苏州群力欣光电科技有限公司

Suzhou Que-lesion Optoelectronic Technology co.,Ltd

产品规格书

SPECIFICATION

客户名称 Customer		产品名称 Product	2214 白光
客户料号 Customer No.		产品型号 Type	QSZT8B8-12-20MA
规格书编号 SPEC No	20161017001	日期 Date	2016.10.17

客　户　确　认 APPROVED　SIGNATURES		

制定(DRAW)：_____ 审核(CHECK)：_____ 批准（APPROVE）：_____

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QSZT8B8-12-20MA

特征 Features

- 宽的发光角度
  Extremely wide viewing angle
- 适合所有 SMT 组装和焊接过程
  Suitable for all SMT assembly and solder process
- 可用在载带及卷轴上
  Available on tape and reel
- 防潮等级:2 级
  Moisture sensitivity level: Level 2
- 包装:2000pcs/卷
  Package:2000pcs/reel
- 符合欧盟 RoHS 标准
  RoHS compliant

描述 Description

白光 LED 由蓝光芯片与荧光粉激发而成

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

应用（Applications）

光学指示

Optical indicator

室内显示

Indoor display

汽车照明

Automotive lighting

LCD 背光、转换器，开关和标志，显示器等 Backlight for LCD , switch and symbol , display

用于日光灯管

Tubular light application

一般应用

General use

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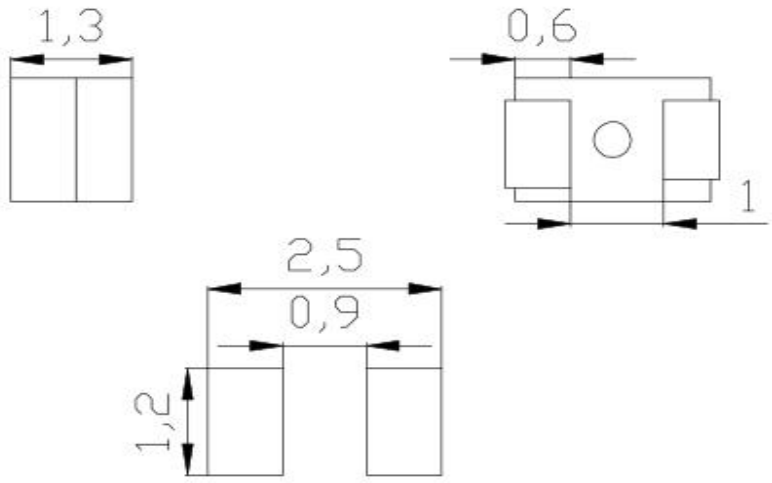
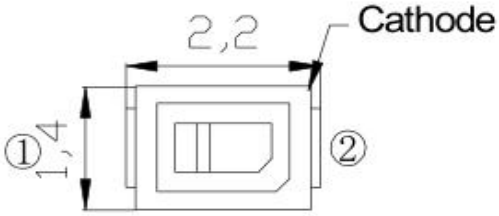


For Reflow Soldering



Polarity

NOTES:

1.All dimensions units are millimeters.(所有尺寸标注单位为毫米)

2.All dimensions tolerances are ±0.2mm unless otherwise noted.(除特别标注外，所有尺寸公差为±0.2 毫米)

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◆Absolute Maximum Ratings

Item	Symbol	Maximum	Unit
Power dissipation	P_D	87.5	mW
Continuous forward current	I_{Fmax}	25	mA
Peak forward current (1/10 duty cycle 0.1ms pulse width)	I_{FP}	100	mA
Reverse voltage	V_R	5	V
Electrostatic Discharge (HBM)	ESD	6000	V
Operating temperature range	Topr	-30 to +85	℃
Storage temperature range	Tstg	-40 to +100	℃

◆ Electrical/Optical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Forward voltage	V_F	I_F=20mA	-	3. 0		V
Chromaticity coordinate	X、Y	I_F=20mA	-	X=0.30	-	
			-	Y=0.31	-	
Viewing Angle	$2\theta_{1/2}$	I_F=20mA	-	120	-	Deg
Luminous Intensity	I_V	I_F=20mA	-	1800	-	mcd
Reverse Current	Ir	Vr=5V			10	uA

