洲光源
CHAULIGHT

产品规格书
SPECIFICATION

客户名称：_____

Customer Name

产品类型：贴片式接收三极管

Product Name

产品型号：ZSPT-Z1608C-06F-Z4

Part No.

☐技术参考 Technical Reference		☐样品 Sample		☐量产供货 Mass Product
客户审核（加盖公章） Client approval（Stamp）		洲光源审核 Chaulight approval		
核准 Approval	确认 Checked	核准 Approval	确认 Checked	制作 Edited
		郝三强	谢育国	吉召召
☐ 接收 Qualified ☐ 不接收 Disqualified		日期 Date：2021-1-4		

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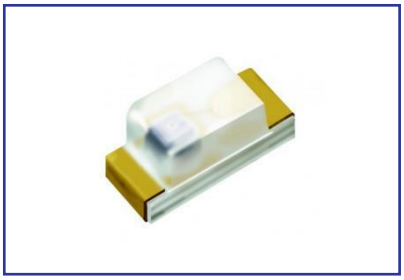
本规格书仅用于双方交流用需经双方签订后方可生效，自签订后有效期为两年，期满后需以书面形式续签。最终解释权为洲光源所有。

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广东洲光源红外半导体有限公司
Guangdong Chaulight Infrared Semiconductor Co.,Ltd.

ZSPT-Z1608C-06F-Z4 是一种小型 SMD 封装的光电晶体管。 该器件与可见光和红外发射二极管光谱匹配。

ZSPT-Z1608C-06F-Z4 is a phototransistor in miniature SMD . The device is Spectrally matched to visible and infrared emitting diode.



特性 Feature

--感应速度快、感光度强

Fast response time、High photo sensitivity

--无铅材料、Rohs 认证

Pb.Free、RoHS compliant version

应用 Application

--红外应用系统、光电开关、复印机、扫描仪、洗衣机

Infrared applied system、Optoelectronic switch、Copiers、Scanners、Amusement machines

最大额定值 Absolute Maximum Ratings

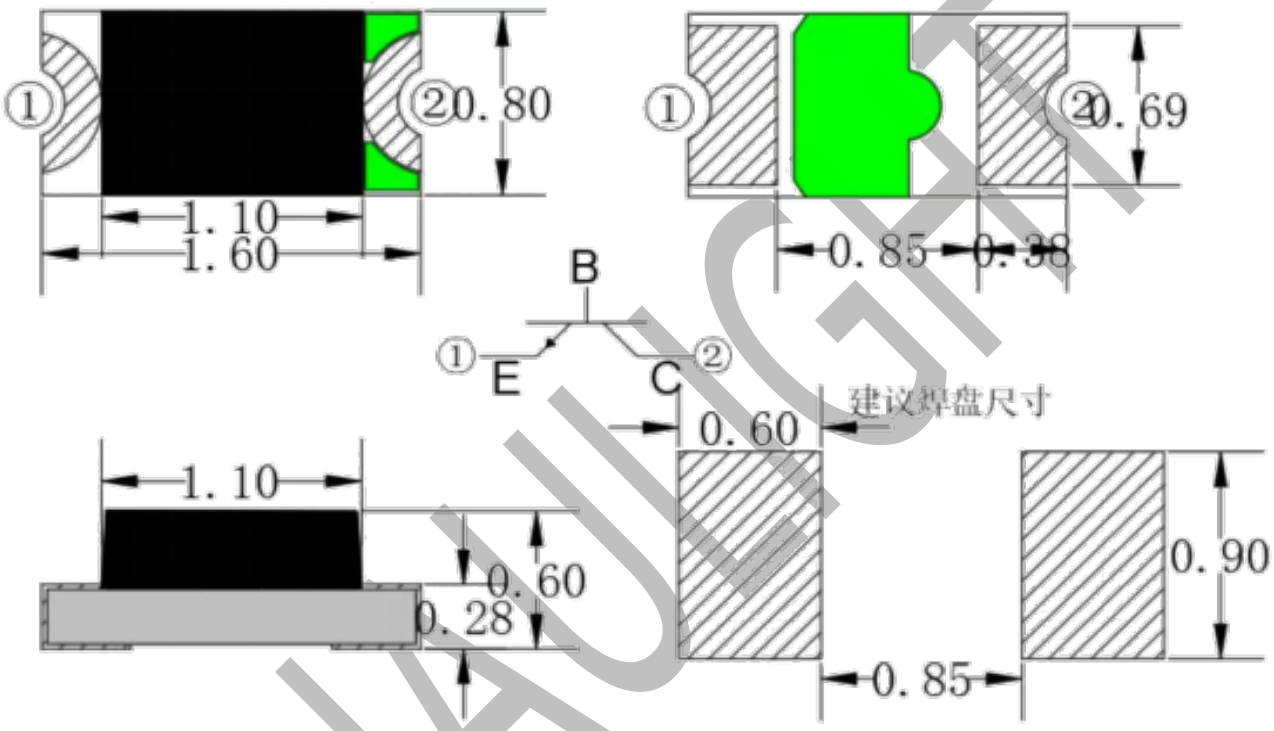
测试项目 Parameter（Ta=25℃）	符合 Symbol	范围 Ratings	单位 Unit
功率 Power Dissipation *1	Pd	75	mW
集电极-发射极电压 Collector-Emitter Voltage	V_{CEO}	30	V
发射极-集电极电压 Emitter-Collector Voltage	V_{ECO}	5	V
集电极电流 Collector Current	$I_{C(ON)}$	20	mA
工作温度 Operating Temperature	Topr	-25~+85	℃
储存温度 Storage Temperature	Tstg	-40~+100	℃
焊接温度 Lead Soldering Temperature*2	Tsol	260	℃

