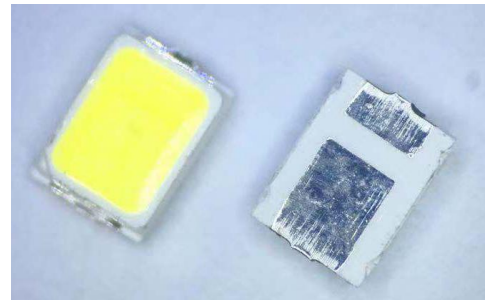




产 品 规 格 书

PRODUCT SPECIFICATION



产品型号 (Product Model) : HS-2016Z05-UW (150MA)

产品描述 (Product Description) : 2016 正白光 3 伏

产品制造商：深圳市鸿之森电子有限公司

市场部	核准	编制	时间
杨锐	姚洪标	钟友青	2019-1-14

产品应用商：

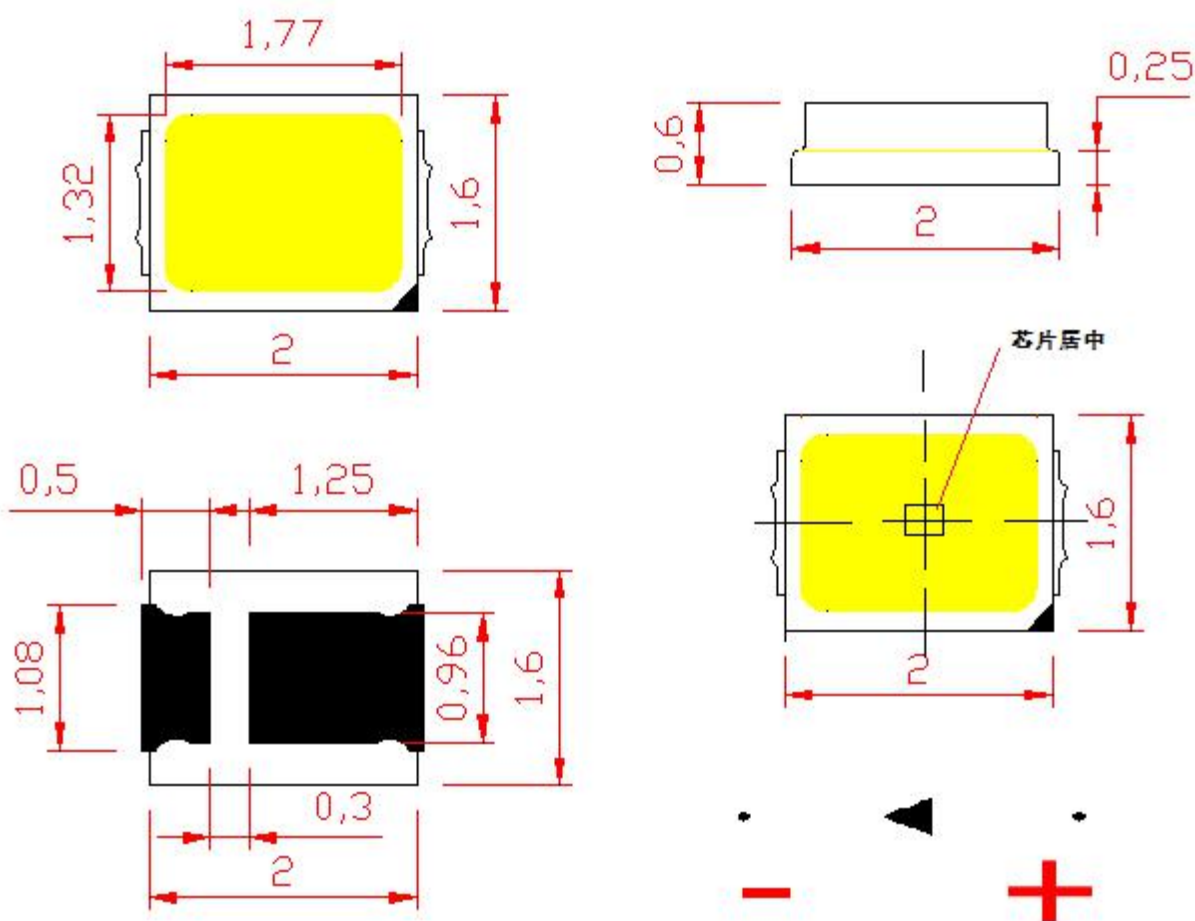
核准	确认	时间



■ 产品特性 (Features)

- 长寿命 (Long operating life)
- 低维护成本 (Reduced maintenance costs)
- 高效能 (More energy efficient)
- 低电压直流驱动 (Low voltage DC operated)
- 启动快 (Instant light)
- 符合RoHS标准 (RoHS compliant)

■ 外形尺寸 (Outline Dimension)



说明: ①所有标注尺寸单位为毫米 (All dimensions are millimeters) ;

