



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	3528LED
客户料号 Customer No.		产品型号 Type	QSTSYB4-04-20MA
规格书编号 SPEC No	20161219001	日期 Date	2016.12.19

客 户 确 认 APPROVED SIGNATURES		

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

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QSTSYB4-04-20MA

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:3 级
Moisture sensitivity level: Level 3
- 包装:2000pcs/卷
Package:2000pcs/reel
- 符合欧盟 RoHS 标准
RoHS compliant

描述 Description

黄光 LED 由 AlGaInP 四种元素芯片激发而成

The Yellow source color devices are made with AlGaInP on Substrate Light Emitting Diode

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

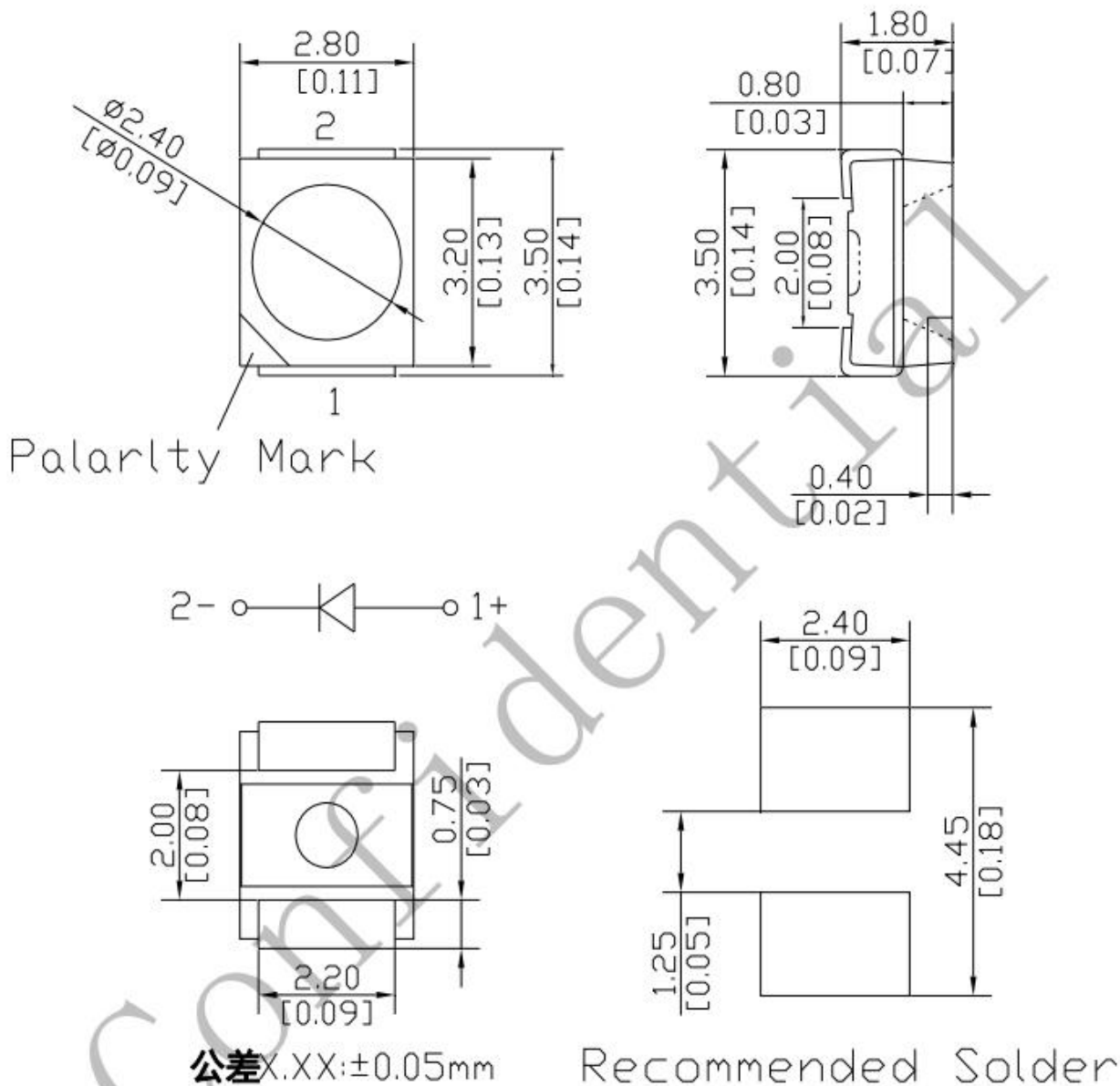
Tubular light application

一般应用

General use

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Package Dimension 封装尺寸



NOTES:

1. All dimensions units are millimeters. (所有尺寸标注单位为毫米)
2. All dimensions tolerances are $\pm 0.2\text{mm}$ unless otherwise noted. (除特别标注外, 所有尺寸公差为 ± 0.2 毫米)



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

Item 项目	Symbol 符号	test condition 测试条件	Value			unit 单位	
			Min.	Max.	Typ.		
Forward Voltage	Rank B1	Vf	IF=20mA	1.8	1.9	2.2	V
	Rank C2			1.9	2.0		V
	Rank C1			2.0	2.1		V
	Rank C2			2.1	2.2		V
	Rank D1			2.2	2.3		V
	Rank D2			2.3	2.4		V
	Rank E1			2.4	2.5		V
Dominant wavelength	Rank D00	Wld	IF=20mA	585	590	589	nm
	Rank E00			590	595		nm
Luminous intensity	Rank JD0	IV	IF=20mA	475	530	660	mcd
	Rank K10			530	650		mcd
	Rank K20			650	800		mcd
	Rank LA0			800	900		mcd
Reverse Current	IR	VR=5V	---	10	---	uA	
Viewing Angle	2θ1/2	IF=20mA	---	---	120	Deg	
Thermal resistance	Rth(j-s)	IF=20mA	---	---	260	°C/W	

Absolute Maximum Ratings at Ts=25°C 最大极限参数值

Parameter 参数	Symbol (符号)	Rating (值)	Units (单位)
Power Dissipation 功耗	Pd	75	mW
Forward Current 正向电流	IF	30	mA
Peak Forward Current 峰值电流	IFP	100	mA
Reverse Voltage 反向电压	VR	5	V
Electrostatic Discharge(HBM) 静电	ESD	2000	V
Operating Temperature 操作温度	Topr	-40 ~ +85	°C
Storage Temperature 储存温度	Tstg	-40 ~ +100	°C
Junction temperature 结温	Tj	95	°C

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Typical Optical Characteristics Curves 典型光学特性曲线

