



# 广东洲光源红外半导体有限公司

Guangdong ChauLight Infrared Semiconductor Co., Ltd.

## Specification

### 规格书

Customer Name:

客户名称: \_\_\_\_\_

Customer P/N:

客户品号: \_\_\_\_\_

Factory P/N:

公司品号: ZR6-1608C-04G-Z3-5

Part Number:

料号代码: S0216080001

Client approval 客户审核			Baiheng approval 审核		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
					周宏
<input type="checkbox"/> Qualified 接受		<input type="checkbox"/> Disqualified 不接受	DATE: 日期: 2018-11-26		

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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广东洲光源红外半导体科技技术有限公司

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



## Features( 特征)

- 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 3. (防潮等级 Level 3)
- Package:3000pcs/reel..(包装每卷 3000PCS)
- RoHS compliant. (RoHS 认证)

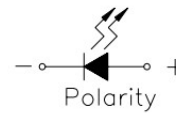
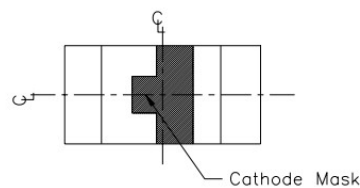
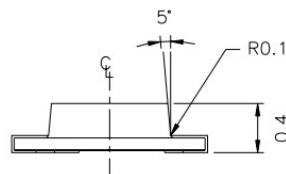
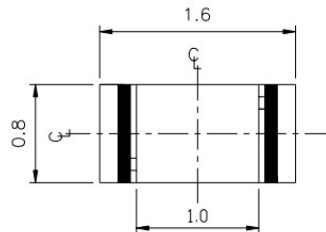


注意：操作时应注意静电敏感

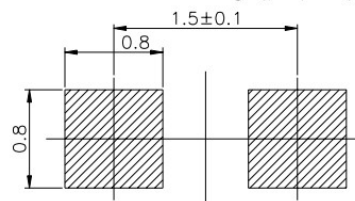
## Applications (应用)

- Optical indicator (光学指示)
- Indoor display (室内显示)
- Backlight for LCD, switch and Symbol, display  
(LCD 背光、转换器，开关和标志，显示器等)
- General use (一般应用)

## Package Dimensions (封装尺寸)



For reflow soldering (propose)



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  $\pm 0.15\text{mm}$  unless otherwise noted. (除特别标注外，所有尺寸允许公差 $\pm 0.15\text{mm}$ )

## Selection Guide (选择指南)



Part No. 型号	Dice	Lens Type 胶体类型	Luminous intensity(mcd) 光强@ 5mA		Viewing Angle 角度
			Min	Max	2 $\theta$ 1/2
ZR6-1608C-04G-Z3-5	Brilliant Red	Water Clear	11.5	28.5	120°

Note:(备注)

1. 2 $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

2 $\theta$ 1/2 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 intensity measurement allowance tolerance is  $\pm 10\%$ .

上述发光强度的测试允许公差为 $\pm 10\%$

### 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	VF	1.7	---	2.2	V	IF=5mA
Reverse Current 反向电流	IR	--	---	10	$\mu$ A	VR = 5V
Dominate Wavelength 主波长	$\lambda$ d	617.5	----	633.5	nm	IF=5mA

### 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	60	mW
Forward Current (正向电流)	IF	25	mA
Peak Forward Current [1] (峰值正向电流)	IFP	60	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 (保存温度)	Tstg	-40 ~ +90	°C



**Typical optical characteristics curves 典型光学特性曲线**

<p><b>Ambient Temperature vs. Forward Current</b> 环境温度与正向电流特性曲线</p>		<p><b>Forward Current VS. Relative Intensity</b> 正向电流与相对光强特性曲线</p>	
Forward Current(mA)		Relative luminous Intensity	
	Soldering Temperature °C		Forward Current(mA)
<p><b>Forward Voltage VS. Forward Current</b> 正向电压与正向电流特性曲线</p>		<p><b>Ambient Temperature VS. Relative Intensity</b> 环境温度与相对光强特性曲线</p>	
Forward Current(mA)		Relative luminous Intensity	
	Forward Voltage(V)		Ambient Temperature ta °C
<p><b>Relative spectral emission</b> 相对光谱分布特性曲线</p>		<p><b>Radiation diagram</b> 辐射图特性曲线</p>	
Relative luminousintensity			
	Wavelength(nm)		SPATIA DISTRIBUTION



