



Filament product specification
灯丝产品规格书

CF38-24012S80-B5E

Customer 客户确认	Approved 批准	Checked 审核	Prepared 编制
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CF38-24012S80-B5E

OB6A

◆Features 特点

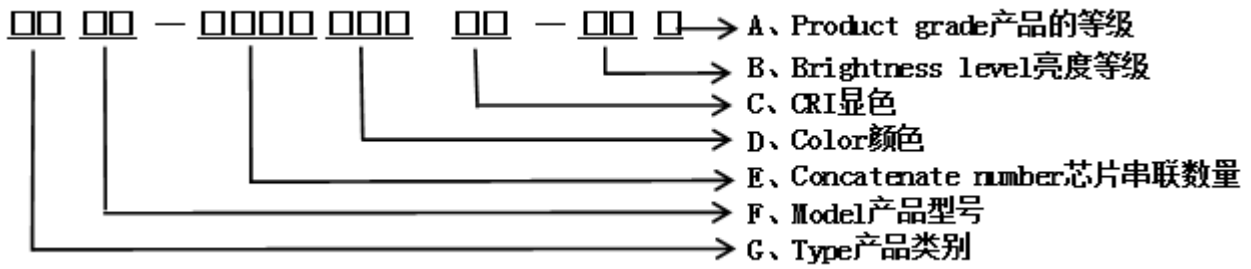
- COB Package. COB 封装
- Viewing angle: 360° 全角度发光
- Meet ROHS standards 符合 ROHS 标准
- Easy installation 组装方便
- Package:1200pcs/bag. 包装每袋 1200pcs

◆Applications 应用

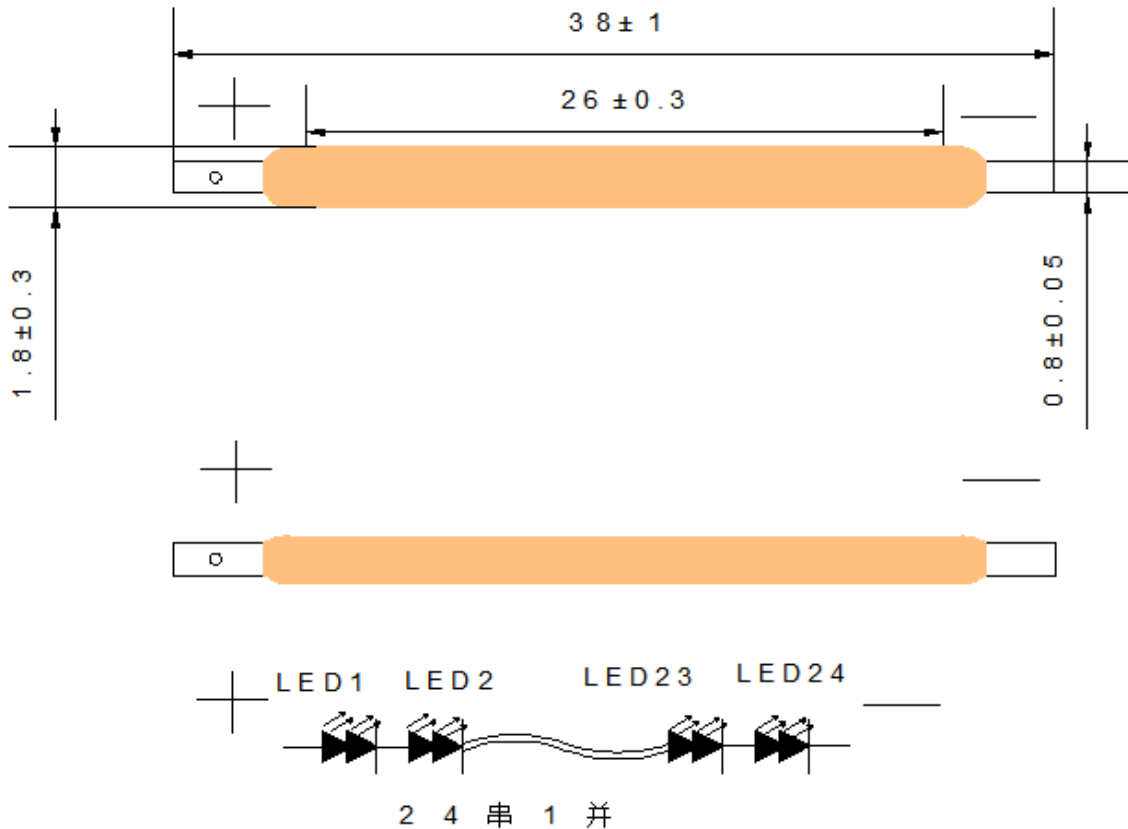
- LED candle lamp. 蜡烛灯
- LED bulb lamp. 球泡灯
- Indoor Lighting. 室内照明
- General use. 其他应用



