

Specification

规格书

Customer Name: _____

客户名称

Customer P/N: _____

客户品号

Product P/N: **GD-1860W650-3CD-S1D0M**

产品型号

Sending Date: _____

供货日期

● Technical Reference 技术参考			● Sample 样品		■ Mass Product 量产供货	
Customer approval 客户审核			GM approval 光脉审核			
Approved 核准	Audit 确认	Confirmation 制作	Approved 核准	Audit 确认	Confirmation 制作	
						
● Qualified 接受		● Disqualified 不接受	Date: 日期:			

**SHENZHEN GUANGMAI ELECTRONICE CO., LTD.**

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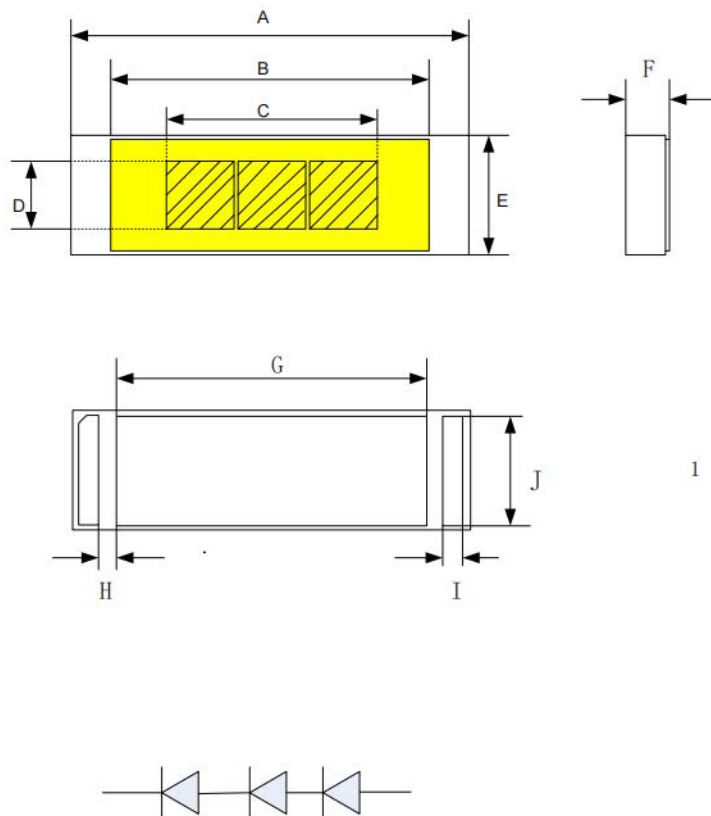
■ Features 产品特征:

- 体积小, 光效高 Small package with high efficiency
- 电压低, 瞬间点亮 Low voltage operation, Instant light
- 工作寿命长 Long operation life
- 通过 RoHS 认证 RoHS compliant

■ Applications 产品应用:

- 室外照明 Outdoor lighting
- 车灯 Car light

Package Dimensions 封装外形尺寸



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	5.8	5.9	6.0
B	4.7	4.8	4.9
C	3.4	3.5	3.6
D	1.0	1.1	1.2
E	1.7	1.8	1.9
F	0.6	0.7	0.8
G	4.4	4.5	4.6
H	0.27	0.32	0.37
I	0.25	0.3	0.35
J	1.59	1.64	1.69

Notes: All dimensions in mm tolerance is $\pm 0.1\text{mm}$ unless otherwise noted.
除非另有说明，以上尺寸以 mm 为单位，公差在 $\pm 0.1\text{mm}$ 。

■ Absolute Maximum Ratings(At TA =25℃) 极限参数

Parameter	Symbol	Rating	Unit
DC Forward Current (正向电流)	I _F	1200	m A
Peak pulse Current* (脉冲电流)	I _{FP}	1500	m A
Power Dissipation (功率)	P _D	12	W
Reverse Voltage (反向电压)	V _R	15	V
Reverse Current (反向电流)	I _R	10	μ A
Operating Temperature Range (工作温度)	T _{OPR}	-40 ~ +85	°C
Storage Temperature Range (储存温度)	T _{STG}	-40 ~ +100	°C
LED Junction Temperature (结点温度)	T _J	150	°C