### Forward Voltage Rank Combination (IF=5mA)

Rank	Min.	Max.	Unit
19	1.7	1.8	V
20	1.8	1.9	
21	1.9	2.0	
22	2.0	2.1	
23	2.1	2.2	

### Luminous Intensity Rank Combination (IF=5mA)

Rank	Min.	Max.	Unit
L1	11.5	14.5	mcd
L2	14.5	18.0	
M1	18.0	22.5	
M2	22.5	28.5	

### Dominant wavelength Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
E4	617.5	621.5	nm
E5	621.5	625.5	
E6	625.5	629.5	
E7	629.5	633.5	

**Note:** (备注)

1. Tolerance of Luminous Intensity  $\pm 10\%$  (光强度公差正负 10%)
2. The above forward voltage measurement allowance tolerance is  $\pm 0.1V$ . (以上所示电压测量误差 $\pm 0.1V$ )
3. The above dominate wavelength measurement allowance tolerance is  $\pm 1nm$ . (以上所示波长测量误差 $\pm 1nm$ )



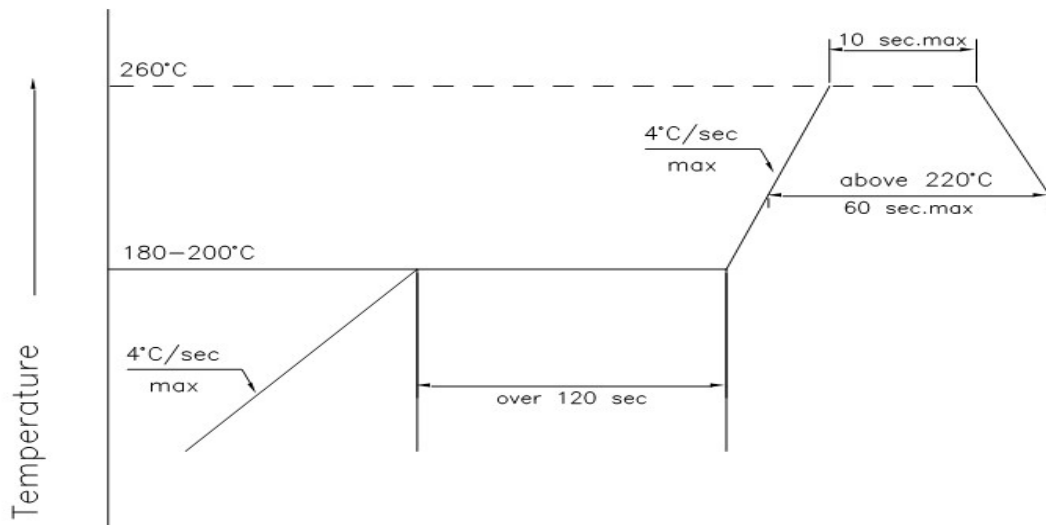
## Reliability Test Items And Conditions 信赖性测试项目及条件

Test Items 项目	Test Condition 测试条件	Time 时间	Quantity 数量	Ac/Re 接收/拒收
Reflow 回流焊	Temp:260°C max Min:5sec.	6 times.	22Pcs.	0/1
Temperature Cycle 温度循环	100°C±5°C 15 min. ↑↓5 min -40°C±5°C 15 min.	300 Cycles	22Pcs.	0/1
Thermal Shock 冷热冲击	100°C±5°C 5 min. ↑↓10 sec -10°C±5°C 5 min.	300 Cycles	22Pcs.	0/1
High Temperature Storage 高温保存	Temp:100°C±5°C	1000Hrs.	22Pcs.	0/1
Low Temperature Storage 低温保存	Temp:-40°C±5°C	1000Hrs.	22Pcs.	0/1
Life Test 常温通电	Ta=25°C±5°C IF=20mA	1000Hrs.	22Pcs.	0/1
High Temperature High Humidity 高温高湿	85°C±5°C/ 85%RH	1000Hrs.	22Pcs.	0/1



\*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.  
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### SMT Reflow Soldering Instructions SMT 回流焊说明



1.Reflow soldering should not be done more than two times. 回流焊不可以做两次以上

2.When soldering, do not put stress on the LEDs during heating

当焊接时,不要在材料受热时用力压胶体表面

### Soldering iron 烙铁焊接

1.When hand soldering, keep the temperature of iron below less 350°C less than 3 seconds