※ The measuring tolerance → Luminous intensity ±15%

X、Y ± 0.01

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Luminous Intensity Bin Limits

Test Condition @20mA		
BIN Code	IVmin(mcd)	IVmax (mcd)
D	900	1000
E	1000	1200
F	1200	1400
G	1400	1600
H	1600	1800
J	1800	2000
K	2000	2200
L	2200	2400

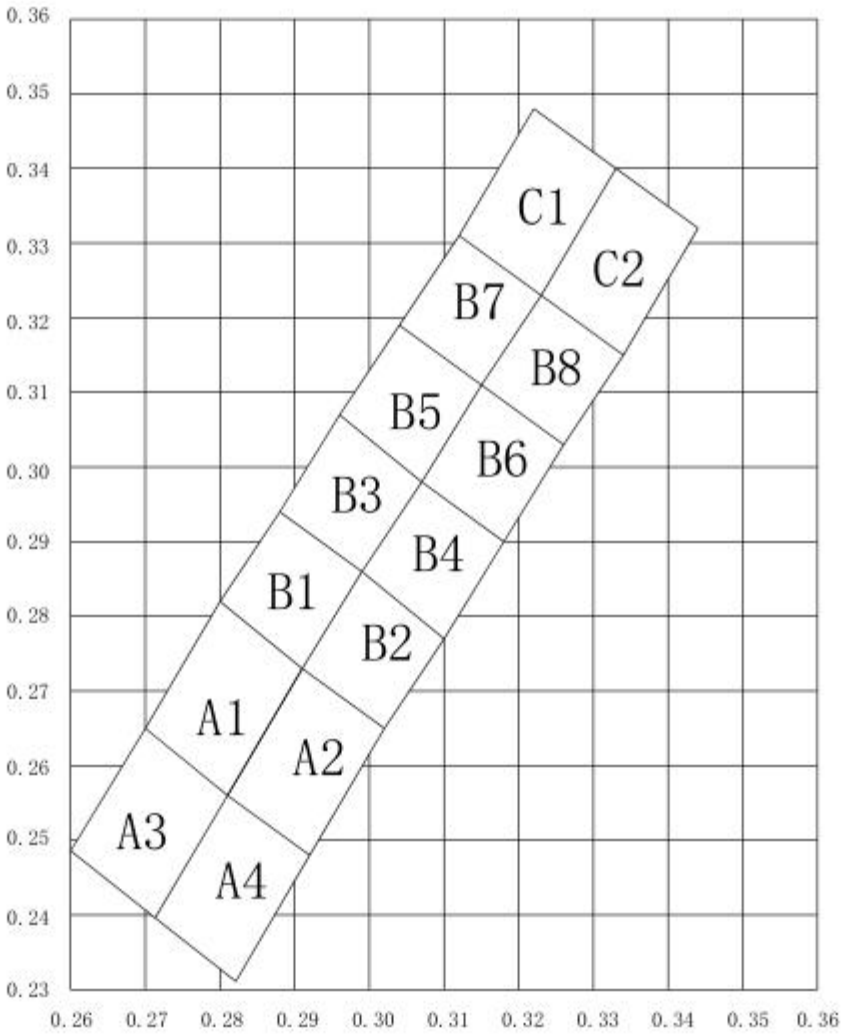
Forward Voltage Bin Limits

Test Condition： @20mA					
BIN Code	Vfmin(v)	Vfmax(v)	BIN Code	Vfmin(v)	Vfmax(v)
F	2.9	3.0	I	3.2	3.3
G	3.0	3.1	J	3.3	3.4
H	3.1	3.2	K	3.4	3.5

