HONGLITRONIC
鸿利光电

Under Development	●
Mass production	

RoHS

Specification

规 格 书

Customer Name：

客户名称：

Customer P/N：

客户品号：

Factory P/N： **HL-A-2835D46WR2-S1-08-CZ**

公司品号：

Sending Date：

送样日期：

Client approval 客户审核		Hongli approval 鸿利智汇审核		
Approval 核准	Audit 确认	Approval 核准	Audit 确认	Confirmation 制作
		黄巍	王芝烨	杨梓华
☐ Qualified 接受	☐ Dis-qualified 不接受	DATE: 日期：		

鸿利智汇集团股份有限公司 工程技术中心

Adr：No.1, Xianke Yi Road,Huadong Town,Huadu District,Guangzhou,China

地址：中国广州市花都区花东镇先科一路1号

Tel/电话：020-37705135 Fax/传真： 020-37705136

86733938 86733265

Web/网址：www.honglitronic.com

注:1. 此规格书以中英文方式书写, 若有冲突以中文版本为准文本.

2. 此规格书的最终解释权归鸿利智汇集团股份有限公司

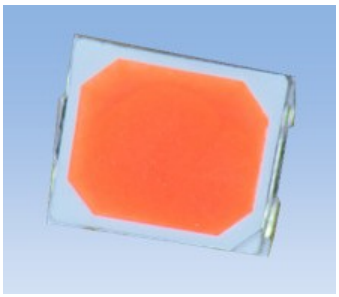
3. 此规格书的有效期限为两年, 自盖章或签字之日起计算, 期满时双方可以续签协议, 但应采用书面形式

Catalog目录

1. Product characteristics
产品特征 · · ·

HL-A-2835D46WR2-S1-08-CZ

Features（ 特征）



- PLCC-2 Package.(PLCC-2 封装）
- Extremely wide viewing angle.（宽的发光角度）
- Suitable for all SMT assembly and solder process.（适用于所有的SMT组装和焊接工艺）
- Available on tape and reel.（适用于载带及卷轴）
- Moisture sensitivity level: Level 4.（防潮等级 Level 4）
- Package:4000pcs/reel..(包装每卷4000PCS）
- RoHS compliant. (RoHS 认证）

Description（描述）

The Red LED which was fabricated using a blue chip and the phosphor

红光LED由蓝光芯片与荧光粉激发而成

After the product life cycle for recycling

产品生命周期后进行回收处理



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

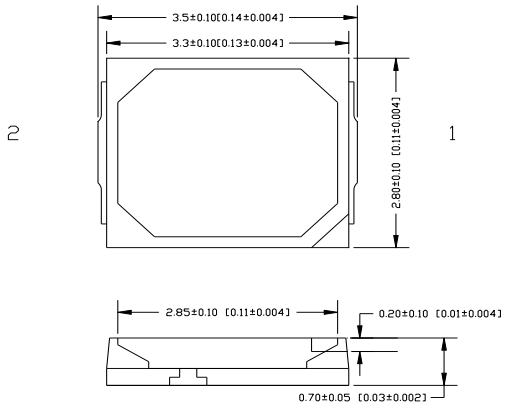
注意：操作时应注意静电敏感

释放设备装置

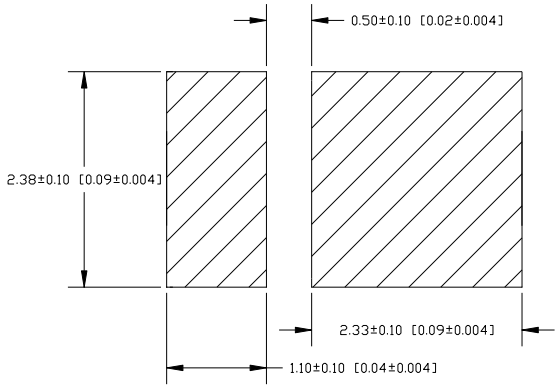
Applications（应用）

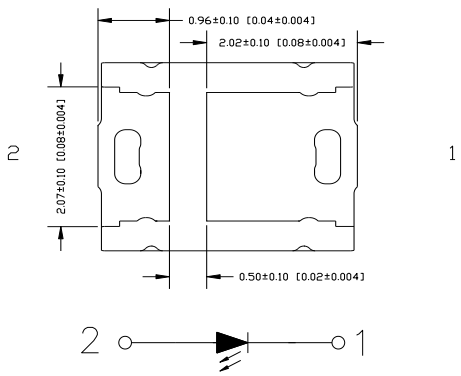
- ■ Optical indicator（光学指示）
- ■ Indoor display（室内显示）
- ■ Automotive lighting（汽车照明）
- ■ Backlight for LCD, switch and Symbol, display
  （LCD背光、转换器，开关和标志，显示器等）
- ■ Tubular light application（用于日光灯管）
- ■ General use（一般应用）

