

# 产品规格书

## PRODUCT SPECIFICATION

工艺	倒装共晶	产品名称 Product	车灯 LED	版本 Version	A/0
通用尺寸	1.8*6.0*0.7	产品型号 Type	TRX1-18-45 平面白墙	日期 Date	2020.5.30

### Features:

- ◆ Excellent transiting heat from LED chip operating under 1200 mA.
- ◆ Ceramic eutectic package allows it to have minimal internal stress and excellent thermal path.
- ◆ Flip chip coated with package, the output of lumen is stable.
- ◆ High luminous output.
- ◆ Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆ GaN

### Emitting Color:

- ◆ cold white

### Applications:

- ◆ Automobile lighting

地址 (Add): 深圳市宝安区罗田社区罗田大道象山湾工业区B栋3单元503

电话 (Tel): 0755-66632536

邮编 (Zip): 518000

传真 (Fax): 0755-66631553

<http://www.tairunled.cn>

# X1-18-45

## 汽车共晶LED灯

## 产品特点 Features

- 紧凑型大功率光源，光密度高
- 氮化铝陶瓷共晶封装，散热好，耐大电流
- 采用荧光喷涂工艺，色温空间分布更均匀，更稳定的流明输出
- 光源单体使用功率大，提供更高的流明输出
- ROHS 认证和无铅制程
- ISO/IATF16949 认证
- 符合AECQ-102

## 产品应用 Applications

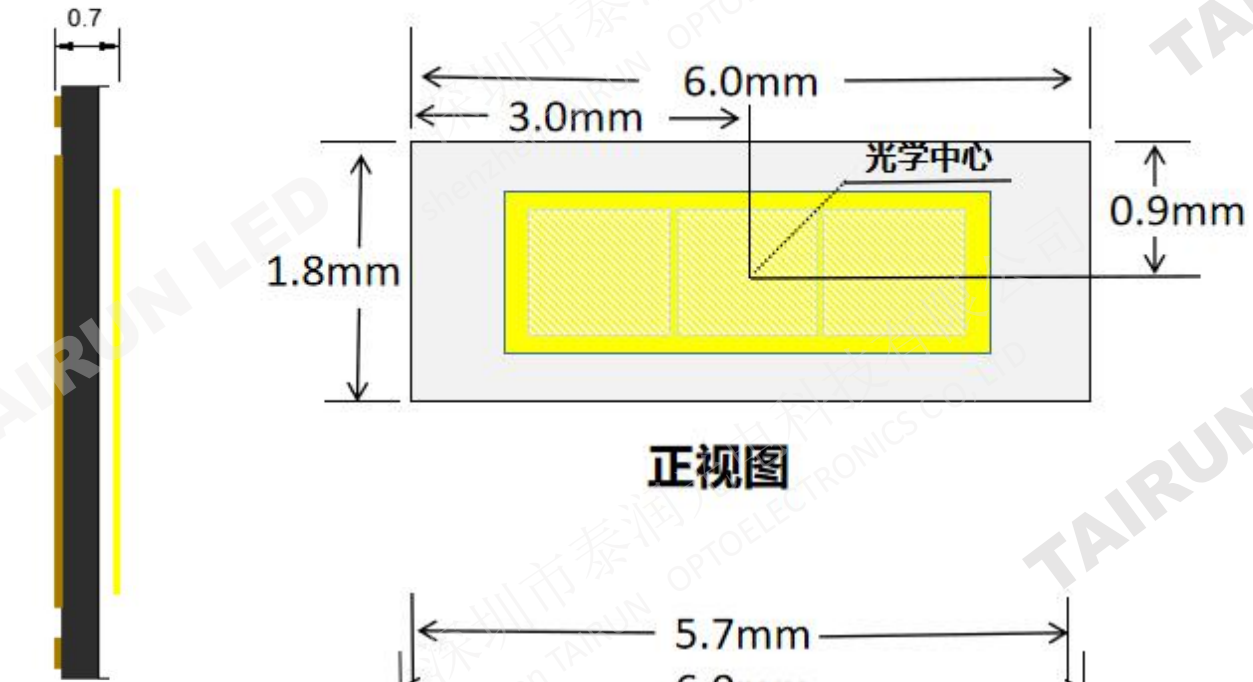
- 汽车大灯
- 昼行灯
- 雾灯,洗墙灯等多用途

特性 Characteristics	单位 Unit	典型 Typical	最大 Max
发光角度 Viewing Angle	度 Degree	120	
正向电流 Forward current	MA	750	1200
正向电压 Forward voltage	V	9.0	10.0
热阻 Thermal resistance	K/W	1.24	

