

# 承认书 Approved Sheet

客户名称：	
客户物料名称：	
客户物料编码：	
文件编号：	
拓展品名：	<u>5054三芯白光1W</u>
拓展料号：	<u>S2-5054WYA-100MA</u>

客户

检测员：
审核：
批准：
盖章：

拓展

检测员：
审核：
批准：
日期：

## S2-5054WYA-100MA

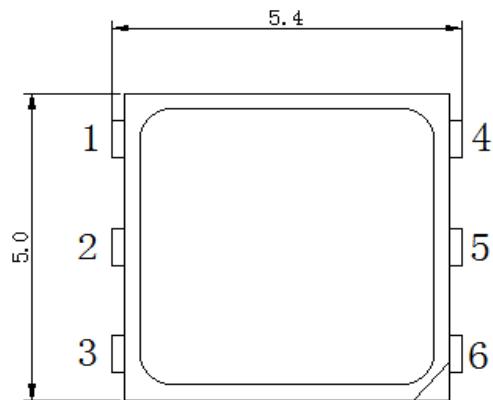
The 5054 white LED bead (usually of surface-mount design, with characteristics such as high brightness, good heat dissipation, and high integration) paired with 7000-8000K cool white light (with a blue tint, bright and sharp, strong penetration, and clear detail reproduction) is suitable for scenarios with clear requirements for visual clarity and high brightness.

## Applications/产品应用

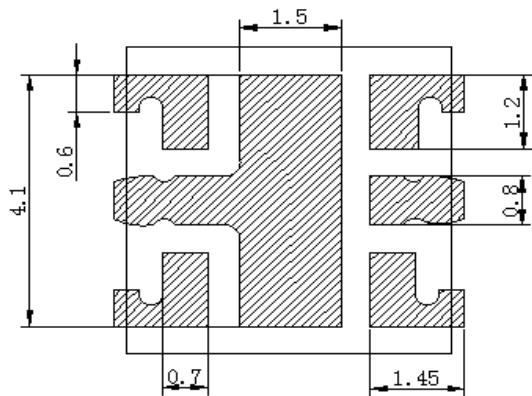
Indicatorlight	发光指示灯
Portabledevices	便携设备
Lighting	照明
Phototherapy	光疗
Others	其他

## Features/特性

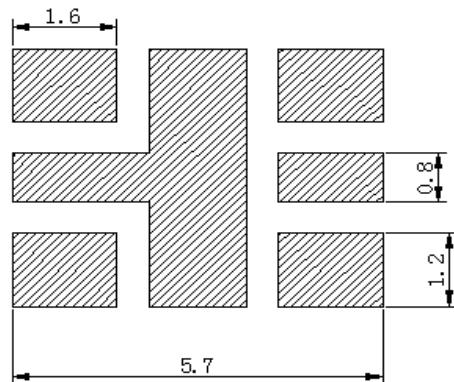
Size(mm) : 5.0*5.4*1.0mm	尺寸 ( 毫米 ) : 5.0(长) ×5.4(宽) ×1.0(厚) mm
Color : Cool White	发光颜色 : 冷白
Viewing angle: 120°	发光角度 : 120°
High reliability	高可靠性
ESD protection up to 2KV	ESD保护高达2KV
RoHS compliant	通过RoHS认证



1 + 4 W  
 2 - 5 W  
 3 - 6 W



建议焊盘尺寸:



#### Notes注意事项

All dimensions are in millimeters

所有尺寸单位为 mm

The Tolerances Unless Mentioned is  $\pm 0.20\text{mm}$

无特别说明时·公差 :  $\pm 0.20\text{mm}$

Absolute maximum ratings( $T_a = 25^\circ\text{C}$ )/最大额定值

Parameters/参数	Symbol/符号	Value/数值	Unit/单位
Power dissipated 功率消耗	PD	1	W
forward current 正向电流	$I_F$	350	mA
Peak Forward current 正向脉冲电流	$I_{FP}$	400	mA
Electrostatic Discharge(HBM) 静电放电等级	ESD	2000	V
Operating temperature 工作温度	$T_{OPR}$	-40 ~ +85	$^\circ\text{C}$
Storage temperature 储存温度	$T_{STG}$	-40 ~ +85	$^\circ\text{C}$
Soldering temperature 焊接温度		Reflow Soldering / 回流焊: 260 $^\circ\text{C}$ for 10 sec. Hand Soldering / 手工焊: 320 $^\circ\text{C}$ for 3 sec.	