Fig.1-Forward Voltage Vs. Forward Current
伏安特性曲线

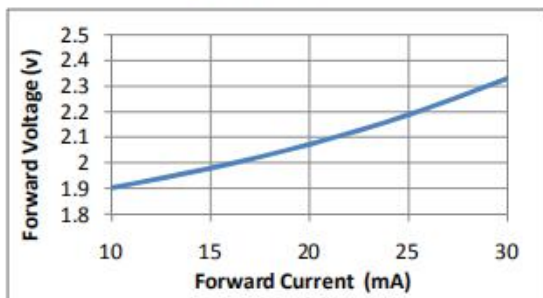


Fig.2-Forward Current Vs. Relative Intensity
正向电流与相对光强特性曲线

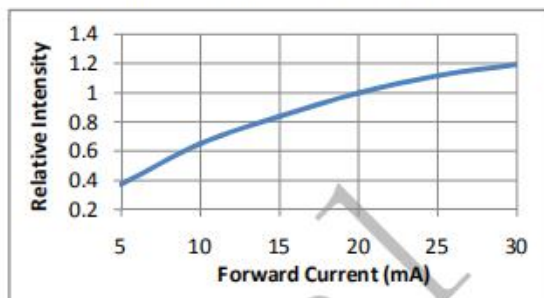


Fig.3-Pin Temperature Vs. Relative Intensity
引脚温度与相对光强特性曲线

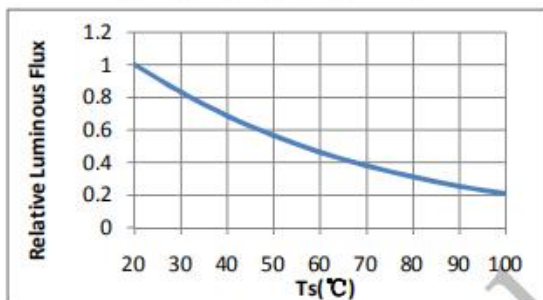


Fig.4-Pin Temperature Vs. Forward Current
引脚温度与正向电流特性曲线

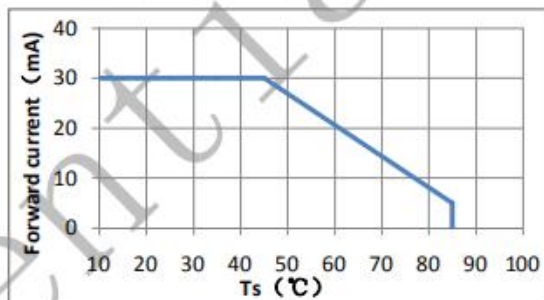


Fig.5-Forward Voltage Vs. Pin Temperature
电压与引脚温度特性曲线

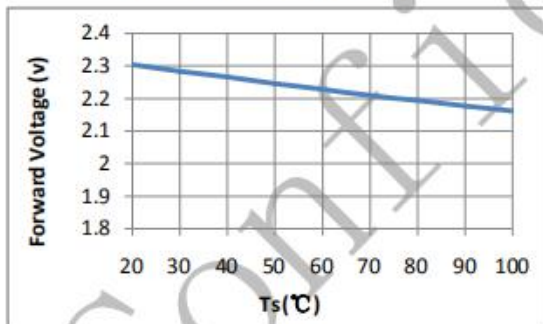


Fig.6- Radiation diagram
辐射特性曲线

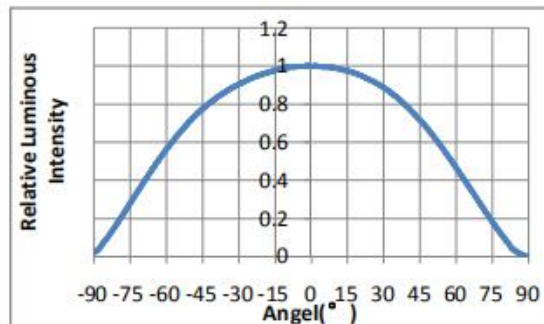
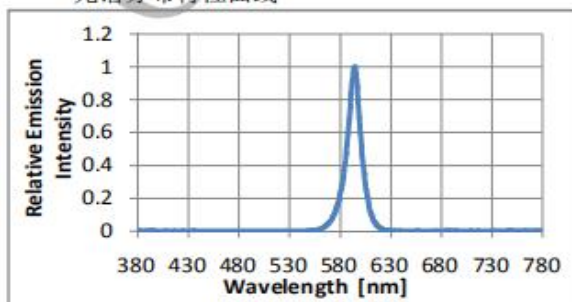


Fig.7- Spectrum Distribution
光谱分布特性曲线





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Reliability Test Items And Conditions 可靠性测试项目及条件

Test Items 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 回流焊	JESD22-B106	Temp:260℃max T=10 sec	2times.	10Pcs.	0/1
Thermal Shock 冷热冲击	JESD22-A106	-40℃ 15min ↑↓10sec 100℃ 15min	100Cycles	10Pcs.	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp.:100℃	1000Hrs.	10Pcs.	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp.: -40℃	1000Hrs.	10Pcs.	0/1
Life Test 常温老化	JESD22-A108	Ta=25℃ IF=20mA	1000Hrs.	10Pcs.	0/1
High Temperature High Humidity Life Test 高温高湿老化	JESD22-A101	60℃/ 90%RH IF=20mA	1000Hrs.	10Pcs.	0/1

Criteria For Judging Damage 失效判定标准

Test Items 项目	Symbol 符号	Test Condition 测试条件	Criteria For Judgement 判定标准	Applicable project 适用项目
Forward Voltage 正向电压	Vf	IF=20mA	≤ ± 10%	Reflow Temperature Cycle High and Low Temperature Storage Life Test
Luminous intensity 光强	IV	IF=20mA	Maintenance ≥ 70% 光强维持率	
Lamp bead light test 灯珠点亮测试	/	IF=20mA	No open circuit, shortcircuit or flicke 无开路,短路, 闪变	

