



洲光源
CHAULIGHT

产品规格书

SPECIFICATION

客户名称: _____

Customer Name

产品类型: _____ 对射式光电开关

Product Name

产品型号: _____ ZOS-T0503-L2-Z2

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	王乐	曾栩轩	
☐ 接收 Qualified		☐ 不接收 Disqualified		日期 Date: 2025-11-24	

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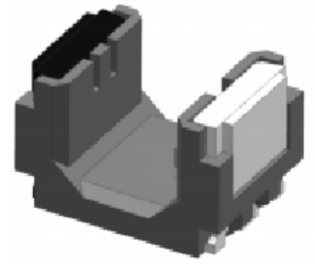
No.3,Lian Sheng South Road ,Dong Sheng Town,Zhongshan City,Guang Dong Province.

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。

This product specification is only used for technical communication.Only after the signature or seal, the specifications have the force of law.since the signing of the validity period of two years, after the expiration of the written renewal. The final interpretation right is owned by the CHAULIGHT.

ZOS-T0503-L2-Z2 是一种结合了高输出 GaAsIrED 和高灵敏度光电晶体管的紧凑型双通道透射型光电开关。它是一种带有发射器和检测器的透射式光学电路断路器，可提供非接触式传感。

The ZOS-T0503-L2-Z2 is compact transmission type photo interrupter, which combine high-output GaAsIrED with high sensitive dual photo transistors. It is a transmissive optical circuit breaker with emitter and detector that provides non-contact sensing.



特性 Feature

- 可靠性高、辐射强度高、低电压驱动
High reliability 、 High radiant intensity 、 Low forward voltage、
- 感应速度快、感光度强
Fast response time 、 High photo sensitivity
- 间距：3.0mm
Gap： 3.0mm
- 狭缝：0.3mm（发光部分 0.8mm）
Slit： 0.3mm（Light Emitting Part 0.8mm）
- 无铅材料、Rohs 认证
Pb.Free 、 RoHS compliant version

应用 Application

- 打印机、非接触开关
Printer 、 Non-contact Switching --位置
编码器
Position Encoder --工业
机械设备
Industrial Intelligent Equipment --汽车
旋钮
Swith for car --自动
售票机
Ticket Vending 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
输入端发射极 Input Emitter	最大功率 Power Dissipation * ₁	Pd	75	mW
	最大反向电压 Reverse Voltage	V _R	6	V
	最大持续正向电流 Forward Current	I _F	50	mA
	最大脉冲正向电流 Peak Forward Current * ₂	I _{FP}	500	mA
输出端接收极 Output Detector	最大功率 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	-40~+105	℃
储存温度 Storage Temperature		Tstg	-40~+105	℃
焊接温度 Lead Soldering Temperature * ₃		Tsol	260	℃
回流焊温度 Reflow Soldering Temp		Tsol	245	℃