当手工焊接时,烙铁的温度必须小于 350°C,时间不可超过 3 秒

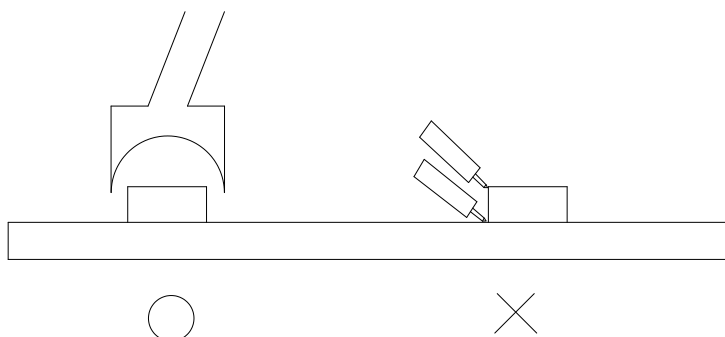
2.The hand solder should be done only one times

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。





## Label 标签格式



洲光源红外半导体

CAT: Luminous intensity rank 亮度等级

CPN:  
P / N: S0216080001

CAT: N1

HUE: Dominate Wavelength 波长等级



HUE: 7

REF: Forward voltage rank 电压等级

Model: ZR6-Z1608C-06G-Z4-5

REF: 2

QTY: 4000



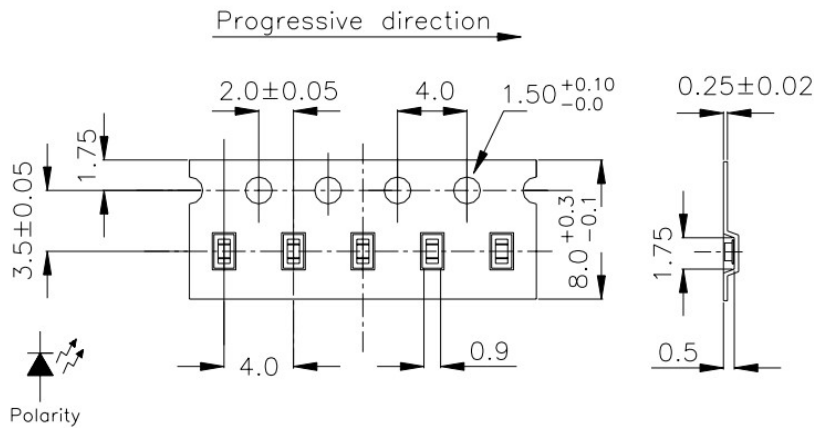
RoHS

L / N: ZGY18112088

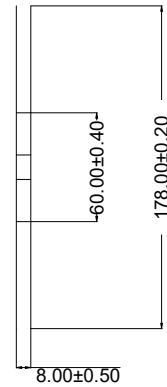
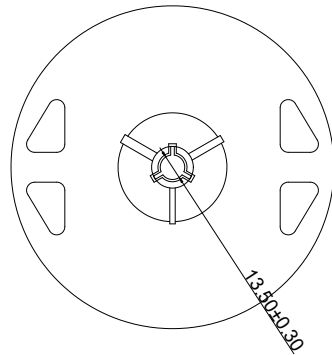


MSL-3

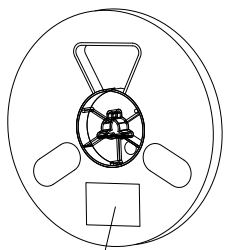
## Tape Specifications (Units : mm) 载带规格 (单位: mm) 3000pcs/reel..(包装每卷 3000PCS)



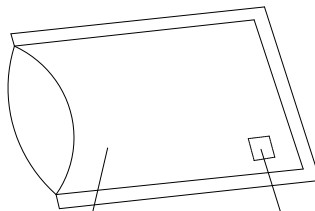
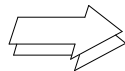
## Reel Dimensions 卷轴尺寸



## Moisture Resistant Packaging 防潮带包装

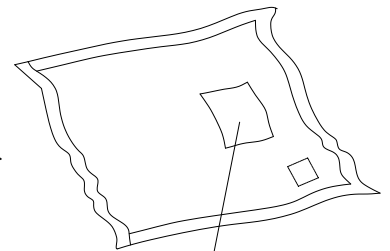
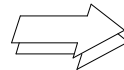


Lable



Aluminum moisture-proof bag

Desiccant



Lable

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

注: 标注公差为±0.1mm, 单位: mm