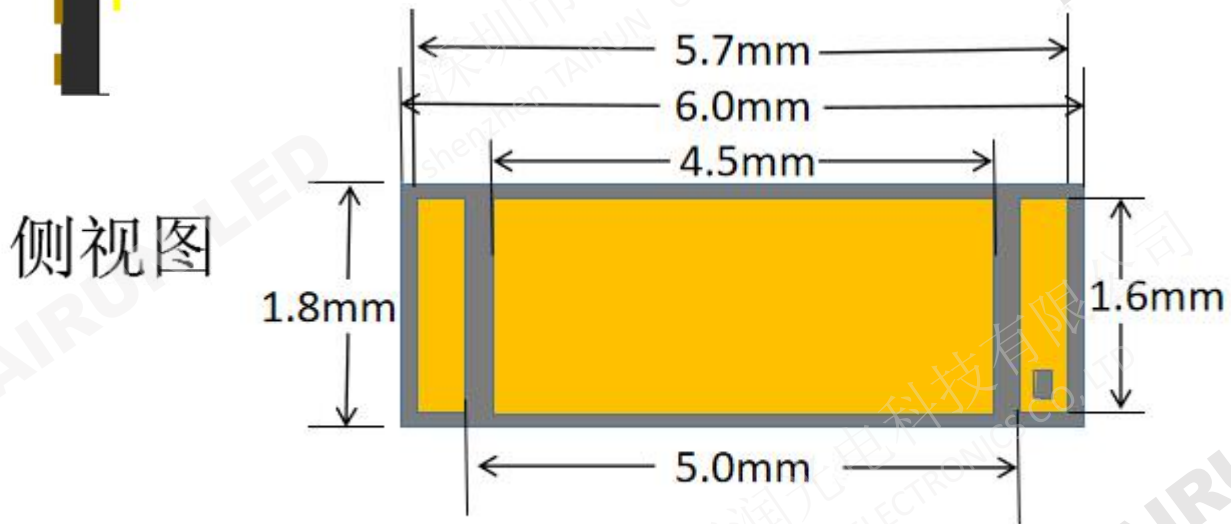
注：驱动1200mA时请确保LED焊点温度不超出100°C，否则请降低电流使用

## 产品尺寸

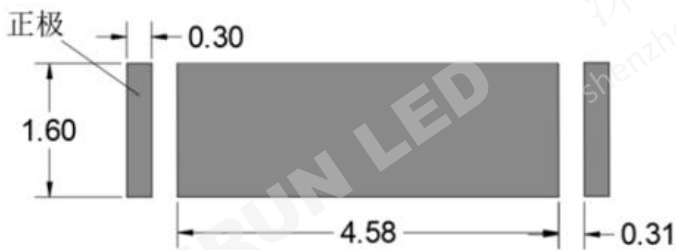
单位：毫米（mm） 未注公差：±0.10



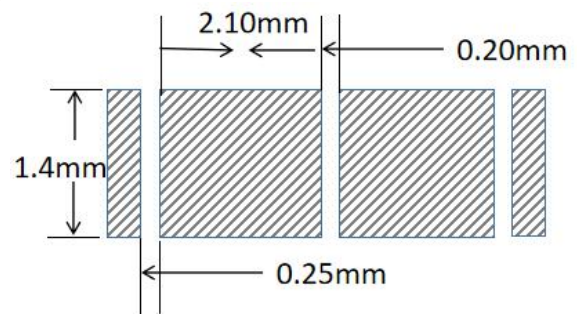
正视图



背视图



推荐焊盘图



推荐钢网开口尺寸

## Absolute Maximum Ratings (Tc=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	IF	750	mA
Reverse Voltage	VR	Not designed for reverse operation	V
Power Dissipation	PD	6.8	W
Junction Temperature	Tj	150	°C
Electrostatic Discharge Threshold (ESD)	ESD	4000	V
Storage Temperature	Tstg	-40~+70	°C
Operation Temperature	Topr	-30~+125	

## Electrical Optical Characteristics (Tc=25°C)

Parameter	Ratings	Ratings	Ratings	Ratings
chip (并联方式)	45mil/1B3C	45mil/1B3C	45mil/1B3C	45mil/1B3C
Forward Current(ma)	750	1000	1200	1500
LM	850	1050	1230	1320
Forward Voltage(V)	9.1	9.4	9.6	9.8
Power Dissipation(W)	6.8	9.4	11.52	15
CCT (K)	6500	6700	6900	7120
RA	70.1	70.2	70.9	71.2

注：为了保持温度低于额定，需要确保散热器有足够的散热性能

## 产品规格 Specification (If=1000mA, Tj=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Luminous Flux	$\phi_v$	If=1000mA	1050	-	1350	lm
Forward Voltage	$V_f$		9.2	-	9.6	V
Correlated Colour Temperature	CCT		5500	-	6120	K
Viewing Angle at 50% IV	$2\theta_{1/2}$	—	—	120	—	Deg
Reverse Current	$I_R$	$V_R=5V$	—	—	—	$\mu A$
Thermal Resistance Junction to Case	$R\theta_{J-C}$	—	—	0.8	—	K/W
Temperature Coefficient of Voltage	$V\Delta F/T$	If=1000mA A	—	-4.8	—	mV/°C

说明1.X1产品产品测试电流1000mA测试时间20毫秒，环境温度25°C；

2.发光角度为50%中心光强夹角，可提供ProSource\LightTools\TracePro\ASAP等光学模拟软件需要的光源文档；

3.因测量技术限制，产品测试存在测试误差，光通量和光功率测量值的公差为±7%，色坐标（x、y）测量值公差±0.007；

## 极限参数 Absolute Maximum Rating (Ta 25°C)

参数名称	额定参数
直流正向电流	1200mA
脉冲正向电流	1200mA
结温	150°C
工作温度	-40°C - 120°C
储存温度	-40°C - 120°C
焊接温度 (JEDEC 020c)	260°C
回流焊周期	3 Cycle
反向电压	无反向操作设计