Note: 备注

1. 1/10 Duty cycle, 0.1ms pulse width. 脉宽 0.1ms,周期 1/10。
2. Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product. 使用功率不能超过规定的最大值。
3. When the LEDs are in operation the maximum current should be decided after measuring the package temperature, junction temperature should not exceed the maximum rate. LED 使用最大电流需根据散热条件确定，结温不能超过最大值。

■ Electrical/Optical Characteristics--White (At T_A=25°C) 光电特性参数

Parameter	Symbol	Conditions	Min	Avg.	Max	Units
Forward Voltage (正向压降)	V _F	I _F =1200mA	8.75	9.00	9.50	V
Thermal Resistance Junction To Board (热阻)	R _{ΘJ-B}	I _F =1200mA	--	0.5	--	°C/W
Luminous Flux (光通量)	Φ _v	I _F =1200mA	1250	1300	1350	lm
Color Temperature (色温)	CCT	I _F =1200mA	5500	6500	7000	K
CRI (显色指数)	Ra	I _F =1200mA	70	72	--	--
Reverse Current (反向漏电流)	I _R	V _R =15V	--	--	10	μA
Viewing Angle ^[1] (发光角度)	2Θ _{1/2}	I _F =1200mA	--	120	--	Deg

Note:(备注)

1. The above forward voltage measurement allowance tolerance is ±0.1V。

以上所示电压测量误差±0.1V

2. The above luminous flux measurement allowance tolerance is ±10%。

上述发光通量的测试允许公差为±10%

3. The above Color Rendering Index measurement allowance tolerance is ±2。

以上显色性指数的测试允许公差为±2

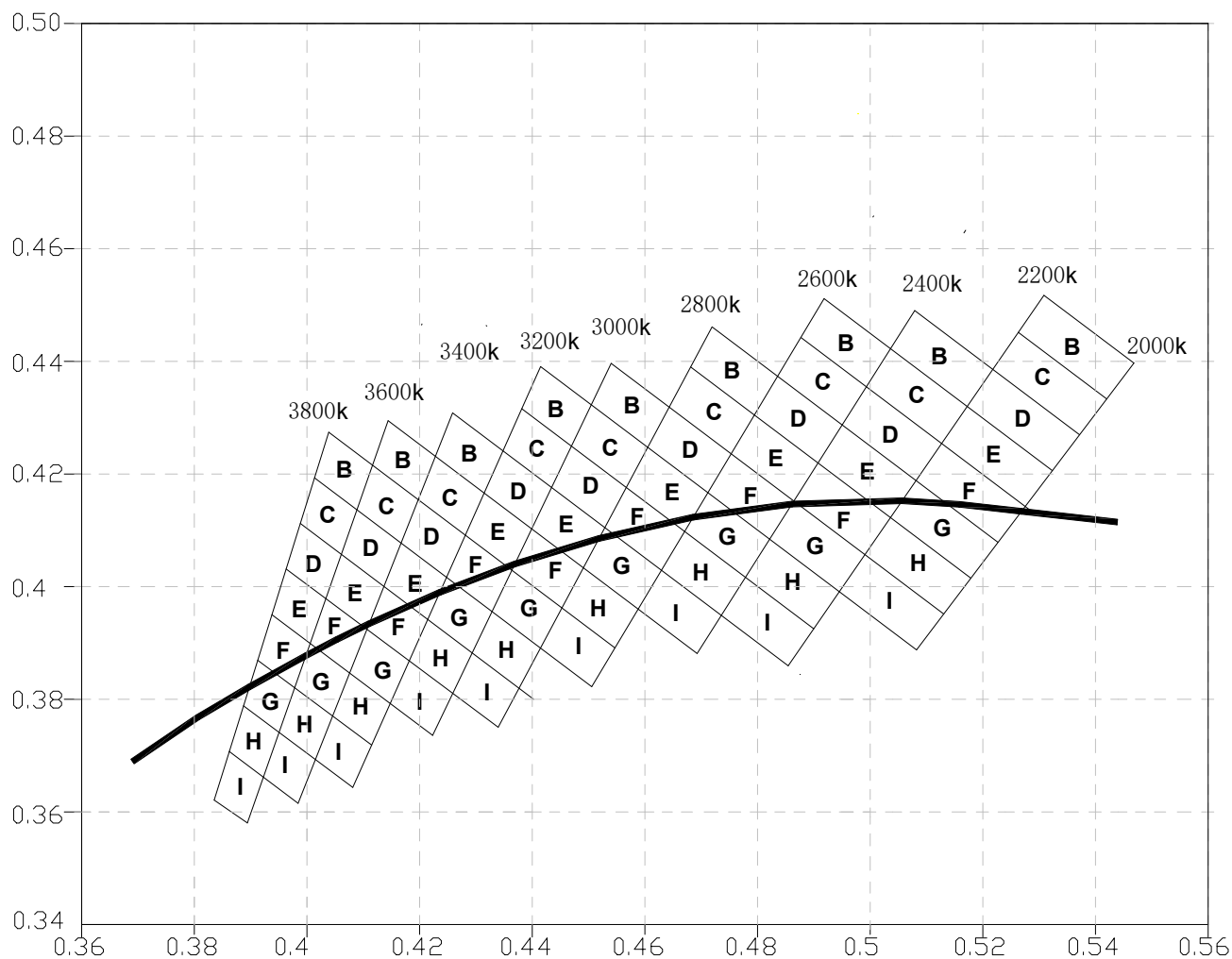
4. The above color coordinates measurement allowance tolerance is ±0.003。