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

*2、脉宽少于等于 100us, 占空比 1% Pulse width ≤ 100μs, Duty cycle= 1%

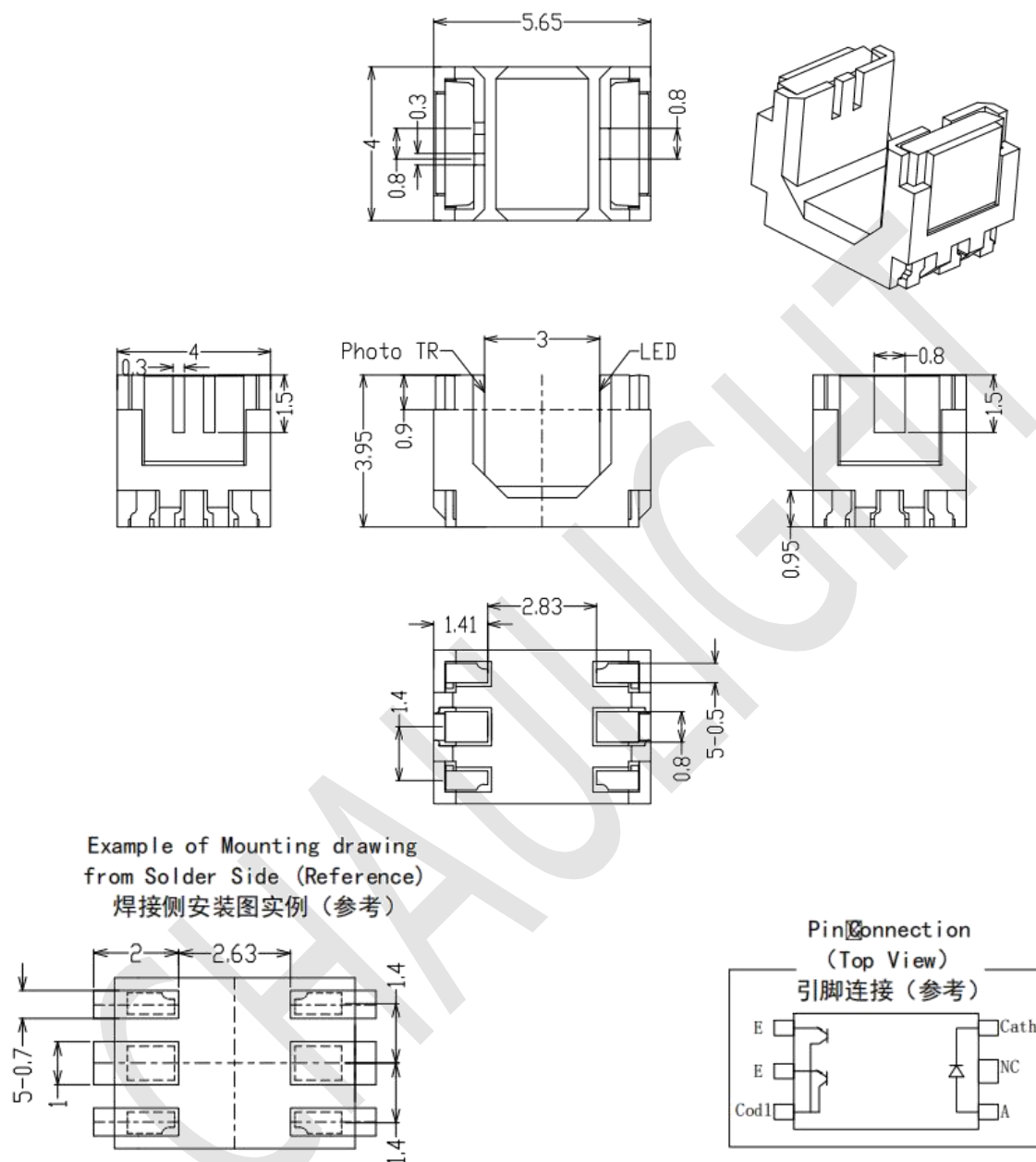
*3、离胶体 2mm 以上焊接 5s 内 2mm form body for 5 seconds

光电特性 Electro-Optical Characteristics

电性参数 (温度=25℃) Paramete (Ta=25℃)		符号 Symbol	条件 Condition	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Units
输入端 Input	正向电压 Forward Voltage	V _F	I _F =20mA	--	1.2	1.4	V
	峰值波长 Peak Wavelength	λ _p	I _F =15mA	--	940	--	nm
	反向电流 Reverse Current	I _R	V _R =5V	--	--	10	μA
输出端 Output	暗电流 Dark Current	I _{CEO}	Ee=0mW/cm ² V _{CE} =20V	--	1.0	100	nA
	集电极-发射极的饱和电压C-	V _{CE(SAT)}	I _F =15mA I _C =0.05mA	--	--	0.4	V
转换特性 Transfer Characteristics	E Saturation Voltage 上升时间 Rise Time	t _r	V _{CE} =5V I _C =0.3mA	--	4	15	μS
	下降时间 Fall Time	t _f	A R _L = 100Ω	--	5	20	
	集电极电流 Collector Current	I _C	I _F =15mA V _{CE} =5V	0.3	--	--	mA

*2、脉宽少于等于 100us, 占空比 1% Pulse width ≤ 100μs, Duty cycle= 1%

产品尺寸 Package Dimension



备注Notes:

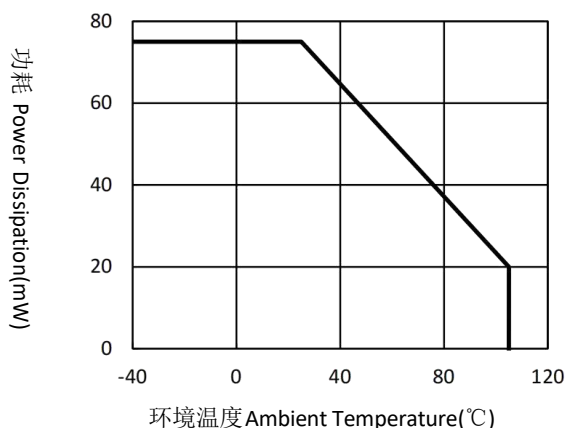
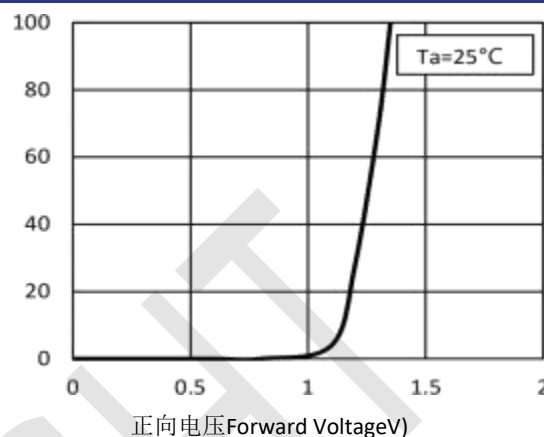
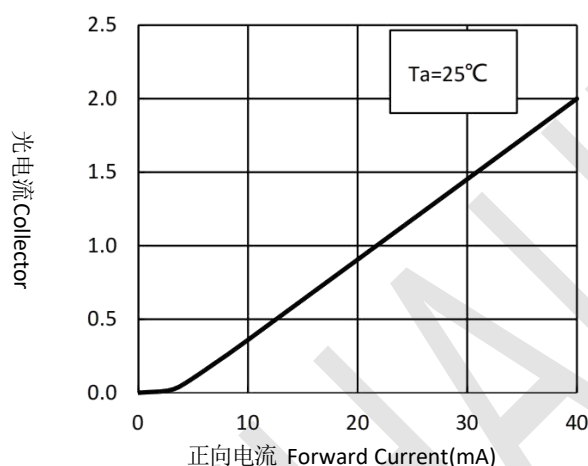
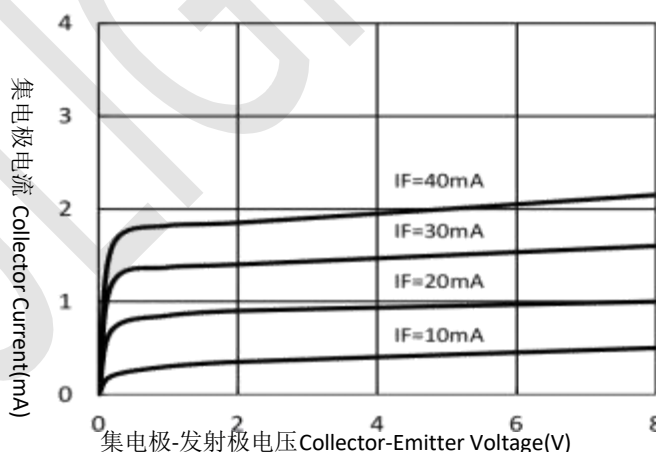
--所有尺寸为毫米标识