②公差为 0.05 毫米 (Tolerance is 0.05 mm) 。



■ 最大绝对额定值 (Absolute maximum ratings) Ta=25℃

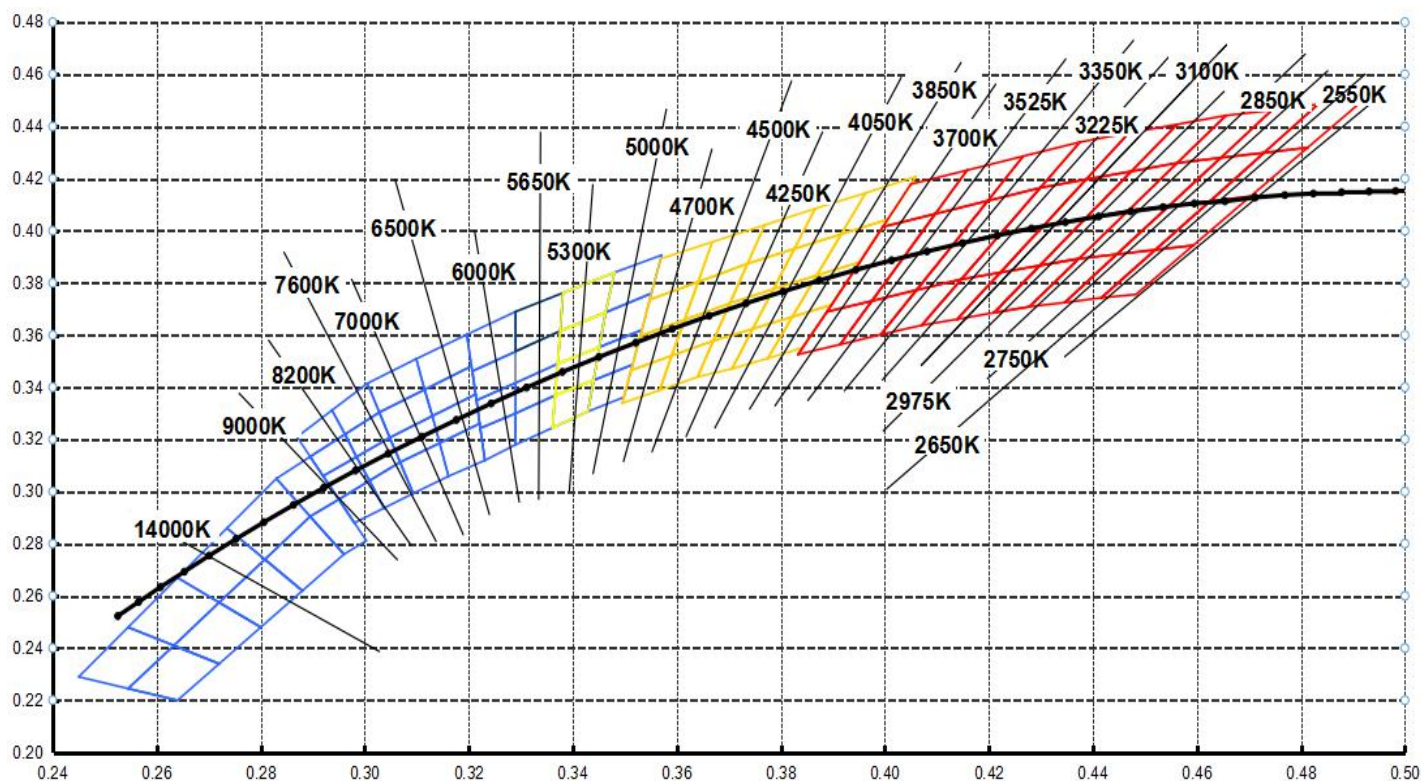
参数 Parameter	符号 Symbol	典型值 Typical	单 Unit
功率耗损 Power dissipation	Pd	250	mW
正向电流 Forward current	If	150	mA
反向电压 Reverse voltage	Vr	5	V
工作温度范围 Operating temperature range	Top	-40 ~+85	℃
贮存温度范围 Storage temperature range	Tstg	-40~+100	℃
最大脉冲电流 Peak pulsing current	Ifp	350	mA
抗静电能力 Electrostatic Discharge	ESD	2000(HBM)	V
焊接温度 Soldering temperature	Tsol	230~240, ≤10s	℃
备注：脉冲持续时间 ≤ 10msec，占空比 ≤ 1/10 IFP Conditions: Pulse Width ≤ 10msec. and Duty cycle ≤ 1/10.			