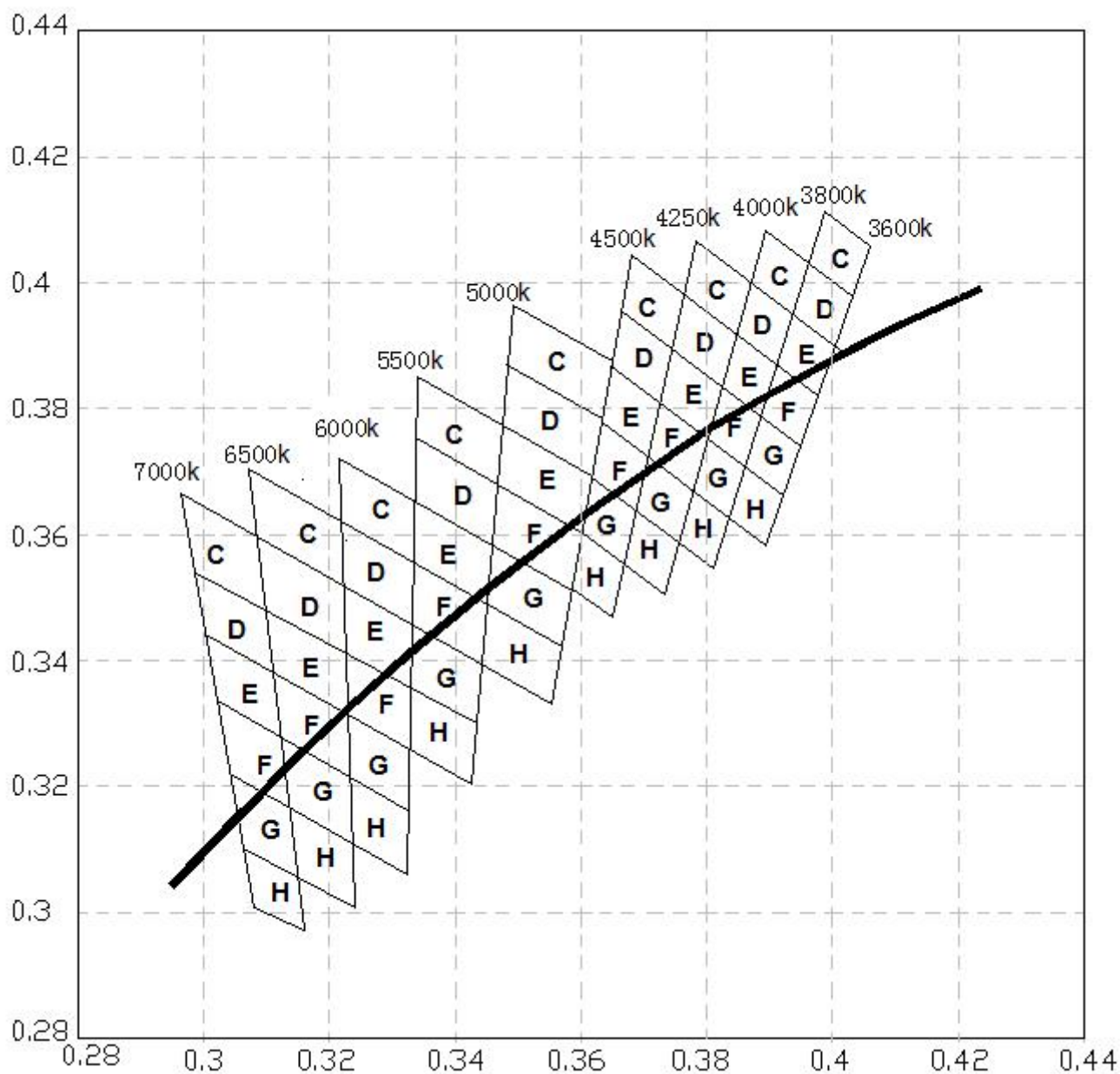
以上所示坐标测量误差 ±0.003。

5. 2Θ_{1/2} is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value。

2Θ_{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

■ Color & binning 色区分级