Proper current derating must be observed to maintain junction temperature below the Maximum.

## Electro optical characteristics(Ta =25°C)/光电特性

Parameters 参数	Test condition 测试条件	Color 颜色	Symbol 符号	Min 最小	Typ 典型	Max 最大	Unit 单位
View Angle 发光角度	IF:350mA	W	2θ1/2	---	120	---	deg.
Forward Voltage 正向电压	IF:350mA	W	VF	3.0	---	3.4	V
Luminous Flux 光通量	IF:350mA	W	Φ	100	---	120	lm
Peak wavelength 峰值波长	IF:350mA	W	WP	---	450	---	nm
Color temperature 色温	IF:350mA	W	TC	7000	---	8000	k
Chromaticity Coordinates 色坐标	IF:350mA	W	X	---	0.3055	---	
			Y	---	0.3154	---	
Reverse Current 反向电流	VR:5V	W	IR	---	---	10	uA

注/Note :

1.测量误差 : 电压±0.1V · 光功率±10% · 波长 ( X,Y ) ±1nm/±0.01,半功率视角±5°。

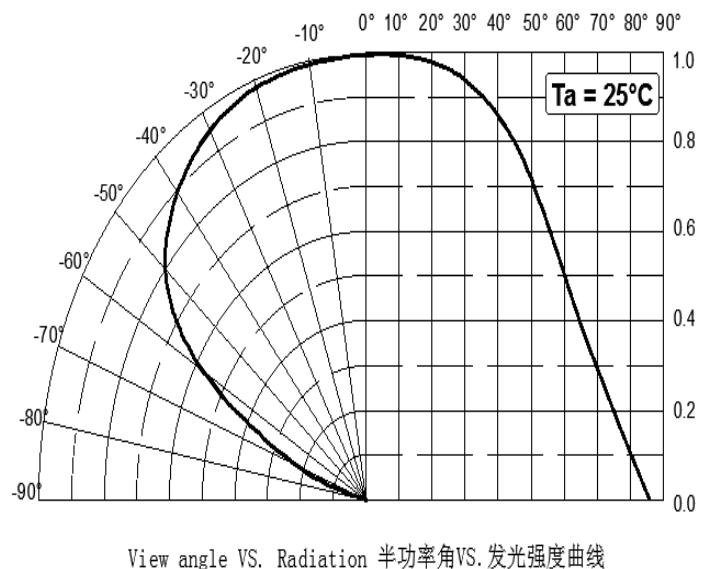
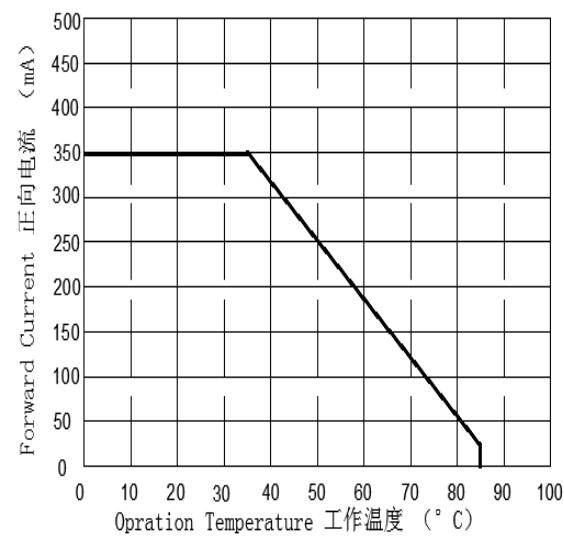
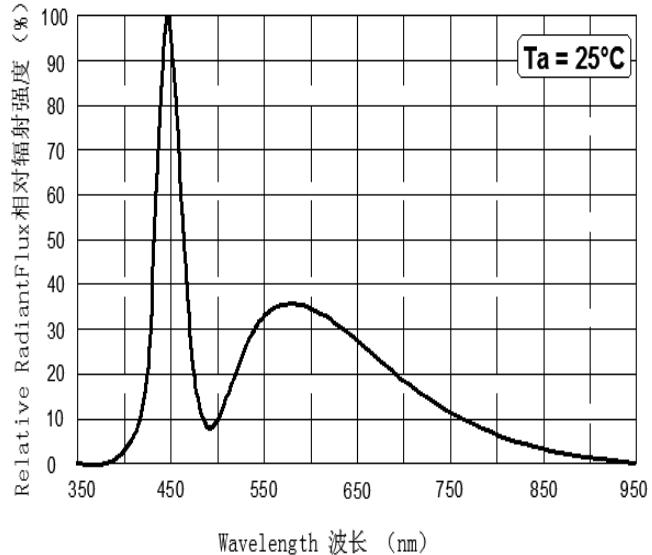
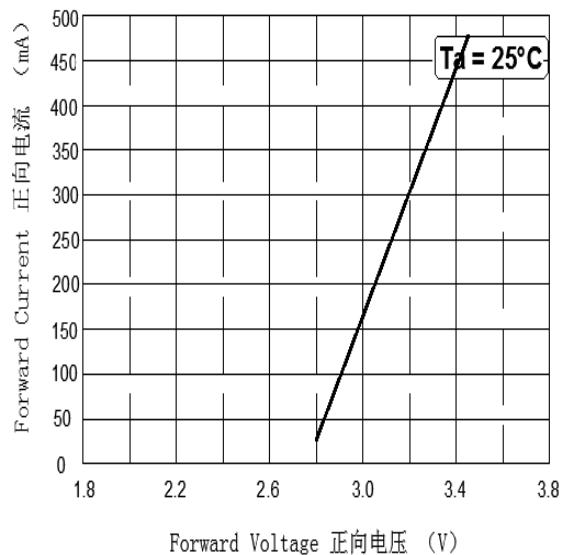
Measurement errors : VF ±0.1V

