2835U03-02C65L12-P1Z-010 Datasheet

The 2835 LED light source is a high-performance energy-saving device that can handle high heat and high drive current.Small size, high strength, is the ideal choice of LED nail lamp, LED mosquito lamp, LED lamp, curing, etc.
此款2835 LED光源是一种高性能节能器件，可以处理高热量和高驱动电流。体积小、强度高，是LED钉灯、LED蚊香灯、LED灯、固化灯等的理想选择。

This part has a foot print that is compatible to most of the same size LED in the market today.
此器件的焊盘兼容当今市场上大部分相同大小的LED。

FEATURES/特点

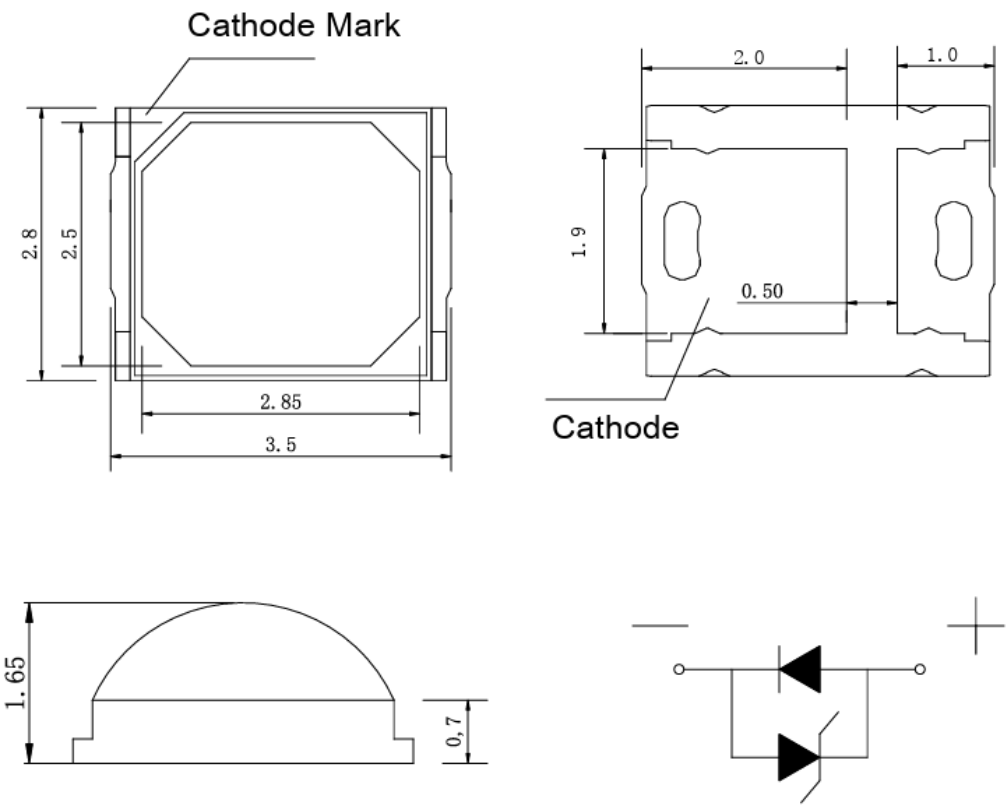
- High luminous Intensity and high efficiency
  发光强度高，效率高
- Compatible with reflow soldering process
  兼容回流焊工艺
- Low thermal resistance/热阻低
- Long operation life/寿命长
- Wide viewing angle at 120°
  120° 大发光角度
- Silicone encapsulation/硅胶封装
- Environmental friendly, RoHS compliance
  材质环保，符合RoHS要求

APPLICATIONS/应用

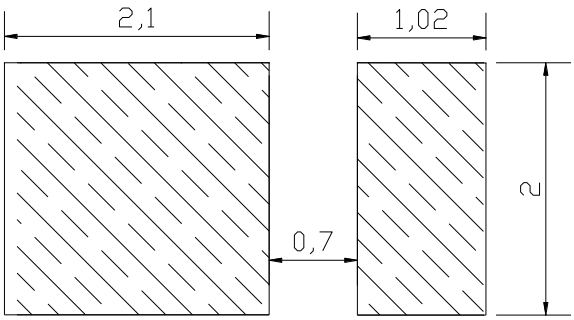
- Nail lamp/指甲灯
- Curing light/光固化
- Mosquito lamp/诱蚊灯
- LED bulb/LED灯泡
- money detector/验钞
- The sterilization lamp/杀菌灯
- The stage lights/舞台灯光
- Clothing lights/服装灯光
- The scorpion lamp/蝎子灯

Note: The information in this document is subject to change without notice.
注：本文件中的信息如有变更，恕不另行通知。