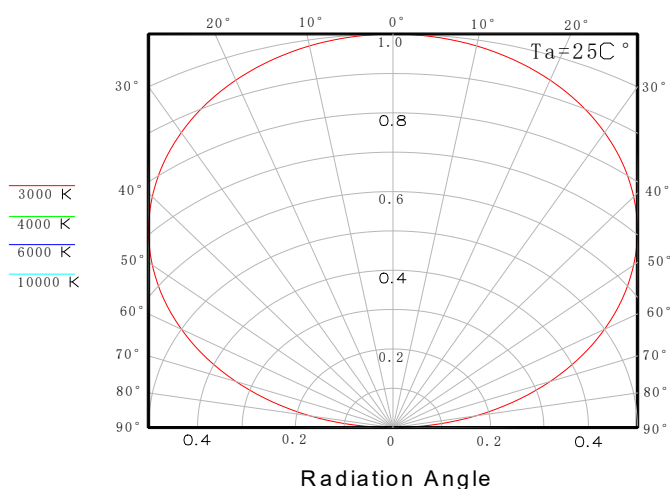
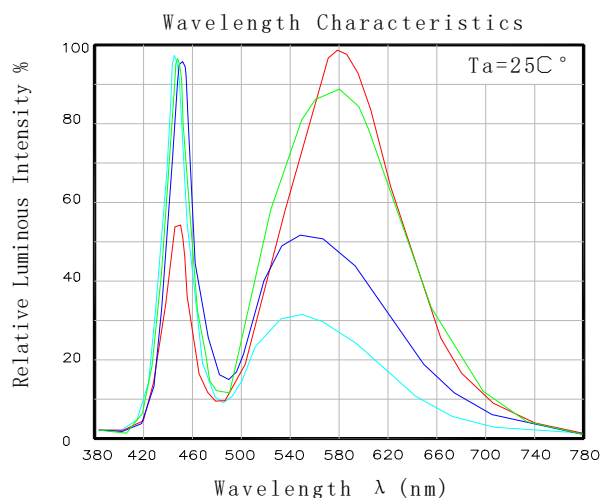
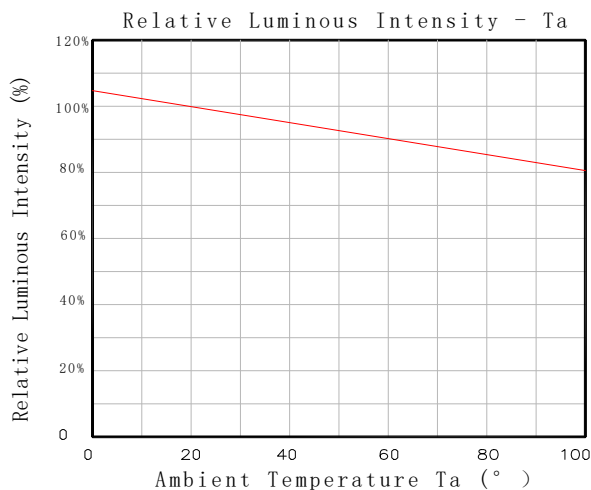
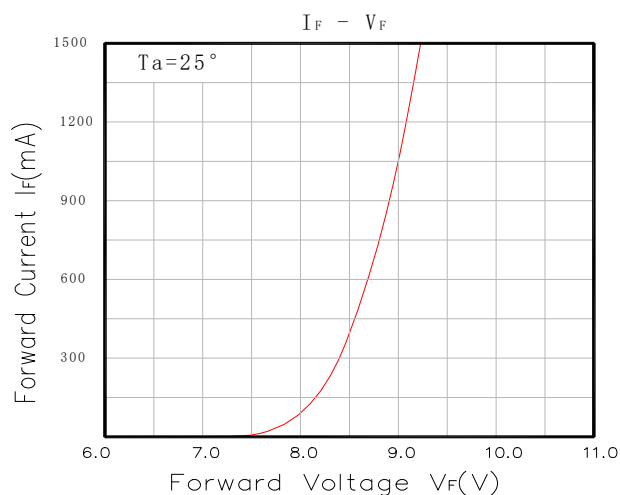
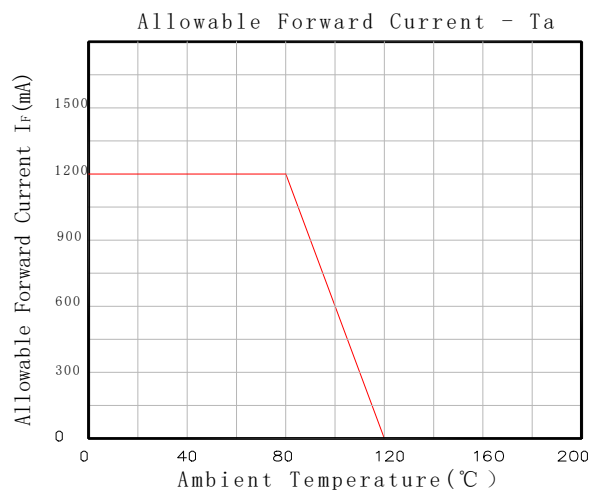
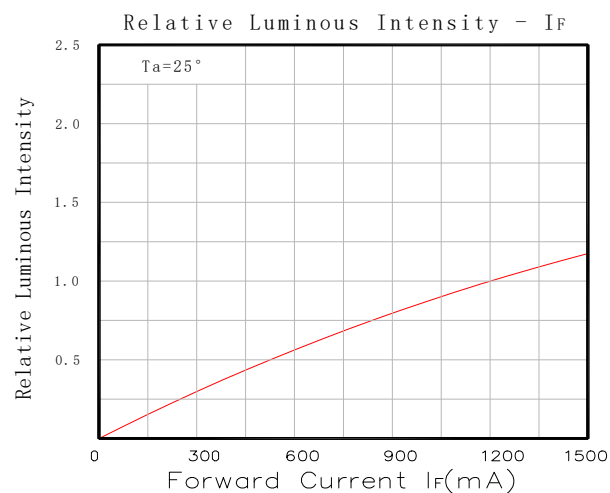