◆Kit number system 产品编码规则:



◆Package Dimension 封装尺寸:



NOTES 备注:

1. All dimensions units are millimeters. 所有尺寸标注单位为mm;
2. All dimensions tolerances are $\pm 0.5\text{mm}$ unless otherwise noted. 除特别标注外, 所有尺寸公差为 $\pm 0.5\text{mm}$.



◆Electrical/Optical Characteristics at Ta=25°C 电性与光学特性:

Product 产品型号		Symbol 符号	test condition 测试条件	Value (lm)			unit 单位
				Min.	Typ.	Max.	
Forward Voltage	Rank	Vf1	IF=15mA	62	64	66	V
		Vf2		64	66	68	V
CF38-24012S80-B5E (2725±145K)	Rank1	Ø1	IF=15mA	138	146	152	lm
		Ø2		146	152	160	lm
Reverse Current		VR=120V	IR	---	10	---	uA
Viewing Angle		2 Ø 1/2	IF=15mA	---	---	360	Deg
Color Rendering Index		CRI	IF=15mA	80	---	---	---

◆Absolute Maximum Ratings at Ta=25°C 绝对最大值:

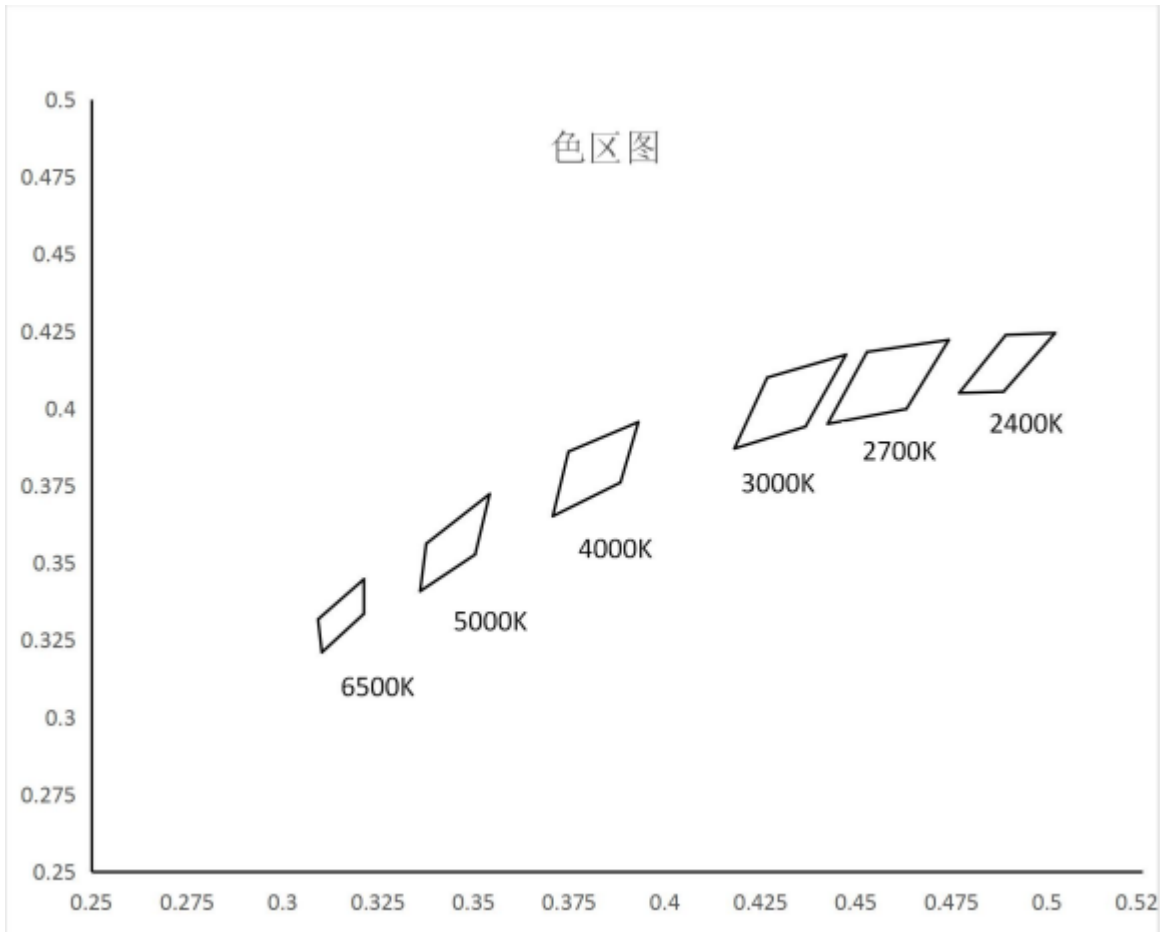
Parameter (参数)	Symbol (符号)	Rating (值)	Units (单位)
Power Dissipation (功耗)	Pd	950	mW
Forward Current (正向电流)	IF	18	mA
Peak Forward Current (峰值电流)	IFP	20	mA
Reverse Voltage (反向电压)	VR	120	V
