GMKJ
光脉科技
lighting the world

Technical Data Sheet

www.szgmled.com

承 认 书

Specification for approval

客 户 名 称 ：

Customer

产 品 型 号 ： GP-10WW6-0303009-P45Z1

Product Part No.

制 定 人：　　日 期：

Issued By　　Date

审 核：　　日 期：

Approved By　　Date

客 户 回 签：　　日 期：

Custer Confirmation　　Date

SHENZHEN CUANGMAI ELECTRONICE CO., LTD.

地址（Add）：宝安福永永福路与重庆路交叉口金港工业园 B 栋 4-5 楼
电话（Tel）： 86-755-23499599
传真（Fax）：86-755-23497717

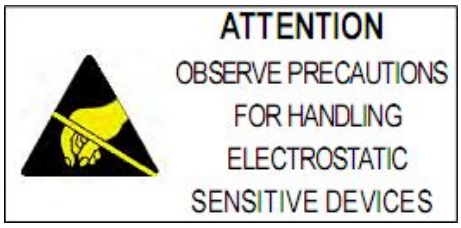
Features：

- More energy efficient than incandescent and most halogen lamps
- low voltage operation
- Instant light
- Long operating life
- Anti UV

产品特征：

- 较传统灯的高能效
- 低电压工作
- 瞬间点亮
- 超长工作时间
- 防紫外

RoHS



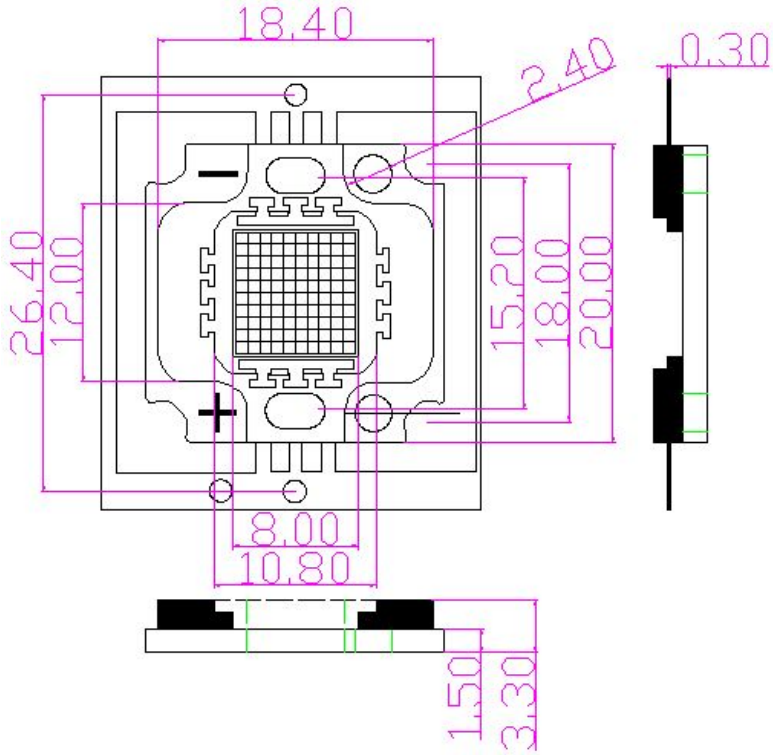
Applications：

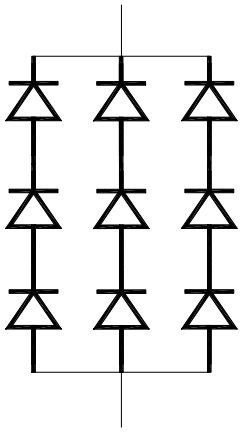
- Indoor lighting：
  spot light，ceiling light，bulb.....
- Architectural and landscape lighting：
  down light，wall lamp，garden light
- Roadway lighting：
  Street light，garden light，tunnel light
- Display lighting：