All dimensions are in millimeters

--未标识尺寸正负公差为 0.3mm

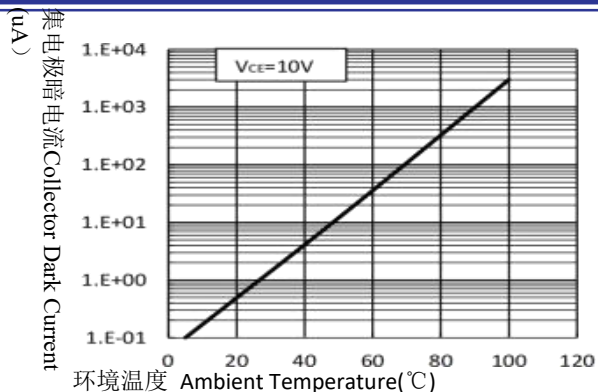
Tolerances unless dimensions $\pm 0.3\text{mm}$

光电开关特性曲线图 Typical Electro-Optical Characteristics Curves-ITR

功耗与环境温度的关系
Power Dissipation vs. Ambient Temperature正向电流与正向电压的关系
Forward Current vs. Forward Voltage光电流与正向电流的关系
Collector Current vs. Forward Current集电极电流与发射极电压
Collector Current vs Collector-Emitter

