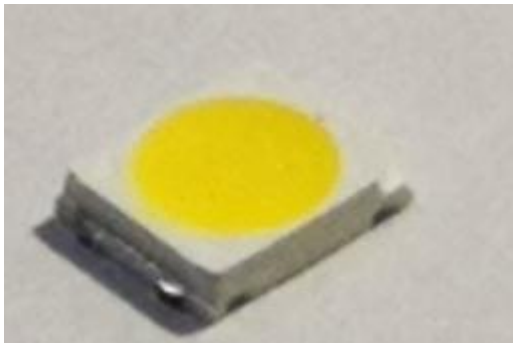
2835 HV 9V 1W Series Datasheet



Features & Benefits

- Package: 2.8*3.5*0.7mm (Top view white LED)　封装尺寸 2.8*3.5*0.7mm
- Extremely wide viewing angle 发光角度大
- Soldering methods: All SMT assembly methods 适用于所有的 SMT 组装和焊接工艺
- Moisture sensitivity level: Level 3 防潮等级 Level 3
- Loaded quantity: 4000 pcs/reel 包装每卷 4000PCS

Typical Application:

- Bulb Light& Downlight　球泡，筒灯
- Other Indoor & Outdoor Light　室内/户外照明

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- Advertising backlighting　广告背光
- General use.　一般应用

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1. Product Nomenclature 产品编码原则

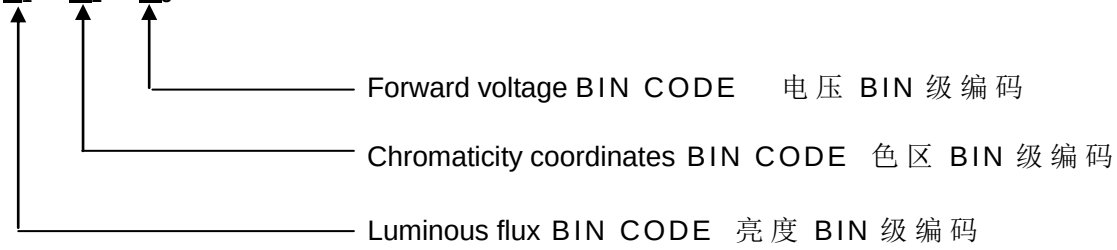
a) Part Number System description 物料编码说明

$X_1X_2.X_3X_4.X_5X_6X_7X_8X_9X_{10}X_{11}X_{12}X_{13}X_{14}X_{15}$ X_{16}

Part Number Code 序号	Description 描述	Part Number 物料编码	Value 说明
X_1X_2	Production Type	01	Self-produce
X_3	Company	J	JF
X_4	Applications	T	Top LED
X_5	Chip Type	A	Three 3V chip （9V）
X_6	Power Range	J	1.0W
X_7-X_{10}	Product Size	2835	2.8*3.5mm
X_{11}	Emitting Color	W	white
$X_{12}X_{13}$	Color Rendering	80	Color Rendering Index
X_{14}	Patent	p	Internal code
		05	Internal code

b) BIN description BIN 级说明

X_1 / X_2 / X_3

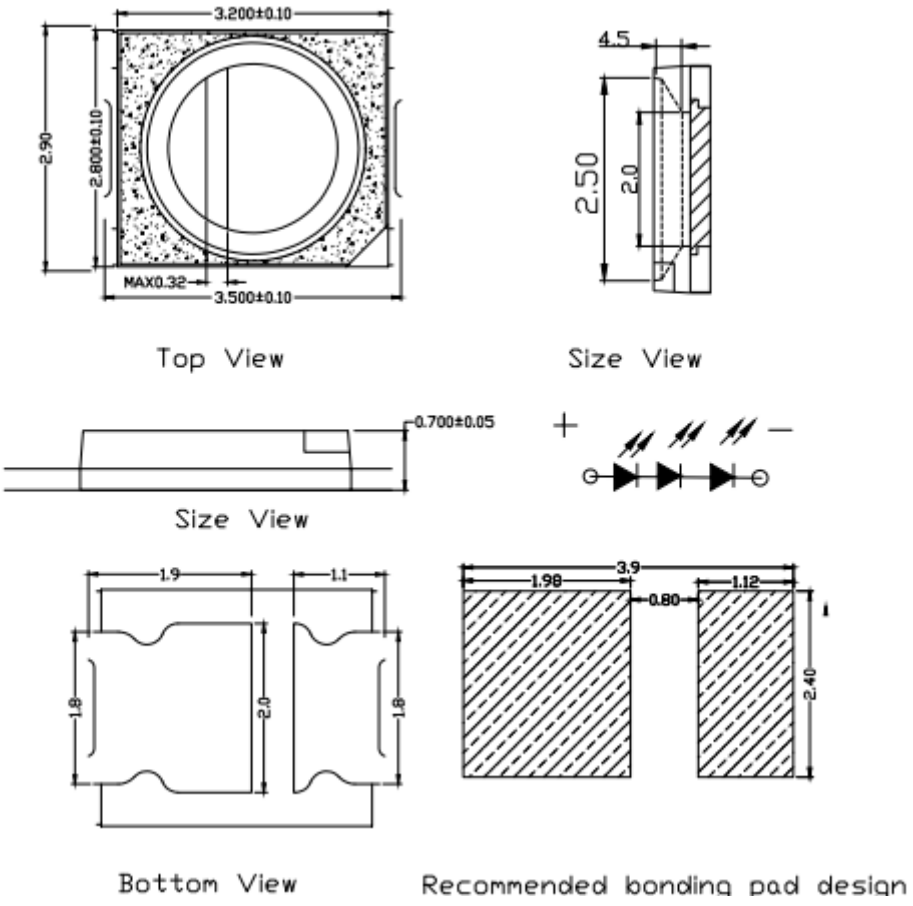


c) Product Selection Table 产品目录

Part Number 产品型号	test condition 测试条件	Color Temperature 色温	Luminous Flux	
			Min	Max
01. JT.AJ2835W80P05 （Value Vertion） （价值版）	IF=100mA	2700K	110	130
		3000K	120	140
		4000K、5000K、5700K	130	150
		6500K	130	150