注：为了保持温度低于额定，需要确保散热器有足够的散热性能

## White Color coordinate filing (IF=750mA )

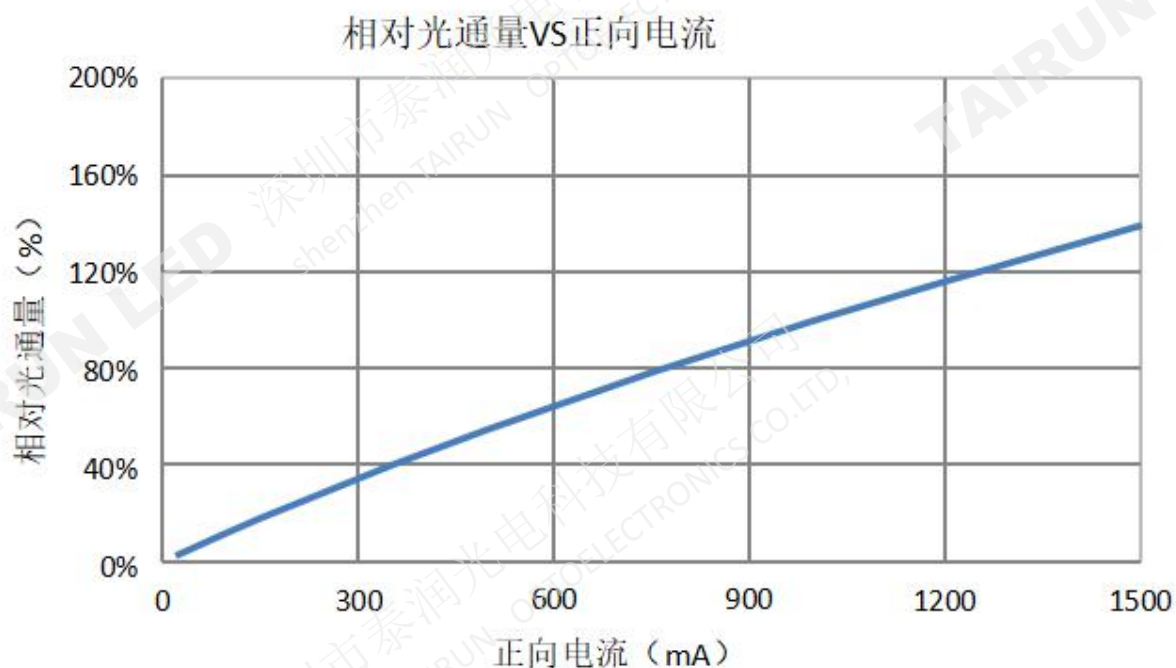
Region	CCT Range		X1	Y1	X2	Y2	X3	Y3	X4	Y4
	Min	Max								
A1	4000	4250	0.3670	0.3578	0.3755	0.3959	0.3895	0.4040	0.3784	0.3647
A2	4250	4500	0.3591	0.3522	0.3656	0.3881	0.3755	0.3959	0.3670	0.3578
B1	4500	4750	0.3512	0.3465	0.3560	0.3822	0.3656	0.3881	0.3591	0.3522
B2	4750	5000	0.3440	0.3428	0.3470	0.3763	0.3560	0.3822	0.3512	0.3465
C1	5000	5300	0.3381	0.3316	0.3404	0.3707	0.3472	0.3764	0.3433	0.336
C2	5300	5500	0.3375	0.3626	0.3322	0.3527	0.3322	0.3710	0.3378	0.3813
D1	5500	5800	0.3322	0.3517	0.3255	0.3395	0.3251	0.3564	0.3322	0.3696
D2	5800	6300	0.3251	0.3367	0.3169	0.3237	0.3155	0.3373	0.3251	0.3550
D3	6300	6700	0.3170	0.3227	0.3116	0.3141	0.3096	0.3264	0.3157	0.3359

## Notes:

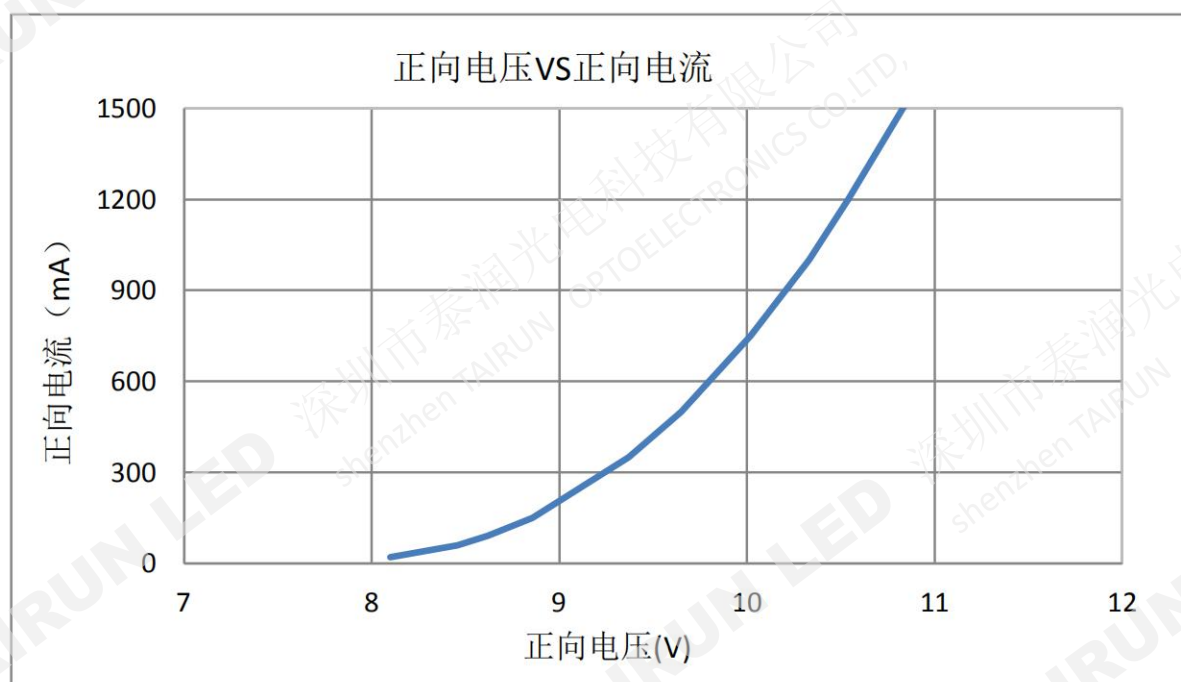
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
- 4.Luminous flux measurement tolerance:±15%. 5.Forward voltage measurement tolerance:±0.15V.