*1、 在 25 摄氏度的环境中测试 below 25 Free Air Temperature

*2、离胶体 2mm 以上焊接 5s 内 2mm form body for 5 seconds

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产品尺寸 Package Dimension



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备注 Notes:
--所有尺寸为毫米标识
All dimensions are in millimeters
--未标识尺寸正负公差为 0.3mm
Tolerances unless dimensions ±0.3mm

光电特性 Electro-Optical Characteristics

电性参数（温度=25℃） Parameter（Ta=25℃）	符号 Symbol	条件 Condition	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Units
集电极-发射极的击穿电压 Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=100μA Ee=0mW/cm²	30	--	--	V
发射极-集电极的击穿电压 Emitter-Collector Breakdown Voltage	BV_{ECO}	I_C=100μA Ee=0mW/cm²	5	--	--	V
集电极-发射极的工作电压 Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=2mA Ee=1mW/cm²	--	--	0.4	V
上升时间 Rise Time	t_r	V_{CE}=5V I_C=1mA R_L=1000Ω	--	15	--	μS
下降时间 Fall Time	t_f		--	15	--	
集电极暗电流 Collector Dark Current	I_{CEO}	Ee=0mW/cm² V_{CE}=20V	--	--	100	nA
集电极电流 On State Collector Current	$I_{C(ON)}$	Ee=1mW/cm² V_{CE}=5V	0.27	--	1.8	mA
感应波长范围 Rang of Spectral Bandwidth	$\lambda_{0.5}$	--	400	--	1100	nm
峰值感应波长 Wavelength of Peak Sensitivity	λ_P	--	--	940	--	nm

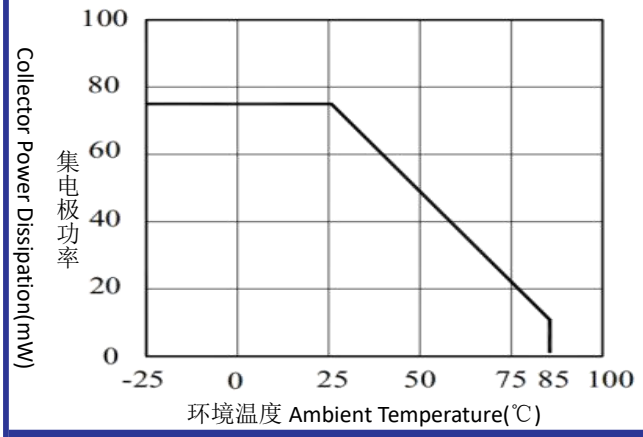
等级档位 Rank

档位 Bin	符号 Symbol	条件 Condition	最小值 Min.	最大值 Max.	单位 Unit
BIN2	Ic(ON)	Ee=1mW/cm² V_{CE}=5V	0.38	0.76	mA
BIN3	Ic(ON)	Ee=1mW/cm² V_{CE}=5V	0.70	1.35	mA
BIN4	Ic(ON)	Ee=1mW/cm² V_{CE}=5V	1.15	1.8	mA