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2. Package Outline Dimension 封装尺寸



Notes: 备注

① All dimensions units are millimeters. 所有尺寸标注单位为毫米

② Tolerance is ±0.10mm unless otherwise specified. 除特别标注外，所有尺寸允许公差±0.1mm

3. Absolute Maximum Ratings(Ta=25℃) 绝对最大额定值

Parameter 参数	Symbol 符号	Rating 额定值
Power Dissipation 功耗	Pd	1000mW
Forward Current 正向电流	I_F	100 mA
Junction Temperature 结温	Tj	115℃
ESD Resistance（HBM） 静电	ESD	2000V
Soldering Temperature 焊接温度	Tsol	Reflow soldering (260℃ for 10seconds) Hand soldering (300℃ for 3 seconds)
Operating Temperature 操作温度	Topr	-40℃~+105℃
Storage Temperature 保存温度	Tstg	-40℃~+105℃

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4. Electrical-optical characteristics(Ta=25℃) 电性与光学特性

Parameter 参数	Symbol 符号	Min. 最小	Typ. 平均	Max. 最大	Unit 单位	Test Condition 测试条件
Forward Voltage 正向电压	Vf	8.5	9.2	10.0	V	IF=100mA
Viewing Angle 发光角度	$2\theta_{1/2}$	-	120	-	deg	
Color Rendering Index 显指	Ra	80	-		-	
Thermal Resistance 热阻	Rth(j-s)		20		℃/W	
Reverse Current 反向电流	IR	-	-	1	μA	VR=5V

Notes: 备注

① Luminous flux measurement tolerance: ±5%.光通量的测试允许公差为±5%

② Forward voltage tolerance is ±0.05V.正向电压的测试允许公差为±0.05V

③ XY tolerance is ±0.005.色坐标允许公差为±0.005

④ CRI measurement tolerance: ±2 显色指数的允许公差为±2

⑤ The datasheet is measured under the MCPCB at 25℃ under Jufei instrument. 以上数据为 MCPCB

⑥ The MCPCB thinness=2mm, diameter=20mm. MPCB 尺寸为厚度 2mm，直径 20m

5. Product Binning 产品 BIN 级分类（IF=100mA）

a).Luminous flux 亮度分类

BIN code	Min (lm)	Max (lm)
11	110	120
12	120	130
13	130	140
14	140	150
15	150	160

b).Forward voltage 电压分类

BIN Code	Min (V)	Max (V)
85	8.5	8.9
89	8.91	93
93	9.31	9.7

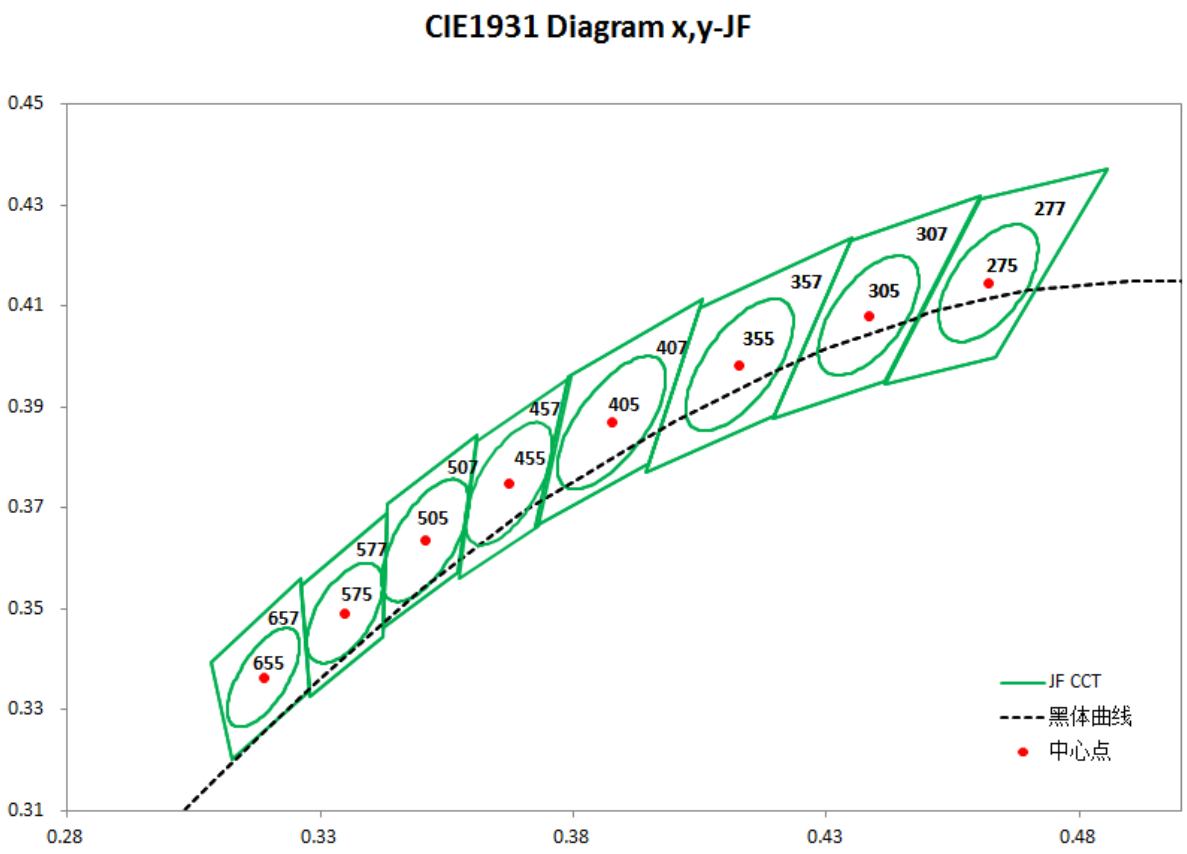
C).Corresponding to the different current Flux(以 1030 芯片 4000K 色温为例)