■ 电器光学特性 (Electrical & Optical Characteristics) Ta=25℃

项目 Item	测试条件 Test Condition	符号 Symbol	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Unit
正向电压 Forward voltage	If=150mA	Vf	3.2	--	3.4	V
光通量 Luminous intensity	If=150mA	Iv	50	--	55	Lm
显示指数 Color rendering index	If=150mA	Ra	70	--	--	--
色温 Color tempareture	If=150mA	CCT	5500	--	6000	K
			6000	--	6500	
色座标 CIE Chromaticity	If=150mA	X	--	0.31	--	--
	If=150mA	Y	--	0.33	--	--
半功率角 Viewing angle at 50% Iv	If=150mA	2 θ 1/2	--	120	--	Deg
反向电流 Reverse current	Vr=5V	Ir	--	--	5	μA



色座标分布图 (Color coordinate distribution map)



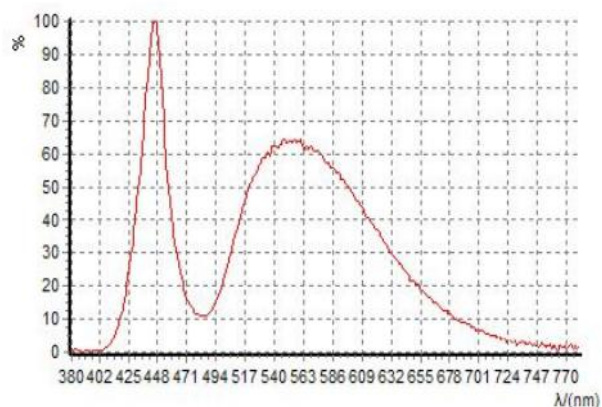
色座标参数 (Chromatic coordinate parameter)