20E 2000- 2200K	0.5172	0.432	20F 2000- 2200K	0.5127	0.4254	22E 2200- 2400K	0.495	0.4287	22F 2200- 2400K	0.4907	0.4219
	0.5324	0.4206		0.5275	0.4142		0.5082	0.4188		0.5036	0.4122
	0.5275	0.4142		0.5227	0.4078		0.5036	0.4122		0.4991	0.4057
	0.5127	0.4254		0.5082	0.4188		0.4907	0.4219		0.4865	0.4152
24E 2400- 2600K	0.4795	0.4304	24F 2400- 2600K	0.4753	0.4236	26E 2600- 2800K	0.4605	0.4247	26F 2600- 2800K	0.4567	0.4176
	0.4907	0.4219		0.4865	0.4152		0.4712	0.4167		0.4671	0.4098
	0.4865	0.4152		0.4822	0.4084		0.4671	0.4098		0.463	0.4029
	0.4753	0.4236		0.4712	0.4167		0.4567	0.4176		0.4529	0.4105
28E 2800- 3000K	0.4434	0.4176	28F 2800- 3000K	0.4399	0.4102	30E 3000- 3200K	0.4315	0.4166	30F 3000- 3200K	0.4281	0.4091
	0.4529	0.4105		0.4491	0.4033		0.4399	0.4102		0.4364	0.4029
	0.4491	0.4033		0.4453	0.3962		0.4364	0.4029		0.4327	0.3951
	0.4399	0.4102		0.4364	0.4029		0.4281	0.4091		0.4248	0.4016
32E 3200- 3400K	0.4167	0.4077	32F 3200- 3400K	0.4137	0.4	34E 3400- 3600K	0.4061	0.4057	34F 3400- 3600K	0.4033	0.3978
	0.4248	0.4016		0.4214	0.3942		0.4137	0.4		0.4106	0.3923
	0.4214	0.3942		0.4181	0.3867		0.4106	0.3923		0.4076	0.3846
	0.4137	0.4		0.4106	0.3923		0.4033	0.3978		0.4006	0.3899
36E 3600- 3800K	0.3963	0.4031	36F 3600- 3800K	0.3938	0.395	38E 3800- 4000K	0.3848	0.3918	38F 3800- 4000K	0.3825	0.3835
	0.4033	0.3978		0.4006	0.3899		0.3913	0.3869		0.3887	0.3788
	0.4006	0.3899		0.3978	0.382		0.3887	0.3788		0.3862	0.3707
	0.3938	0.395		0.3913	0.3869		0.3825	0.3835		0.3802	0.3752
40E 4000- 4250K	0.3746	0.3895	40F 4000- 4250K	0.3726	0.3809	42E 4250- 4500K	0.3649	0.3868	42F 4250- 4500K	0.3633	0.3779
	0.3825	0.3835		0.3804	0.3751		0.3726	0.3809		0.3707	0.3724
	0.3804	0.3751		0.378	0.3669		0.3707	0.3724		0.3688	0.3639
	0.3726	0.3809		0.3707	0.3724		0.3633	0.3779		0.3618	0.3691
45E 4500- 5000K	0.3475	0.3775	45F 4500- 5000K	0.3467	0.3679	50E 5000- 5500K	0.3327	0.3659	50F 5000- 5500K	0.3326	0.3559
	0.3618	0.3693		0.3603	0.3602		0.3459	0.3584		0.345	0.3489
	0.3603	0.3602		0.3587	0.3511		0.345	0.3489		0.3442	0.3393
	0.3467	0.3679		0.3459	0.3584		0.3326	0.3559		0.3325	0.3459
55E 5500- 6000K	0.3224	0.3517	55F 5500- 6000K	0.3227	0.3415	60E 6000- 6500K	0.3102	0.3486	60F 6000- 6500K	0.3117	0.3377
	0.3325	0.3459		0.3325	0.336		0.3227	0.3415		0.323	0.3313
	0.3325	0.336		0.3324	0.326		0.323	0.3313		0.3234	0.3211
	0.3227	0.3415		0.323	0.3313		0.3117	0.3377		0.3133	0.3268
65E 6500- 7000K	0.3009	0.3438	65F 6500- 7000K	0.3032	0.3325	70E 7000- 7500K	0.293	0.3383	70F 7000- 7500K	0.2961	0.3265
	0.3117	0.3377		0.3133	0.3268		0.3032	0.3325		0.3055	0.3212
	0.3133	0.3268		0.3148	0.316		0.3055	0.3212		0.3078	0.3099
	0.3032	0.3325		0.3055	0.3212		0.2961	0.3265		0.2992	0.3148