Luminous Intensity : ±10%

Wavelength(x,y) : ±1nm/±0.01

Half Power View: ±5°

Typical electrical optical characteristic curves/典型光电特征曲线



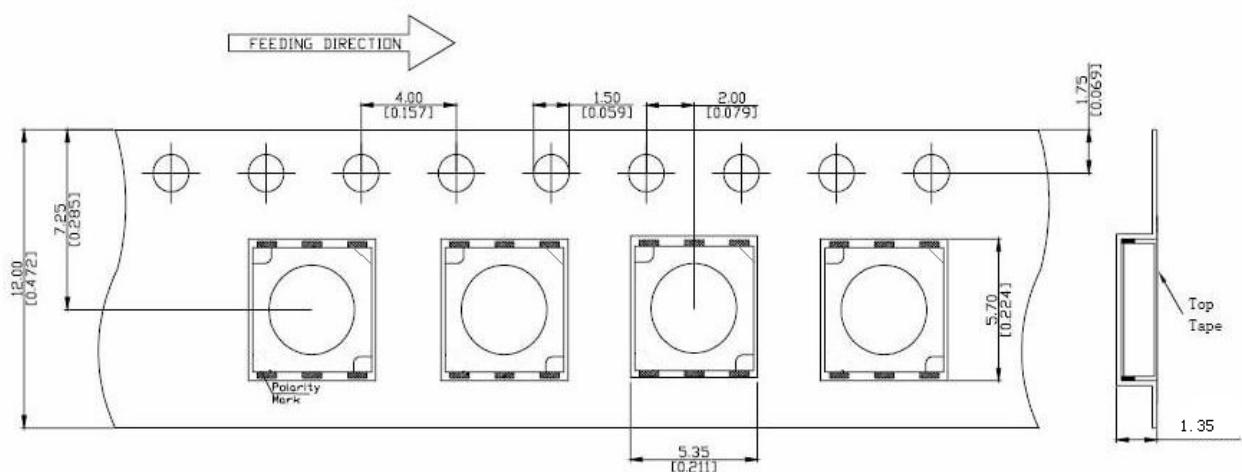
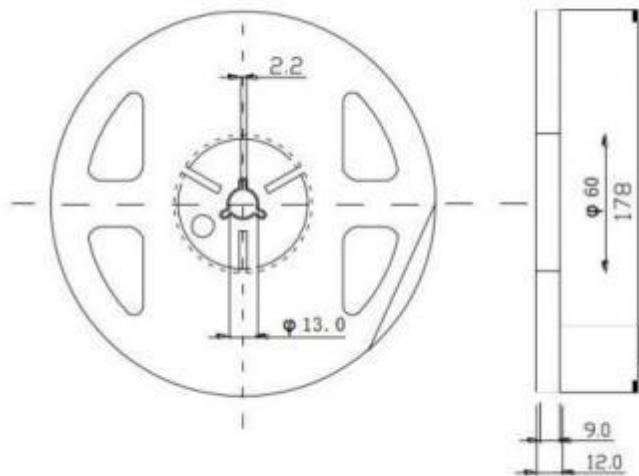
## Reliability Test/信赖性实验