55R (5300- 5650K)	0.3290	0.3538	58S (5650- 6000K)	0.3207	0.3462	62R (6000- 6500K)	0.3115	0.3391	68S (6500- 7000K)	0.3028	0.3304
	0.3290	0.3690		0.3196	0.3602		0.3099	0.3509		0.3005	0.3415
	0.3381	0.3762		0.3290	0.3690		0.3196	0.3602		0.3099	0.3509
	0.3376	0.3616		0.3290	0.3537		0.3205	0.3481		0.3115	0.3391
55C (5300- 5650K)	0.3290	0.3417	58A (5650- 6000K)	0.3215	0.3350	62C (6000- 6500K)	0.3130	0.3290	68A (6500- 7000K)	0.3048	0.3207
	0.3290	0.3538		0.3207	0.3462		0.3115	0.3391		0.3028	0.3304
	0.3376	0.3616		0.3290	0.3537		0.3205	0.3481		0.3115	0.3391
	0.3371	0.3490		0.3290	0.3417		0.3213	0.3373		0.3130	0.3290
55D (5300- 5650K)	0.3290	0.3300	58B (5650- 6000K)	0.3222	0.3243	62D (6000- 6500K)	0.3144	0.3186	68B (6500- 7000K)	0.3068	0.3113
	0.3290	0.3417		0.3215	0.3350		0.3130	0.3290		0.3048	0.3207
	0.3371	0.3490		0.3290	0.3417		0.3213	0.3373		0.3130	0.3290
	0.3366	0.3369		0.3290	0.3300		0.3221	0.3261		0.3144	0.3186
55U (5300- 5650K)	0.3290	0.3180	58T (5650- 6000K)	0.3231	0.3120	62U (6000- 6500K)	0.3161	0.3059	68T (6500- 7000K)	0.3093	0.2993
	0.3290	0.3300		0.3222	0.3243		0.3144	0.3186		0.3068	0.3113
	0.3366	0.3369		0.3290	0.3300		0.3221	0.3261		0.3144	0.3186
	0.3361	0.3245		0.3290	0.3180		0.3231	0.3120		0.3161	0.3059

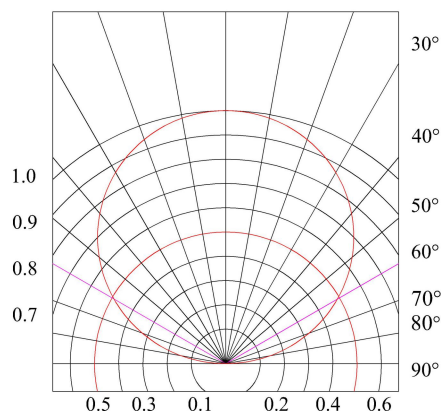


■ 典型光电特性曲线 (Typical optical characteristics curves)

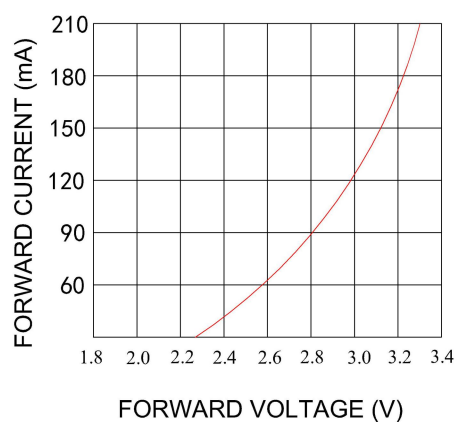
◆ 发射光谱 (Emission spectrum)



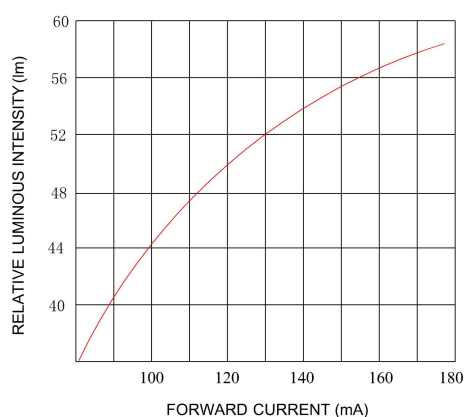
◆ 典型辐射分布图 (Typical radiation distribution map)