Electrostatic Discharge (HBM) (静电)	ESD	2000	V
Operating Temperature (操作温度)	Topr	-40 ~ +85	°C
Storage Temperature (储存温度)	Tstg	-40 ~ +100	°C
Junction temperature (结温)	Tj	110	°C

Note 备注:

- 1/10 Duty cycle, 0.1ms pulse width. 脉宽0.1ms, 周期1/10;
2. The above forward voltage measurement allowance tolerance is ±2%. 以上所示电压测量误差±2%;
3. The above color coordinates measurement allowance tolerance is 0.003 以上所示坐标测量误差0.003;
4. the above luminous intensity measurement allowance tolerance ±5%. 上述发光强度测量公差为±5%。



◆The Chromaticity Diagram 色区图



Bin Data:BIN 号

BIN CODE	色温	X1	Y1	X2	Y2	X3	Y3	X4	Y4
2H	2400K	0.477	0.405	0.4892	0.4238	0.5021	0.4244	0.4886	0.4054
2S	2700K	0.4529	0.4183	0.4743	0.4222	0.4632	0.3998	0.4426	0.395
3S	3000K	0.4268	0.41	0.4474	0.4174	0.4368	0.3941	0.4182	0.387
4S	4000K	0.3707	0.3651	0.3748	0.386	0.3931	0.3956	0.3884	0.376
5S	5000K	0.3376	0.3562	0.3542	0.3723	0.3504	0.3527	0.336	0.3408
6S	6500K	0.3103	0.321	0.3093	0.3317	0.3213	0.3447	0.3213	0.3335