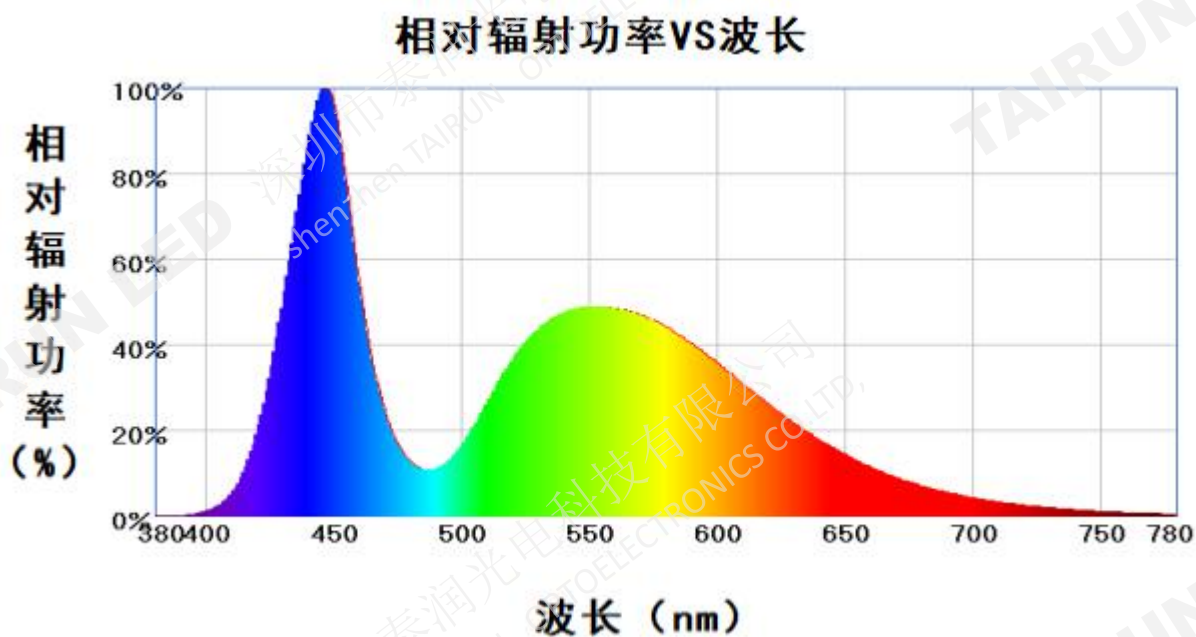
## 产品特征曲线



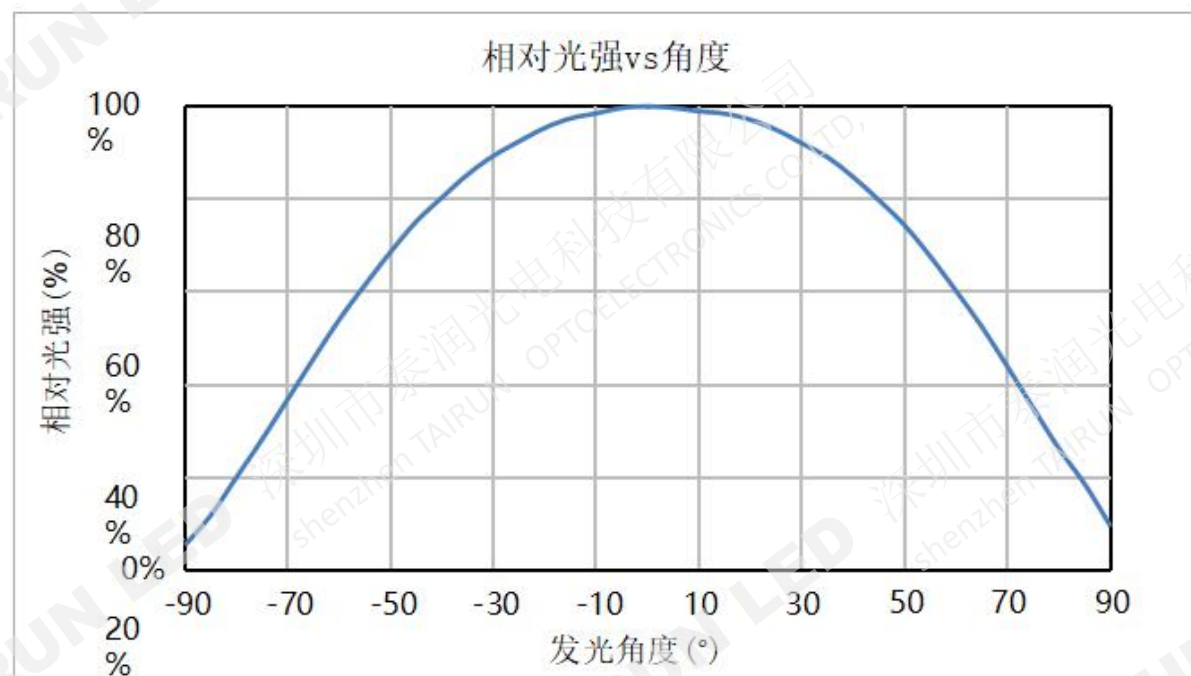
## 产品特征曲线



## 产品特征曲线

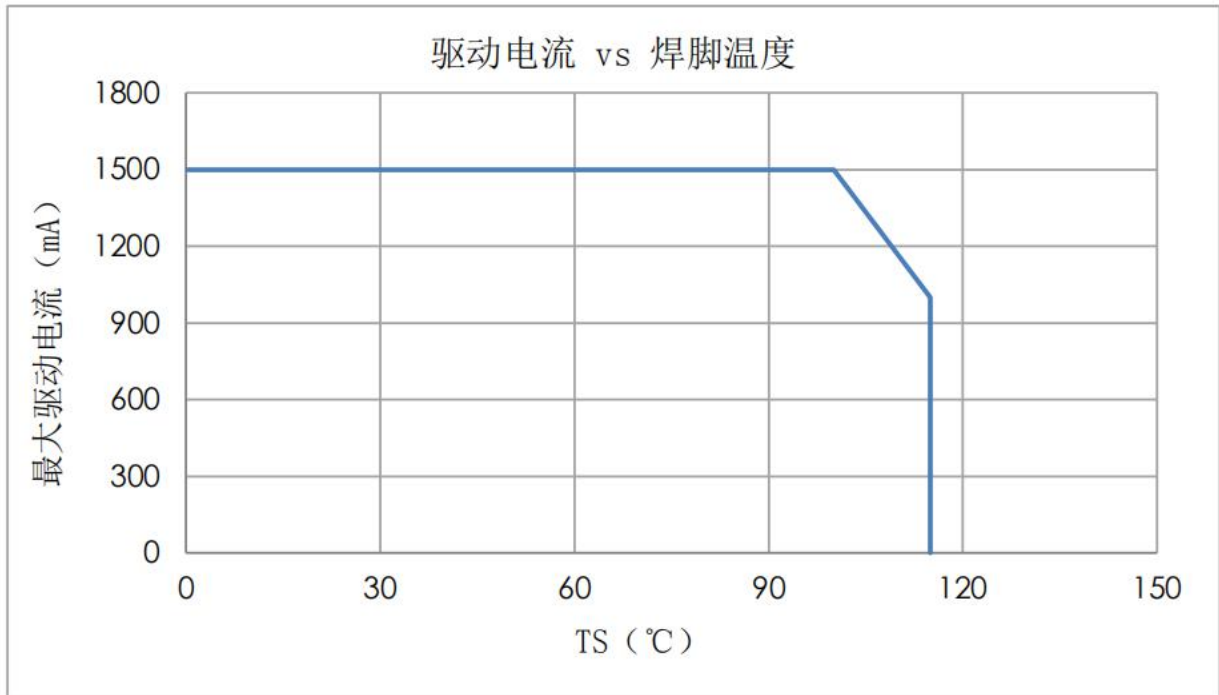