IF(mA)	VF(V)	Φ(lm)	光效 (lm/W)	x	y	Tc(K)	Ra	R9
10	8.04	17	211.3	0.3762	0.3735	4092	84.6	13.4
30	8.44	48.8	192.8	0.3774	0.3756	4075	83.8	9.6
60	8.90	92.3	172.7	0.3781	0.3767	4065	83.1	7.1
90	9.28	131.6	157.4	0.3782	0.3771	4062	82.6	5.2
120	9.62	167.9	145.2	0.3782	0.3773	4065	82.3	4.4

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c).Chromaticity coordinates 色区分类

diagram：



Elliptical Coordinates 椭圆坐标

Color Bin 色区 Bin	Center 中心点		Radius 半径		Angle 角度	CCT Rank 色温范围/K			SCDM
	CIE-x	CIE-y	a	b		Min/ 最小值	Typ/ 典型值	Max/ 最大值	
275	0.462	0.4145	0.0135	0.0070	53.42	2580	2700	2820	≤5
305	0.4383	0.4081	0.0139	0.0068	53.13	2870	3010	3150	≤5
355	0.4128	0.3983	0.0155	0.0069	54.00	3220	3400	3580	≤5
405	0.3875	0.3868	0.0157	0.0067	53.43	3655	3885	4115	≤5
455	0.3672	0.3748	0.0027	0.0012	59.37	4130	4360	4590	≤5
505	0.3507	0.3635	0.0137	0.0059	59.37	4550	4830	5110	≤5
575	0.3348	0.3491	0.0112	0.0055	58.35	5075	5400	5725	≤5
655	0.3187	0.3363	0.0112	0.0048	58.34	5735	6150	6565	≤5

Note： 备注

The center point of the color is the ANSI C78.377-2011 standard under the solder temperature at 85℃ 色区中心点是在热态 85℃条件下 ANSI C78.377-2011 标准中心点

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e).Outer Frame Coordinates 外框坐标

Color Bin 色区 BIN	CIE-x	CIE-y	CCT Rank 色温范围/K			SDMC
			Min/最小值	Typ/典型值	Max/最大值	
277	0.4855	0.4372	2555	2700	2845	≤7
	0.4604	0.4313				
	0.4415	0.3946				
	0.4635	0.3997				
307	0.4605	0.4317	2835	3010	3185	≤7
	0.4346	0.423				
	0.4193	0.3878				
	0.4416	0.395				
357	0.435	0.4235	3155	3400	3645	≤7
	0.405	0.4097				
	0.3942	0.3771				
	0.4197	0.3883				
407	0.4056	0.4115	3610	3885	4160	≤7
	0.379	0.396				
	0.3724	0.3663				
	0.3948	0.3789				
457	0.3796	0.3960	4117	4360	4603	≤7
	0.3731	0.3663				
	0.3573	0.3560				
	0.3609	0.3832				
507	0.3608	0.3843	4547	4830	5113	≤7
	0.3433	0.3709				
	0.3424	0.3463				
	0.3572	0.3571				
577	0.3432	0.3689	5045	5400	5755	≤7
	0.3262	0.3546				
	0.3278	0.3326				
	0.3423	0.3444				
657	0.3262	0.3559	5640	6150	6660	≤7
	0.3083	0.3393				
	0.3124	0.3201				
	0.3278	0.3337				

Note:注意

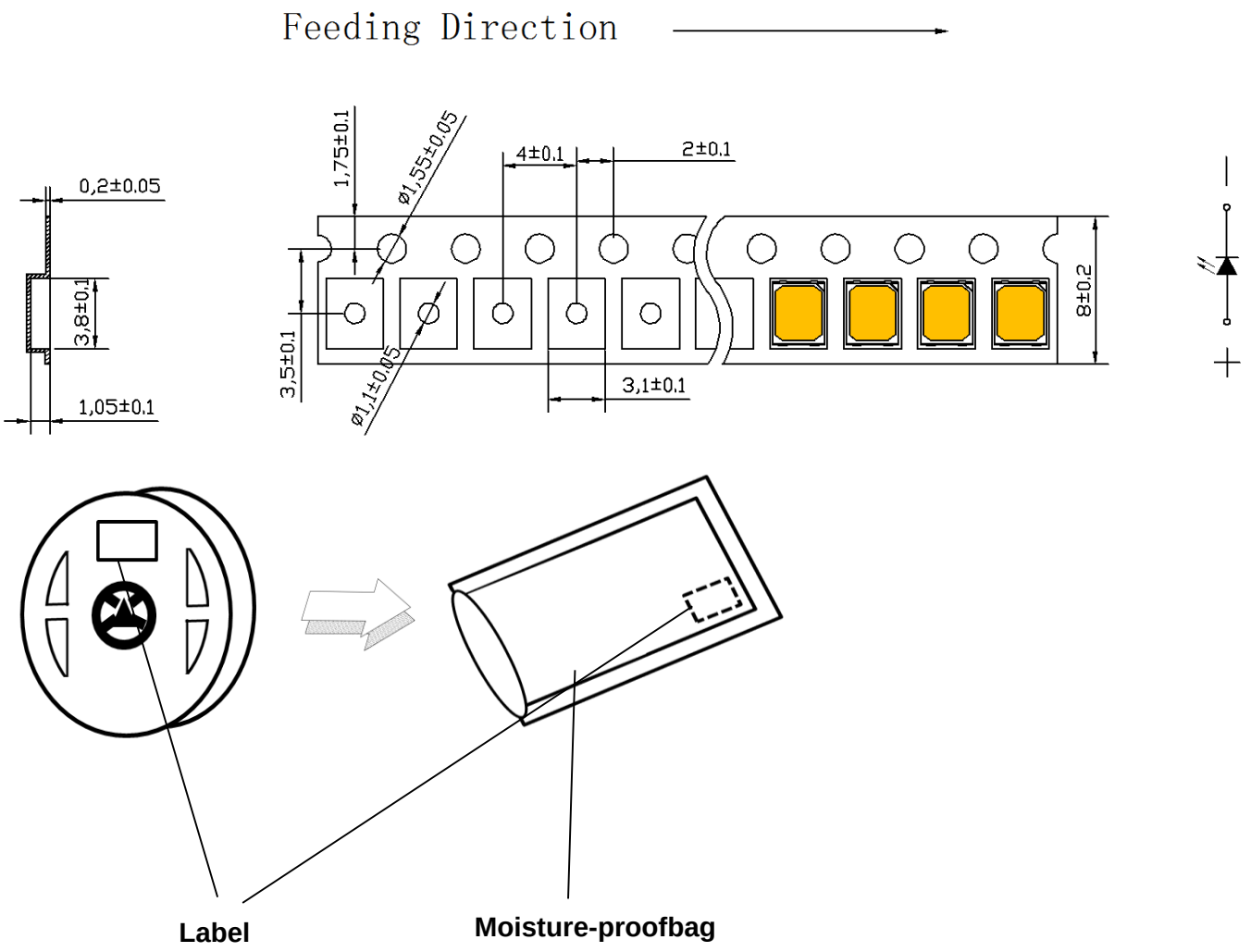
①All measurements were made under the standardized environment of JF 所有测量都在 JF 标准环境下进行