Test Items 实验项目	Reference 参考标准	Test Conditions 实验条件	Times 时间	Quantity 样品数	Criterion 判据
Thermal Shock 冷热冲击	MIL-STD-202G	-40°C(15min)-100°C (15min)	200循环 200cycles	22	0/22
High Temperature And Humidity Life 高温高湿	/	85°C, 85%RH	500h	22	0/22
High Temperature Storage 高温保存	JEITAED-4701 200201	Ta=100°C	1000h	22	0/22
Low Temperature Storage 低温保存	JEITAED-4701 2 00202	Ta=-40°C	1000h	22	0/22
Lifespan test 常温寿命	JESD22-A108D	Ta=25°C IF=350mA	1000h	22	0/22
Resistance to Soldering Heat 耐焊性	GB/T 4937, 2.2&2.3	Tsol*=260°C10Secs	2次 2times	22	0/22

## Failure criteria/失效判定标准

Test Items 实验项目	Symbol 符号	Test Conditions 测试条件	Criterion 判定标准
Forward Voltage 正向电压	VF	IF=350mA	初始值±10% InitialData±10%
Reverse Current 反向电流	IR	VR=5V	IR 10uA
Luminous Intensity 光强	IV	IF=350mA	IV光衰 50% IVdegradation 50%
Resistance to Soldering Heat 耐焊性	Tsol	/	无死灯 Nodeaylight

Packing tape and Disc size/包装载带与圆盘尺寸:

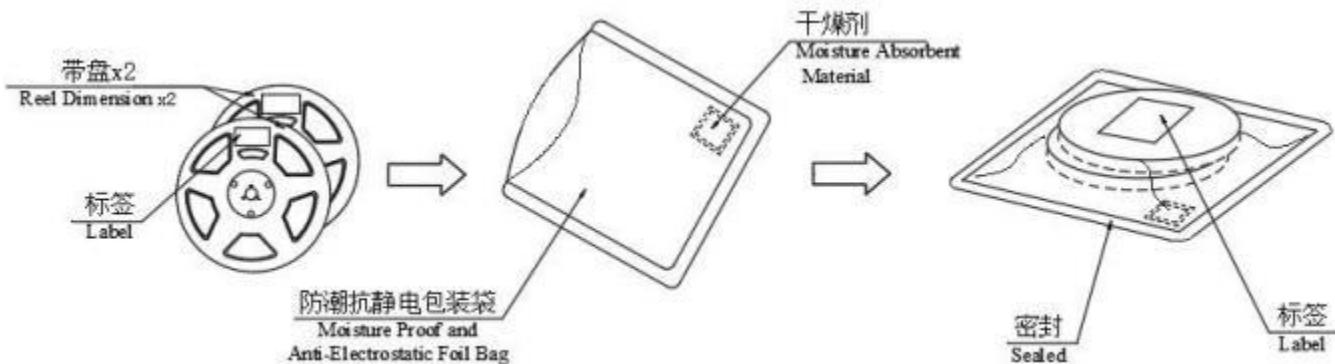


注/Note :

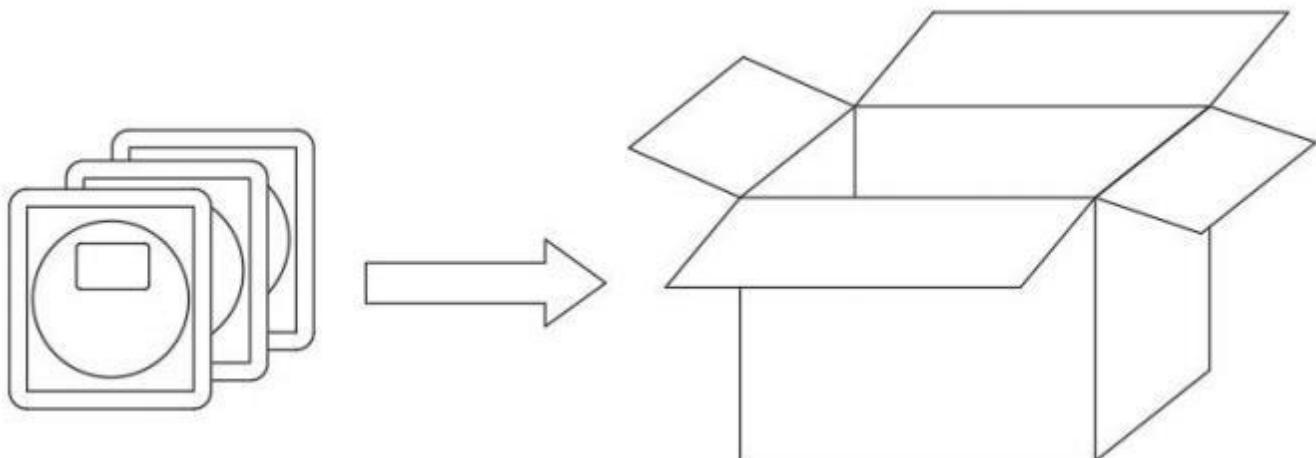
1. Size in mm/尺寸单位为毫米(mm)
2. Dimensional Tolerance  $\pm 0.1$  mm/尺寸公差是 $\pm 0.1$  mm
3. Package quantity: 1000PCS/包装数量 : 1K