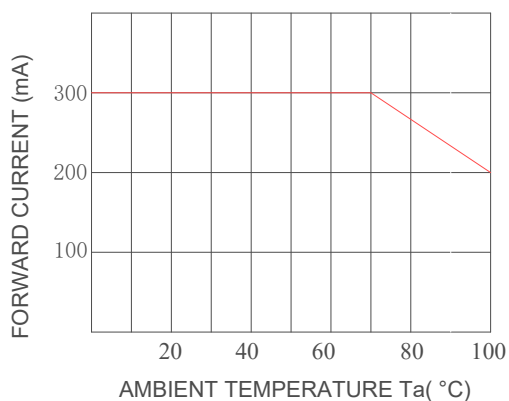
◆ 福安特性 (V-A characteristic)



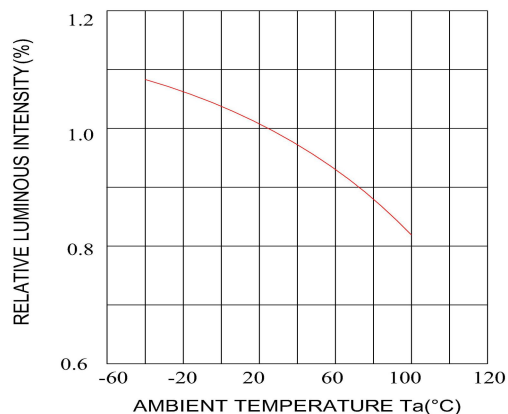
◆ 亮度特性 (Luminance characteristic)



◆ 温度与电流关系 (Temperature and current characteristic)



◆ 温度与亮度关系 (Temperature and brightness characteristic)





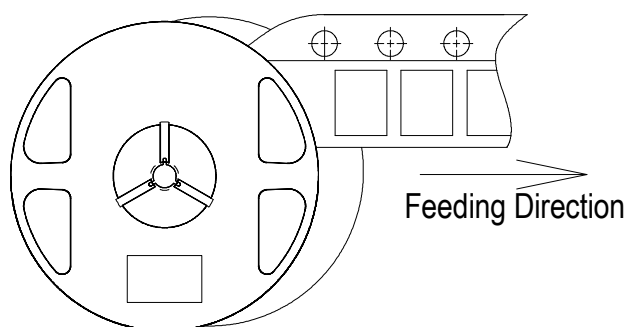
■ 可靠性试验 (Reliability test)

测试项目 Test project	测试条件 Test conditions	测试周期 Test cycle	样品数量 Sample quantity	允收 Ac/Re
常温老化 Normal temperature aging	Ta=25℃ IF=150mA	1000H	22pcs	0/1
高温老化 High temperature aging	Ta=85℃ IF=150mA	500H	22pcs	0/1
高温存储 High temperature storage	Ta=100℃	1000H	22pcs	0/1
低温存储 Cryogenic storage	Ta=-40℃	1000H	22pcs	0/1
冷热冲击 Thermal Shock	-40℃/30min~ 100℃/30min	100 cycles	22pcs	0/1
回流焊 Reflow test	Ta=260℃ T=10s	3 times	22pcs	0/1
高温高湿老化 High temperature and high humidity aging	85℃/85%RH IF=150mA	500H	22pcs	0/1
硫化实验 Vulcanization experiment	Ta=85℃	2H	10pcs	0/1
红墨水实验 Red ink experiment	Ta=85℃	2H	22pcs	0/1
静电测试 Antistatic test	2000V HBM	1 times/pcs	10pcs	0/1

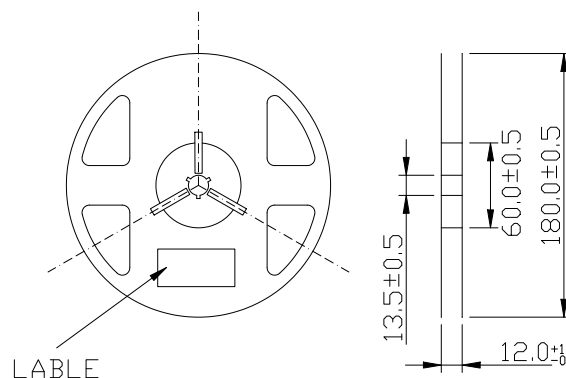


卷盘包装规格 (Reel packaging specification)