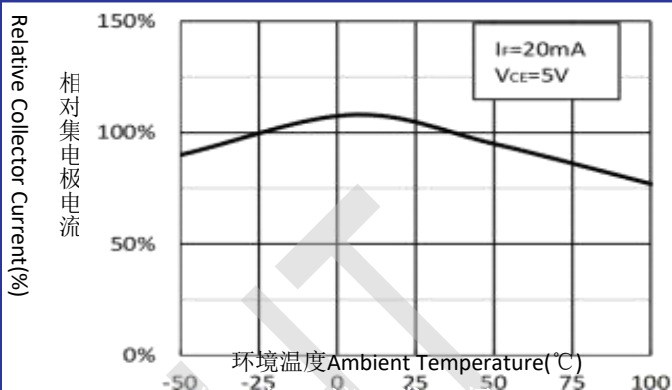
集电极功率与环境温度的关系

Collector Power Dissipation vs. Ambient Temperature



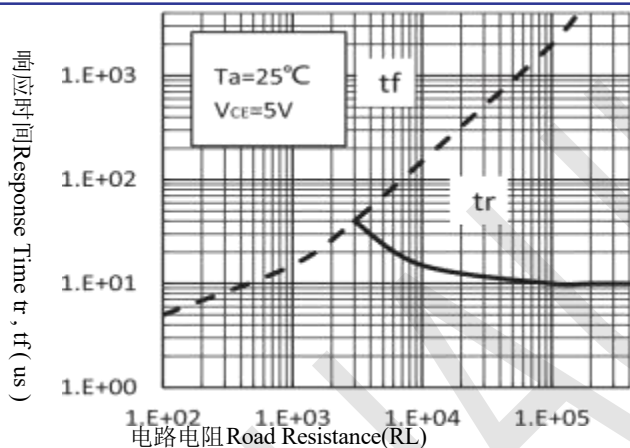
相对集电极电流与环境温度的关系

Relative Collector Current vs. Ambient Temperature

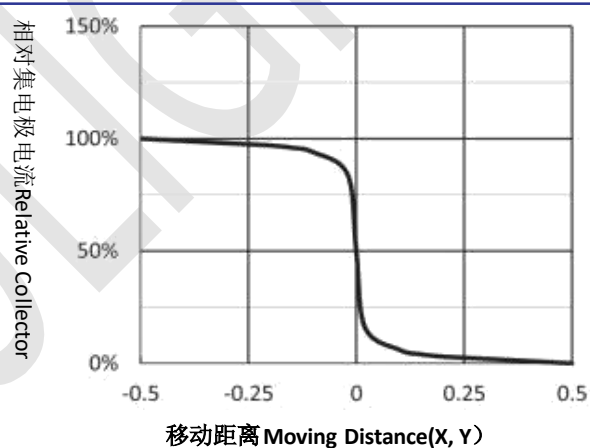


开关时间与负载电阻

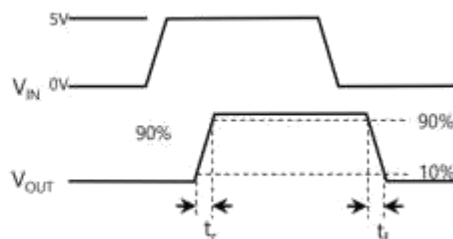
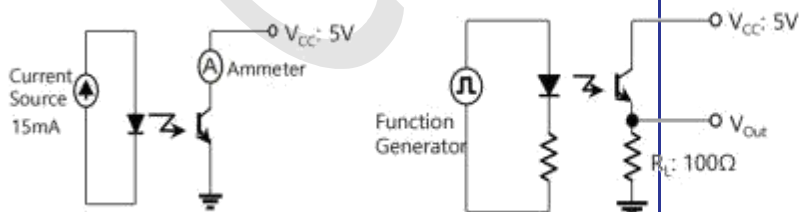
Switching Time Vs Load Resistance