产品应用：

- 室内照明：射灯，
  天花灯，球泡灯等
- 建筑及景照明：
  投光灯，洗墙灯，园林灯
- 道路照明：
  路灯，庭院灯，隧道灯
- 展示照明

■ Package Dimensions 封装外形尺寸





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

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

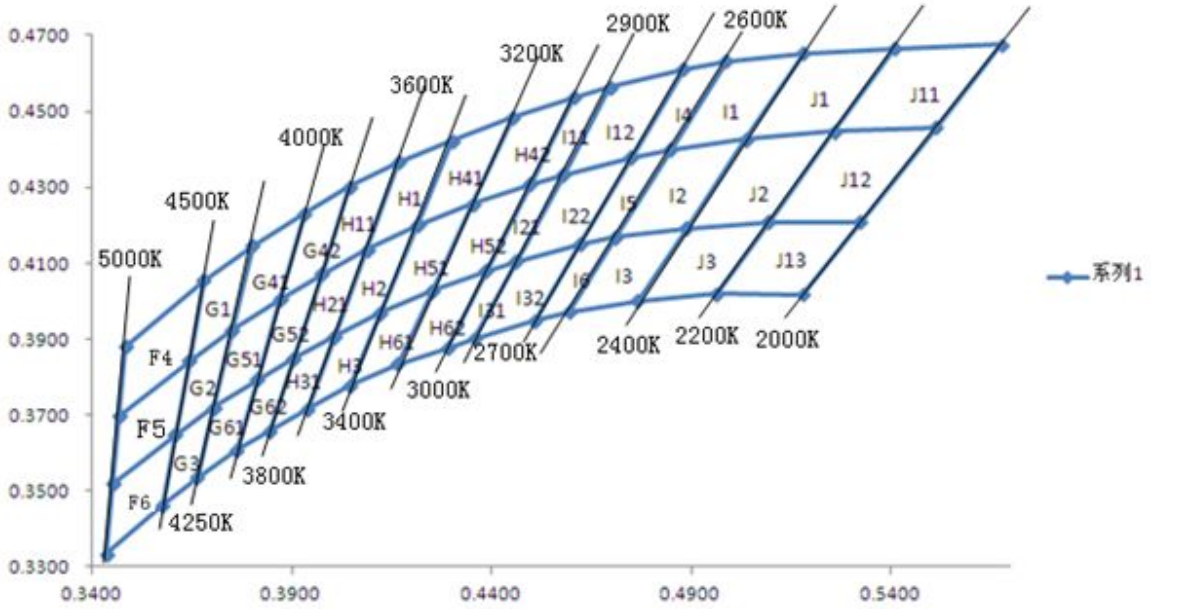
Parameter	Symbol	Rating	Unit
DC Forward Current 正向电流	I_F	1050	m A
Peak pulse Current* 脉冲电流	I_{FP}	1500	m A
Reverse Voltage 反向电压	V_R	15	V
Power Dissipation 功率	P_D	10	W
Operating Temperature Range 工作温度	T_{OPR}	-30 ~ +75	°C
Storage Temperature Range 储存温度	T_{STG}	-40 ~ +85	°C
LED Junction Temperature 结点温度	T_J	125	°C