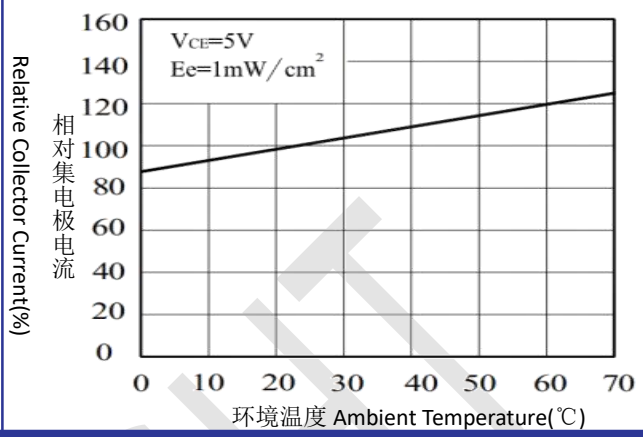
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典型光电特性曲线图 Typical Electro-Optical Characteristics Curves

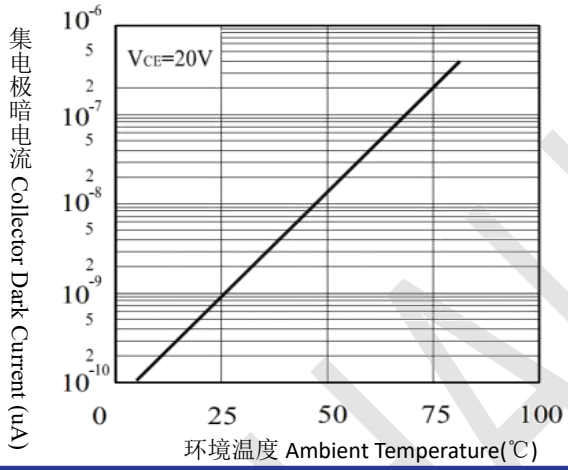
集电极功率与环境温度的关系
Collector Power Dissipation vs. Ambient Temperature



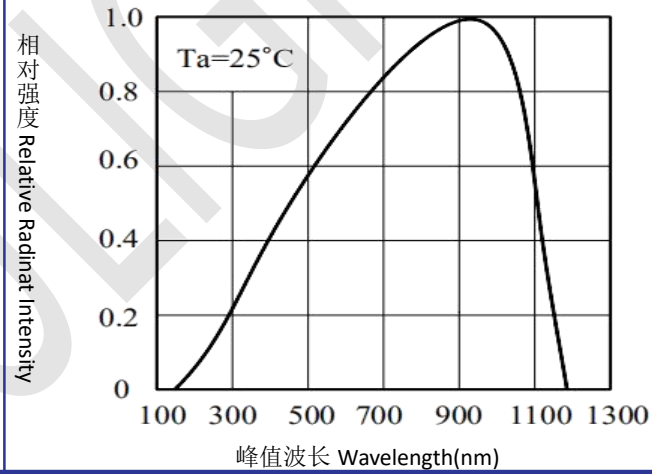
相对集电极电流与环境温度的关系
Relative Collector Current vs. Ambient Temperature



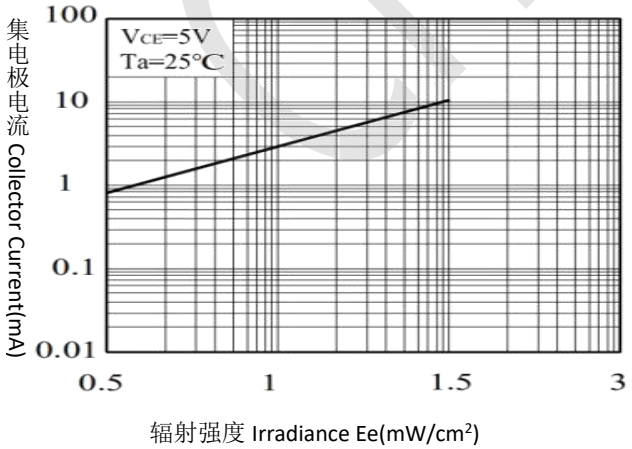
集电极暗电流与环境温度的关系
Collector Dark Current vs. Ambient Temperature