② XY tolerance is ±0.005.色坐标允许公差为±0.005

③Ta = 25℃, RH60%(温度：25 ℃，湿度：60%)

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6. Package Information (unit: mm)包装规格



7. Label Form Specification 标签规格

SHENZHEN JUFEI OPTOELECTRONICS CO.,LTD

P/N：01. JT.AJ2835W80P05①
Bin：12/305/90②　　Lot：20170202920⑤
Φ(Lm)：120-130　　TC(K)：2850-3150
VF(V)：9.0-9.5　　Date：170209④
Q'ty：4000 pcs③
AD29ACC11K03F1026K0BA/0/A27AN40/4914⑥

RoHS ⑧

Proof-test Seal ：⑦

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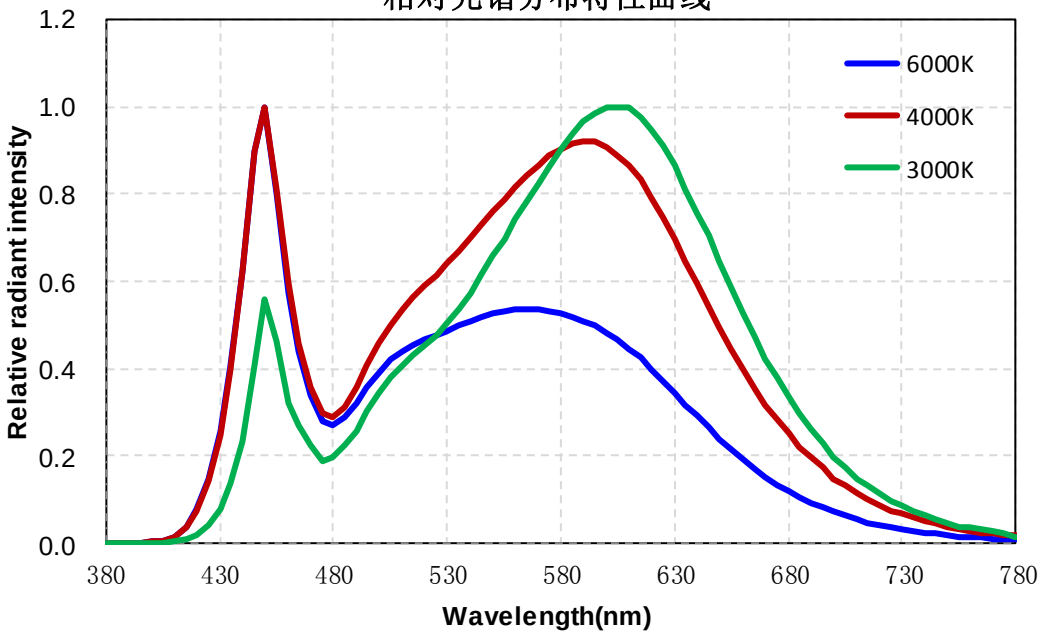
a） Label description 标签说明

①	Product Type （物料编码）
②	Product Bin（BIN 级）
③	Quantity（数量）
④	Produce Date（生产日期）
⑤	Produce Batch（生产批号）
⑥	Product Tracing Number（追踪码）
⑦	Proof-test Seal（检验印章）
⑧	RoHS Sign（RoHS 标志）

8. Typical Electro-Optical Characteristics Curves 典型光学特性曲线

Fig.1- Relative spectral emission（ Ta=25℃ ）

相对光谱分布特性曲线



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Fig.2- Solder Temperature vs. Forward current
(Derating based on Tj max=125℃)
焊盘温度与正向电流特性曲线