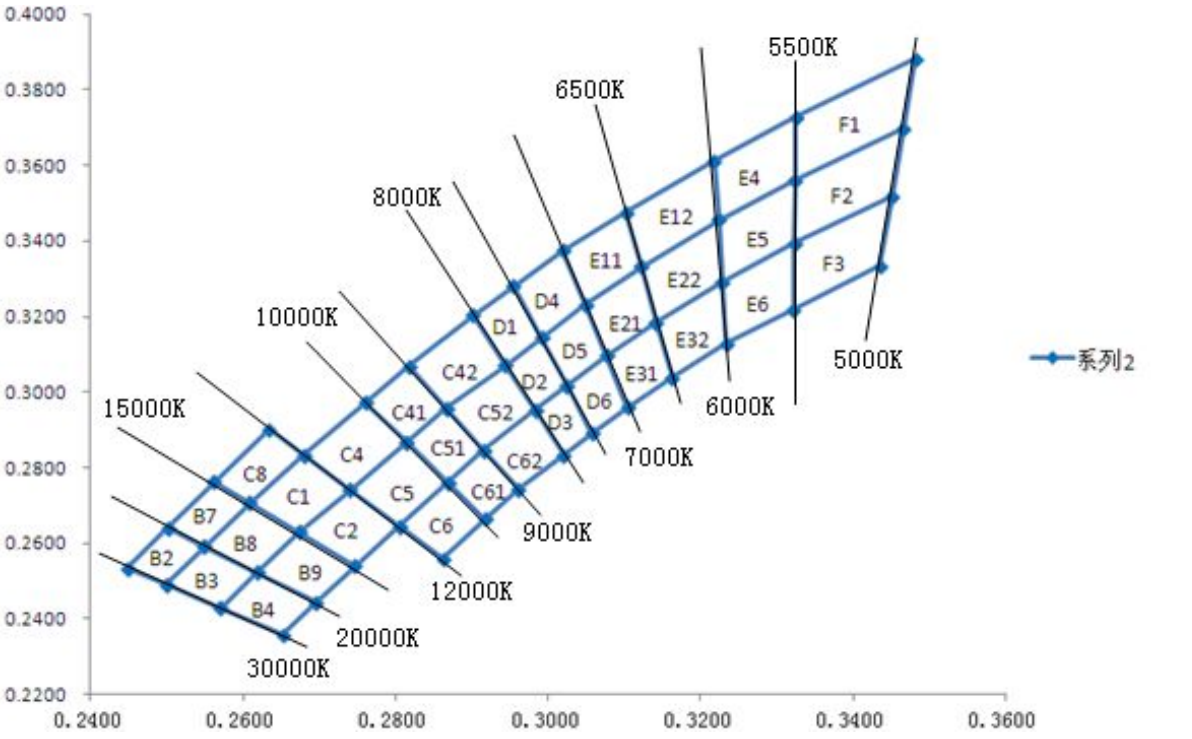
Notes：1. 1/10 Duty Cycle 0.1ms Pulse Width.（ 脉冲宽度 0.1ms，占空比 1/10）

■ Electrical/Optical Characteristics--White (At TA=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=1050mA	9.00	--	12.00	V
Thermal Resistance Junction To Board 热阻	$R\Theta_{J-B}$	I_F=1050mA	--	10	--	°C/W
Luminous Flux 光通量	Φv	I_F=1050mA	900		1000	lm
Color Temperature 色温	CCT	I_F=1050mA	6000		6500	K
CRI 显色指数	Ra	I_F=1050mA	70	--	--	--
Temperature Coefficient of Forward Voltage 正向压降之温度系数	$\Delta V_F/\Delta T$	I_F=1050mA	--	-2	--	mV/°C
Reverse Current 反向漏电流	I_R	V_R=15V	--	--	10	μ A
Viewing Angle [1] 发光角度	$2\Theta_{1/2}$	I_F=1050mA	--	120	--	Deg