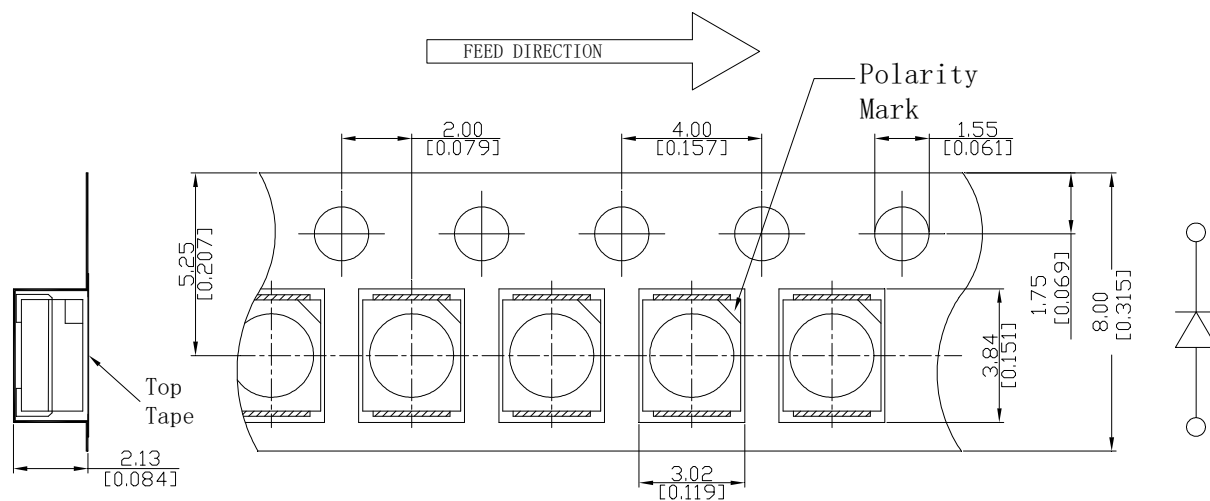
◆ 卷带输送方 (Feeding Direction)



◆ 卷盘尺寸 (Dimensions of Reel)



◆ 卷带尺寸 (Dimensions of Tape)



备注 (NOTES) :

- 1、无材料部分同样用上封带密封;

No material part is also sealed with sealing tape.

- 2、材料缺口 (负极) 方向, 与卷带齿孔方向一致;