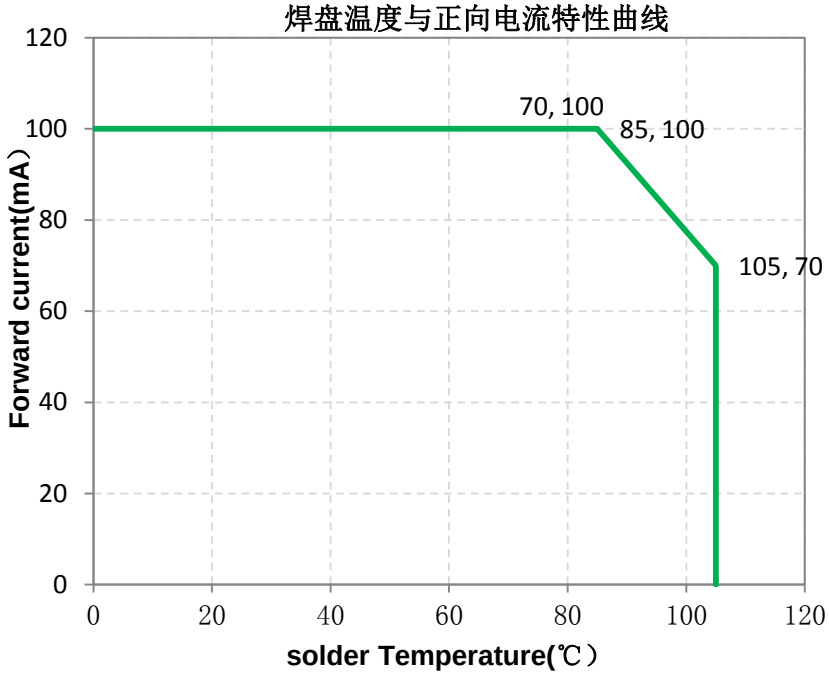
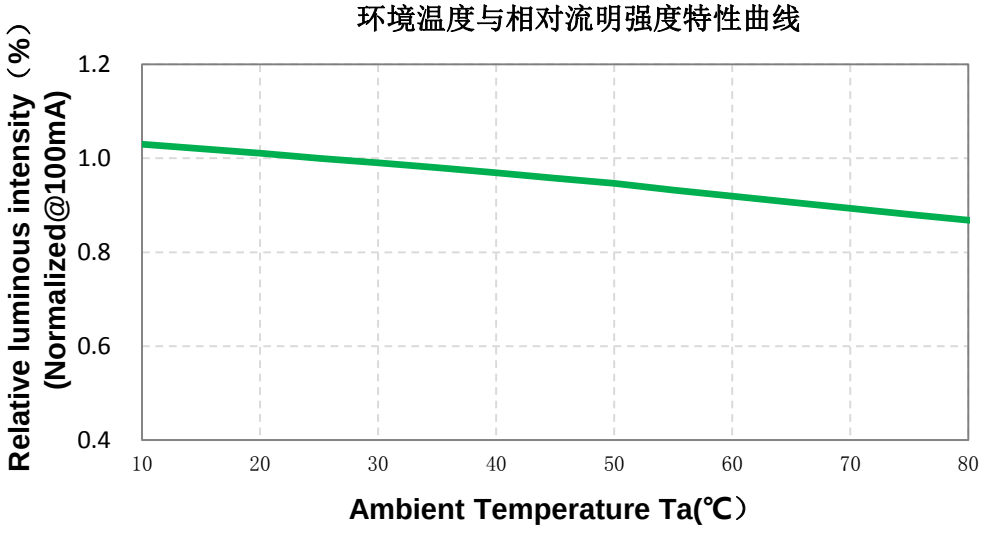


Fig.3- Ambient Temperature vs. Relative luminous Intensity
环境温度与相对流明强度特性曲线



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Fig.4- Ambient Temperature vs. Forward voltage
环境温度与正向电压特性曲线

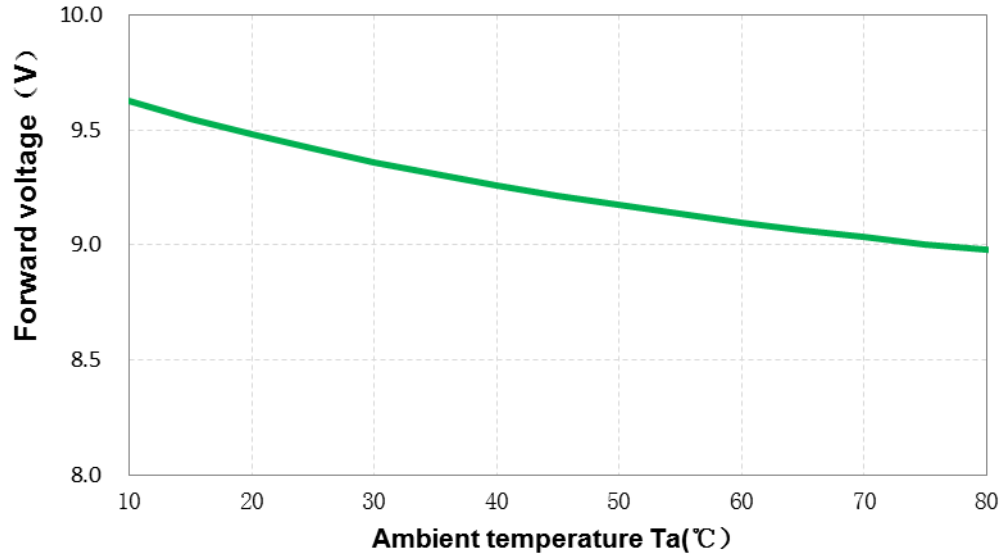
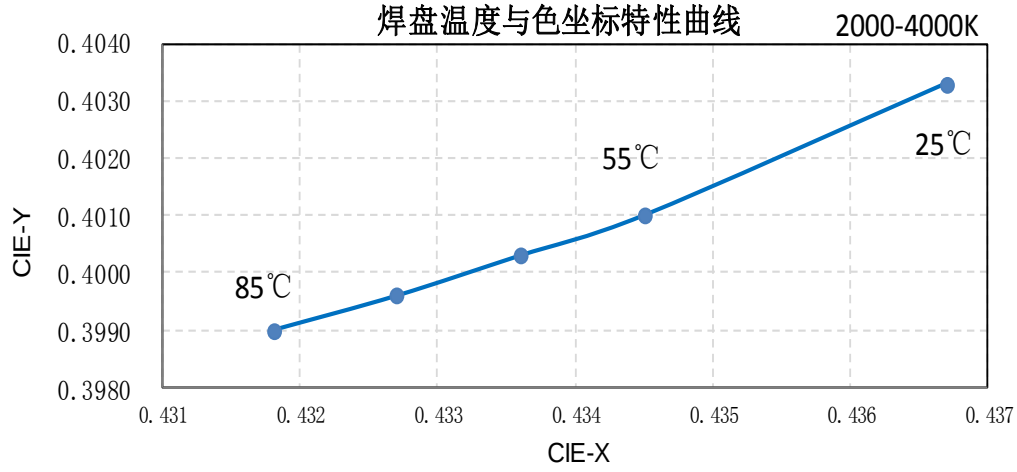
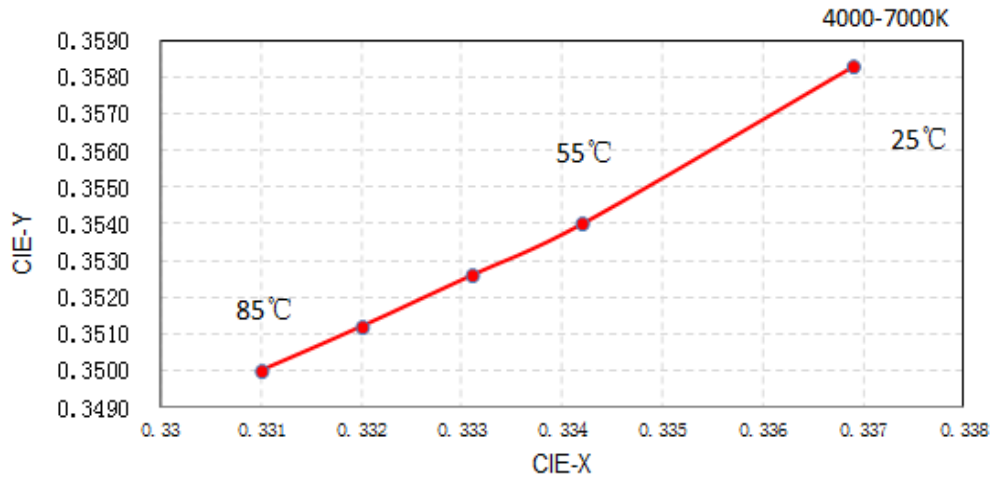