Color Coordinate Bin Limits

Test Condition： @20mA								
Bin Cod	X1	Y1	X2	Y2	X3	Y3	X4	Y4
A1	0.281	0.256	0.291	0.273	0.28	0.282	0.27	0.265
A2	0.292	0.248	0.302	0.265	0.291	0.273	0.281	0.256
A3	0.26	0.2486	0.2713	0.2396	0.281	0.256	0.27	0.265
A4	0.2713	0.2396	0.2821	0.2311	0.292	0.248	0.281	0.256
B1	0.291	0.273	0.299	0.286	0.288	0.294	0.28	0.282
B2	0.302	0.265	0.31	0.277	0.299	0.286	0.291	0.273
B3	0.299	0.286	0.307	0.298	0.296	0.307	0.288	0.294
B4	0.31	0.277	0.318	0.29	0.307	0.298	0.299	0.286
B5	0.307	0.298	0.315	0.311	0.304	0.319	0.296	0.307
B6	0.318	0.29	0.326	0.303	0.315	0.311	0.307	0.298
B7	0.315	0.311	0.323	0.323	0.312	0.331	0.304	0.319
B8	0.326	0.303	0.334	0.315	0.323	0.323	0.315	0.311
C1	0.323	0.323	0.333	0.34	0.322	0.348	0.312	0.331
C2	0.334	0.315	0.344	0.332	0.333	0.34	0.323	0.323

Optical/Electrical Characterization



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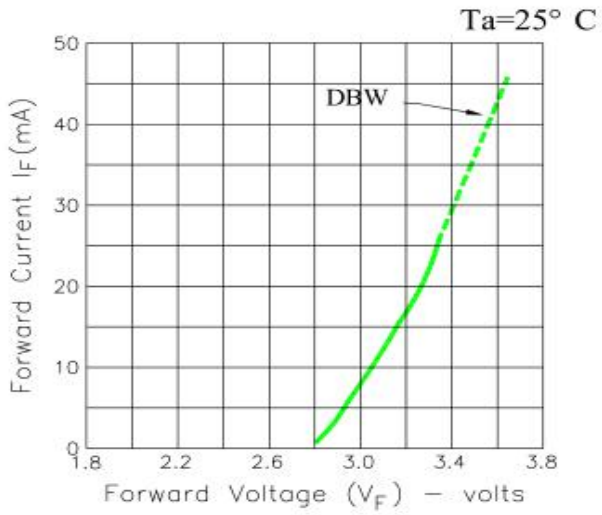
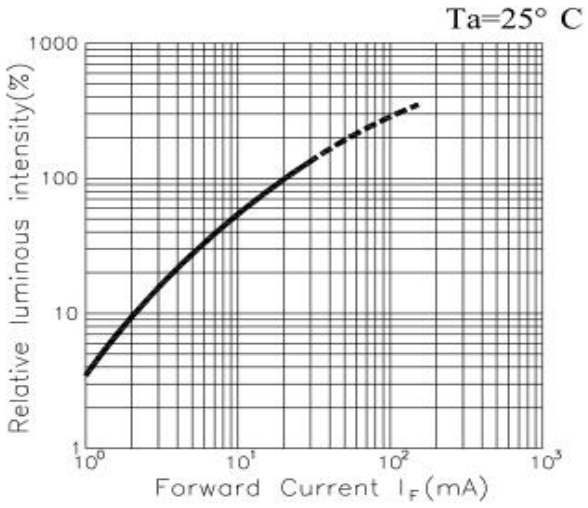
典型特性曲线 Typical Characteristics Curves