Package Dimensions（封装尺



Recommended Soldering Pattern
（建议焊盘尺寸图）





Notes:（备注）

1. All dimension units are millimeters.（所有标注尺寸单位为毫米）

2.All dimension tolerance is ±0.15mm unless otherwise noted.（除特别标注外，所有尺寸允许公差±0.15mm ）

HL-A-2835D46WR2-S1-08-CZ

Selection Guide（选择指南）

Part No. 型号	Dice	Lens Type 胶体类型
HL-A-2835D46WR2-S1-08-CZ	Red (InGaN)	Yellow Diffused

Luminous Flux（流明）

Min.	Max.	Unit （单位）	Conditions 条件
31	34	lm	IF=150mA
34	37		
37	40		

Forward Voltage（电压）

Min.	Max.	Unit （单位）	Conditions 条件
2.8	2.9	V	IF=150mA
2.9	3.0		
3.0	3.1		
3.1	3.2		
3.2	3.3		
3.3	3.4		

Electrical / Optical Characteristics at Ta=25°C　电性与光学特性

Parameter（参数）	Symbol （符号）	Min. （最小）	Typ. （平均）	Max. （最大）	Units （单位）	Test Conditions 测试条件
Forward Voltage 正向电压	V_F	2.8	- -	3.4	V	I_F=150mA
Reverse Current 反向电流	I_R	- -	- -	10	uA	V_R = 5V

Note:(备注）

1. 2θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
   2q1/2 是半值角,指光强是光学中心线光强的1/2处到光学中心线的角度
2. The above luminous flux measurement allowance tolerance is ±5%.
   上述发光通量的测试允许公差为±5%
3. The above forward voltage measurement allowance tolerance is ±0.1V.
   以上所示电压测量误差±0.1V
4. The above color coordinates measurement allowance tolerance is ±0.003.
   以上所示坐标测量误差±0.003
5. Test conditions for photoelectric parameters: high sensitivity for automatic integration
   光电参数测试条件：自动积分　高灵敏度

HL-A-2835D46WR2-S1-08-CZ

Absolute Maximum Ratings at Ta=25°C　　绝对最大额定值

Parameter（参数）	Symbol（符号）	Rating（值）	Units（单位）
Power Dissipation（功耗）	Pd	510	mW
Forward Current（正向电流）	IF	150	mA
Peak Pulse Current [1]（峰值脉冲电流）	IFP	300	mA
Reverse Voltage（反向电压）	VR	5	V
Electrostatic Discharge (HBM)（静电） （最小人体模式（HBM）1000V， 施加材料反向一次从2000V开始测试，时间:1ms，次数：1次）	ESD	1000	V
TS Temperature（TS温度）	TS	85	℃
Storage Temperature（保存温度）	Tstg	-40 ~ +100	℃
Thermal Resistance （Junction / Soldering point） 热阻	Rthj-s	45	℃/W
Junction Temperature结温	Tj	115	℃

Note:（备注）

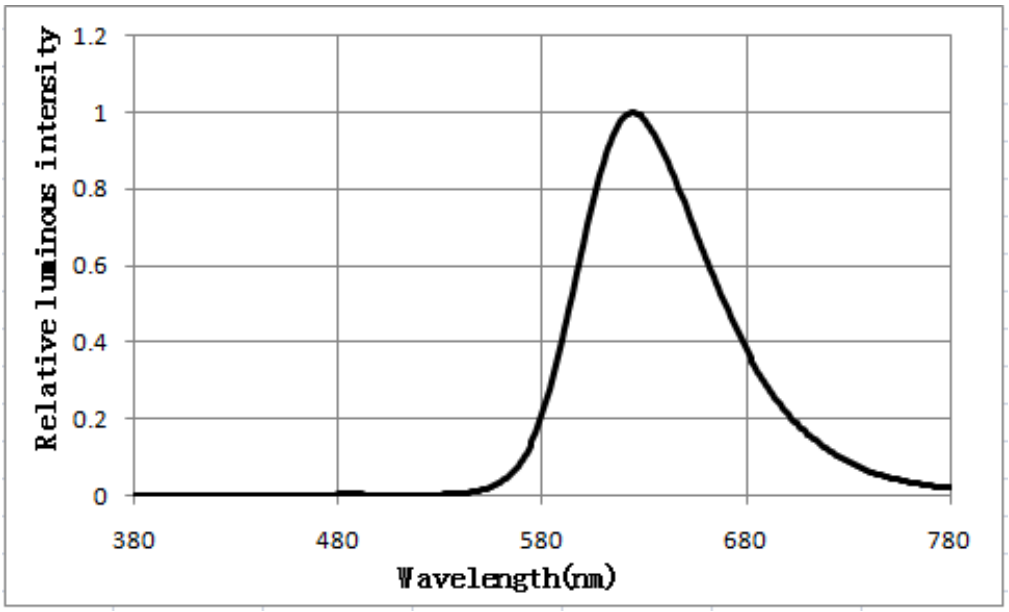
1. 1/10 Duty cycle, 0.1ms pulse width.（脉宽0.1ms, 周期1/10）