Fig.5- Chromaticity Coordinate vs. Solder Temperature
焊盘温度与色坐标特性曲线





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Fig.6- Forward voltage vs. Forward current（Ta=25℃）

正向电压与正向电流特性曲线

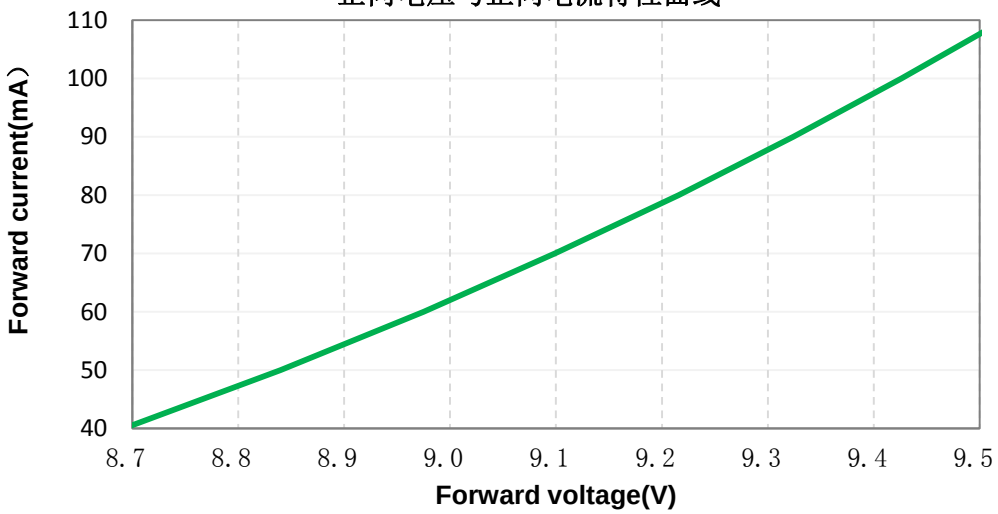
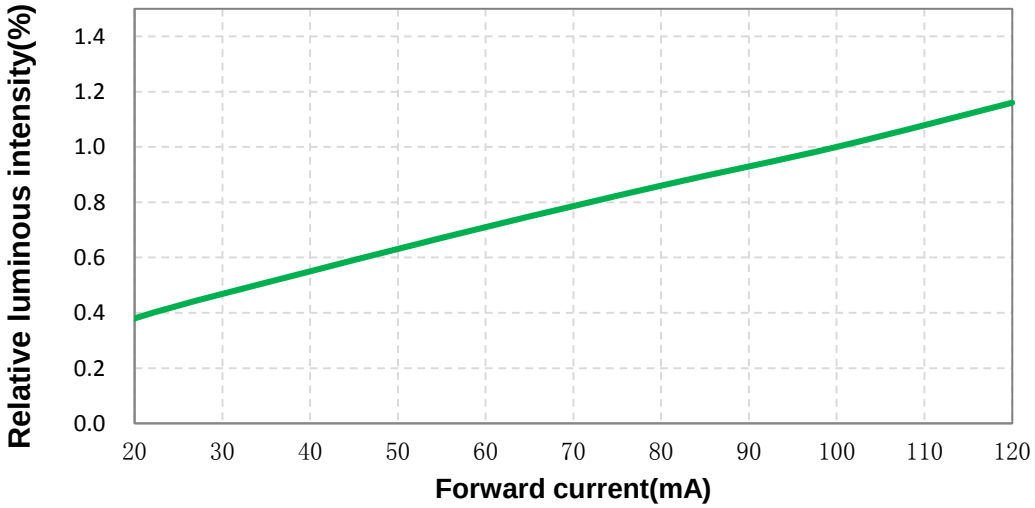


Fig.7- Forward current vs. Relative luminous Intensity

正向电流与相对流明强度特性曲线



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Fig.8- Chromaticity Coordinate vs. Forward current
正向电流与色坐标特性曲线

