



RoHS

Specification

Client Name :

客户名称 : _____

Client P/N :

客户品号 : _____

Product P/N :

产品型号 : HL-EF45W1NAMS(Ra1)

Sending Date :

送样日期 : _____

Client approval 客户审核			Hongli approval 鸿利光电审核		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
					DaividZhou
☐ Qualified 接受		☐ Disqualified 不接受	DATE: 日期:		

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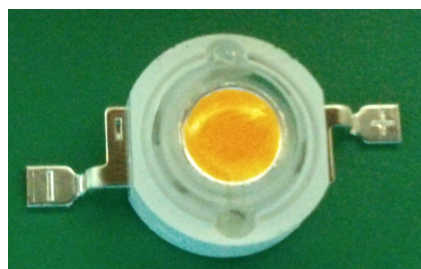
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ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES



Features 特点

- Long operating life 寿命长
- High flux 光通量高
- More energy efficient than incandescent and most halogen lamps 比白炽灯与卤素灯节能
- Low voltage DC operated 低电压直流工作
- Cool beam, safe to the touch
冷光源，接触安全
- Instant light (less than 100ns)
瞬间点亮（小于100ns）
- Fully dimmable(属于可调光)
- No UV (无紫外线)
- Superior ESD protection(较好的防静电保护)
- RoHS compliant (符合RoHS标准)

Product naming rules 产品命名规则

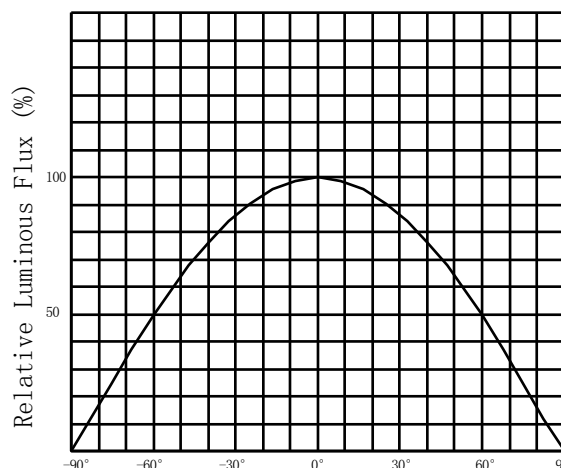
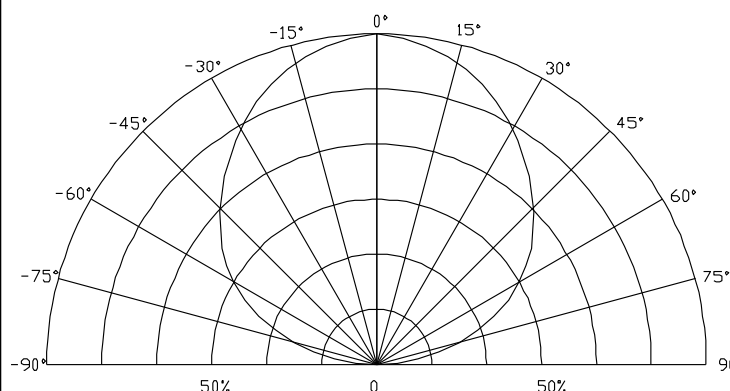
E F45 W 1 N A M S (Ra1)
1 2 3 4 5 6 7 8 9

- 1：产品系列代码
- 2：芯片代码
- 3：表示发光颜色为白光
- 4：表示使用350mA分光
- 5：透镜代码
- 6：电路组合代码
- 7：支架代码
- 8：表示为第二代产品
- 9：表示Ra>70

Applications 应用

- Portable lightings /(flash lightings, bicycle)便携式照明
- Spot lighting 射灯
- General lighting通用照明
- Other lighting 其他照明

Radiation Pattern辐射模式





Specifications规范

(1) Absolute Maximum Ratings at Ta=25°C在25°C时绝对极限条件

Parameter参数	Symbol符号	Rating 值	Units单位
Input power 输入功率	Pi	1.1	W
Forward Current 正向电流	IF	350	mA
thermal resistance 热阻	Rth	11	°C/W
Operating Temperature Range工作温度	Topr	-20°C To +75°C	
Storage Temperature Range储藏温度	Tstg	-40°C To +100°C	
Lead Soldering Temperature*引线焊接温度	T _{SOL}	Max. 350°C for 3sec Max.	