## 产品特征曲线



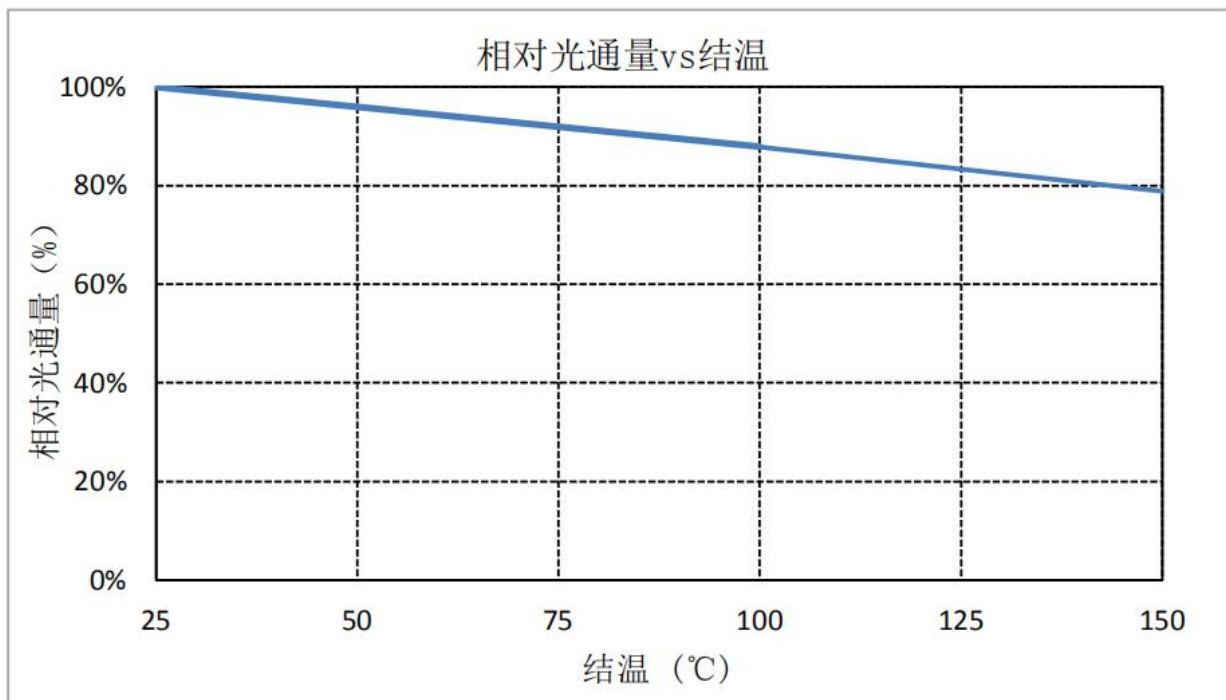


## 产品特征曲线

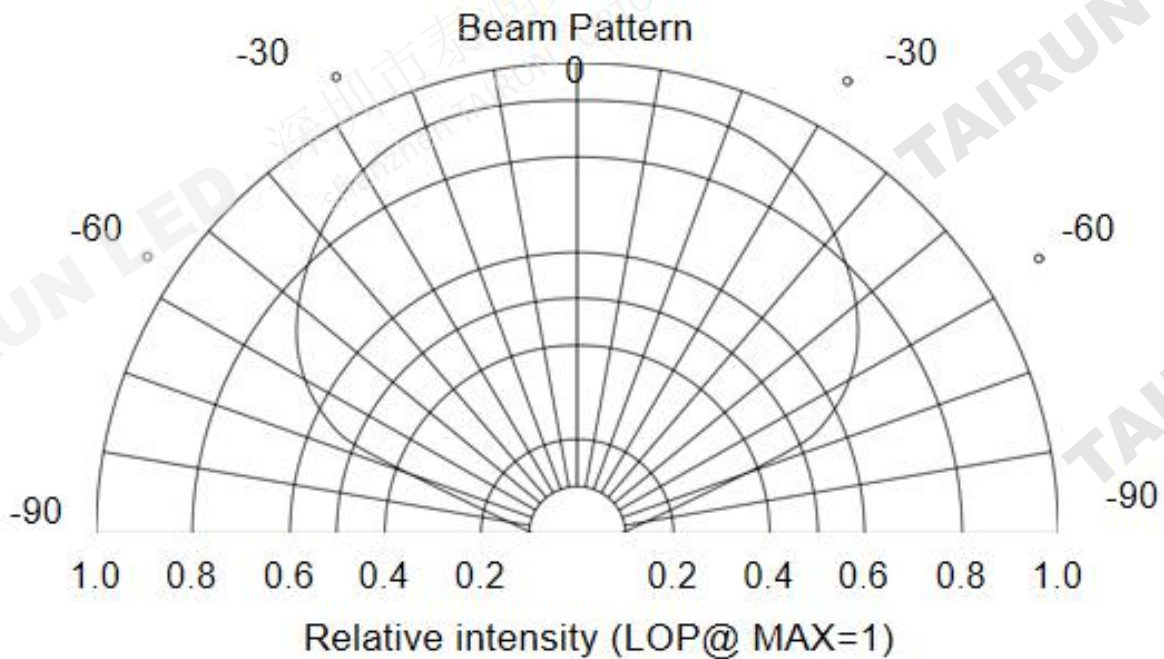


注：驱动1500mA及以上时请确保LED焊点温度不超出100°C，否则请降低电流使用