PACKAGE DIMENSIONS 封装尺寸



Recommended Solder Pad Design 推荐焊盘设计



Notes/ 注:

1. All dimensions in millimeters.所有尺寸单位为mm
2. Thickness tolerance of copper plate is ±0.02mm. 铜材料片厚度公差为±0.02mm
3. Thickness tolerance of product is ±0.05mm. 产品厚度公差为±0.02mm
4. Tolerance is ±0.1mm unless otherwise noted. 如未特别注明，默认公差为±0.1mm

ABSOLUTE MAXIMUM RATINGS最大限定参数（Ta=25℃）

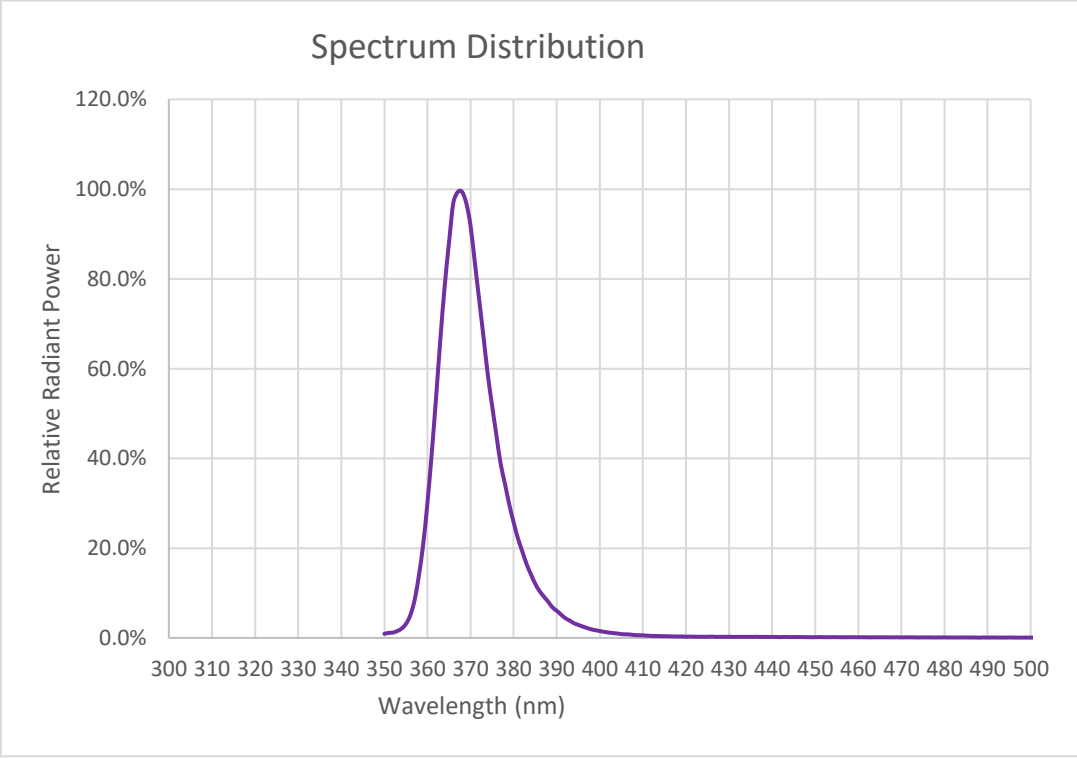
Parameter 项目名称	Symbol 符号	Value 规格	Unit 单位
Forward current 正向电流	I_F	150	mA
Peak Forward Current 正向脉冲电流	I_{FP}	180	mA
Reverse Voltage 反向电压	V_R	5	V
Power Dissipation 消耗功率	Pd	500	mW
Operating Temperature 工作温度	T_{opr}	-40~+85	℃
Storage Temperature 储存温度	T_{stg}	-40~+100	℃
Soldering Temperature 焊接温度	T_{sld}	Reflow Soldering: 260℃ for 10 seconds	
LED Junction Temperature 结温	T_j	110	℃

CHARACTERISTICS 光电参数(Ta=25℃)