■ Color & binning 色区分级





J11	0.5409	0.4666	J12	0.5258	0.4447	J13	0.5093	0.4209
	0.5677	0.4675		0.5513	0.4458		0.5323	0.4208
	0.5513	0.4458		0.5323	0.4208		0.5179	0.4018
	0.5258	0.4447		0.5093	0.4209		0.4963	0.4020
J1	0.5180	0.4653	J2	0.5036	0.4426	J3	0.4888	0.4192
	0.5409	0.4666		0.5258	0.4447		0.5093	0.4209
	0.5258	0.4447		0.5093	0.4209		0.4963	0.4020
	0.5036	0.4426		0.4888	0.4192		0.4766	0.4001
I1	0.4988	0.4632	I2	0.4849	0.4399	I3	0.4711	0.4169
	0.5180	0.4653		0.5036	0.4426		0.4888	0.4192
	0.5036	0.4426		0.4888	0.4192		0.4766	0.4001
	0.4849	0.4399		0.4711	0.4169		0.4593	0.3972
I4	0.4880	0.4611	I5	0.4750	0.4379	I6	0.4622	0.4150
	0.4988	0.4632		0.4849	0.4399		0.4711	0.4169
	0.4849	0.4399		0.4711	0.4169		0.4593	0.3972
	0.4750	0.4379		0.4622	0.4150		0.4509	0.3948
I12	0.4697	0.4563	I22	0.4579	0.4334	I32	0.4461	0.4104
	0.4880	0.4611		0.4750	0.4379		0.4622	0.4150
	0.4750	0.4379		0.4622	0.4150		0.4509	0.3948
	0.4579	0.4334		0.4461	0.4104		0.4357	0.3901
I11	0.4605	0.4536	I21	0.4496	0.4308	I31	0.4386	0.4080
	0.4697	0.4563		0.4579	0.4334		0.4461	0.4104
	0.4579	0.4334		0.4461	0.4104		0.4357	0.3901
	0.4496	0.4308		0.4386	0.4080		0.4289	0.3877
H42	0.4454	0.4484	H52	0.4353	0.4257	H62	0.4251	0.4028
	0.4605	0.4536		0.4496	0.4308		0.4386	0.4080
	0.4496	0.4308		0.4386	0.4080		0.4289	0.3877
	0.4353	0.4257		0.4251	0.4028		0.4164	0.3834
H41	0.4302	0.4423	H51	0.4214	0.4200	H61	0.4122	0.3969
	0.4454	0.4484		0.4353	0.4257		0.4251	0.4028
	0.4353	0.4257		0.4251	0.4028		0.4164	0.3834
	0.4214	0.4200		0.4122	0.3969		0.4047	0.3779

H1	0.4167	0.4366	H2	0.4087	0.4136	H3	0.4007	0.3908
	0.4302	0.4423		0.4214	0.4200		0.4122	0.3969
	0.4214	0.4200		0.4122	0.3969		0.4047	0.3779
	0.4087	0.4136		0.4007	0.3908		0.3940	0.3717
H11	0.4045	0.4301	H21	0.3974	0.4072	H31	0.3904	0.3850
	0.4167	0.4366		0.4087	0.4136		0.4007	0.3908
	0.4087	0.4136		0.4007	0.3908		0.3940	0.3717
	0.3974	0.4072		0.3904	0.3850		0.3845	0.3659
G42	0.3932	0.4232	G52	0.3870	0.4005	G62	0.3812	0.3793
	0.4045	0.4301		0.3974	0.4072		0.3904	0.3850
	0.3974	0.4072		0.3904	0.3850		0.3845	0.3659
	0.3870	0.4005		0.3812	0.3793		0.3761	0.3608
G41	0.3800	0.4146	G51	0.3750	0.3923	G61	0.3704	0.3720
	0.3932	0.4232		0.3870	0.4005		0.3812	0.3793
	0.3870	0.4005		0.3812	0.3793		0.3761	0.3608
	0.3750	0.3923		0.3704	0.3720		0.3662	0.3536
G1	0.3679	0.4055	G2	0.3642	0.3843	G3	0.3608	0.3648
	0.3800	0.4146		0.3750	0.3923		0.3704	0.3720
	0.3750	0.3923		0.3704	0.3720		0.3662	0.3536
	0.3642	0.3843		0.3608	0.3648		0.3576	0.3463
F4	0.3482	0.3881	F5	0.3466	0.3698	F6	0.3451	0.3519
	0.3679	0.4055		0.3642	0.3843		0.3608	0.3648
	0.3642	0.3843		0.3608	0.3648		0.3576	0.3463
	0.3466	0.3698		0.3451	0.3519		0.3435	0.3335