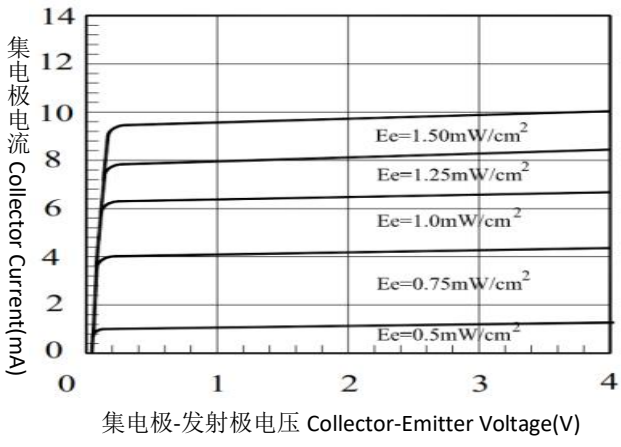
感应波长曲线图
Spectral Sensitivity



集电极电流与辐射强度的关系
Collector Current vs. Irradiance

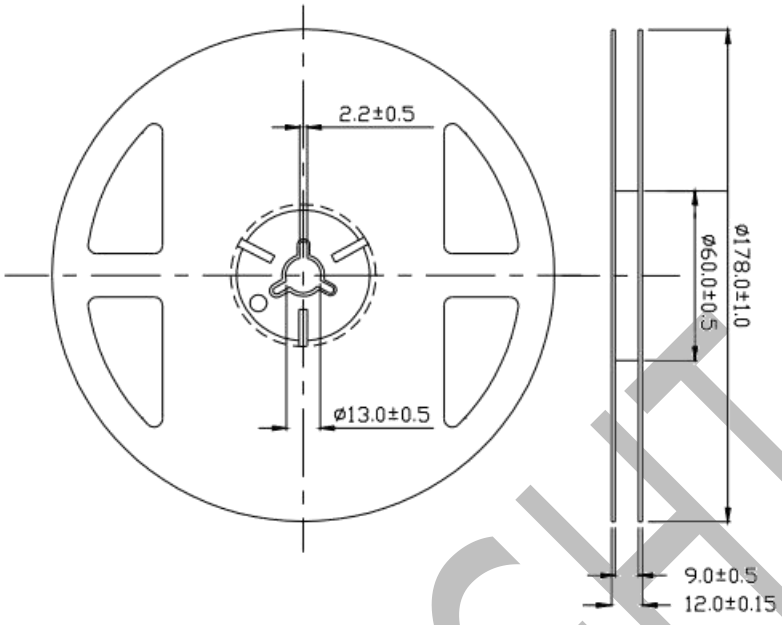


集电极电流与集电极-发射极电压的关系
Collector Current vs. Collector-Emitter Voltage



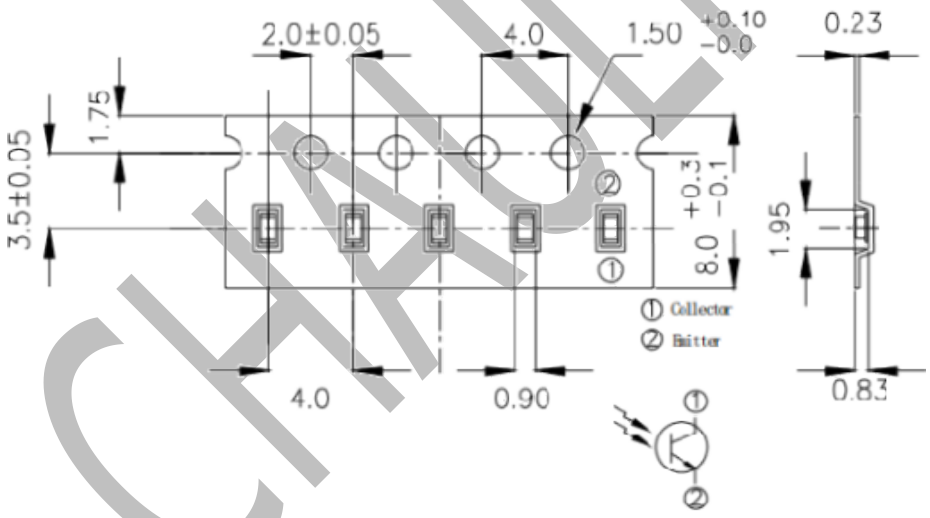
包装规格 Packing Specification

--卷轴包装尺寸 Package Dimensions



--载带编带的尺寸 Carrier Tape Dimensions

进料方向 Progressive Direction



--装载数量 Loaded Quantity

4000 个/盘 pcs/reel

--备注 Note

所有的尺寸公差最少是正负 0.1 毫米 The tolerances unless mentioned is ±0.1mm

注意事项 Note

--过流保护 Over-current-proof

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1、客户必须应用电阻进行保护，否则会造成轻微电压偏移大电流变化（烧毁将发生）。Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

--储存 Storage

1、产品准备使用前不要打开防潮袋。Do not open moisture proof bag before the products are ready to use.

2、在打开包装之前，二极管应保持在 10℃~30℃和 90%RH 或以下。Before opening the package, the LED should be kept at 10℃~30℃ and 90%RH or less.

3、二极管建议在一年内使用。The LED suggested be used within one year.