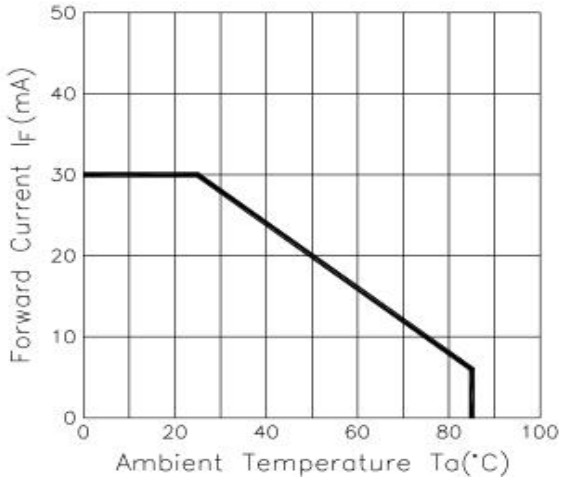
Forward Current Vs. Forward Voltage



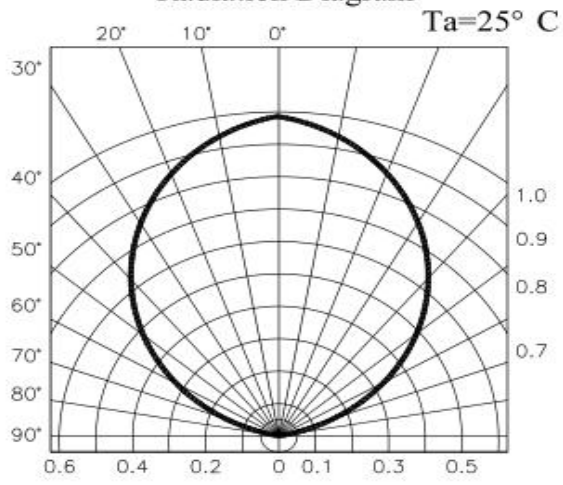
Luminous Intensity Vs. Forward Current



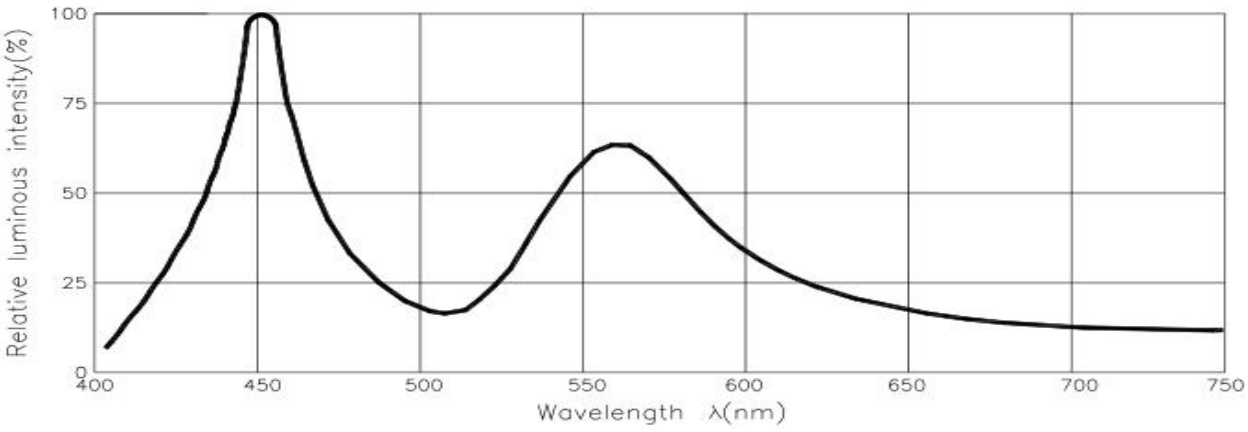
Forward Current Derating Curve



Radiation Diagram



Spectrum Distribution



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◆ Reliability Test Items And Conditions：

No.	Item	Test Conditions	Test hr/cycle/time	Sample Q'ty	Ac / Re
1	Solder Heat	TEMP：260℃±5℃；10±1 sec	2 times	30 pcs	0 / 1
2	Solder ability Test ※	TEMP：235℃±5℃；3±1 sec	1 time	5 pcs	0 / 1
3	Temperature Cycle	H：+85℃ 30min. ∫ 5min. L：-40℃ 30min.	100 cycles	20 pcs	0 / 1
4	Thermal Shock	H：+85℃ 5min. ∫ L：-40℃ 5min.	50 cycles	20 pcs	0 / 1
5	High Temperature Storage	TEMP：85℃	1000 hrs	20 pcs	0 / 1
6	Low Temperature Storage	TEMP：-40℃	1000 hrs	20 pcs	0 / 1
7	DC Operating Life	$I_F = I_{Fmax}$	1000 hrs	20 pcs	0 / 1
8	High Temperature High Humidity	85℃ / 90～95%R.H.	1000 hrs	20 pcs	0 / 1
9	Shocking test	100～2000Hz ；98.1m/s^2 X,Y,Z direction	2 hrs	20 pcs	0 / 1
10	Dropping test	Put on pallet ；height：75cm	3 times	20 pcs	0 / 1