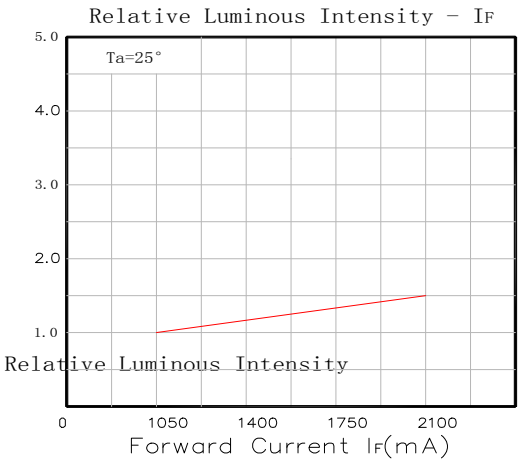
F1	0.3325	0.3728	F2	0.3324	0.3560	F3	0.3323	0.3394
	0.3482	0.3881		0.3466	0.3698		0.3451	0.3519
	0.3466	0.3698		0.3451	0.3519		0.3435	0.3335
	0.3324	0.3560		0.3323	0.3394		0.3322	0.3219
E4	0.3218	0.3613	E5	0.3224	0.3456	E6	0.3229	0.3291
	0.3325	0.3728		0.3324	0.3560		0.3323	0.3394
	0.3324	0.3560		0.3323	0.3394		0.3322	0.3219
	0.3224	0.3456		0.3229	0.3291		0.3234	0.3129
E12	0.3102	0.3475	E22	0.3122	0.3332	E32	0.3142	0.3184

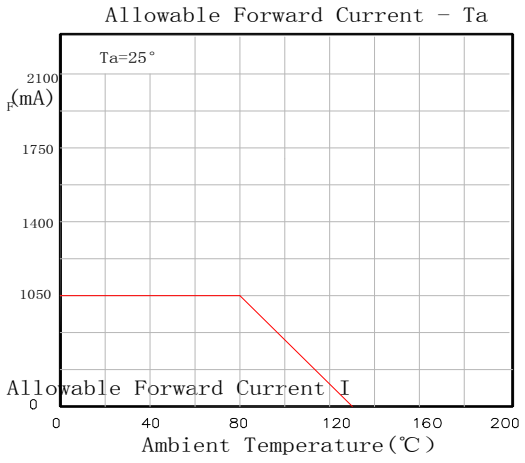
	0.3218	0.3613		0.3224	0.3456		0.3229	0.3291
	0.3224	0.3456		0.3229	0.3291		0.3234	0.3129
	0.3122	0.3332		0.3142	0.3184		0.3163	0.3038
E11	0.3020	0.3374	E21	0.3049	0.3232	E31	0.3077	0.3096
	0.3102	0.3475		0.3122	0.3332		0.3142	0.3184
	0.3122	0.3332		0.3142	0.3184		0.3163	0.3038
	0.3049	0.3232		0.3077	0.3096		0.3104	0.2960
D4	0.2955	0.3281	D5	0.2992	0.3143	D6	0.3025	0.3018
	0.3020	0.3374		0.3049	0.3232		0.3077	0.3096
	0.3049	0.3232		0.3077	0.3096		0.3104	0.2960
	0.2992	0.3143		0.3025	0.3018		0.3058	0.2892