◆ Typical optical characteristics curves 光电特性曲线

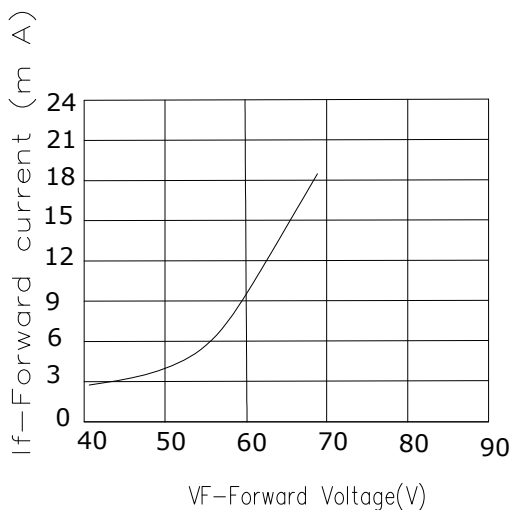


Fig.1-1 Forward current V.S. Forward Voltage

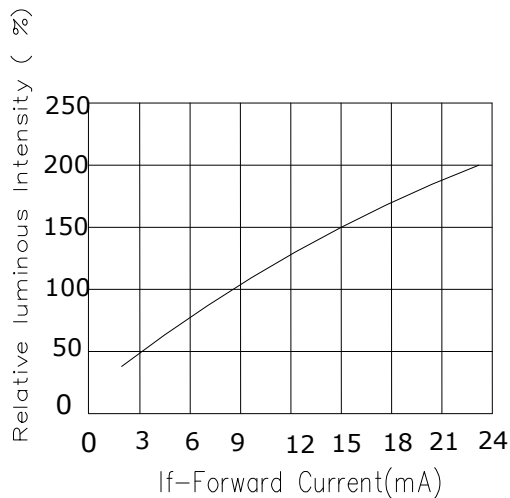
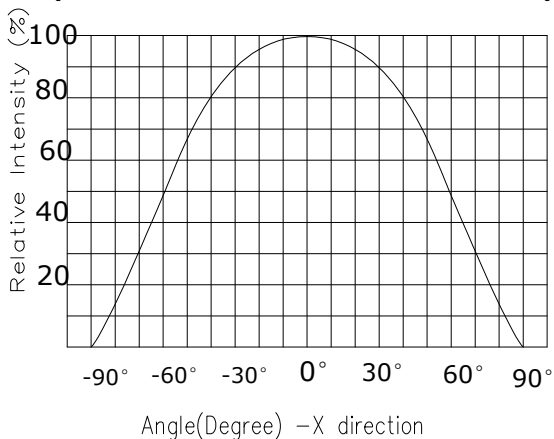
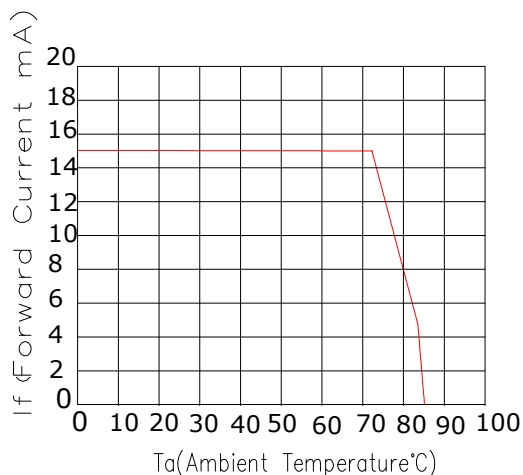
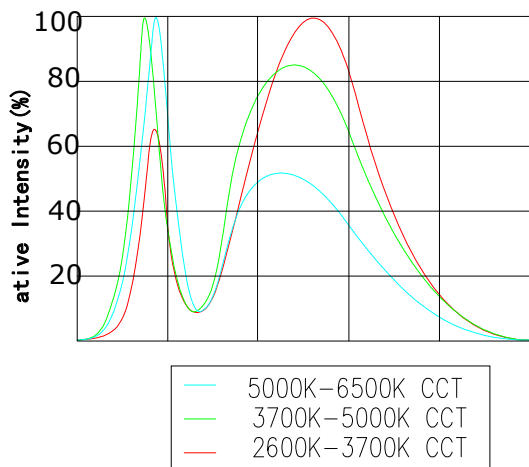
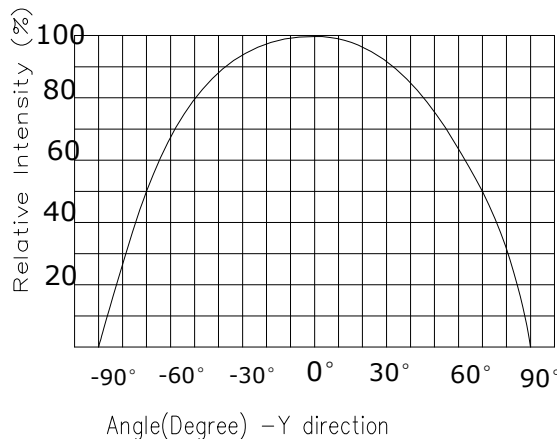