Judgment Criteria	
Forward Voltage V_F	V_F Max-Increase < 1.1x
Reverse Current I_R	I_R Max-Increase < I_{Rmax}
Luminous Intensity I_V	I_V Decay < 40%

※Solder ability test criteria：coverage is not less than 95%

Note：Measurement shall be taken after the tested samples have been returned to normal ambient conditions (generally after two hours)

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包装 Packaging

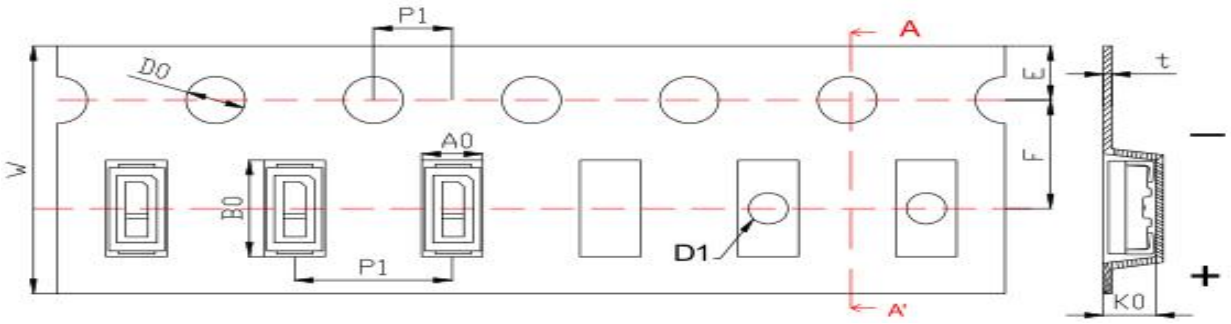
标签 Label

料号 Part No.:*** 批号 Lot No.:*** 数量 O'ty(pcs):***

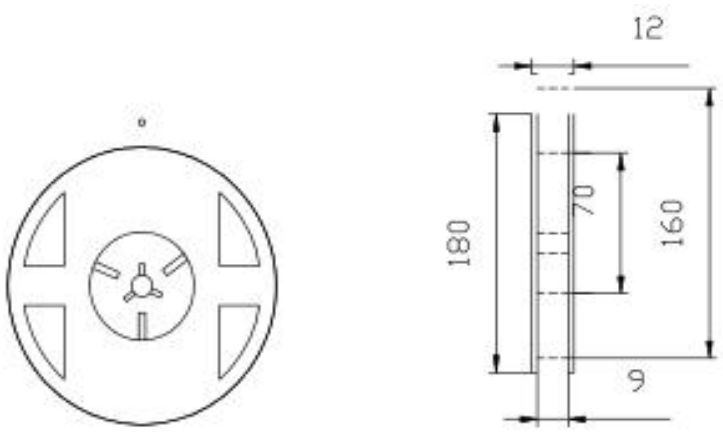
亮度 Iv(mcd):*** 波长（nm）: *** 电压 VF（v）:***

日期 Date:***

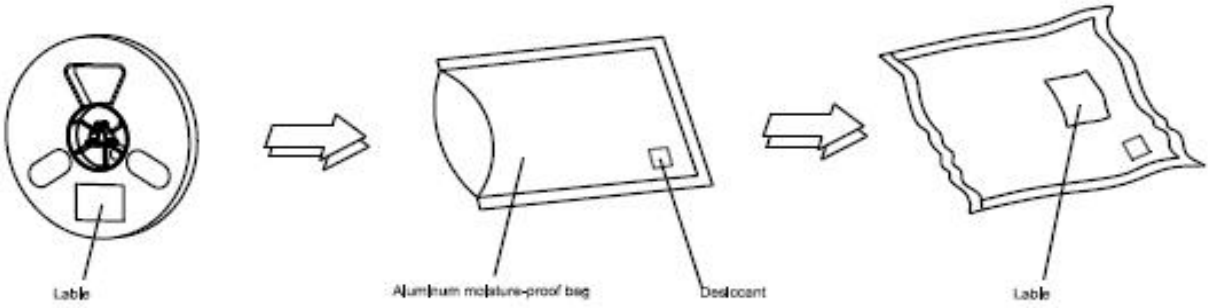
载带规格（单位：mm）Tape Specifications(Units:mm)