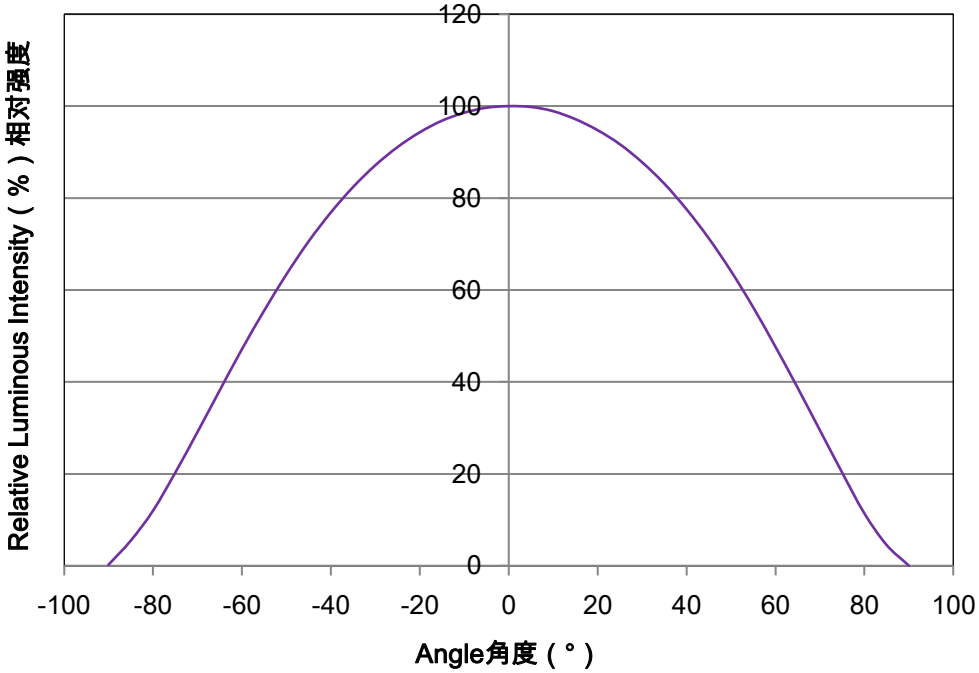
Parameter 项目名称	Symbol 单位	Condition 条件	Min 最小值	Typ 中间值	Max 最大值	Unit 单位
Reverse Current反向漏电流	IR	VR=5V	--	--	3	UA
Forward Voltage正向电压	V_F	IF=60mA	3.4	--	3.8	V
Viewing Angle发光角度	$2\theta_{1/2}$	IF=60mA	--	120	--	deg.
Luminous Intensity辐射通量	Φe	IF=60mA	70	--	120	mw
peak wavelength峰值波长	λP	IF=60mA	365	--	370	nm
Thermal Resistance热阻 (Junction to Solder Point)	R_{th-js}	IF=60mA	--	30	--	℃/W

Notes/注:
1.Luminous Intensity is measured with an accuracy of ± 5%. 光通量的测量精度为± 5%。
2. peak wavelength is measured with an accuracy of ± 5%. 峰值波长的测量精度为± 5%。
3. All measurements were made under the standardized environment of Shineon
所有的测量都是在易美的标准环境下进行的

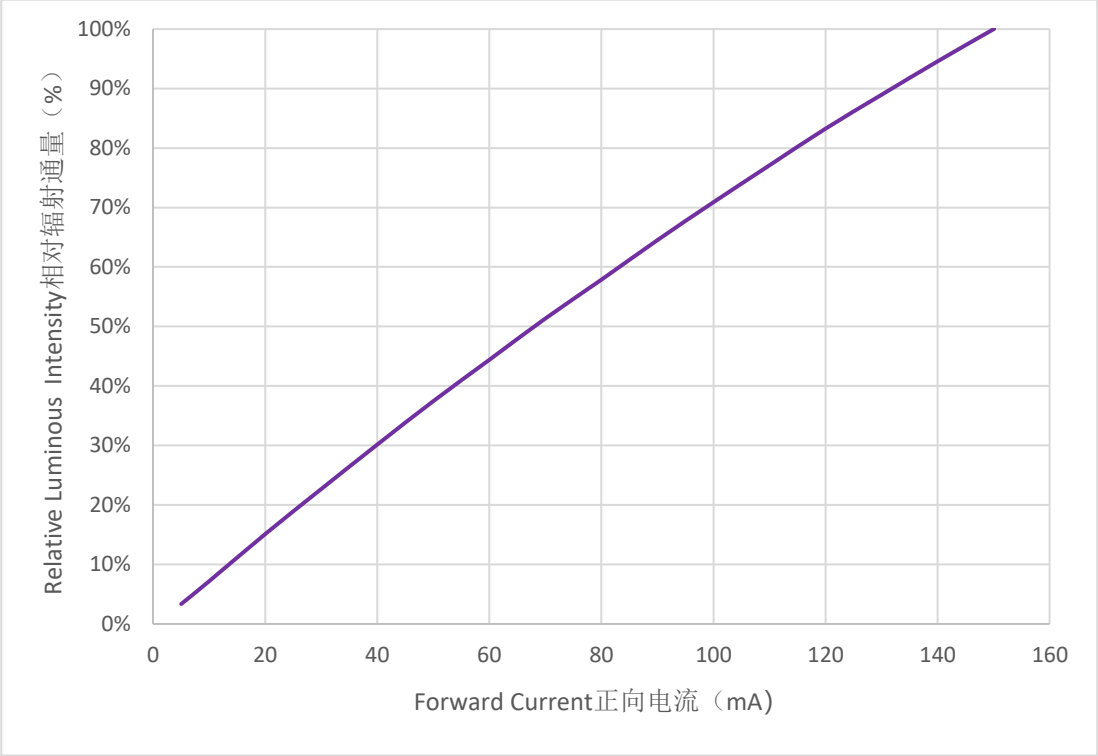
RELATIVE SPECTRAL POWER DISTRIBUTION 相对光谱功率分布 (T_j=25℃)