■ Typical Optical/Electrical Characteristics Curves 典型光电参数曲线

(IF=1200mA ,Ta=25℃ Unless Otherwise Noted)



■ Reliability test standards 可靠性实验标准

测试项目 Test Item	参考标准 REF. Standard	测试条件 Test condition	持续时间 Duration	取样数 Sample count	允收数 Accept
温度循环 Temperature Cycle	JESD22-A104 -A	100℃±5 30min~25℃ 30min,5min,30min,5min	循环 100 次 100 cycles	22	0/22
冷热冲击 Thermal shock	JESD22-A106	-40℃~100℃ 30min, 30min	循环 100 次 100 cycles	22	0/22
高温储存 High Temperature Storage	JEITA ED-4701 200 201	TA=100℃±5℃	1000 Hrs	22	0/22
低温储存 Low Temperature Storage	JEITA ED-4701 200 202	TA=-40℃±5℃	1000 Hrs	22	0/22
高温/高湿储存 Humidity Heat Storage	JIS C 7021 (1977)B-11	Ta=60℃ RH=85%	1000Hrs	22	0/22
寿命测试 Life test	JESD22-A108 -A	Ta=25℃ If=1200mA	1000Hrs	22	0/22
高温/高湿寿命测试 High humidity Heat life test	JESD22-A101	Ta=60℃ RH=85% IF=1200mA	1000Hrs	22	0/22