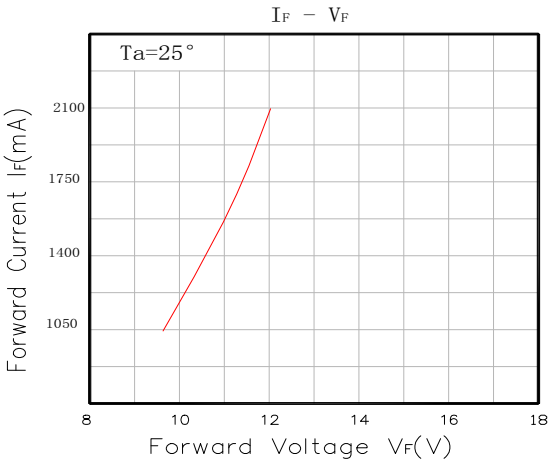
D1	0.2902	0.3203	D2	0.2944	0.3070	D3	0.2983	0.2952
	0.2955	0.3281		0.2992	0.3143		0.3025	0.3018
	0.2992	0.3143		0.3025	0.3018		0.3058	0.2892
	0.2944	0.3070		0.2983	0.2952		0.3021	0.2833
C42	0.2818	0.3069	C52	0.2867	0.2957	C62	0.2916	0.2846
	0.2902	0.3203		0.2944	0.3070		0.2983	0.2952
	0.2944	0.3070		0.2983	0.2952		0.3021	0.2833
	0.2867	0.2957		0.2916	0.2846		0.2961	0.2744
C41	0.2761	0.2972	C51	0.2815	0.2868	C61	0.2869	0.2761
	0.2818	0.3069		0.2867	0.2957		0.2916	0.2846
	0.2867	0.2957		0.2916	0.2846		0.2961	0.2744
	0.2815	0.2868		0.2869	0.2761		0.2918	0.2665
C4	0.2680	0.2833	C5	0.2740	0.2742	C6	0.2805	0.2645
	0.2761	0.2972		0.2815	0.2868		0.2869	0.2761
	0.2815	0.2868		0.2869	0.2761		0.2918	0.2665
	0.2740	0.2742		0.2805	0.2645		0.2862	0.2559
C8	0.2562	0.2762	C1	0.2609	0.2706	C2	0.2673	0.2629
	0.2634	0.2902		0.2680	0.2833		0.2740	0.2742
	0.2680	0.2833		0.2740	0.2742		0.2805	0.2645
	0.2609	0.2706		0.2673	0.2629		0.2747	0.2540
B7	0.2502	0.2641	B8	0.2549	0.2592	B9	0.2618	0.2522
	0.2562	0.2762		0.2609	0.2706		0.2673	0.2629
	0.2609	0.2706		0.2673	0.2629		0.2747	0.2540
	0.2549	0.2592		0.2618	0.2522		0.2696	0.2443

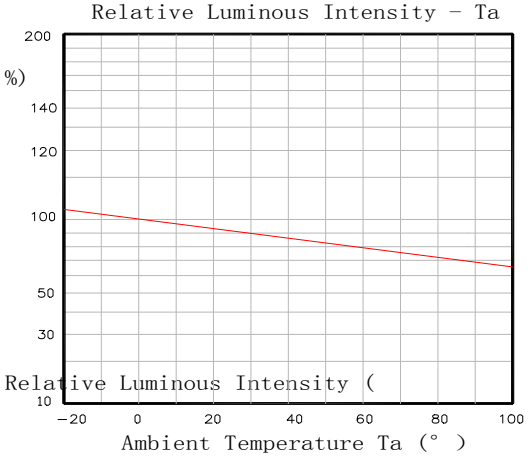
■ Typical Optical/Electrical Characteristics Curves 典型光电参数曲线

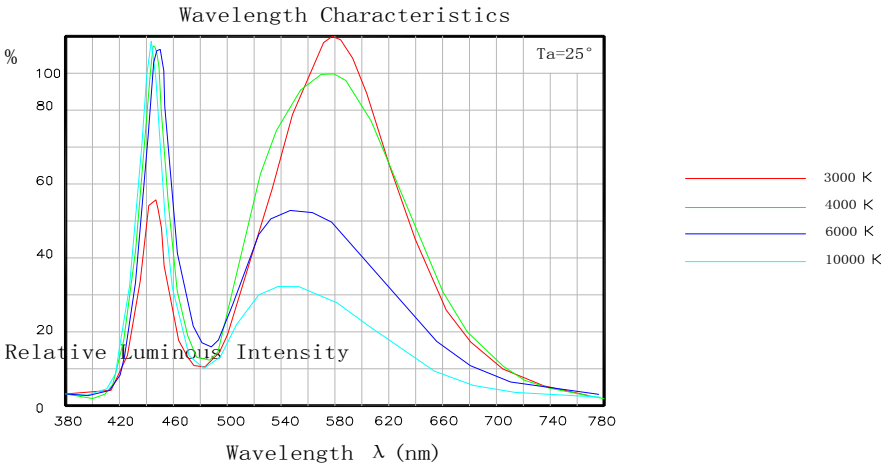
(Ta=25℃ Unless Otherwise Noted)