HL-A-2835D46WR2-S1-08-CZ

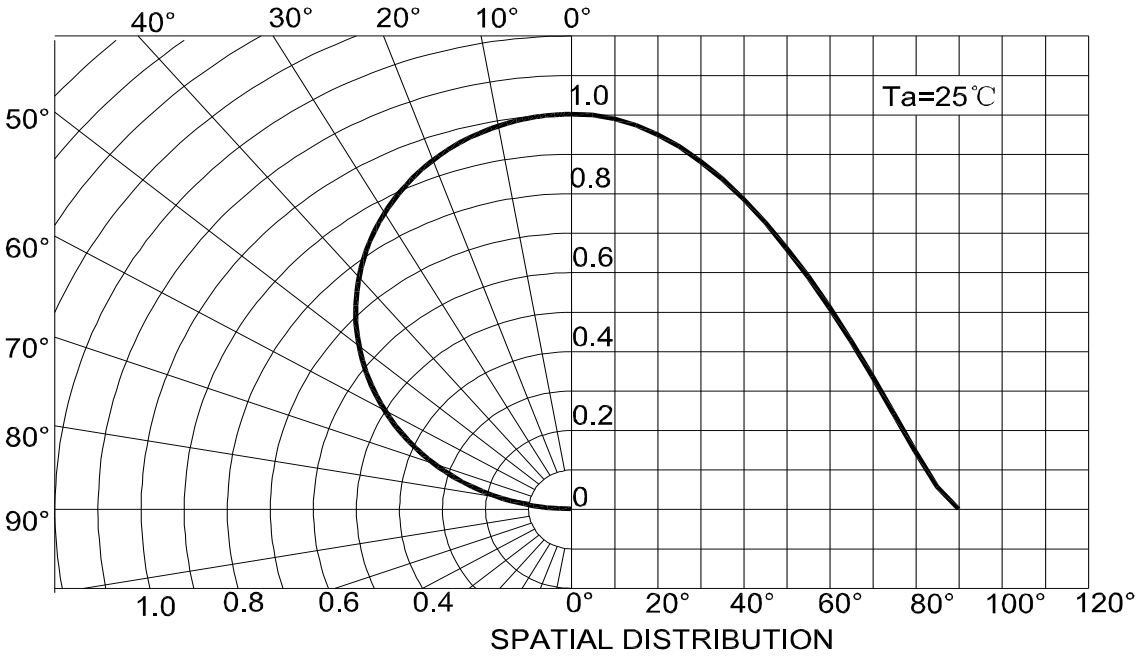
Typical optical characteristics curves 典型光学特性曲线

Relative spectral emission 相对光谱分布特性曲线

Ts=85℃；IF=150mA



Radiation Characteristics 辐射特性图

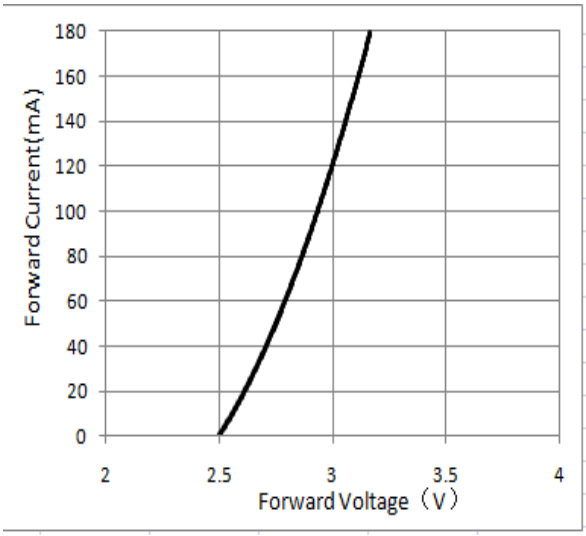


HL-A-2835D46WR2-S1-08-CZ

Typical optical characteristics curves 典型光学特性曲线

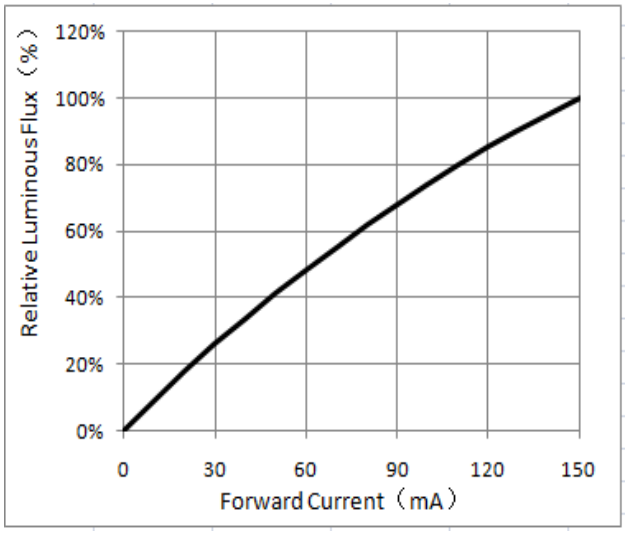
Forward Voltage VS. Forward Current
正向电压与正向电流特性曲线