卷轴尺寸 Reel Dimensons



防潮袋包装 Moisture Resistant Packaging

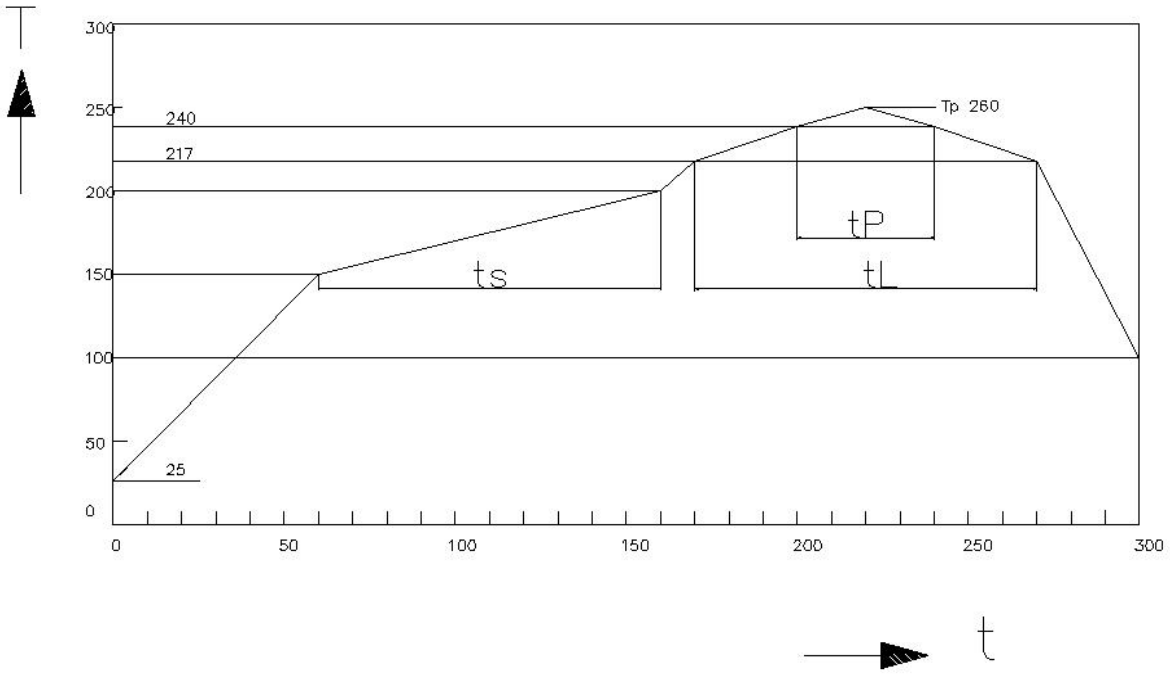


备注：标注公差为±0.1mm,单位：mm

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

❖ QSZT8B8-12-20MA

❖ **SMT 回流焊说明 SMT reflow soldering instructions**



Profile Feature	Symbol 符号	Pb-Free(SnAgCu)Assembly 无铅锡膏			Unit 单位
		Min	Tpy	Max	
Ramp-up rate to preheat(25℃ to 150℃) 平均升温速度（Tsmax 至 Tp）			2	3	℃/s
Time ts(Tsmin to Tsmax) 预热：时间（Tsmin 至 Tsmax）	ts	60	100	120	s
Ramp-up rate to peak(Tsmax to Tp) Tsmax 升至峰值温度的速度			2		℃/s
Liquidus temperature 限时维持高温：温度（TL)	TL	217	℃		℃
Time above liquidus temperature 限时维持高温：时间（tL)	tL				s
Peak temperature 峰值/分类温度（Tp）	Tp				℃/s
Time within 5℃ of the specified peak temperature Tp-5℃ 与实际峰值温度（tp）相差 5℃以内的保持时间	tp	10	20	30	s
Ramp-down rate(Tp to 100℃) 降温速度			3	6	℃/s
Time（25℃ to Tp） 降温时间				480	s

1.回流焊次数不可超过两次，两次回流焊的时间间隔如果超过 24 小时，LED 可能由于吸湿而损坏。The number of reflow soldering should not exceed two times. If the time interval between two reflow soldering exceeds 24 hours, the LED may be damaged due to moisture absorption.