Criteria For Judging Damage 失效判定标准:

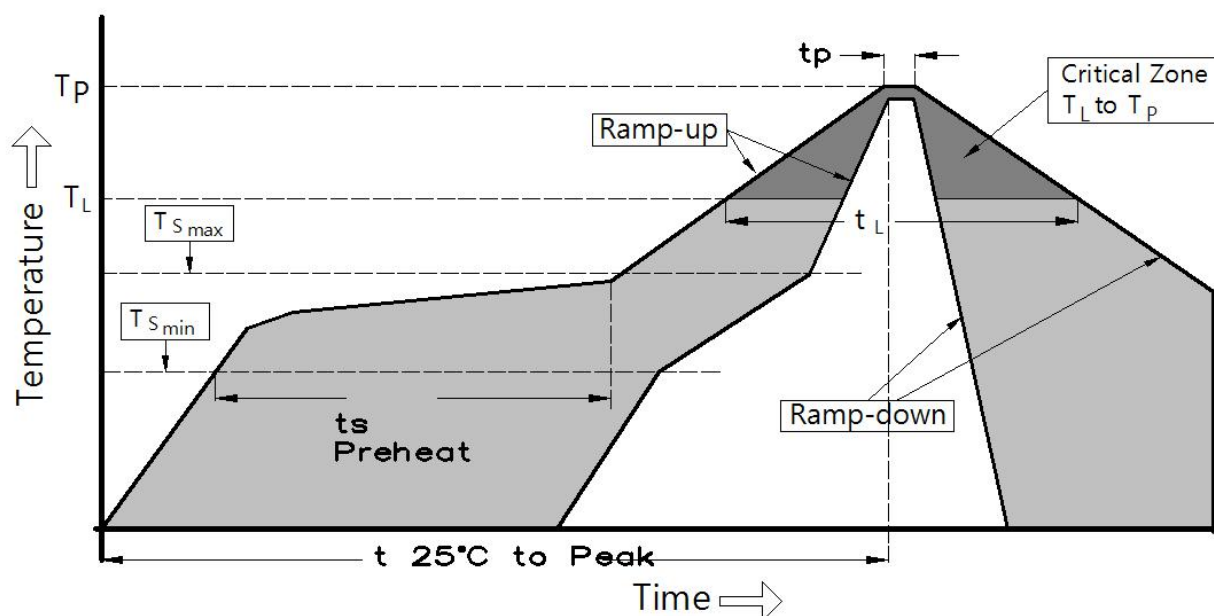
Test Item 项目	Symbol 符号	Test condition 测试条件	Criteria For Judgement 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	VF	IF=1200mA	—	U.S.L*)1.1
Reverse Current 反向电流	IR	VR=15V	—	10uA
Luminous Flux 光通量	Lm	IF=1200mA	L.S.L*)0.7	—
Lamp bead lighting test 灯珠点亮测试	/	IF=1200mA	无开路、短路、闪变	

U.S.L: Upper standard level 规格上限

L.S.L: Lower standard level 规格下限

Note 备注:

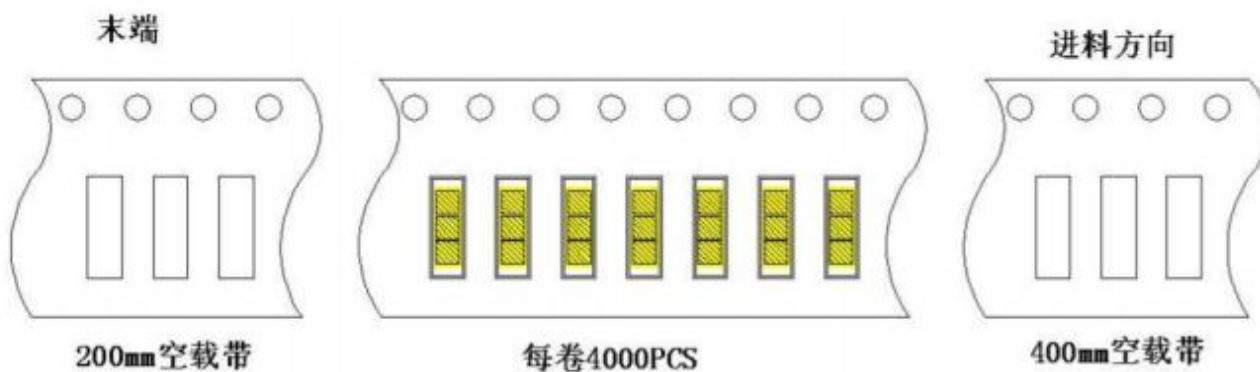
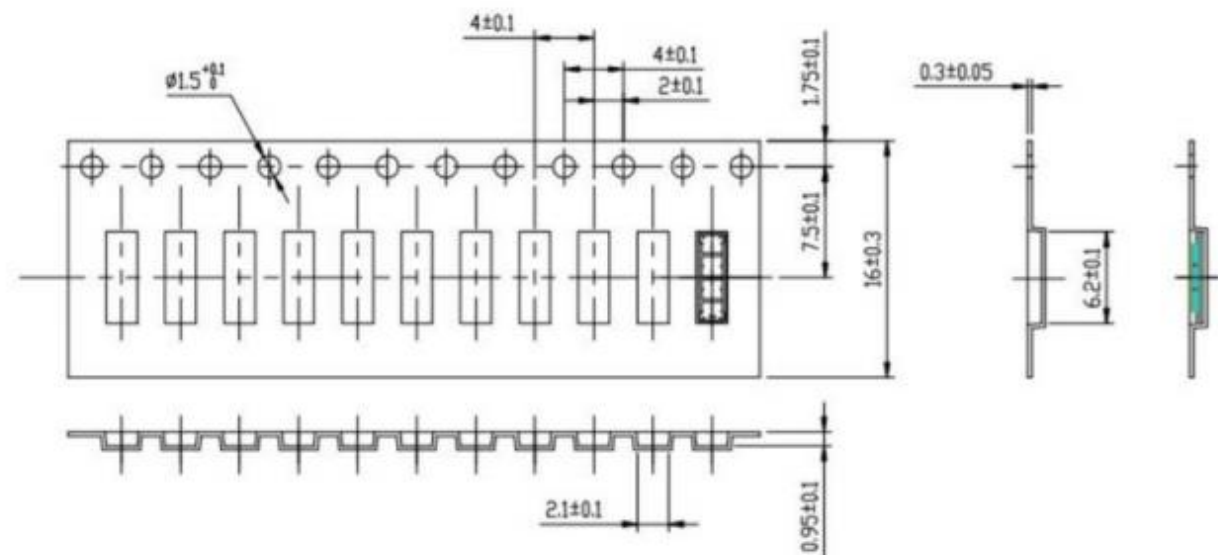
The above technical data is only the typical value of the product, not as any application conditions and application mode guarantee. 以上技术数据仅为产品的典型值，不作为任何应用条件及应用方式的保证。

■ SMT ReflowSoldering Instructions SMT 回流焊说明


平均升温速度 (T_{Smax} 至 T_p)	最高 3 ° C/秒
预热: 最低温度 (T_{Smin})	150 ° C
预热: 最高温度 (T_{Smax})	200 ° C
预热: 时间 (t_{Smin} 至 t_{Smax})	60 - 120 秒
限时维持高温: 温度 (T_L)	215 ° C
限时维持高温: 时间 (t_L)	最多 60 秒
峰值 / 分类温度 (T_p)	255±5 ° C
限时峰值分类温度:时间 (t_p)	最多 10 秒
与实际峰值温度 (t_p) 低 5 ° C 以内的保持时间	最多 30 秒
降温速度	最高 6 ° C/ 秒
25 ° C 升至峰值温度所需时间	最多 8 分钟

■ Packing Standard 包装标准

Normal packing quantity: 4000pcs/reel 正常包装数量: 4000 片/卷



Reel Specifications 卷盘规格