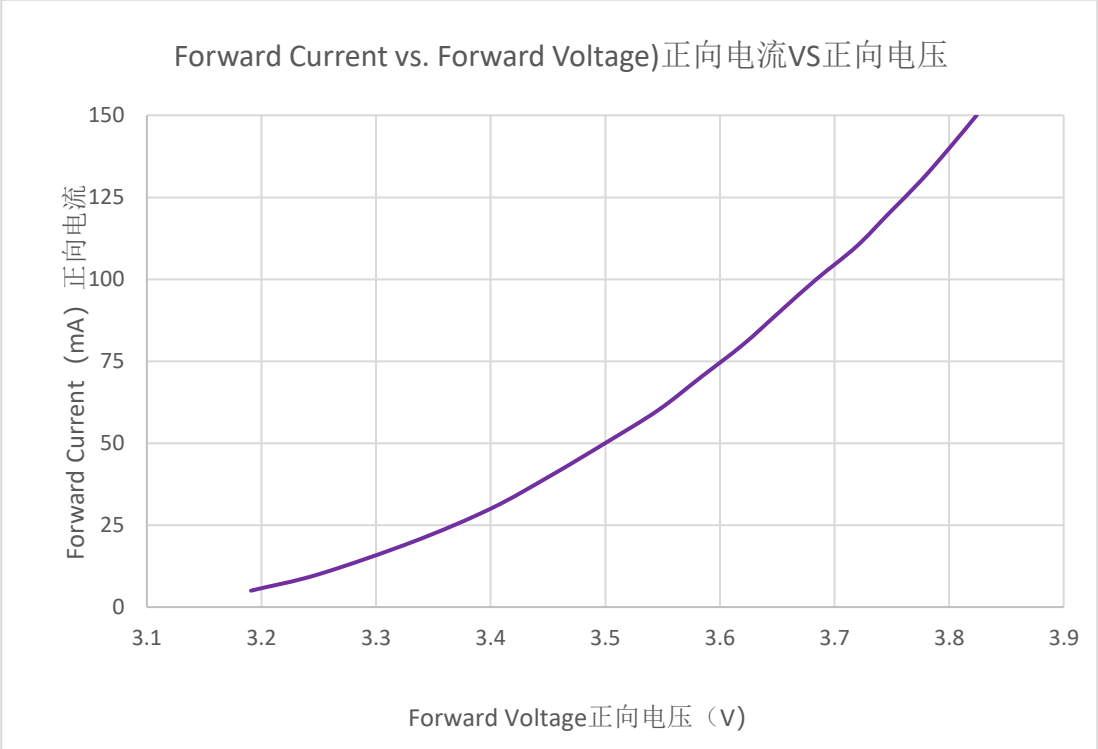
TYPICAL SPATIAL DISTRIBUTION典型配光分布



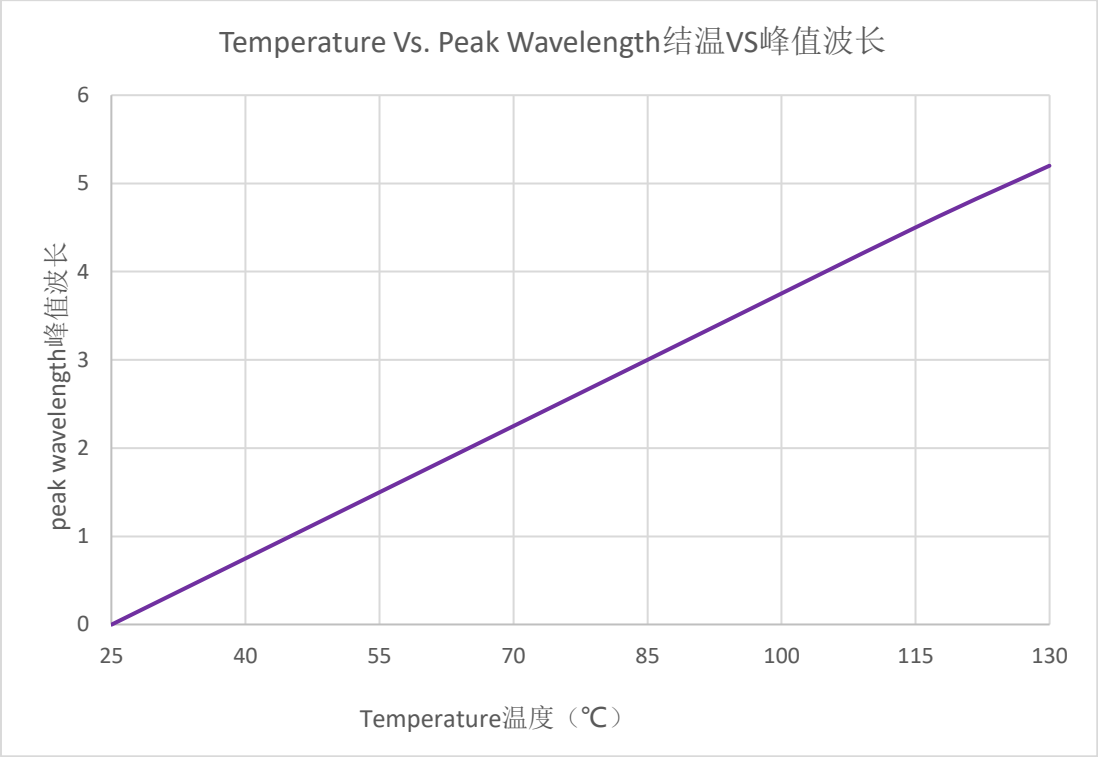