Fig.2-1 Relative luminous Intensity V.S. Forward Current



FLG.3 Far Field luminous Intensity pattern



FLG.4 Forward Current VS Ambient Temperature



◆Reliability Test Items And Conditions 信赖性测试项目及条件

Test Items 项目	Ref.Standard 参考标准	Test Condition 测试条件	Time 时间	Quantity 数量	Ac/Re 接收/拒收
Temperature Cycle 温度循环	JESD22-A104	100°C 30 min. ↑ ↓ 10S -40°C 30 min.	100 Cycles	22Pcs	0/1
Thermal Shock 冷热冲击	JESD22-A106	-40°C 15min ↑ ↓ 10S 105°C 15min	100 cycle	22Pcs	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp:105°C	1000Hrs	22Pcs	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp:-40°C	1000Hrs	22Pcs	0/1
Life Test 常温通电	JESD22-A108	Ta=25°C IF=15mA	1000Hrs	22Pcs	0/1
High Temperature High Humidity Life Test 高温高湿通电	JESD22-A101	85°C/ 85%RH IF=15mA	1000Hrs	22Pcs	0/1

◆Criteria For Judging Damage 失效判定标准

Test Items 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=15mA	-	U. S. L*)x1.1
Reverse Current 反向电流	IR	VR = 120V	-	U. S. L*)x2.0
Luminous Flux 光通量	lm	IF=15mA	L. S. L*)x0.90	-

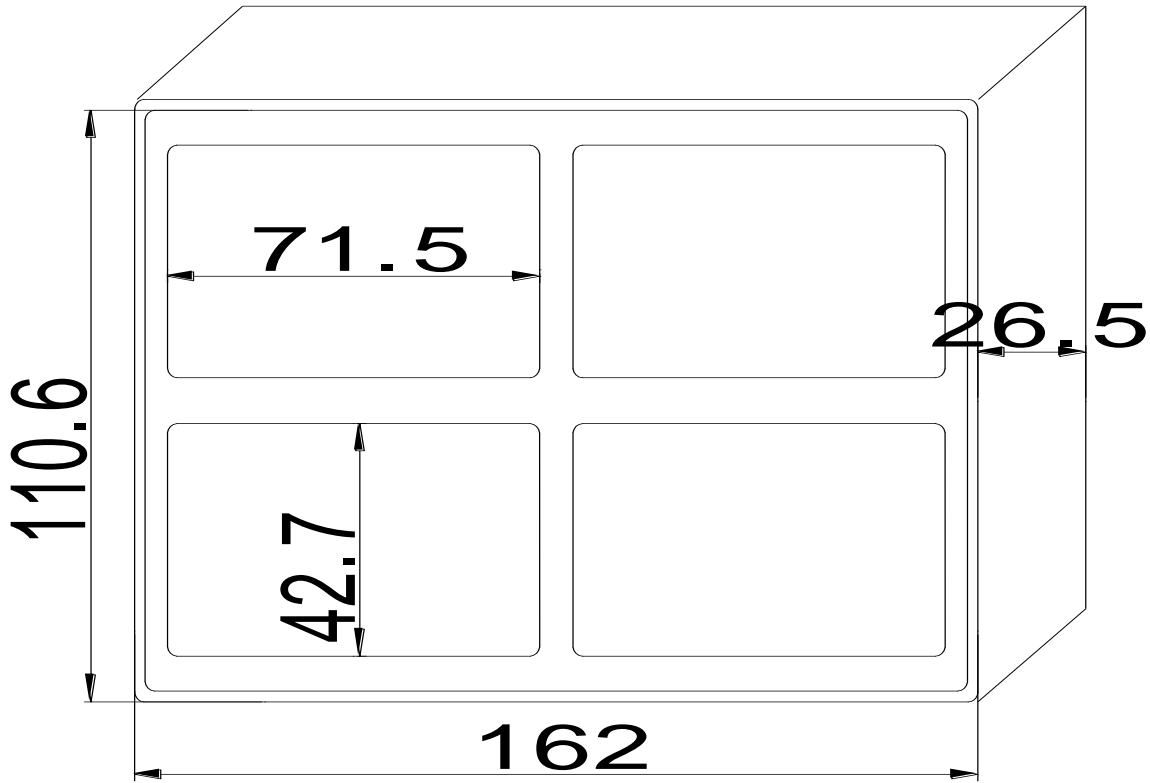
U. S. L: Upper standard level 规格上限 L. S. L: Lower standard level 规格下限