2.当焊接时，不要在材料受热时用力压胶体表面。When welding, do not press the surface of the gel when the material is heated.

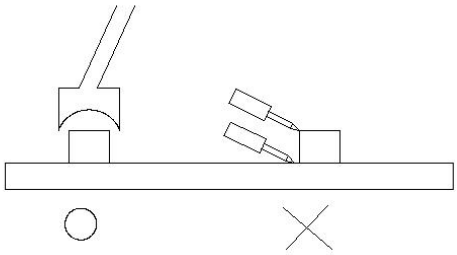
烙铁焊接 Soldering iron

1.当手工焊接时，烙铁的温度必须小于 300℃，时间不可超过 3 秒；When hand soldering, keep the temperature of iron below less 300℃ less than 3 seconds;

2.手工焊接只可焊接一次；The hand solder should be done only one times;

修补 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，但必须事先确认此种方式会或不会损坏 LED 本身的特性。Repair should not be done after the LEDs have been soldered.When repairing is unavoidable,a double-head soldering iron should be used.it should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.



注意事项 Cautions

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。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.

使用注意事项 Points for attention

1. LED 工作环境及与 LED 适配的材料中硫元素及化合物成分不可超过 100PPM.这只是一个建议，不作任何品质担保.Sulfur and compounds in LED working environment and materials suitable for LED shall not exceed 100 PPM. This is only a recommendation and no quality guarantee is given.

2. 为了防止外界物质进入 LED 内部以造成 LED 的损伤，所处环境及所用套件等等，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，溴元素和氯元素总含量必须小于 1500PPM.这只是一个建议，不作任何品质担保.In order to prevent external substances from entering the LED to cause damage to the LED, the environment and the suite used, etc., a single bromine content is required to be less than 900PPM, a single chlorine content is required to be less than 900PPM, and the total bromine and chlorine content must be less than 1500PPM.

3. 应用套件中的挥发物质会渗透到 LED 内部，再通电产生光子以及热的条件下，会导致 LED 变色，进而造成严重的光衰，前提了解套件材料能够避免产生这些问题。群力欣反对使用任何对 LED 器件的性能或者可靠性有害的物质或材料，不管这些材料是已经证实了的还是仅仅怀疑有害。针对特定的用途和使用环境，群力欣建议对所有物质和材料进行相容性的测试。在贴装 LED 的时候，不要使用能产生有机挥发性气体的粘结剂。Volatile substances in the application kit will penetrate into the LED, and then electrify to produce photons and heat conditions, which will lead to discoloration of the LED, resulting in serious light decay. Understanding the kit materials can avoid these problems. Quintly opposes the use of any substance or material harmful to the performance or reliability of LED devices, whether proven or suspected to be harmful. For specific uses and use environments, Quinlixin recommends testing the compatibility of all substances and materials. Do not use LED when you install it.

4. 通过使用适当的工具从材料侧面夹取，不可直接用手或者尖锐金属压胶体表面，它可能会损坏内部电路。By using appropriate tools to clamp from the side of the material, it is not possible to press the colloid surface directly by hand or by sharp metal, which may damage the internal circuit.

5. 设计电路时，通过 LED 的电流不能超过规定的最大值，同时还需要使用保护电阻，否则微小的电压变化将会引起较大的电流变化，可能导致产品损坏。电路设计必须保证只有再开启或者关闭的时候出现正向电压的变化，不要施加反压，否则会损坏 LED.When designing the circuit, the current passing through the LED can not exceed the prescribed maximum value, but also need to use the protective resistance, otherwise small voltage changes will cause large current changes, may lead to product damage. Circuit design must ensure that positive voltage changes occur only when the LED is turned on or off, and no backpressure is applied, otherwise the LED will be damaged.