## 产品特征曲线



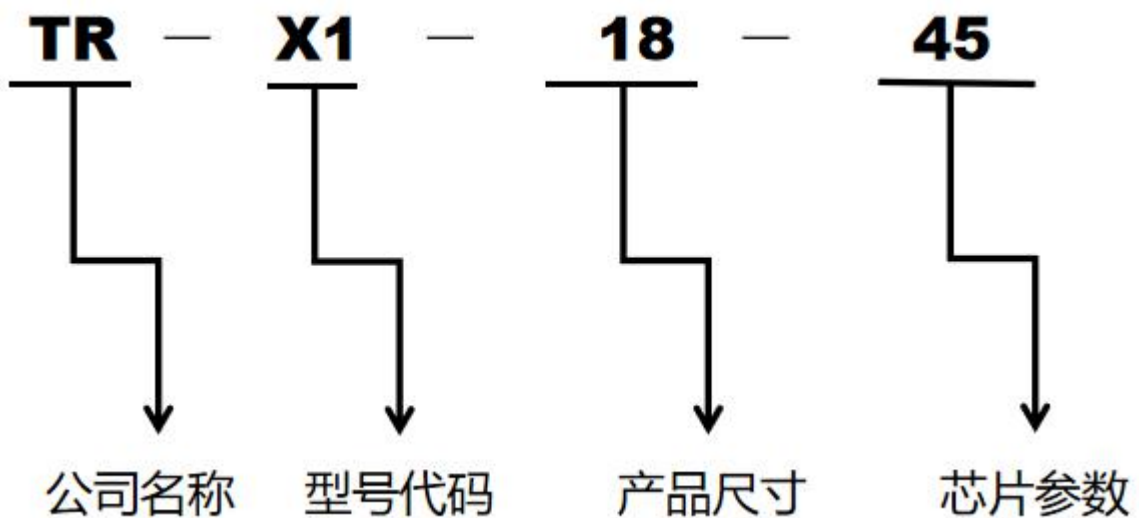
## 产品特征曲线



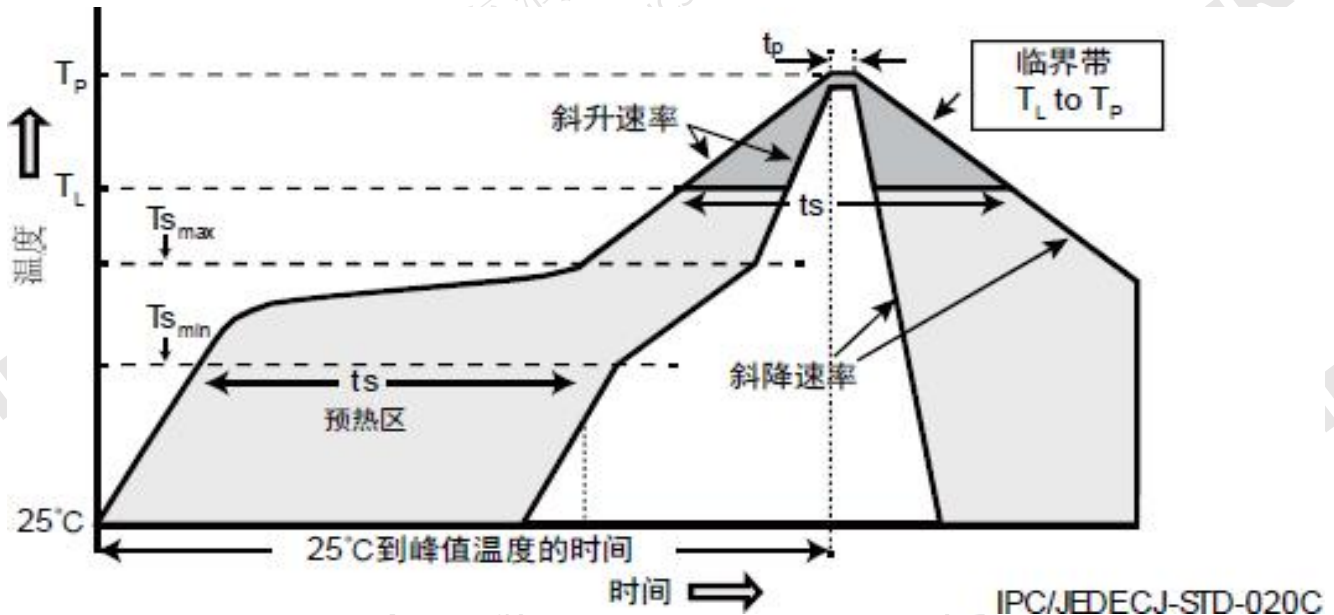
### Notes:

1.  $\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .

## 产品命名说明



## 推荐回流焊温度曲线



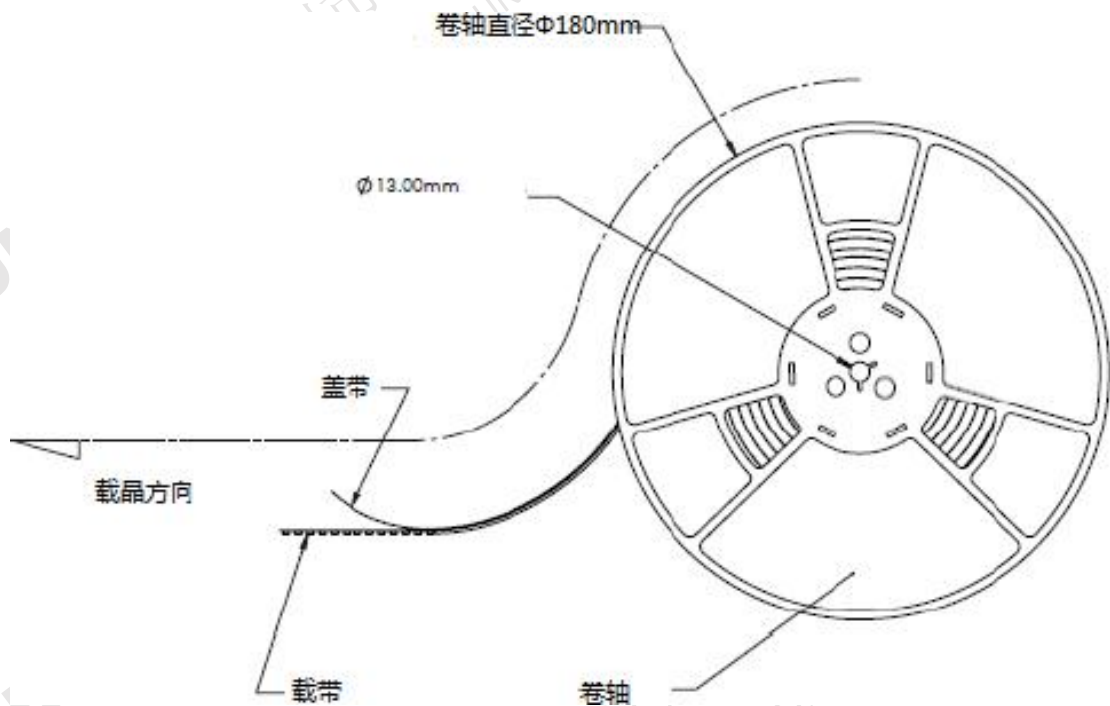
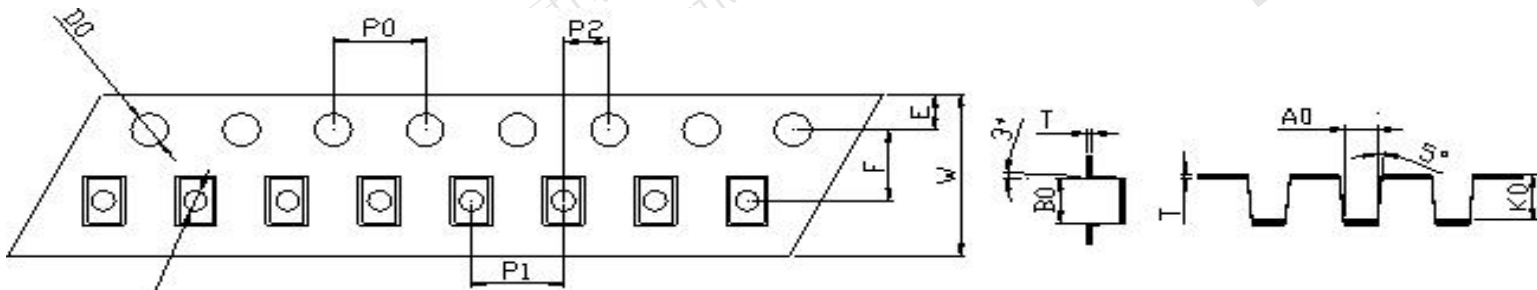
温度分布特点	锡铅共晶焊料	无铅焊料
斜升速率 (Ts <sub>max</sub> 到Tp)	最大值3°C/秒	最大值3°C/秒
最低预热温度 (Ts <sub>min</sub> )	100°C	150°C
最高预热温度 (Ts <sub>max</sub> )	150°C	200°C
预热时间 (Ts <sub>min</sub> 到Ts <sub>max</sub> )	60-120秒	60-180秒
液相温度 (T <sub>L</sub> )	183°C	217°C
温度维持在T <sub>L</sub> 以上的时间 (t <sub>L</sub> )	60-150秒	60-150秒
封装体峰值温度 (T <sub>P</sub> )	215°C	260°C
指定实际峰值温度5°C内的时间 (t <sub>p</sub> )	10-30秒	20-40秒
斜降速率 (T <sub>P</sub> 到T <sub>L</sub> )	最大值6°C/秒	最大值6°C/秒
25°C到峰值温度的时间	最大值6分钟	最大值8分钟

说明: 1.温度分布特点参照IPC/JEDEC J-STD-020C.