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包装 Packaging

标签 Label

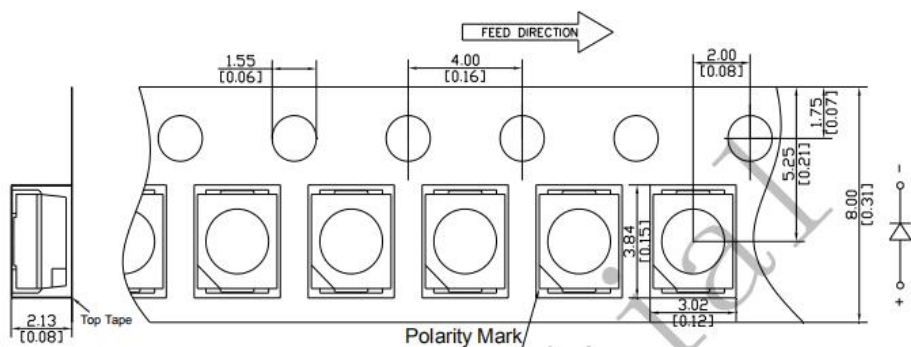
料号 Part No.:*** 批号 Lot No.:*** 数量 O'ty(pcs):***

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

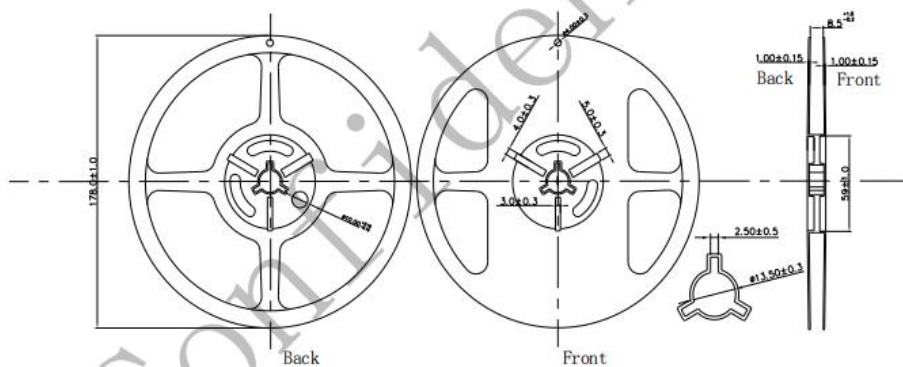
日期 Date:***

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

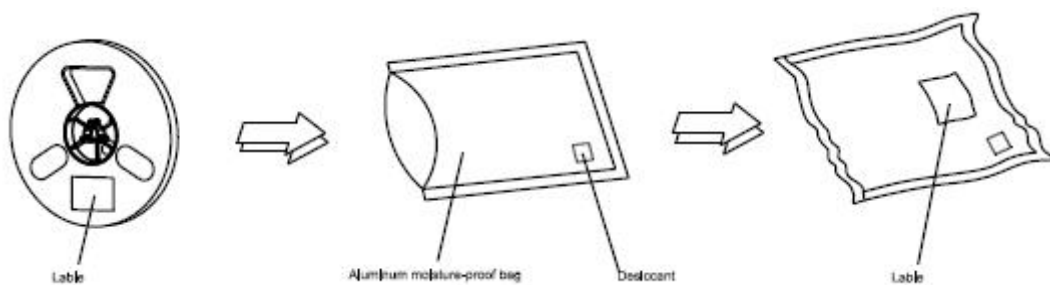
卷轴尺寸 Reel Dimensions



Reel Dimension 卷盘尺寸



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 $\pm 0.1\text{mm}$,Unit:mm

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焊接指导 Guideline for Soldering

Soldering iron 烙铁焊接

1.When hand soldering, keep the temperature of iron below less 300°C less than 3 seconds

当手工焊接时，烙铁的温度必须小于 300°C ，时间不可超过3秒

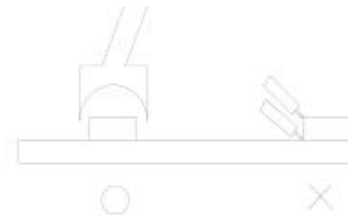
2.The hand solder should be done only one times

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。

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, $\text{PH}<7$

不可用在 $\text{PH}<7$ 的酸性场所





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