Ts=85℃



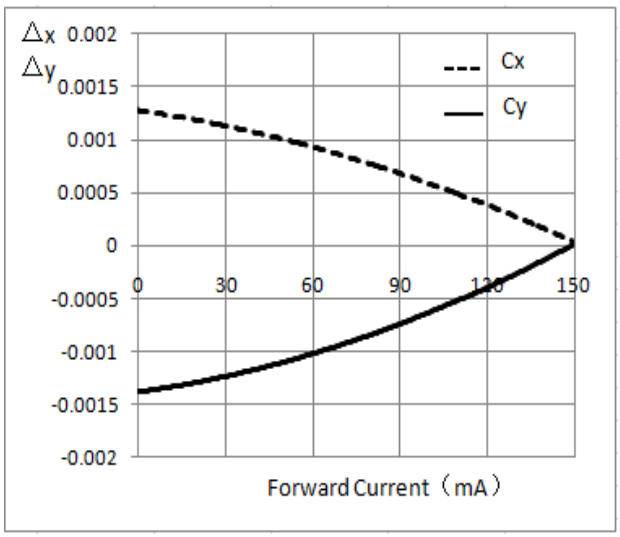
Relative Luminous Flux vs. Forward Current
相对光通量与正向电流特性曲线

Ts=85℃



Chromaticity Coordinate vs. Forward Current
色度坐标与正向电流特性曲线

Ts=85℃



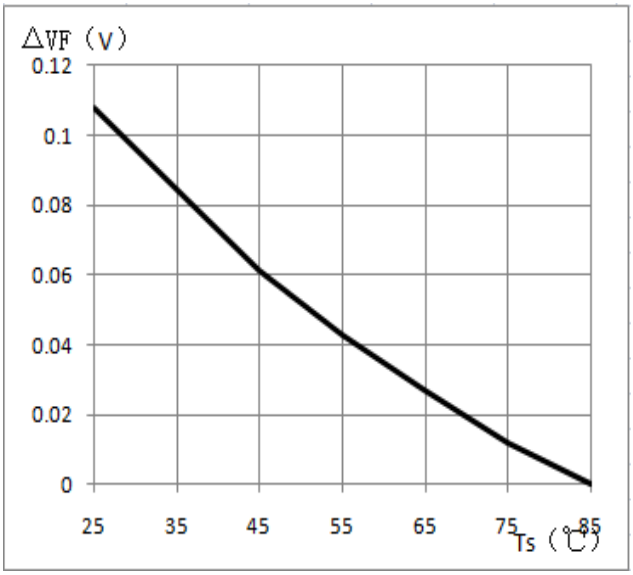
HL-A-2835D46WR2-S1-08-CZ

Typical optical characteristics curves 典型光学特性曲线

SolderingTemperatureVS. Forward Voltage

焊盘温度与正向电压特性曲线

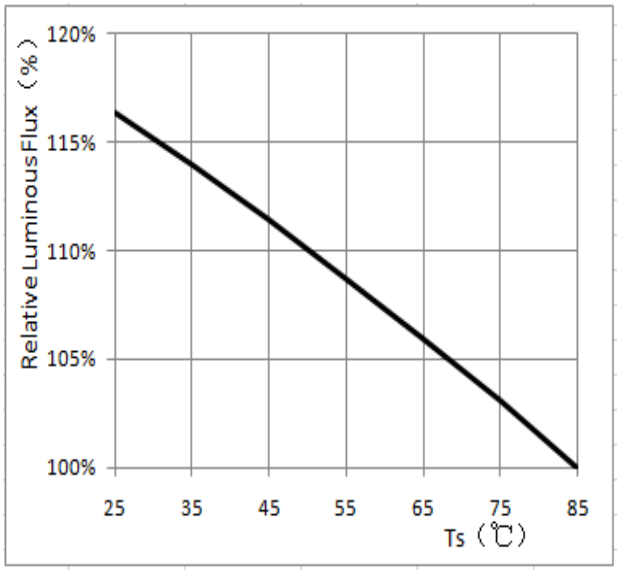
IF=150mA



Luminous Flux vs. SolderingTemperature

光通量与焊盘温度特性曲线

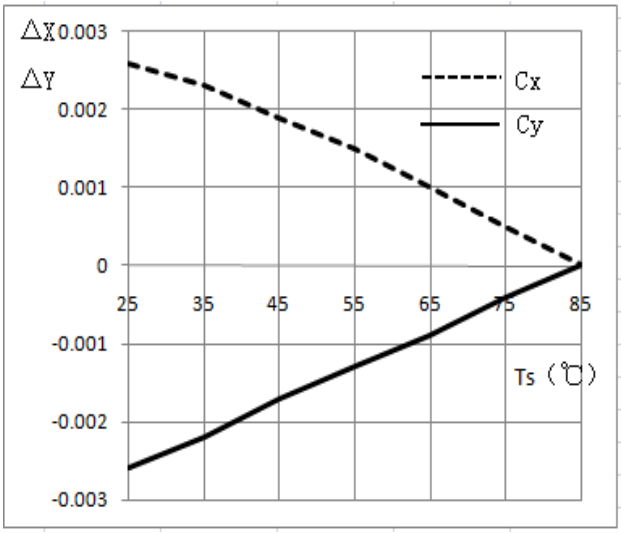
IF=150mA



Chromaticity Coordinate vs. Soldering-Temperature

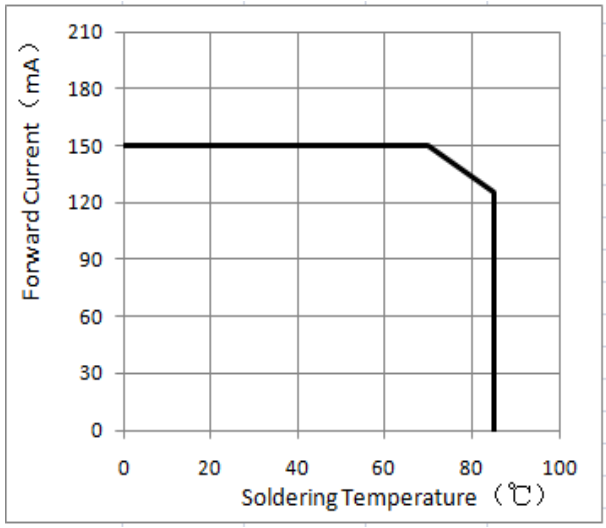
色坐标与焊盘温度特性曲线

IF=150mA

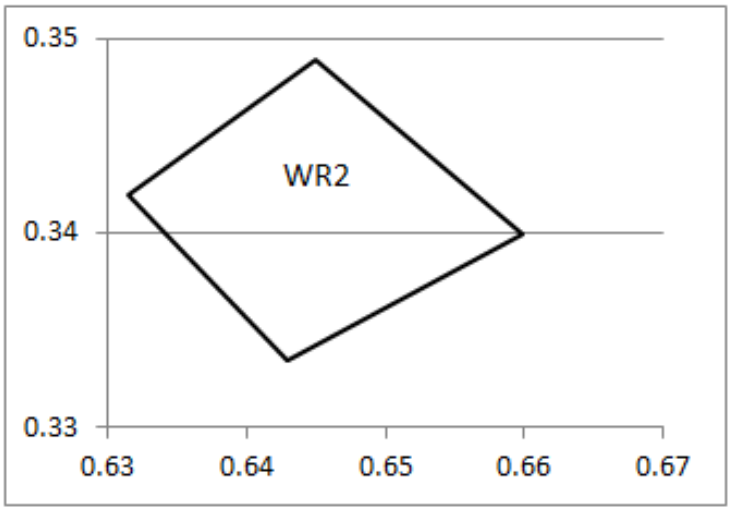


Soldering Temperature vs. Forward Current 焊盘温度与正向电流特性曲线

RTH=45℃/W；IF=150mA



HL-A-2835D46WR2-S1-08-CZ



WR2				
x	0.6315	0.645	0.6599	0.643
y	0.342	0.349	0.34	0.3335

HL-A-2835D46WR2-S1-08-CZ

Reliability Test Items and Conditions 信赖性测试项目及条件

Test Item 项目	Ref. Standard 参考标准	Test Condition 测试条件	Time 时间	Quantity 数量	Ac/Re 接收/拒收
Reflow Soldering 回流焊	JESD22-B106	Temp:260℃max T=10 sec	3 times	22Pcs	0/1
Temperature Cycle 温度循环	JESD22-A104	120℃±5℃ 30 min. ↑↓5 min -40℃±5℃ 30 min.	100 Cycles	22Pcs	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp:100℃±5℃	1000Hrs	11Pcs	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp:-40℃±5℃	1000Hrs	11Pcs	0/1
Room Temperature Life Test 常温通电	JESD22-A108	Ta=25℃±5℃ IF=150mA	1000Hrs	11Pcs	0/1
High Temperature High Humidity Life Test 高温高湿通电	JESD22-A101	85℃±5℃/ 85%RH IF=70mA	1000Hrs	11Pcs	0/1