Note :

- 1.* All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment. 所有高功率的发光LED产品安装在铝金属为核心印刷电路板, 可直接点亮, 但我们不建议在没有一个适当的散热设备时, 照明高功率LED点亮超过5秒
- 2.wave peak and soak-stannum soldering etc.is not suitable for this products.波峰焊、浸锡焊接不适合这个产品
- 3.Reflow soldering should not be done more than two times.The reflow temperature we recommend is 210°C
回流焊不能超过两次, 回流焊最高温度建议210°C。

(2) Optical Characteristics at Ta=25°C IF=350mA

在Ta=25°C 时的典型光学特性 IF=350mA

HL-EF45W1NAMS(RA1)						
Center Tc (K)	Tc (K)	Ra	Min (lm)	Typ (lm)	Luminous flux bins (lm)	
2725	2580-2870	70	120	130	120-130	130-140
3045	2870-3220	70	120	130	120-130	130-140
3985	3710-4260	70	125	135	125-135	135-145
5028	4745-5310	70	130	140	130-140	150-160
5665	5310-6020	70	130	140	130-140	150-160
6020	5665-6530	70	130	140	130-140	150-160
6530	6020-7040	70	130	140	130-140	150-160

Notes注:

*1.the products after this specification refer to the parameters prevail, before the release of specification without refer to the above parameters.

此规格书发布日后生产的产品以上述参数为准, 发布前生产的库存品不参考上述参数。

2.Tolerance of measurement of forward voltage±3%、Color-rendering index±2、luminous flux±5%

测量正向电压公差为±3%、显指公差为±2、光通量公差为±5%。

(3) Optical Electrical /Thermal Characteristics at Ta=25° IF=350mA

在Ta=25°C 时典型的电学/热学特性IF=350mA

IF (mA)	VF (V)			R (j-s) (°C/W)	Po (W)
	min	typ	max		
350	3.0	3.2	3.6	11	1.1

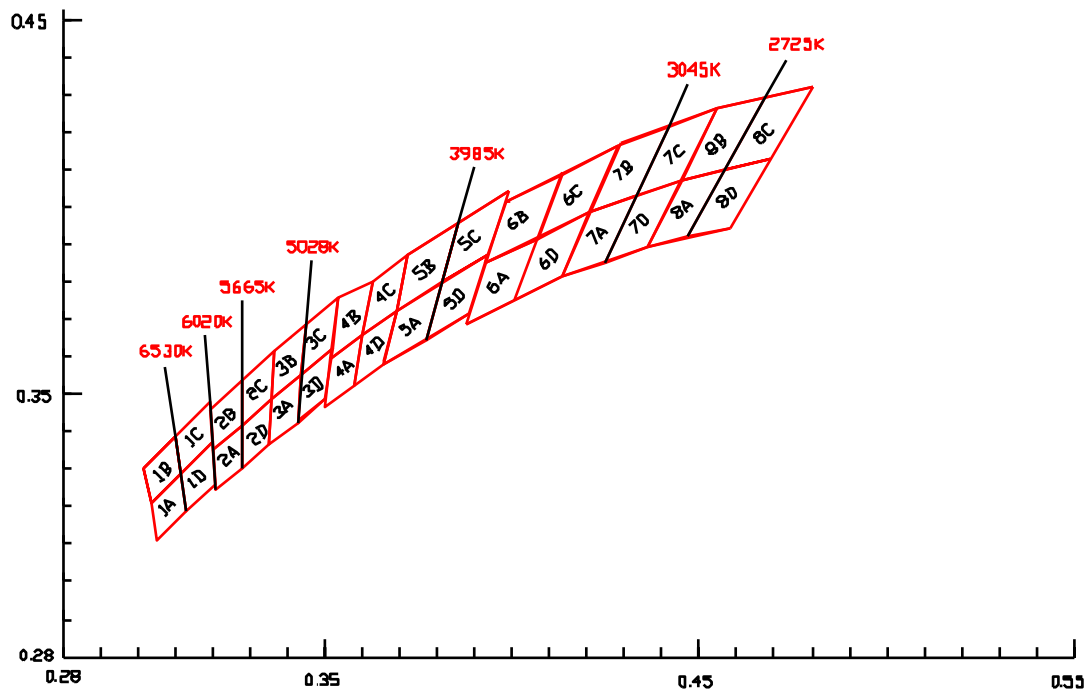
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Product bins 产品分级