RELATIVE LUMINOUS FLUX VS. CURRENT相对光通量VS电流 (T_j=25℃)



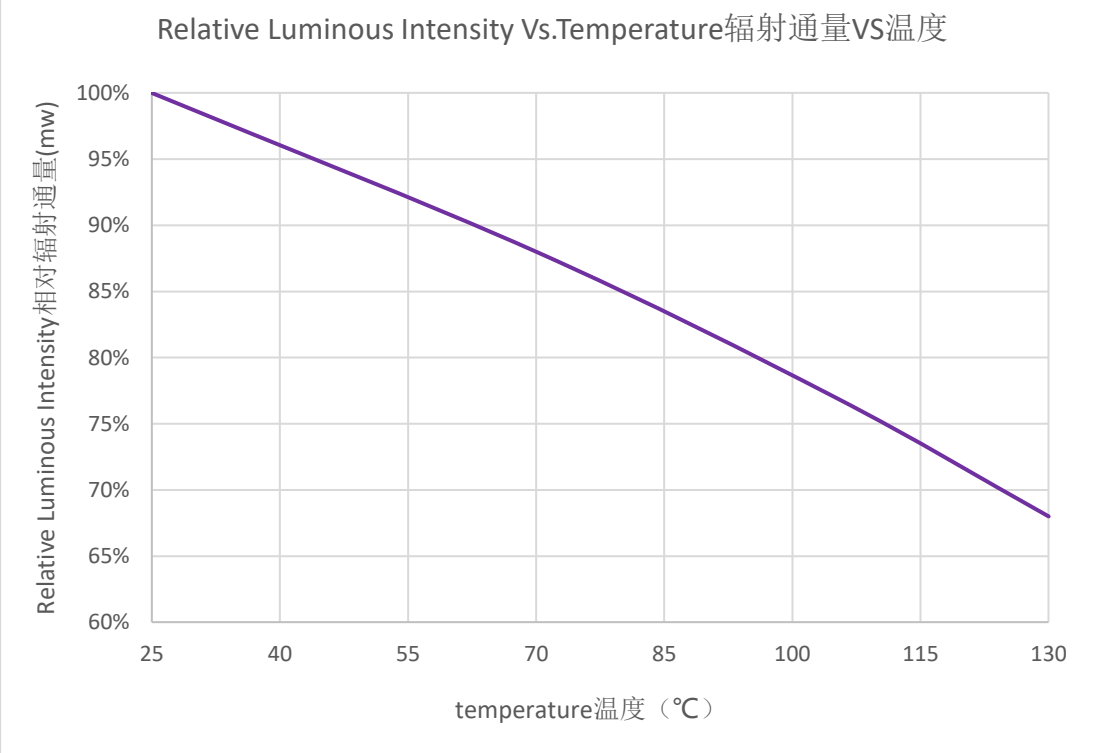
ELECTRICAL CHARACTERISTICS 电特性(Tj=25℃)