Failure Criteria 失效判定标准

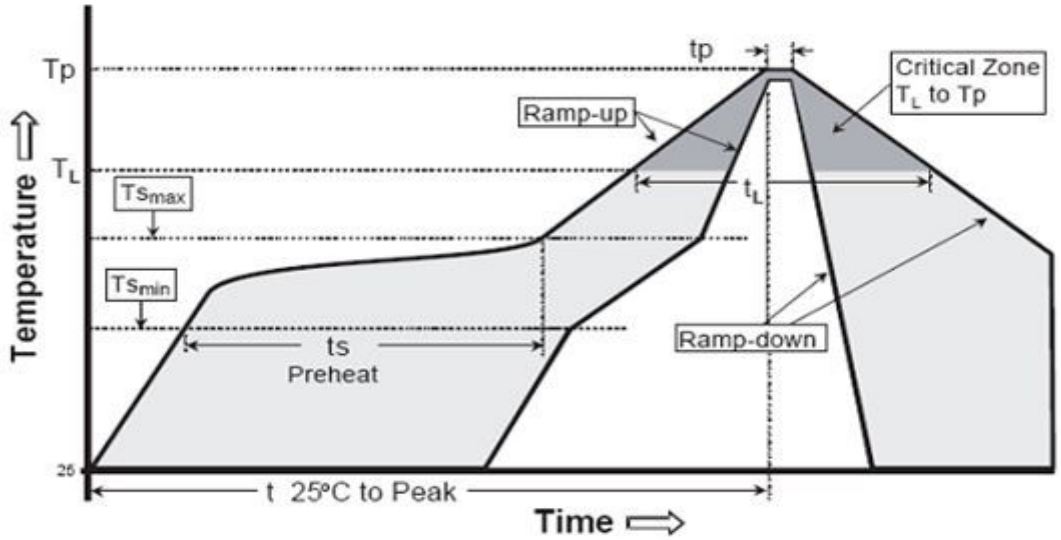
Test Items 项目	Symbol 符号	Test Condition 测试条件	Failure Criteria 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	VF	IF=150mA	- -	U.S.L*)x1.1
Reverse Current 反向电流	IR	VR = 5V	- -	U.S.L*)x2.0
Luminous Flux 光通量	Lm	IF=150mA	L.S.L*)x0.7	- -

U. S. L: Upper Specification Limit 规格上限　　L. S. L: Lower Specification

*The technical information shown in the data sheets is 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.
数据工作表中所示的技术信息仅限于典型特征和电路实例引用的产品. 它既不构成工业特性的保证, 也不构成任何许

HL-A-2835D46WR2-S1-08-CZ

SMT Reflow Soldering Instructions SMT回流焊说明



Profile Feature	Lead-Based solder	Lead-Free Solder
Average Ramp-Rate (Ts_{max} to Tp)	3℃/second max	3℃/second max
Preheat: Temperature Min (Ts_{min})	100℃	150℃
Preheat:Temperature Max (Ts_{max})	150℃	200℃
Preheat:Time(ts_{min} to ts_{max})	60-120 seconds	60-180 seconds
Time Maintained Above: Temperature(T_L)	183℃	217℃
Time Maintained Above: Time(t_L)	60-150 seconds	60-150 seconds
Peak/Classification Temperature(Tp)	215℃	260℃
Time Within 5℃ of Actual Peak Temperature(tp)	10-15 seconds	20-40 seconds
Ramp-Down Rate	6℃/second max	6℃/second max
Time 25℃ to Peak Temperature	6 minutes max	8 minutes max

Note:

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 170□-180□.
建议使用熔点为170℃-180℃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。

4.all temperature means the temperature measured on the surface of the package body.
所有温度均指在封装本体表面上测得的温度。

5.When using hot plate, the temperature is no more than 260 ℃, the time is not more than 10seconds.
当使用热板作业时，温度不超过260℃，时间不超过10秒。

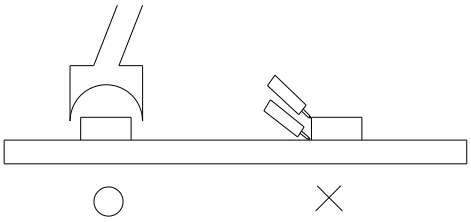
HL-A-2835D46WR2-S1-08-CZ

Soldering iron 烙铁焊接

1.When hand soldering, keep the temperature of iron below less 300□ less than 3 seconds
当手工焊接时，烙铁的温度必须小于300℃，时间不可超过3秒.
2.The hand solder should be done only one times
手工焊接只可焊接一次.