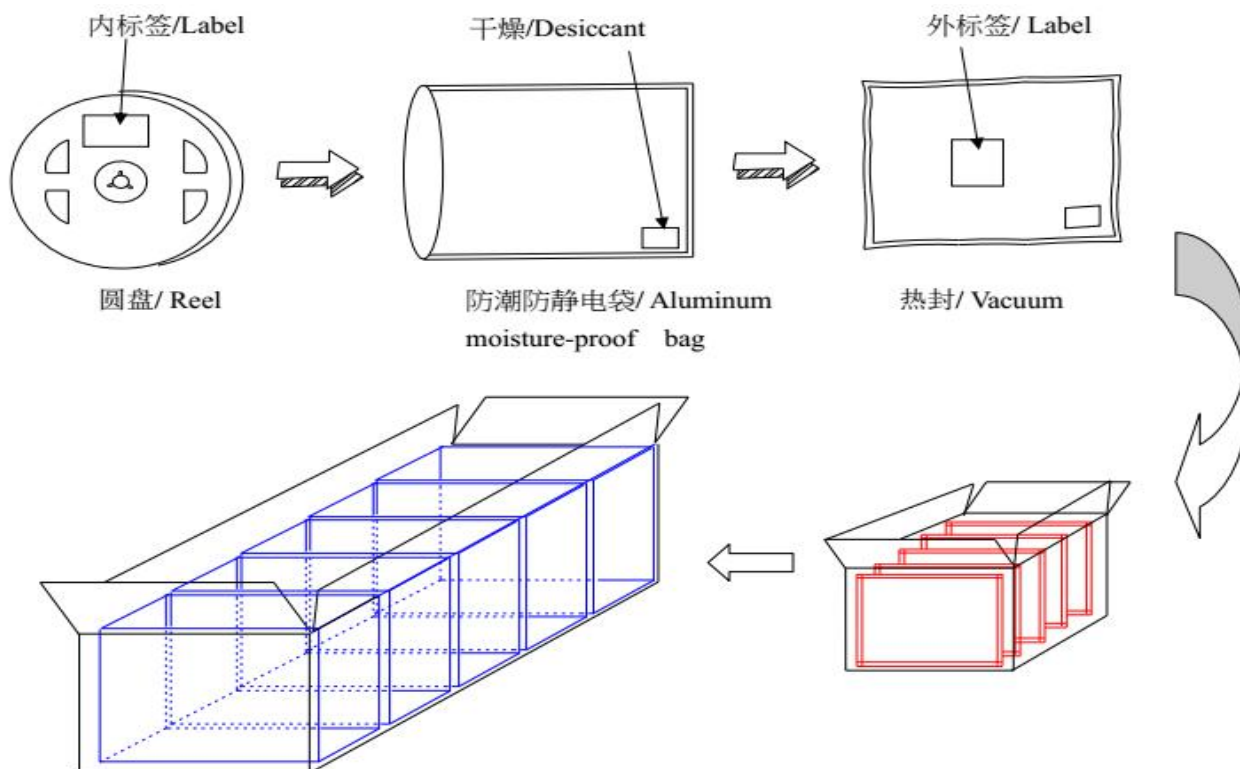
The direction of material gap (negative pole) is the same as that of the coiling hole.

- 3、5000pcs/卷

5000 pcs/ Reel.

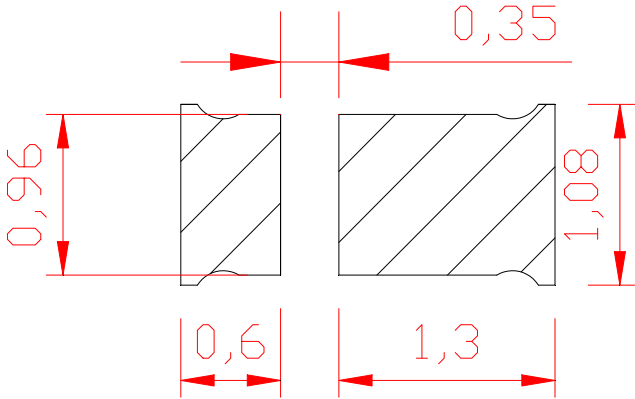
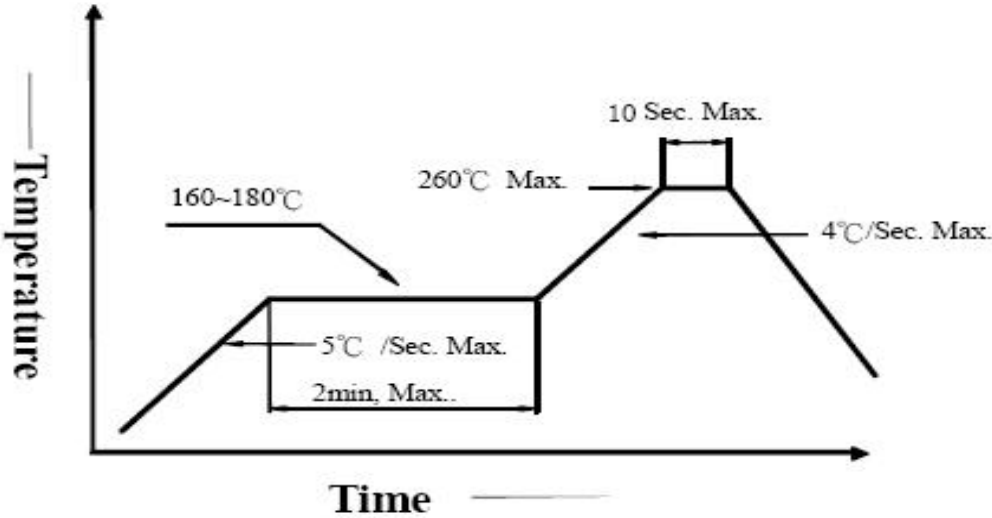