Temperature Vs. Peak Wavelength温度与峰值波长的关系



RELATIVE LUMINOUS Lntensity VS. TEMPERATURE相对辐射通量与结温的关系



SORTING RANKS分光等级

(1) Luminous Intensity辐射功率 (Tj=25℃)

Part Number型号	Condition条件	Rank等级	Unit单位
2835U03-02C65L12-P1Z-010	60mA	PD	mW
		80-90	
		PE	
		90-100	
		Q0	
		100-110	
		Q1	
		110-120	

(2) Forward Voltage正向电压 (Tj=25℃)

Rank等级	Condition条件	Min最小值	Max最大值	Unit单位
BC	60mA	3.4	3.6	V
BD		3.6	3.8	

(3) peak wavelength峰值波长 (Tj=25℃)

Part Number型号	Condition条件	Rank等级	Unit单位
2835U03-02C65L12-P1Z-010	60mA	CB	nm
		365-370	

Notes/注:
1. 10% tolerance for luminous intensity may be caused by measurement inaccuracy.
光辐射功率测量精度误差± 5%
2. Measurement Uncertainty of the Forward Voltage : ± 0.03V
正向电压测量误差:± 3%

REFLOW SOLDERING CHARACTERISTICS 回流焊特性

For Reflow Process 回流焊制程:

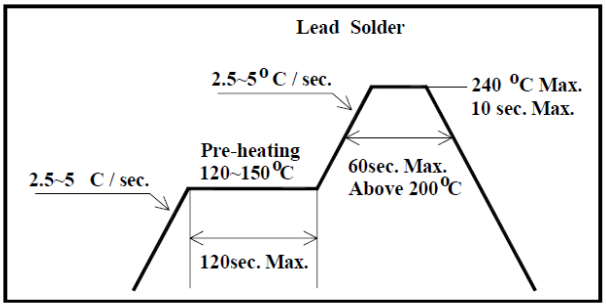
Preheating预热 : 140℃~160℃±5℃,within 2 minutes. 2分钟

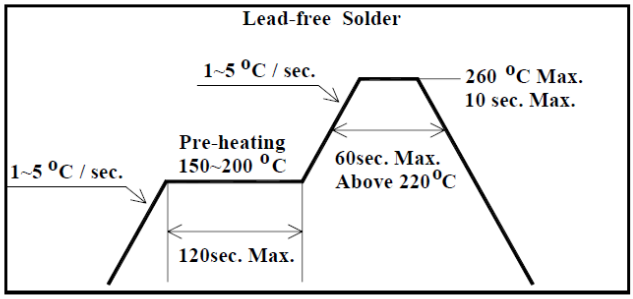
Operation heating作业加热 : 260℃(Max.) within 10 seconds.(Max)

260℃(最高) within 10 seconds.(最长)

Gradual Cooling (Avoid quenching).逐渐冷却(避免淬火)

Lead solder 有铅焊接		Lead-free solder 无铅焊接	
Pre-heat 预热	120-150℃	Pre-heat 预热	150-200℃
Pre-heat time 预热温度	120 sec.Max.	Pre-heat time 预热温度	120 sec.Max.
Peak Temperature 峰值温度	240℃ Max.	Peak Temperature 峰值温度	260℃ Max.
Soldering time condition 回流焊时间	10 sec.Max.	Soldering time condition 回流焊时间	10 sec.Max.