Current vs Collector-Emitter Voltage

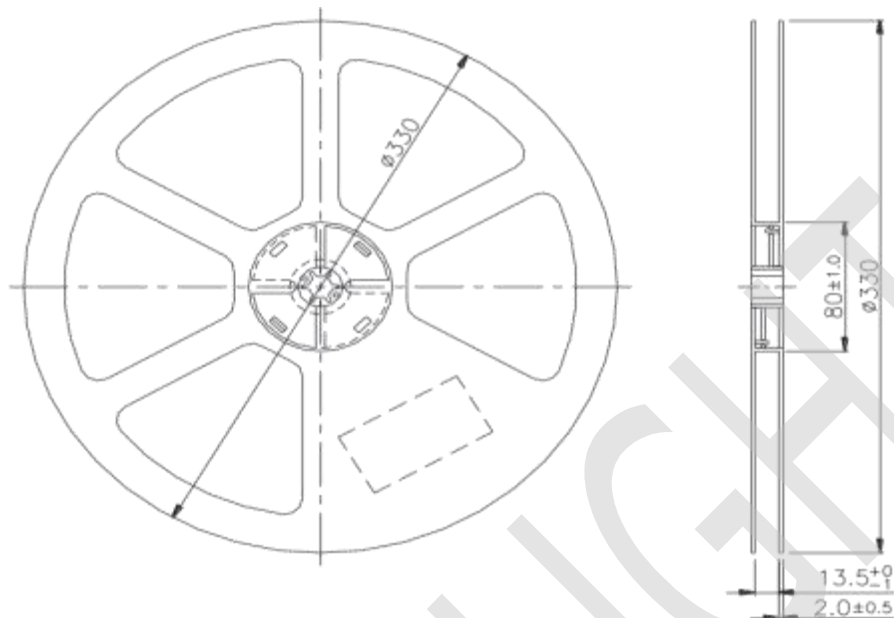


测试连接图 Connection Diagram for testing



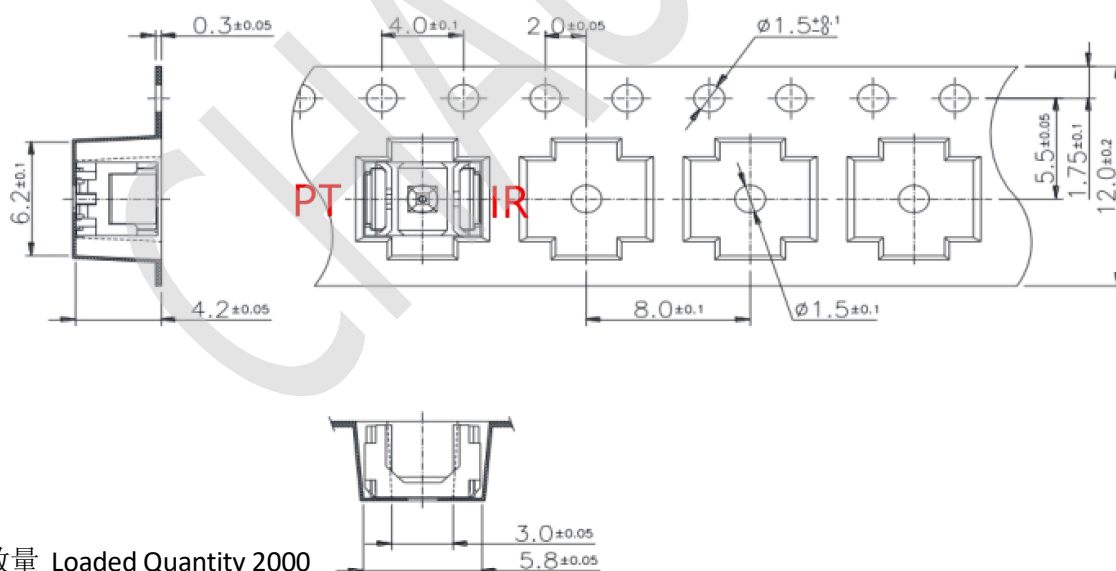
包装规格 Packing Specification

--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 2000

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 $\pm 0.1\text{mm}$

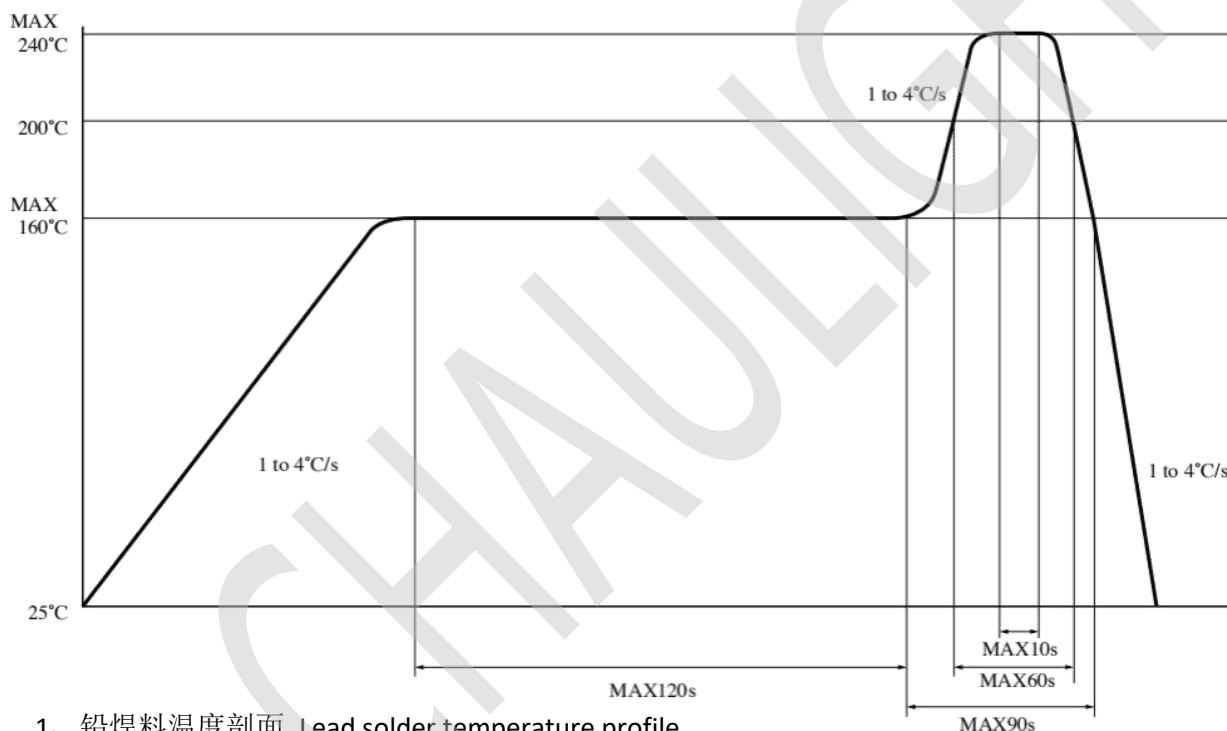
注意事项 Note

--其他 Other

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--焊接条件 Soldering Condition

洲光源推荐回流焊最高温度：250度以内，30秒内完成焊接。



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.

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
1.0	2025-11-24	新产品发布New Production	曾栩轩	王乐