Forward Voltage bins 电压分级	Min (V)	Max (V)
	2.6	2.8
	2.8	3.0
	3.0	3.2
	3.2	3.4
	3.4	3.6

Chromaticity bins



色温中心	2725K	3045K	3985K	5028K	5665K	6020K	6530K
X, Y	0.4578, 0.4101	0.4338, 0.403	0.3818, 0.3797	0.3447, 0.3553	0.329, 0.3417	0.3213, 0.3373	0.3123, 0.3282

Notes for Table

*1.Color bins are defined at IF=350mA operation. If use bigger forward current, it may cause the change of chromaticity and forward voltage.

该产品通过瞬态350mA 点亮, 分光分色. 若使用更大电流, 可能会引起色温及电压的变化

2.Tolerance of ± 0.005 on x,y coordinates.

色坐标的测量误差允许在 ± 0.005

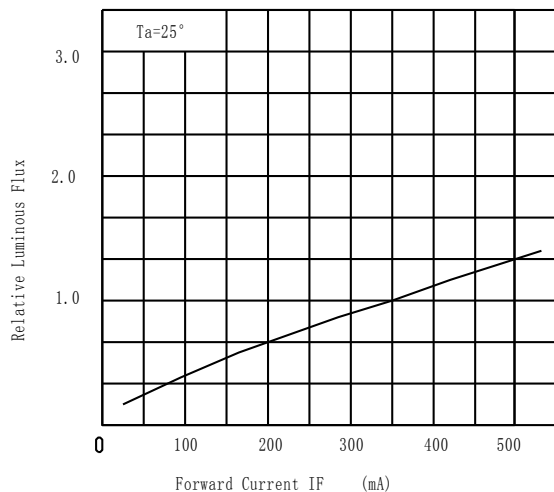
3.The chromaticity center refers to ANSI C78.377-2008

色温分bin参考ANSI C78.377-2008

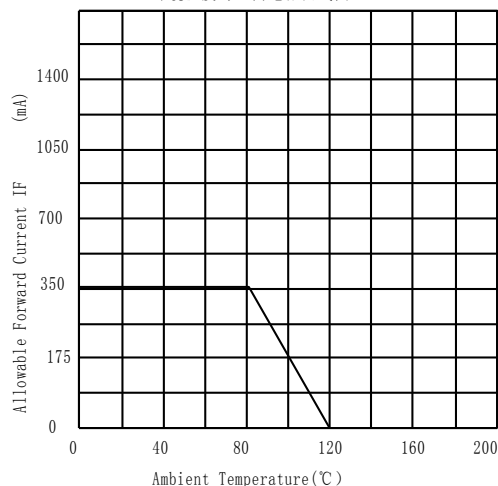


Typical Optical/Electrical Characteristics Curves 典型光学/电性特征曲线
($T_a=25^{\circ}\text{C}$ Unless Otherwise Noted) ($T_a=25^{\circ}\text{C}$ 除非另有注释)

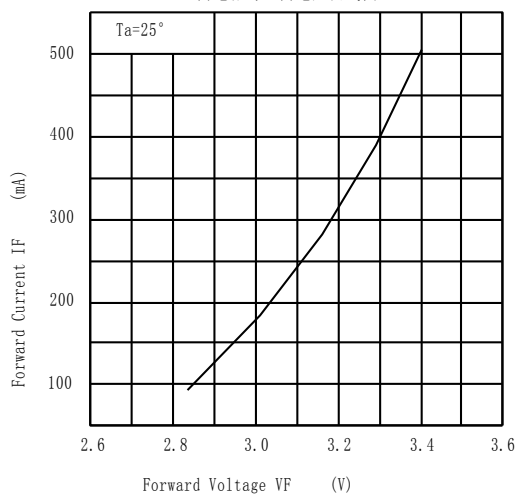
Relative Luminous Flux - IF
正向电流与相对光强曲线图