S2-5054WYA-100MA

## Moisture Proof and Anti-Electrostatic Foil Bag 防潮抗静电包装



## Cardboard Box 外包装箱



## Label Explanation 标签说明



P/N : 产品名称

LOT NO : 批号

XY : 色坐标

VF : 正向电压

BIN CODE : BIN号

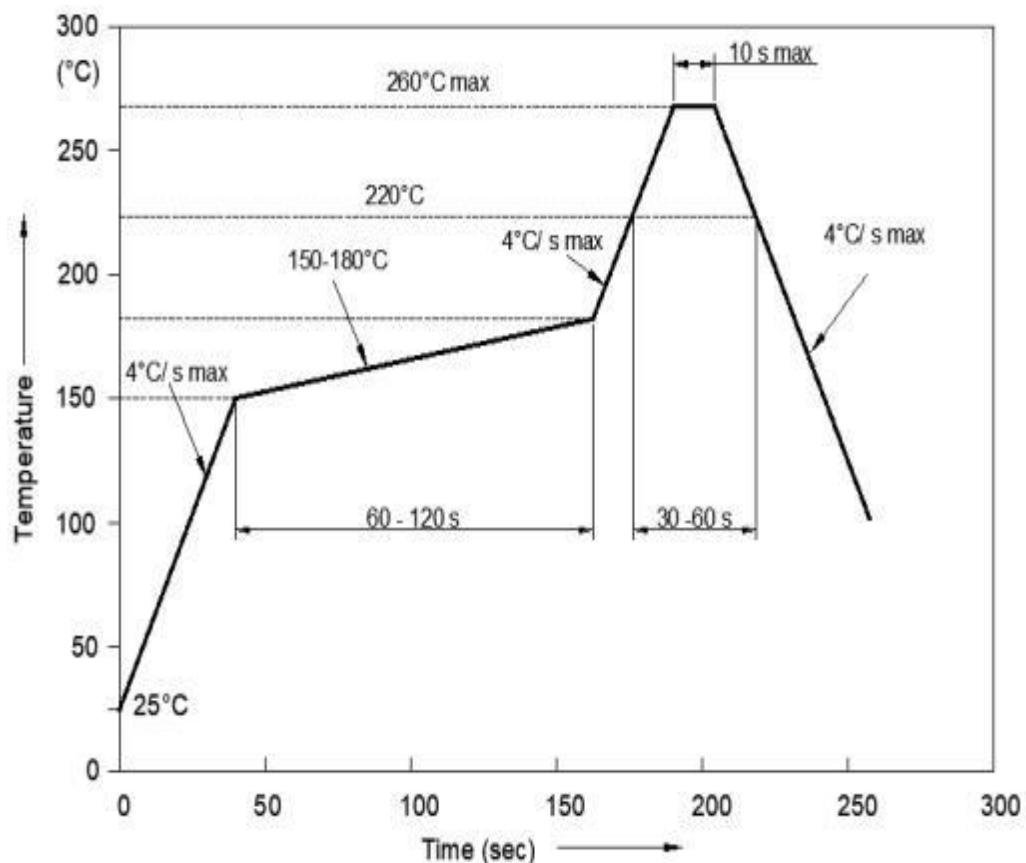
IV : 光强

QTY : 数量

### Soldering Characteristics/焊接工艺

Reflow Soldering Profile/回流曲线

Pb-free solder temperature profile



注/ Note :

1 、灯珠在温度较高时不要施加外力在灯珠上。

Do not apply external force on led lamp beads when the temperature is high .