■ 纸箱包装规格 (Carton packaging specification)





■ 使用重要事项 (Importation for user)

建议焊盘尺寸 (Recommended pad size)	
无铅回流焊规范 (Specification for lead free reflow soldering)	

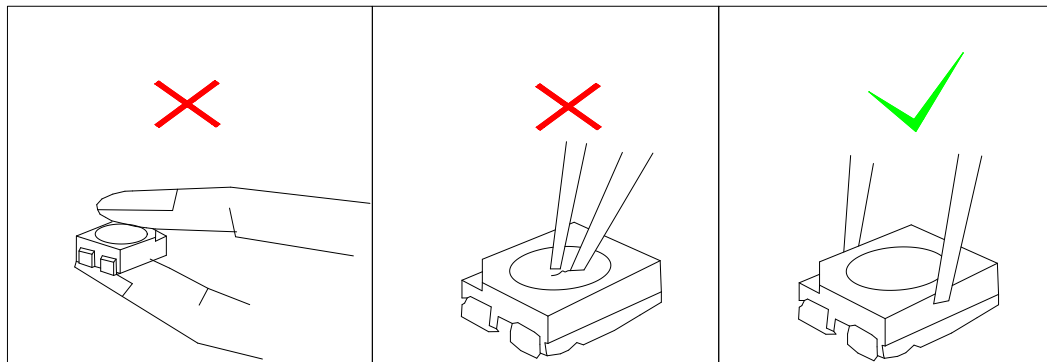
说明 (Note) :

- 1、焊接时请不要重压 LED 灯 (Do not press LED lamp when welding) ;
- 2、焊接后温度未回降到常温时请勿扭曲线路板 (Do not distort the circuit board when the temperature does not return to normal temperature after welding) ;
- 3、手工焊接时, 烙铁温度不高于 300℃, 每个焊脚焊接时间不超过 3 秒
(The temperature of the iron should be lower than 300℃ and soldering within 3sec per solder-pad is to be observed) ;



- 4、必须注意的是把这些灯放到装置中使用，不可接触 LED 灯的胶体表面，以避免其受到破坏导致死灯或减少光效率。

(Caution must be used in handing this device to avoid damage to the lens surfaces that will reduce optical efficiency) 。



■ 存储重要事项 (Important storage items)

- 1、请在未准备使用 LED 之前不要打开防静电袋子

(Do not open the moisture proof bag before ready to use the LEDs) ；

- 2、LED 在未开封之前应保存在 30℃ 以下，湿度在 60% 以下的环境中，最长保存期为 1 年

(The LEDs should be kept at 30℃ or less and 60%RH or less before opening the package. The max. storage period before opening the package is 1 year) ；

- 3、打开包装待后，LED 需保存在 30℃/40% 湿度以下的条件，且必须在 4H 内使用完

(After opening the package, the LEDs should be kept at 30℃/40%RH or less, and it should be used within 4 hours) ；

- 4、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℃，12 个小时

(If the LEDs be kept over the condition of 3, baking is required before mounting.

Baking condition as below: 60±5℃ for 12 hours) 。