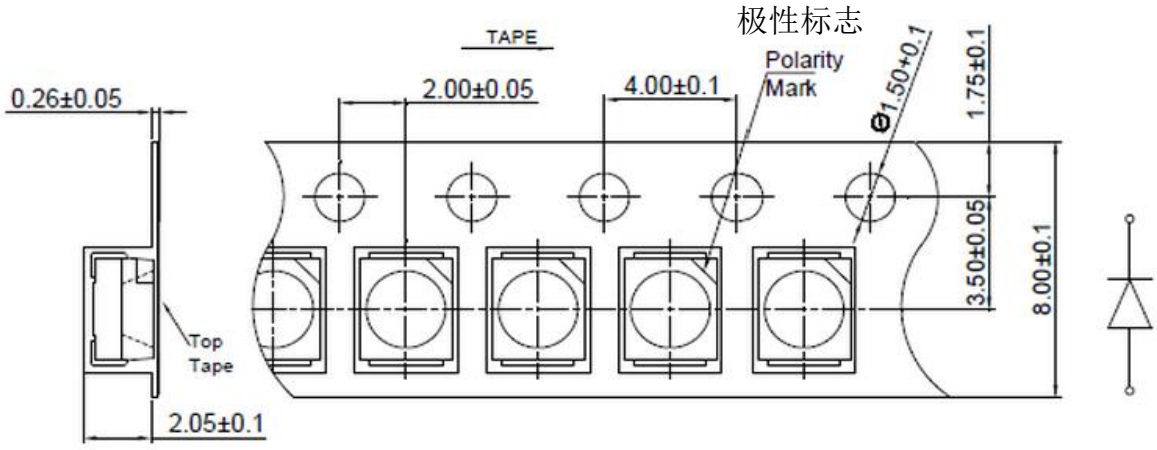


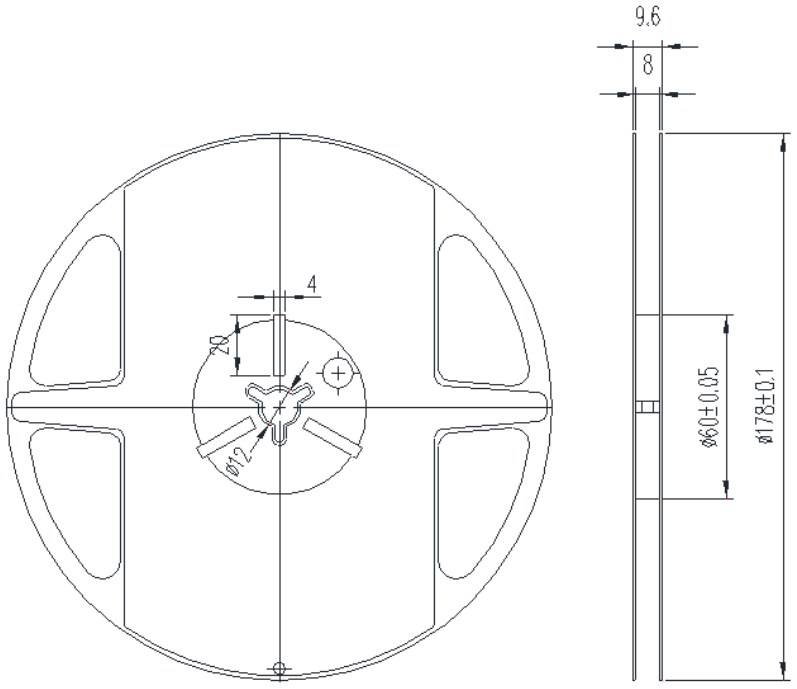
Notes注:

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 using the picking up nozzle, the pressure on the silicone resin should be proper.

由于LED的封装材料是硅胶，led封装顶部表面是柔软的，顶部表面的压力会影响led的可靠性。应采取预防措施，以避免密封部件受到强大的压力。因此，在使用吸嘴时，应使硅胶表面的压力适中。

TAPE AND REEL 编带





Note: The tolerances unless mentioned is ±0.1mm, Unit=mm

Notes注:

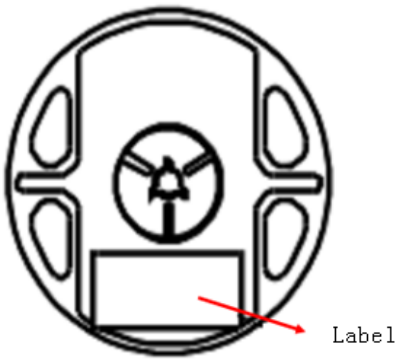
(1) Quantity : 2,000pcs/Reel
数量：2000pcs/卷

(2) Cumulative Tolerance : Cumulative Tolerance/10 pitches to be ±0.2mm
累积公差:累积公差/10间距 ±0.2毫米

(3) Adhesion Strength of Cover Tape : Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at the angle of 10º to the carrier tape
盖带粘附强度:盖带反向拉，与载带角度为10°，拉力为0.1-0.7N

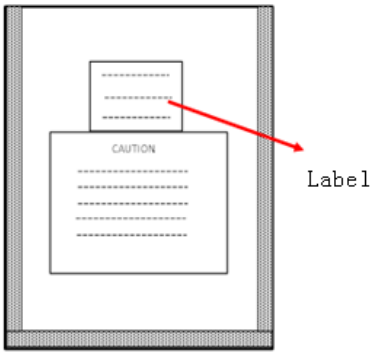
(4) Package : P/N, Manufacturing data Code No. and quantity to be indicated on a damp proof Package.
包装 :品名，生产数据代码和数量须在防潮包装上注明