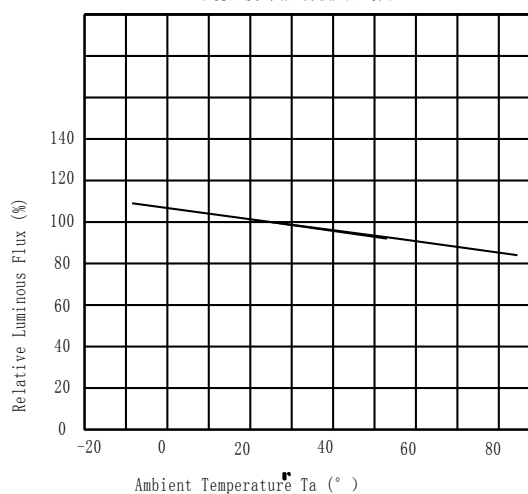
Allowable Forward Current - Ta
环境温度与正向电流曲线图



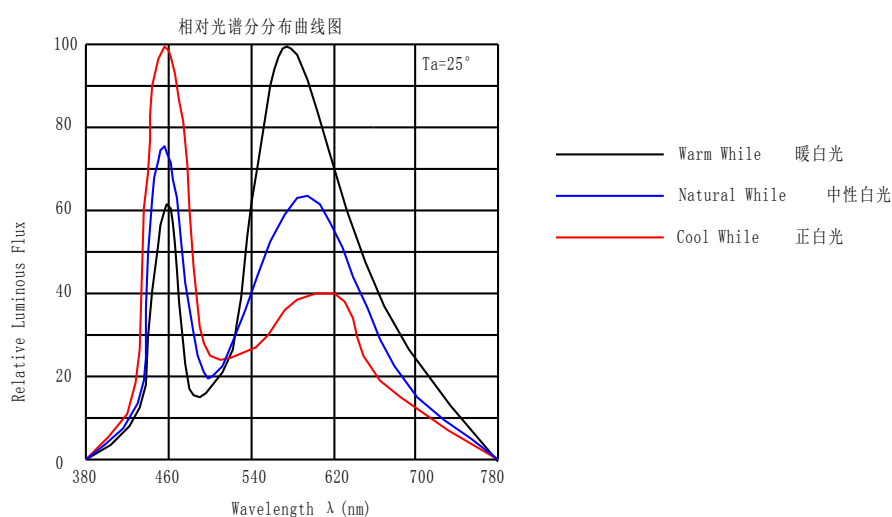
IF - VF
正向电流与正向电压曲线图



Relative Luminous Flux - Ta
环境温度与相对光强曲线图

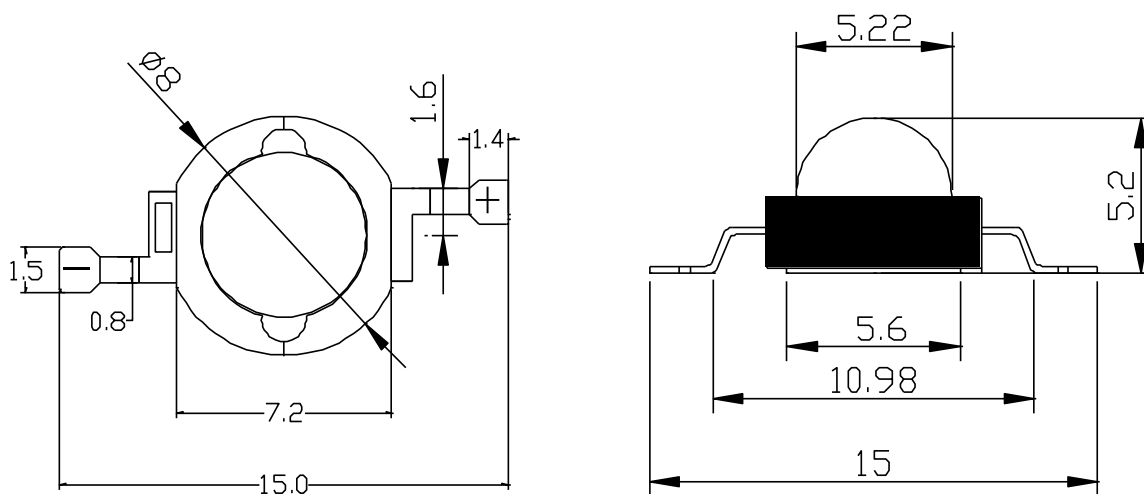


Wavelength Characteristics
相对光谱分布曲线图





Package Dimensions 封装尺寸



Notes 注意:

1. All dimension units are millimeters. 所有尺寸单位均为毫米.