Repairing 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，当修复是不可避免时，必须使用双头烙铁（如下图），但必须事先确认此种方式会或不会损坏LED本身的特性。



Cautions 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封装为硅胶，故LED胶体表面较软，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封装的零件上的强大压力，当使用吸嘴时，胶体表面的压力应是恰当的。

HL-A-2835D46WR2-S1-08-CZ

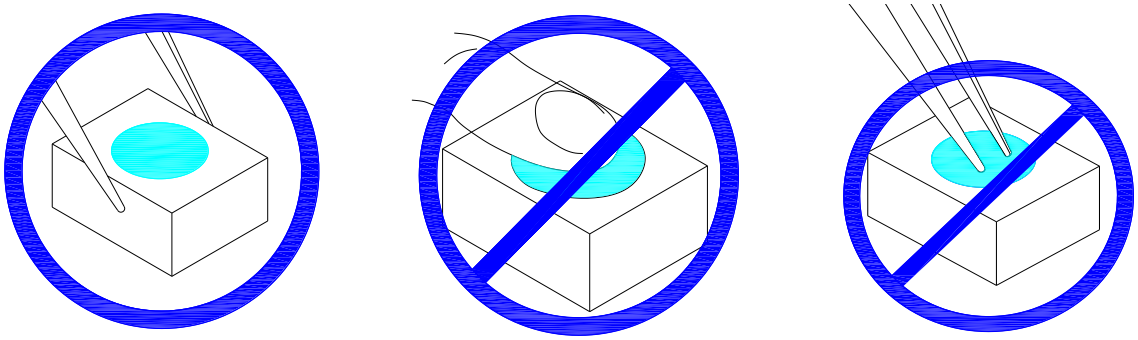
Handling Precautions 处理防备措施

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more prone to damage by external mechanical force . As a result, Special handling precautions must be observed during assembling using silicone encapsulated LED products, Failure to comply might leads to damage and premature failure of the LED.

相对环氧树脂较脆较硬而言，硅胶封装较柔软且有弹性，虽然它的特性大大减少了热应力，但易受机械外力损坏，因此在手工处理方面须要对硅胶封装材料做预防措施，若未按要求操作，可能会导致LED损坏和光衰.

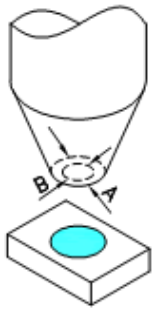
1.Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or Handle the silicone lens surface, it may damage the internal circuitry.

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.



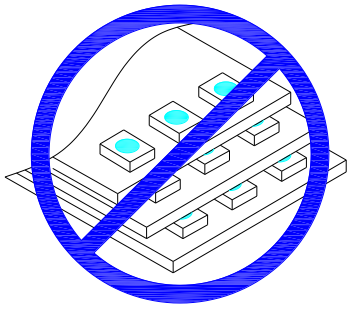
2.The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.

为防止气压泄漏，SMD吸咀外径不可以超过LED尺寸，吸咀内径尺寸应尽可能大，吸咀顶端材质建议采用柔软材料以防在吸取期间刮伤或损坏LED胶体表面，元件的尺寸必须在取放机里准确的编程好，以确保精确的吸取和避免生产过程中的损害.



3.Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage the internal circuitry

不可将模组材料堆积在一起，它可能会损坏内部电路.



4.Not suitable to operate in acidic environment, PH<7

不可用在PH<7的酸性场所.

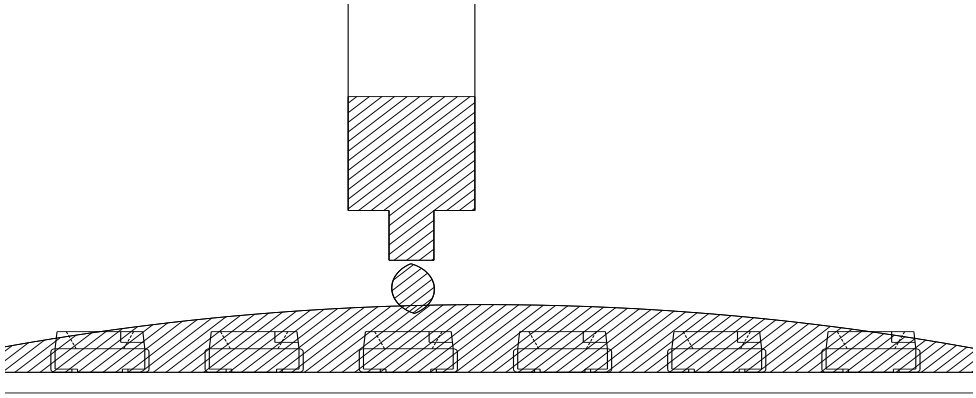


5.LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material.

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.

6.When we need to use external glue for LED application products, please make sure that the external glue matches the LED packaging glue. Additionally ,as most of LED packaging glue is silica gel, and it has strong Oxygen permeability as well as strong moisture permeability; 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 glue of the application products is required to be less than 1500PPM

当我们需要使用外封胶涂抹LED产品时，应确保外封胶与LED封装胶水相匹配，因为大多数LED的封装胶水为硅胶，它有较强的氧化性和较强的吸湿性，必须防止外封材质进入LED内部以造成LED的损伤，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，在涂抹LED产品时要求外封胶溴元素与氯元素总含量必须小于1500PPM.