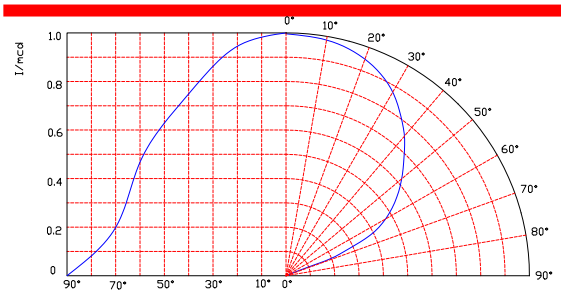








■Radiation Diagram 角度图



■Reliability test standards 可靠性实验标准

类别 Type	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
环境测试	温度循环 Temperature Cycle	JESD22-A104-A	-40℃~25℃~100℃~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
寿命试验	寿命测试 Life test	JESD22-A108-A	Ta=25℃ If=1050mA	1000Hrs	22	0/22
	高温/高湿寿命测试 High humidity Heat life test	JESD22-A101	Ta=60℃ RH=85% IF=1050mA	1000Hrs	22	0/22
破坏性试验	耐焊性 Resistance to soldering Heat	JESD22-A113	IR soldering 245℃/10sec	1 time	22	0/22

Precautions for use

使 用 说 明

1. Storage 储存

（1）The best Storage environment： temperature :5°C~30°C ， Humidity:40% -80%HR
最佳储存条件在 5°C~30°C，40% -80%HR

（2）LED store after six months to be re-spectral color separation， to prevent the LED optical properties change
储存六个月之后需重新分光分色后使用，防止光电参数发生变化。

2. Production and application 生产应用

（1）need wear gloves when contact with led to prevent oxidation
手接触灯珠时须戴手套

（2）ESD protection to be good
生产过程中需做好防静电措施

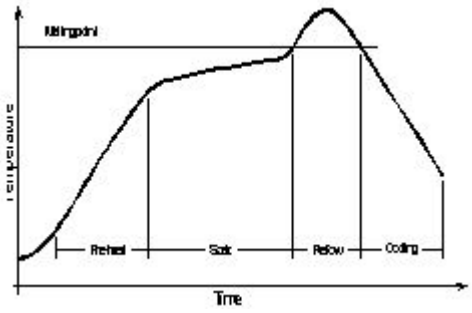
（3）soldering：the pc type can use soldering iron，（the best temperature is 300℃/3sec）also can use Temperature Platform （ 150 ℃ /30sec,max ） the silicone type can use reflow soldering in addition to soldering iron and Temperature Platform
焊接：pc 型可以采用烙铁手工焊接，条件为 300℃/3sec，也可以采用低温锡膏加热平台焊接，温度不超过 150℃/30sec，硅胶封装的还可以采用回流焊接。

（4）about Package-type silicone ， It is recommended to bake before soldering when the pack is unsealed after 24h。The conditions are as following： 80℃ 4-6h。
对于硅胶透镜产品需过回流焊的话，产品开封 24h 内需使用完毕，否则需 80℃ 烘烤 4-6h 后再过回流焊。

（5）must have a good heat sinking，the temperature of the heat sink must be below 65 degree
做好散热措施，热沉温度须低于 65 度

（6）When use please remove protective blue film 使用的时候请撕下保护蓝膜

3.Relow temp/time 回流焊温度曲线



焊接剂 = 低温无铅锡	焊接剂 = 无铅锡
温度上升斜率= 4°C/s 最大	温度上升斜率=4℃/s 最大
预热温度 = 100°C ~150°C	预热温度 = 150°C ~180°C
预热时间 = 60s 最大	预热时间 = 90s 最大.
温度下降斜率为 6°C/s 最大	温度下降斜率为 6°C/s 最大
峰值温度 = 180°C 最大	峰值温度 = 220°C 最大
在峰值温度±5℃时间不能超过 10s	在峰值温度±5℃时间不能超过 10s
超过 160℃的温度的时间不能超过 60s.	超过 160°C 的温度的时间不能超过 60s.