2. All dimension tolerance is $\pm 0.2\text{mm}$ unless otherwise noted. 所有尺寸误差是 ± 0.2 毫米除非另有说明

Label 标签

ΦV : Luminous Flux rank

光通量档次范围

VF: Forward voltage rank

正向电压档次范围

TC: Color temperature

色温

LOT.NO: Lot Number

批号



HONGLI TRONIC
鸿利光电

RoHS

TYPE: XXXXXXXXXXXX QTY: XXX PCS

Bin:

ΦV :

TC:

VF:

DATE:

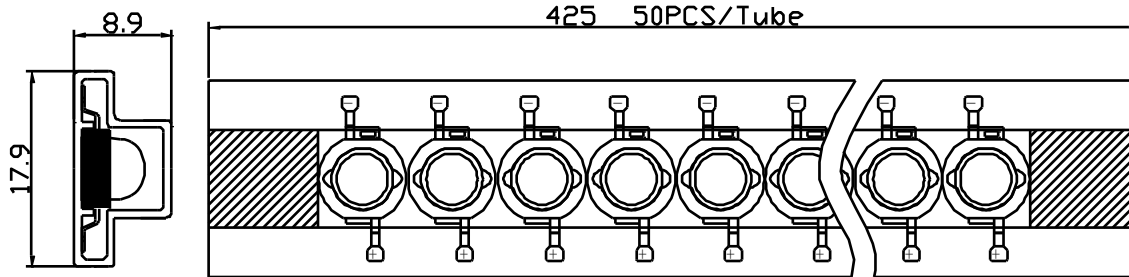
LOT. NO:



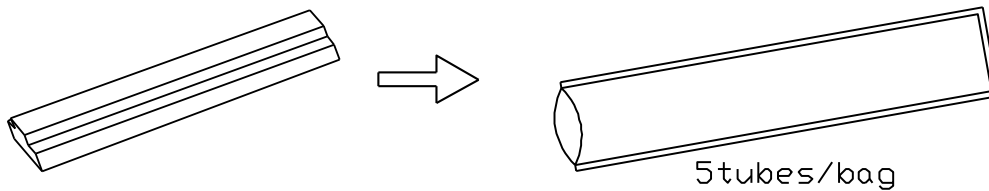
Tape Specifications(Units:mm)包装规格 (单位:mm)