- 1>.The Reliability tests are based on existing test platform. 信赖性测试基于现有的测试平台。
- 2>.The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license. 以上技术数据仅为产品的典型值，只作为参考，不作为任何应用条件及应用方式的保证。

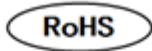


◆ Packaging Specifications 包装规格

■ Loaded Quantity 1200±5PCS Per Tray. 1200±5pcs/盒



■ Label Form Specification 标签规格



PART NO: CF**-*****-***

LOT NO: F160912008

Φ: 180±81m Ra>80

VF: 66±2V 15mA

CCT: 2725K±145K

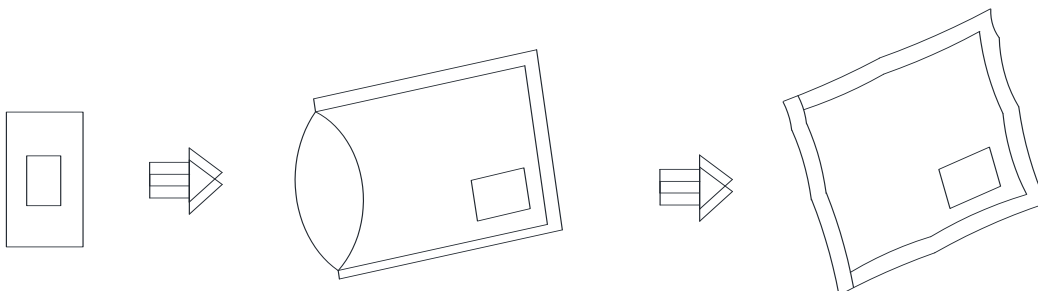
QTY: 1000pcs



DATE: 2016-9-25

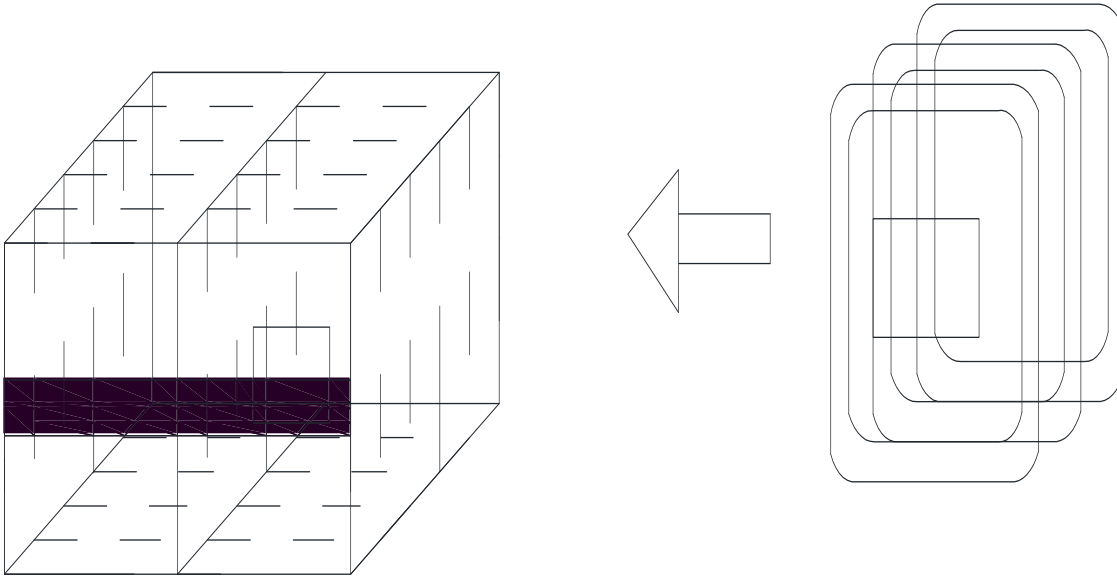
PART NO.	Part Number
LOT NO.	Lot Number
Φ	Luminous flux
CCT	Color temperature
VF	Forward Voltage
QTY	Packing Quantity
DATE	Made Date

■ Moisture Resistant Packing Process(1200pcs Per bag) 防潮包装过程





■ Cardboard Box 纸箱



◆ Use matters needing attention 使用注意事项

1. Cautions 注意事项

1>The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper. LED封装胶为硅胶，表面较软，用力按压胶体表面会影响LED可靠性，因此应有预防措施避免在按压器件，当使用吸嘴时，胶体表面压力不宜过大；

2>Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry. 通过使用适当的工具从材料侧面夹取，不可直接用手或尖锐金属压胶体表面，它可能会损坏内部电路；

3>. In designing a circuit, the current through each LED must be exceed the absolute maximum rating specified for each LED. In the meanwhile, resistors for protection should be applied, otherwise slight voltage shift will cause big current change, burn out may happen. 设计电路时，通过LED的电流不能超过规定的最大值，同时，还需使用保护电阻，否则，微小的电压变化将会引起较大电流变化，可能导致产品损毁。