PACKAGING 包装



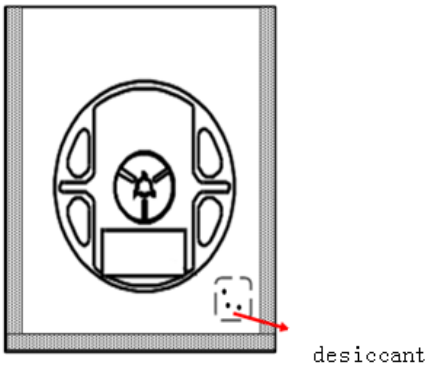
REEL

卷盘

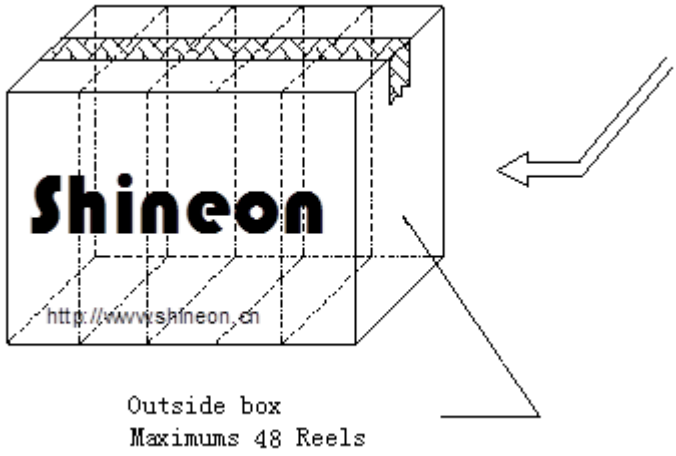


moisture-proof bag

防潮袋



干燥包



Outside box
Maximums 48 Reels

外箱
最多48卷盘

Reliability Test Items 可靠性测试项目

Test Items 测试项目	Test Duration 测试时长	Number of Damaged 不良数
Steady State Operating Life of High Temperature (HTOL) Ts=85℃, IF=Max 高温点亮稳态老化Ts=85℃, IF=最大值	1000hrs	0/20
Steady State Operating Life of Low Temperature (LTOL) Ta=-40℃, IF=Max 低温点亮稳态老化Ts=-40℃, IF=最大值	1000hrs	0/20
High Temperature Storage (HTS) 高温存储 100℃	1000hrs	0/20
Low Temperature Storage (LTS) 低温存储 -40℃	1000hrs	0/20
Thermal Shock (TS) -45℃~125℃ 30min dwell 20sec transfer 冷热冲击-45℃ 30min~125℃ 30min， 转换时间20秒	100cycles	0/20
Solder Resistance (SR) 265℃, 3X MSL 阻焊测试（3遍潮气敏感度试验后）	5sec	0/20
Solder Ability (SA) 245℃5sec, 95% coverage 可焊性 95%覆盖	5sec	0/11

Item 项目	Symbol 符号	Test Condition 测试条件	Criteria for Judgment 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	Vf	IF=Typical Current 典型电流		U.S.L x1.1
Luminous Intensity 光功率	MW	IF=Typical Current	L.S.L x0.7	
peak wavelength 峰值波长	nm	IF=Typical Current		U.S.L x1.1

PRECAUTION FOR USE 使用注意事项

(1) This device should not be used in any type of fluid such as water, oil, organic solvent, etc. When washing is required, IPA should be used.
本器件不得用于水、油、有机溶剂等任何流体中。如需清洁，请使用异丙醇进行清洗。

(2) When the LEDs are illuminating, operating current should be decided after considering the ambient maximum temperature.
当LED发光工作时，应根据环境最高温度来确定工作电流。

(3) LEDs must be stored to maintain a clean atmosphere. If the LEDs are stored for 3months or more after being shipped from ShineOn, a sealed container with a nitrogen atmosphere should be used for storage.
LED储存环境须保持清洁。如果LED从易美发货后需储存3个月或更长时间，则应使用氮气柜进行储存。

(4) The LEDs must be used within seven days after opening the moisture proof packing. Repack unused Products with anti-moisture packing, fold to close any opening and then store in a dry place.
LED须在打开防潮包装后七天内使用。用防潮包装重新包装未使用的产品，折叠以封住开口，然后存放在干燥的地方。

(5) The appearance and specifications of the product may be modified for improvement without notice.
产品外观及规格如有改进，恕不另行通知。

(6) This LED is sensitive to the static electricity and surge. It is recommended to use a wrist Band or anti-electrostatic glove when handling the LEDs.
LED对静电和浪涌很敏感。在处理LED时，建议使用防静电腕带或防静电手套。

(7) On manual soldering, a solder tip must be needed as grounded for usage. If over voltage which exceeds the absolute maximum rating is applied to LEDs, it will cause damage LEDs and result in destruction. Damaged LEDs will show some unusual characteristics such as leak current remarkably increase ,turn-on voltage becomes lower and the LEDs get unlighted at low current.
手工焊接时，焊接头必须接地。如果对led施加超过绝对最大额定值的过电压，会对led造成损坏。损坏的led会出现一些不寻常的特性，如漏电流明显增加，接通电压降低，低电流时led不亮。