We provide two ways of tape as below 我们提供以下两种包装方式

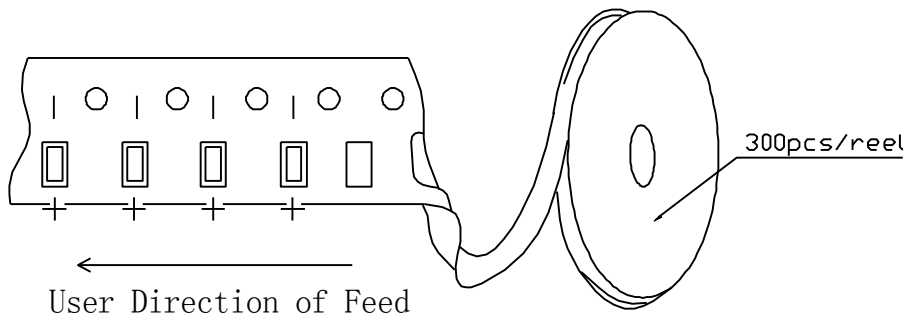
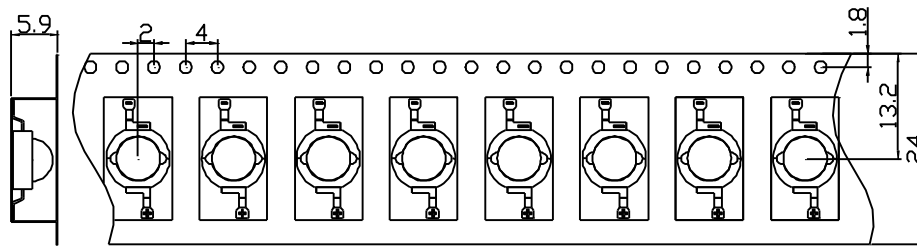
1. Tape by tube (suitable for handle lamp) 料管包装 (适合人工布灯)



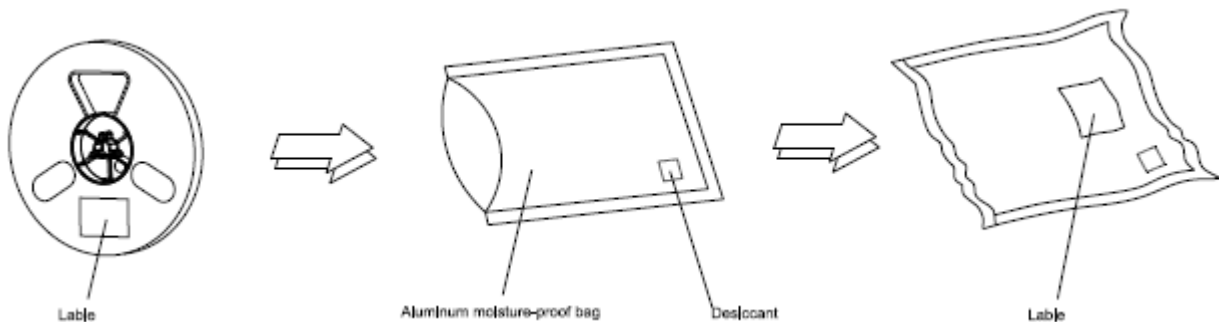
Moisture resistant packaging 防潮包装



2. Tape by reel (suitable for automatic machine) 卷轴包装 (适用于自动贴片机)



Moisture resistant packaging 防潮包装





Reflow soldering instructions 回流焊说明

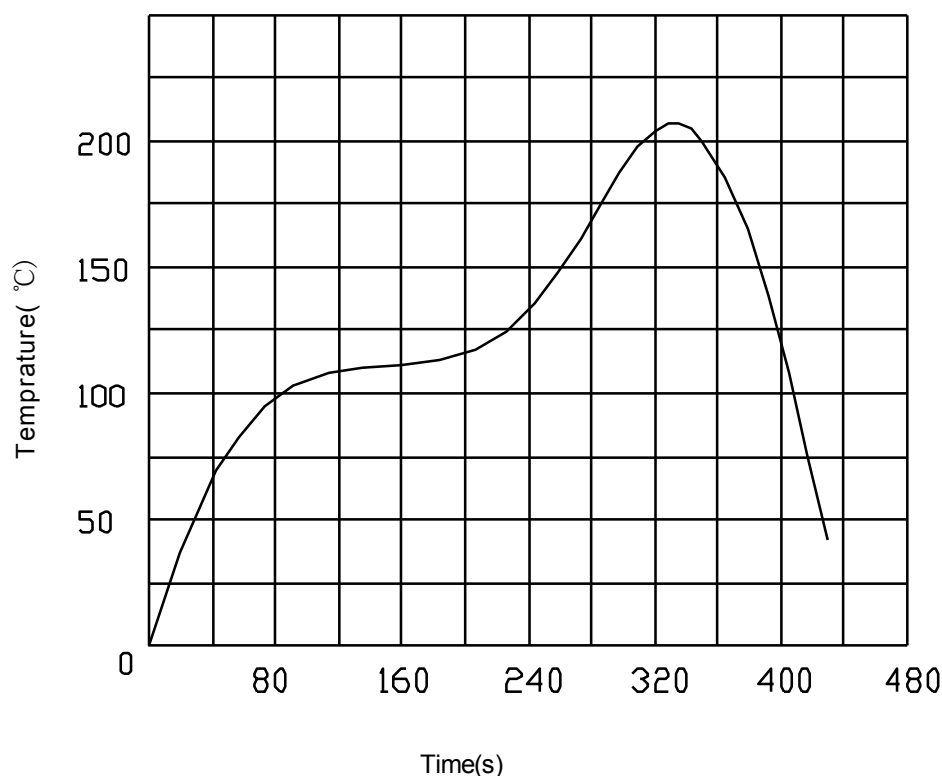
- 1.recommend to use a convection type reflow machine with 8 zones.建议使用八温区回流焊机。
- 2.recommend to use Lead-Free Paste with a melting point between 190℃-200℃.