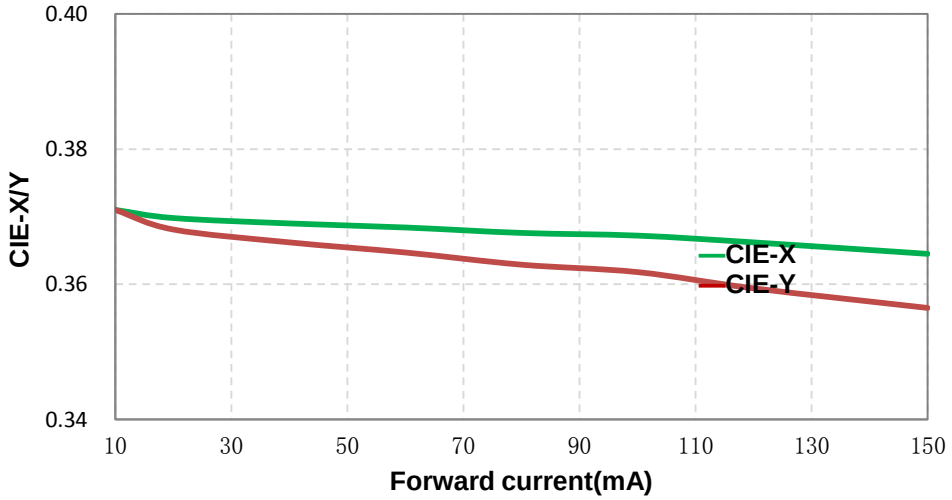
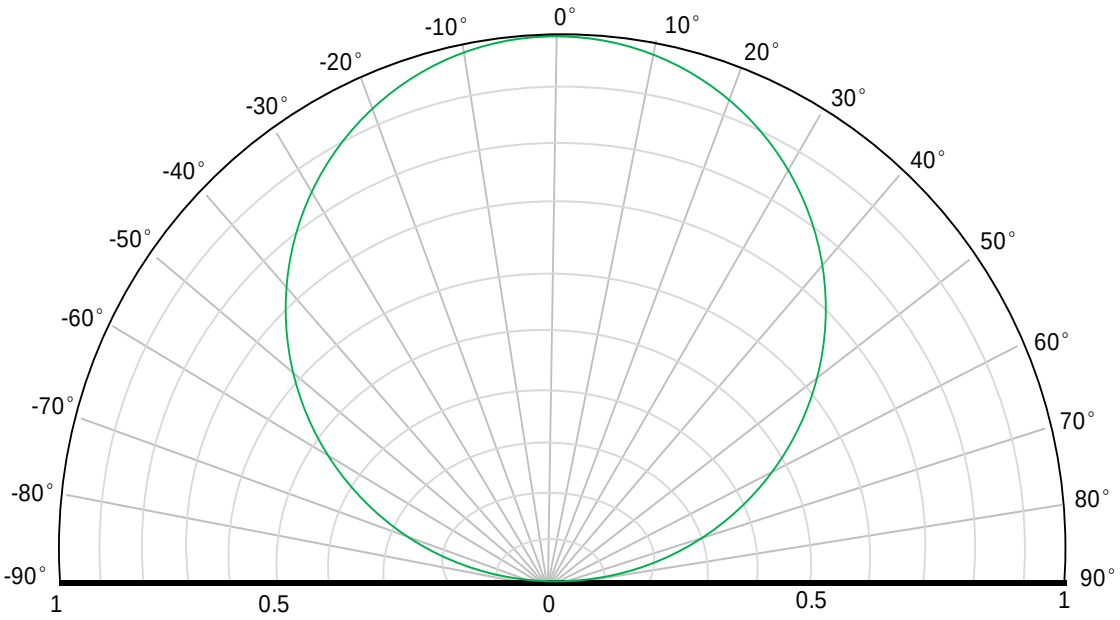


Fig.9- Typical radiation patten in polar coordinate system
辐射特性曲线



9.Reliability test items and conditions: 信赖性测试项目及条件

No.	Test Item 项目	Applicable Standard 适用标准	Test Conditions 测试条件	Sample size 数量	Ac/Re 接收/拒收
1	Operation Life 常温寿命	JESD22 A108	Test If=DC100mA Temp: Room temperature Test time=1000hrs	22	0/1
2	High Temperature Life 高温寿命	JESD22-A108	Test If=DC100mA Temp. =+85℃ Test time=1000hrs	22	0/1

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3	High Temperature High Humidity Life 高温高湿寿命	JEITAED-4701 100 103	Test If=DC100mA Temp. =+85℃ RH=85% Test time=1000hrs	22	0/1
4	Thermal Shock 冷热冲击	MIL-STD-202G	-40℃～+100℃ 15min ～ 15min Test Time=200 cycles	22	0/1
5	High Temperature Storage 高温储存	JEITAED-4701 200 201	High Temp. =+100℃ Test time=1000hrs	22	0/1
6	Low Temperature Storage 低温储存	JEITAED-4701 200 202	Low Ta=-40℃ Test time=1000hrs	22	0/1
7	Temperature Cycle 温度循环	JEITAED-4701 100 105	-40~25℃~100℃~25℃ 30min 5min 30min 5min Test Time=100cycles	22	0/1
8	Reflow Soldering 回流焊	JEITAED-4701 300 301	Operation heating： 260℃(Max.), within 10seconds.(Max.)	22	0/1

※Judgment criteria of failure for the reliability 失效可靠性判定标准

·Flux: Below 80% of initial values 光通量：低于初始值的 80%

·Vf: Over 20% of upper limit value 电压：超过上限的 20%

Note:

❶ Measurement shall be taken within 2 hours. 测试必须在 2 小时内完成。

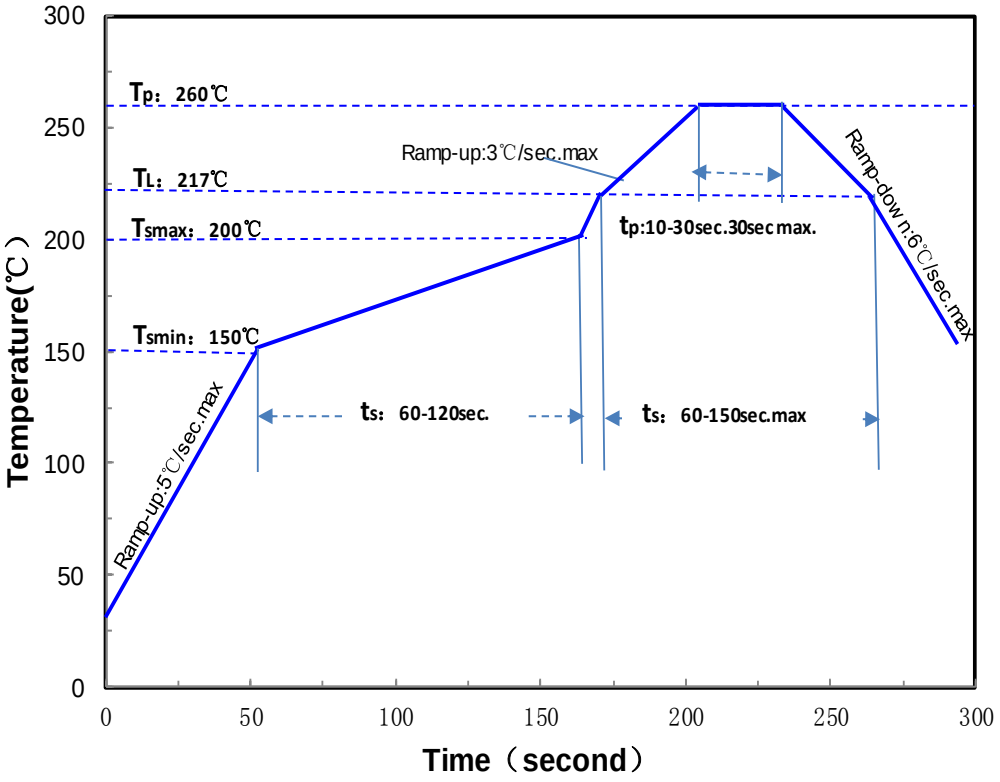
❷ The tested LED have been returned to normal ambient conditions before testing.测试前需确保 LED 灯珠已恢复至常温。

❸ T 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。

10 · Precautions for use 使用方法及注意事项

10.1 Reference SMT 参考回流焊

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Profile Feature	Lead Free Assembly
Temperature min（T_{smin}） Temperature max(T_{smax}) Maximum time (t_s)from Tsmin to T_{smax}	150℃ 200℃ 120 seconds
Ramp-up(T_L to T_P)	3℃/sec
Liquids Temperature(T_L)	217℃
Maximum Time(t_L) Maintained T_L	150 seconds
Maximum Peak Package Body Temperature(T_p)	260℃
Time Within 5℃ of the Specified Temperature	10-30seconds
Maximum Ramp-Down Rate(T_p to T_L)	6℃/seconds
Maximum Time 25℃ to Peak Temperature	8minutes

10.2Repairing 修补

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing. LED 回流焊后不应该修复，当必须修复时，必须使用双头烙铁，而且事先应确认此种方式会不会损坏 LED 本身的特性。

10.3 Storage 存储

a. Don't open the moisture proof bag before ready to use the LEDs. 在未准备使用 LED 之前不要打开防潮袋

b. The LEDs should be kept at 30℃ or less and 65%RH or less before opening the package. The max. period before opening the package is 1 year. 未开密封袋之前 LED 建议的存储环境为温度小于 30℃、湿度＜65% RH，且最长的存储期为 1 年。

C. After opening the package, the LEDs should be kept at 30℃/60%RH or less, and it should be used

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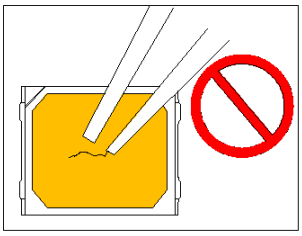
within 3 days. If the LEDs should be kept at 30-60%RH or more, and it should be used within 12hours. 打开密封袋后,环境温湿度保持在 30℃/60% RH 或更低，需在 3 天内使用。如果环境温湿度超过 30℃/60% RH,则必须 12 小时内使用。

d. If the LEDs be kept over the conditions of 30%, baking is required before mounting. Baking condition as below: 60±5℃ for 12 hours for roll goods, 105±5℃ for 1 hours for bulk goods.如果湿度指示卡显示湿度为 30%，在使用之前需要烘烤除潮。烘烤条件如下:卷装 60±5℃为 12 小时,散装 105±5℃1 小时。

e. The environment have no acid、alkali、corrosive gas、intensively shake and high magnetic field. 存储环境需隔绝酸、碱、腐蚀性气体,强烈震动和高磁场。

10.4Cautions 注意事项

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，胶体表面的压力应是恰当的。



10.5Handling Precautions 处理防备措施

a. 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。

b. 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。

c. advises against the use of any chemicals or materials that have been found or are suspected to have an

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adverse affect on device performance or reliability. To verify compatibility, JF 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测试。

d. 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。

e. 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。

f. 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。

g. Other points for attention, please refer to our LED user manual.其它注意事项请参照聚飞 LED 使用手册。

Revision History

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Page	Subjects(major change in previous version)	Date of change
1-15	Initial Issue	August10.2018

About Jufei@

The company production plant to the implementation of 10,000 purification, temperature and humidity, anti-static, the company introduced the most advanced SMD LED automatic production equipment, strict real integrated management system of ISO9001/TS16949, QC080000, ISO14001, OHSAS18001, and passed the CQC third-party certification; products by SGS, fully comply with the RoHS / REACH / halogen-free product environmental requirements. Jufei cost photoelectric LED products, widely recognized by the customers, has become the top ten brands of Chinese LED industry market customer satisfaction, and received the title of "Shenzhen Top Brand".

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