2.产品湿气敏感等级1 (MSL 1)。

规格：包装数量（最小包装100pcs/卷，标准包装2000pcs/卷）

单位：毫米（mm）未注公差：±0.1

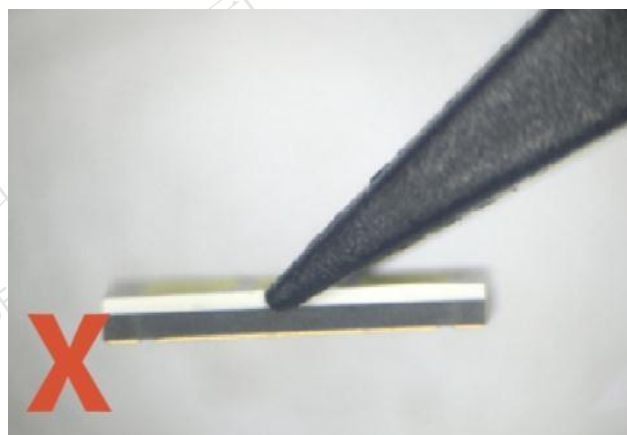
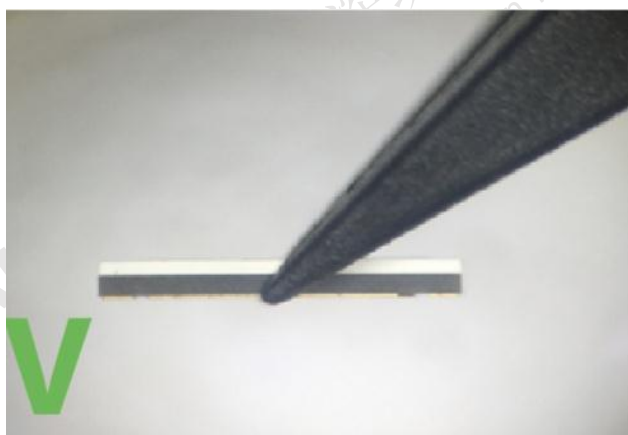


W	T	A0	B0	K0	D0	D1	E	F	P0	P1	P2
12.0±0.1	0.23±0.05	1.95±0.1	6.18±0.1	0.85±0.1	1.6±0.1	1.1±0.1	1.75±0.1	5.5±0.1	4.0±0.1	4.0±0.1	2.0±0.1

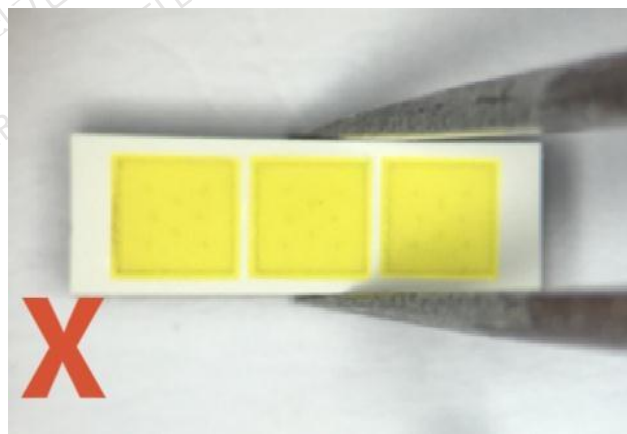
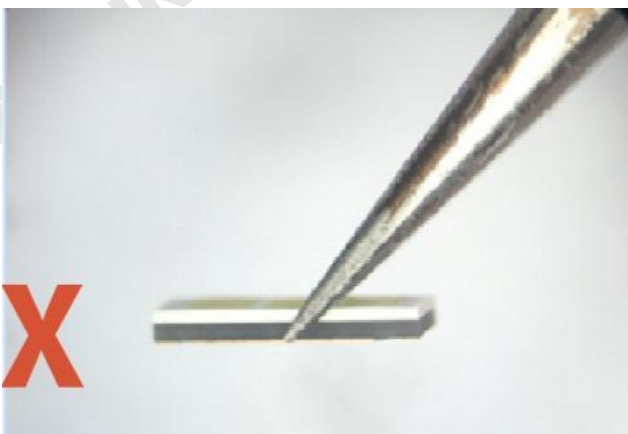
## 使用注意事项

车灯系列LED在发光表面采用荧光膜封装，采用硅胶密封。如果用力过猛，LED可能会变形或损坏。手动操作LED时，请使用塑料镊子代替金属镊子。避免接触白色硅结构，以免损坏LED。(下方图片为示意图)

## 塑料镊子



## 金属镊子





## 使用注意事项 Cautions of Application

(1) **LED 储存:** 建议存储温度 10 摄氏度-55 摄氏度, 湿度: 30%-65%, 包装袋密封保存。为了保证产品质量, 外包装袋打开前, 出厂后一年内使用, 外包装袋打开后, 建议 28 天内使用。

**LED storage:** suggest to sealed stock in under the temperature of 10°C-55°C, humidity of 30%-65%. In order to keep a good quality, pls use it within 1 year after the production date; and use it out within 28 days after open the package.

(2) **拿取方法:** 接触 LED 检查时需戴手套或者手指套, 工作台面也要接地, 包装袋开口后要及时封口, 防止引脚氧化。打开包装后, 操作人员应该使用镊子夹持 LED 两侧, 避免手接触 LED 正面。

**When taking or touch the LED, pls make sure to wear the gloves. Seal the package in time in order to avoid the pin oxidation. When opening the package, need to use the tweezers clamped on both sides of LED in order not to touch the face of the LED.**

(3) **安装:** 这一过程主要是静电的防护:

**Installation:** This process is mainly to protect the static electricity:

① 生产前检查机台设备接地线是否正常;

**Check if the grounding wire of the machine equipment is normal before production;**

② 检查人员静电环是否正常, 检查静电的金属与人的皮肤接触紧密;

**Check if the static ring is normal, check static metal and human skin contact closely;**

③ 在安装时最好要求作业人员戴好防静电手套或者防静电手指套;

**Check if the workers wear anti-static gloves;**

④ 作业台面铺好静电胶布, 胶布之间应相互连接接地;

**Check if the working table is paved with electrostatic rubber cloth, and the rubber cloth is connected to each other.**

⑤ 开封后最好在二十四小时内用完, 否则可能会引起灯脚氧化生锈。

**After opening the seal, it is better to use it out in 24 hours, otherwise it may cause the oxidation of the foot.**

(4) 建议使用低温锡膏进行回流焊, 温度曲线如上图所示:

**It is recommended to use low temperature solder paste for reflow, and the temperature curve is shown in the following diagram.**