建议使用熔点为190℃-200℃的无铅锡膏

- 3.the reflow soldering time should not be more than 400s.总的回流焊时间不要超过400s

Temperature-Time

温度-时间图



Recommend the temperature of each reflow machine zone 回流焊机每个温区建议使用的温度

第一温 区/℃	第二温 区/℃	第三温 区/℃	第四温 区/℃	第五温 区/℃	第六温 区/℃	第七温 区/℃	第八温 区/℃
120	135	150	165	180	195	210	180



Precaution for use (防护措施)

1. Storage 储存

To avoid the moisture penetration ,we recommend storing LEDs in a dry box (or a desiccator) with a desiccant. The recommended conditions are temperature 5 to 30 degrees Centigrade. Humidity 60% maximum. 避免湿气的渗透,我们建议 LED 储存 在干燥的盒子里(或干燥器中)并放置干燥剂.建议的条件是温度5~30℃,相对湿度不能超过60%.

2. Precaution after opening packing 拆包后的注意事项:

2.1. Soldering should be done right after opening the package (within 24Hrs).

拆包后24小时内必须焊接完成.

2.2. Keeping of a fraction. 剩余部分

-Sealing 密封.

-Temperature: 5~30℃ Humidity: less than 30% 温度:5~30℃ ,相对湿度不能超过 30%

2.3. If the package has been opened more than 1 week or the color of desiccant changed, components should be dried for 10-12 Hrs at 60±5℃. 如果开封超过一周或 湿度标示卡发生改变,元件必须在 60±5℃ 条件下进行12小时除湿.

3. Any mechanical force or any excess vibration shall not be accepted to apply during cooling process to nor-Mal Temperature after soldering. 焊接后,在冷却过程中不要对产品施加任何力量.

5. Componets should not be mounted on warped direction of PCB. 不要用力弯曲已焊LED的PCB板.

6. This device should not be used in any of fluid such as water, oil, organic solvent and etc. When washing is required, IPA (Isopropyl Alcohol) should be used. 此产品不能直接用于流体中,如水,油,有机溶剂等,清洗时须使用IPA (Isopropyl Alcohol) 溶剂.

7. When the LEDs are illuminating, operating current should be decide after considering the package maximum temperature. LED 点亮时,工作电流必须考虑整灯最大温度.

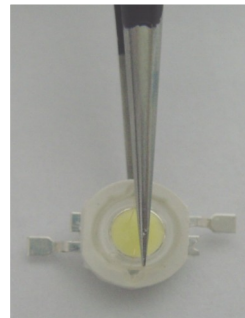
8. Avoid touching Lens parts especially by sharp tools such as pincette. 避免接触透镜部件,尤其是尖锐的工具,如钳子.

9. Please do not force over 1000 gf impact or pressure diagonally on the silicone lens. It will cause fatal Dam-age of this product. 不要施加超过1000克的力于硅胶透镜上,那样容易对产品造成损伤.

10. Please do not recommend to cover the silicone resin of the LEDs with other resin. 建议不要使用硅油树脂或其他的树脂盖住LED.



OK



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