4、 打开包装后，设备必须存储在 10°C~30°C 和 60%RH，并在 168 小时内使用。如果未使用的二极管仍然存在，它应储存在防潮包装中。After opening the package, the devices must be stored at 10°C~30°C and 60%RH, and used within 168 hours (floor life). If unused LED remain, it should be stored in moisture proof packages.

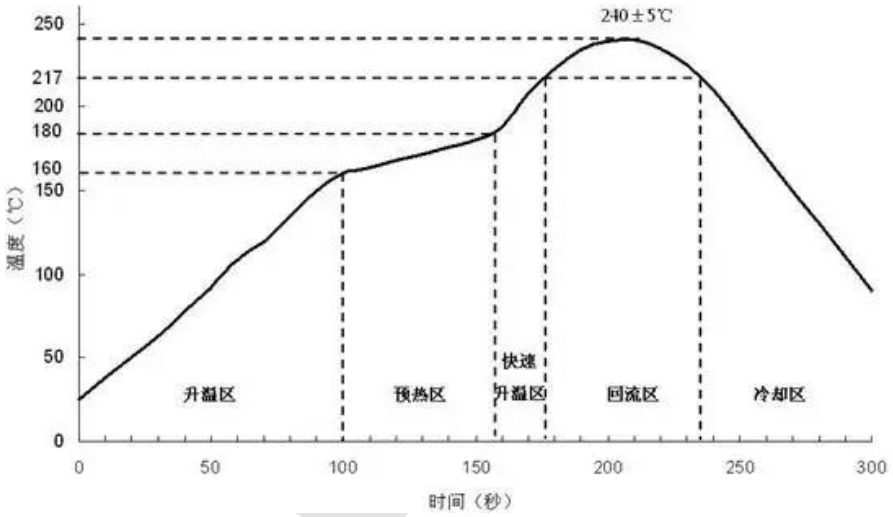
5、如果吸湿材料（干燥剂材料）已褪色或未打开的袋子已超过保质期或设备（袋外）已超过安全寿命，需要烘焙处理。If the moisture absorbent material (desiccant material) has faded or unopened bag has exceeded the shelf life or devices (out of bag) have exceeded the floor life, baking treatment is required.

6 、如果需要烘焙，请参阅 IPC/JEDECJ-STD-033 进行烘焙程序或建议以下条件：在 60° C±5° C 和 5%RH<96 小时（筛/管/套单位）If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure or recommend the following conditions: 96 hours at 60°C ± 5°C and < 5 % RH (reeled/tubed/loose units)

烘烤处理：60±5℃，24 小时。Bake treatment: 60 ± 5℃, 24 hours.

--焊接条件 Soldering Condition

1、铅焊料温度剖面 Lead solder temperature profile



2、回流焊不应做两次以上。Reflow soldering should not be done more than two times.

3、焊接时，不要在加热过程中对 LED 施加压力。 When soldering, do not put stress on the LEDs during heating.

4、焊接后，不要使电路板翘曲。After soldering, do not warp the circuit board.

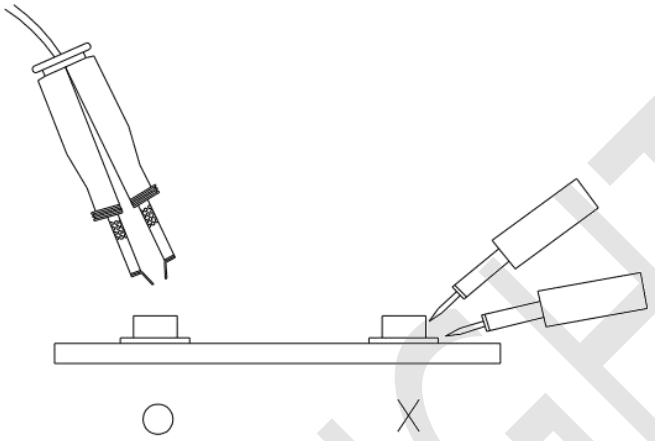
--烙铁条件 Soldering Iron

每个端子都要去烙铁尖端温度低于 350℃为 3 秒内一次少于烙铁容量 25W。 离开两秒钟然后更多的间隔，并做焊接每个终端。手工焊料通常在开始的时候容易损坏产品。Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two

seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

--手工补数 Repairing

修理不应在 LED 焊接后进行。 当修理是不可避免的是，应该使用双头烙铁（如下图所示）。 应该是事先确认 LED 的特性是否会或不会损坏通过修理。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 beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



--其他 Other

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更改记录表 Engineering Change Notice-Record

版本 Edition	更改日期 Date	主要更改内容 Main Content	拟 制 Prepared	确 认 Checked
1.1	2021-1-4	新版本发布 New Edition	谢育国	郝三强