4>. Thermal Design is paramount importance because heat generation may result in the Characteristics decline, such as brightness decreased, Color change and so on. Please consider the heat generation of the LEDs when making the system design.

LED容易因为自身的发热和环境的温度改变而改变，温度升高会降低LED发光效率，影响发光颜色，所以在设计时应充分考虑散热问题。

2、 Handling Precautions处理防备措施

1>. LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material. This is provided for informational purposes only and is not a warranty or endorsement. LED工作环境及与LED适配的材料中硫元素及化合物成份不可超过100PPM. 这只是一个建议，不作任何品质担保。



2>. In order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM, the single content of Chlorine element is required to be less than 900PPM, the total content of Bromine element and Chlorine element in the external materials of the application products is required to be less than 1500PPM. This is provided for informational purposes only and is not a warranty or endorsement. 为了防止外界物质进入LED内部以造成LED的损伤，所处环境及所用套件等等，单一的溴元素含量要求小于900PPM，单一氯元素含量要求小于900PPM，溴元素与氯元素总含量必须小于1500PPM。这只是一个建议，不作任何品质担保。

3> advises against the use of any chemicals or materials that have been found or are suspected to have an adverse affect on device performance or reliability. To verify compatibility, Recommends that all chemicals and materials be tested in the specific application and environment for which they are intended to be used. 反对使用任何对LED器件的性能或者可靠性有害的物质或材料，不管这些材料是已经证实了的还是仅仅怀疑有害。针对特定的用途和使用环境，建议对所有的物质和材料进行相容性的。