7.Other points for attention, please refer to our LED user manual，In accordance with the user manual, the product shelf life is 24 months，If there is a warranty agreement, the warranty agreement shall prevail

其它注意事项请参照我们的LED使用手册，符合使用手册的情况下，产品保质期为24个月，已签订保质协议的则以保质协议为准

HL-A-2835D46WR2-S1-08-CZ

Label 标签

内标签



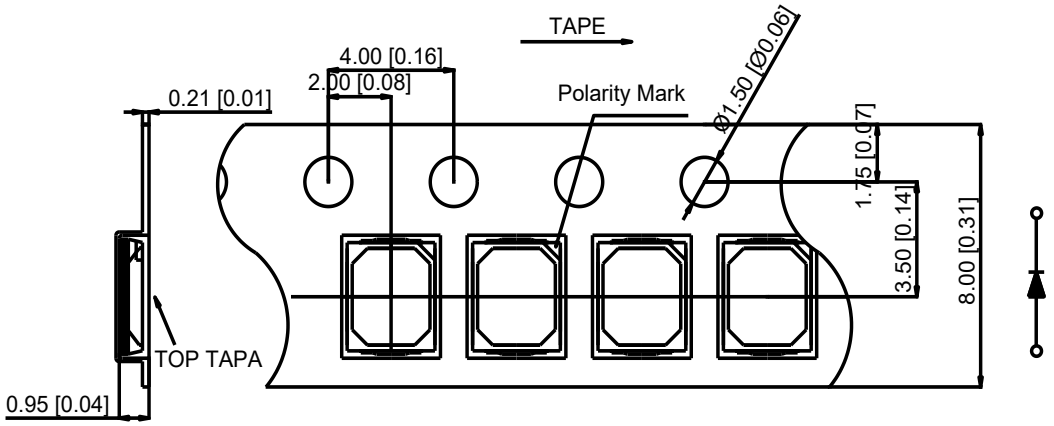
外标签



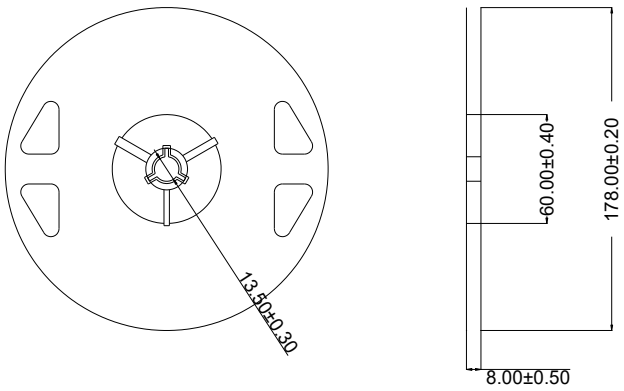
PartNo: Part number 型号
ΦV: Luminous intensity rank 亮度等级
VF: Forward voltage rank 电压等级
X/Y: Coordinate rank 色坐标
TC: Color temperature 色温
LotNo: Lot number 批号

HL-A-2835D46WR2-S1-08-CZ

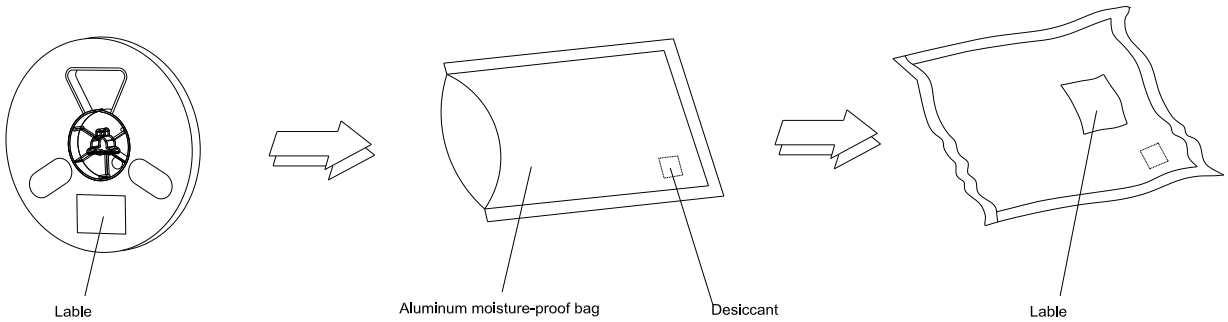
Tape Specifications (Units : mm) 载带规格（单位：mm）



Reel Dimensions
卷轴尺寸



Moisture Resistant Packaging 防潮带包装



Note: The tolerances unless mentioned is ±0.1mm , Unit: mm 注：标注公差为±0.1mm，单位：mm

修订次数	修订人	修订内容	修订日期	版次
1	廖娟	新建文件	2019.06.13	A/0
2	杨梓华	按照客户要求修改规格书曲线；	2019.12.12	A/1
3	杨梓华	光通量提升一个档次37-40	2023.01.30	A/2
4	杨梓华	按照客户要求修订区块图； 跟进3笔订单确认ok正式纳入	2023.04.14	A/3
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				