2 、回流焊 不建议超过两 次；若 需两 次过炉 ，其 时 间 不可超 过 12H 。

Reflow welding more than twice is not recommended ; If twice time necessary, the interval time shall not exceed 12H .

3 、回流焊是建议的焊接加工方式 ，其它焊接方式可能会对灯珠造成损坏。

Reflow soldering is recommended , others might cause damages to the LEDs .

## Cautions/注意事项

### 1. Moisture-Proof Package/防潮包装

1.1 When moisture is absorbed into the LED package it may vaporize and expand products during soldering. There is a possibility that this may cause exfoliation of the contacts and damage to the optical characteristics of the LEDs. For this reason, the moisture-proof package is used to keep moisture to a minimum in the package.

当水分被吸收到 LED 包装中时，它可能会在焊接过程中蒸发并膨胀产品。这可能会导致触点脱落并损坏 LED 的光学特性。因此，防潮包装需要将包装中的水分保持在最低限度。

### 2. Current limiting/限流

2.1 A resistor should be used to limit current spikes that can be caused by voltage fluctuations. Otherwise damage could be occur.

应使用电阻器限制电压波动引起的电流峰值。否则可能会发生损坏。

### 3. Iron Soldering/烙铁焊接

3.1 Hand soldering is not recommended for regular production. These guidelines are for rework only.  
常规生产不建议手工焊接。此方法仅适用于返工。

3.2 The recommended condition is less than 5s at 260°C.

建议的条件是在 260°C 时小于 5s。

3.3 The time must be shorter for higher temperatures. (+10°C→-1sec)  
对于较高的温度，时间必须更短。 ( +10°C→-1 秒 )

3.4 The power dissipation of the soldering iron should be lower than 25W and the surface temperature of the device should be controlled at under 300°C.

烙铁的功耗应低于 25W，器件表面温度应控制在 300°C 以下。

### 4. Storage Conditions/储存条件

4.1 Before opening the package : The LEDs should be kept at 30°C or less and 90%RH or less. The LEDs should be used within 6 months. When storing the LEDs, moisture-proof packaging with moisture-absorbent material is recommended.

打开包装前：LED 应保持在 30°C 或以下，相对湿度为 90% 或以下。LED 应在 6 个月内使用。储存 LED 时，建议使用吸湿材进行防潮包装。

4.2 After opening the package: The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be soldered within 24 hours (1 days) after opening the package. If unused LEDs remain, they should be stored in moisture-proof packages, such as sealed containers with packages of moisture-absorbent material. It is also recommended to return the LEDs to the original moisture-proof bag and to reseal the moisture-proof bag again.

打开包装后：LED 应保持在 30°C 或以下，相对湿度为 60% 或以下。LED 应在打开包装后 24 小时 ( 1

天 ) 内焊接。如果仍有未使用的 LED 灯珠 , 则应将其储存在防潮包装中 , 例如带有吸湿材料包装的密封容器中。也建议将 LED 灯珠放回原来的防潮袋 , 并再次重新密封防潮袋。

4.3 If the moisture-absorbent material has faded away or the LEDs have exceeded the recommended storage time, baking treatment should be performed using the following conditions. Baking treatment: more than 24 hours at  $65\pm5^{\circ}\text{C}$

如果吸湿材料褪色或 LED 超过建议的存储时间 , 则应使用以下条件进行除湿处理。除湿处理 : 在  $65\pm5^{\circ}\text{C}$  下烘烤超过 24 小时 。

4.4 BRIGHTWAY LED electrode sections are comprised of a silver-plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid condition which may cause difficulty environments during soldering operations. It is recommended that the user uses the LEDs as soon as possible.

拓展 LED 灯珠电极部分由镀银铜合金组成。银表面可能受到含有腐蚀性气体等环境的影响。在焊接操作过程中 , 请避免出现可能由环境导致问题的情况。建议用户尽快使用 LED 灯珠。

4.5 Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

请避免环境温度快速变化 , 尤其是在可能发生冷凝的高湿度环境中 。

## 5. Handling of Silicone LEDs/硅胶 LED 灯珠处理

5.1 Avoid silicone resin parts especially with sharp tools such as tweezers.

避免使用锋利工具 , 尤其是使用镊子等接触硅胶部分。

5.2 Avoid leaving fingerprints on silicone part.

避免在硅胶零件上留下指纹 。

## 6. Usage/用途

6. 1 Do not exceed the values given in this specification.

不要超出本规范中给出的使用条件