



洲光源
CHAULIGHT

产品规格书 SPECIFICATION

客户名称: _____

Customer Name

产品类型: 对射式光电传感器

Product Name

产品型号: ZOS-T05603N-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	
☐ 接收 Qualified		☐ 不接收 Disqualified		日期 Date:	

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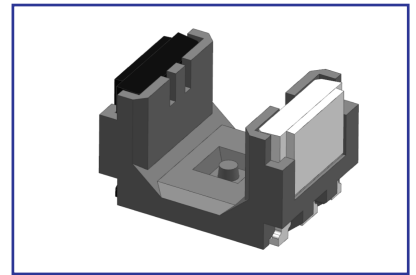
No.3,Lian Sheng South Road ,Dong Sheng Town,Zhongshan City,Guang Dong Province.

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。

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ZOS-T05603N-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-T05603N-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、Rosh 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
Switch 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	255	℃

*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%

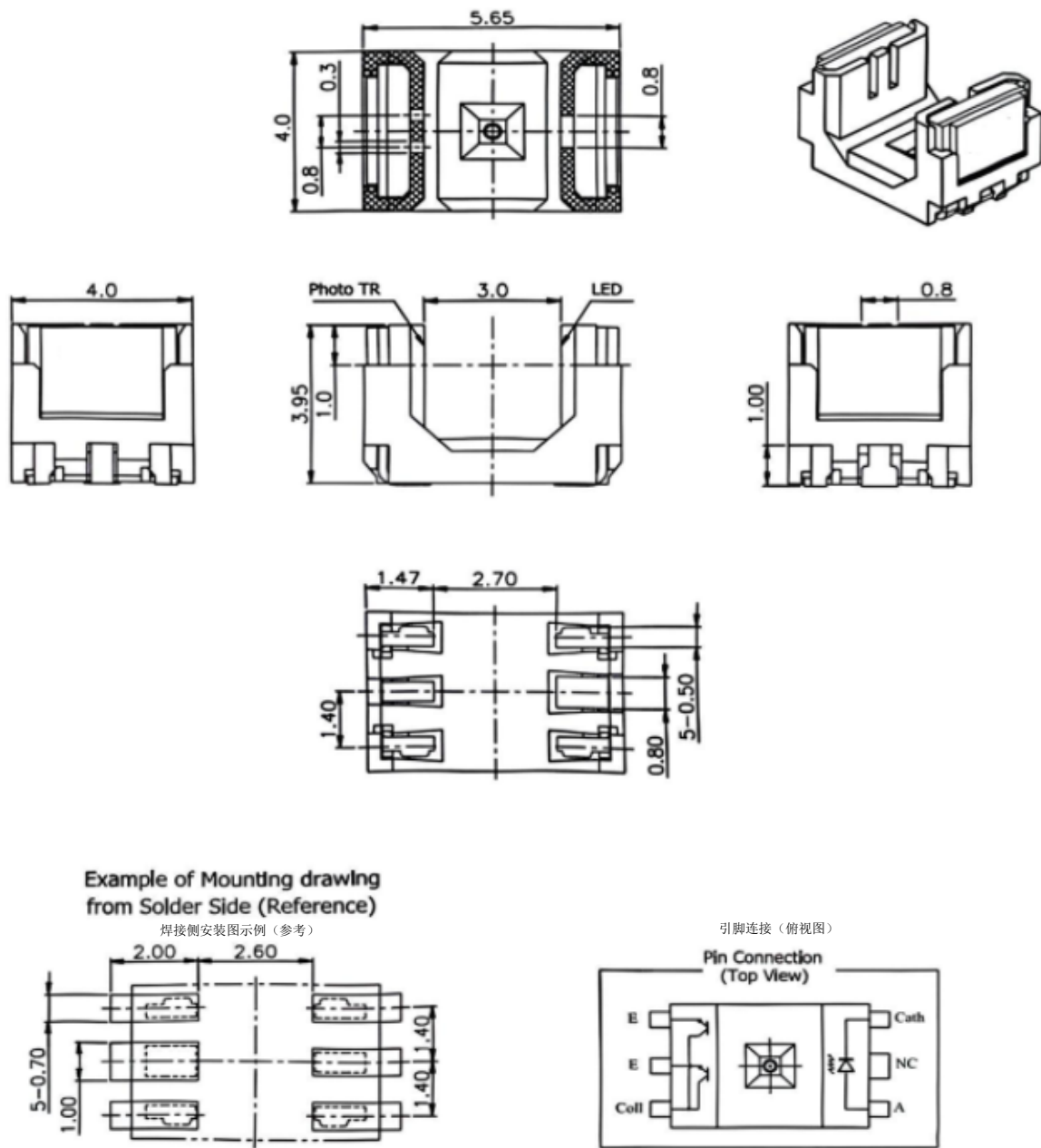
*3、离胶体 2mm 以上焊接 5s 内 2mm form body for 5 seconds

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-发射极的工作电压 C-E Saturation Voltage	V _{CE(SAT)}	I _F =15mA I _C =0.05mA	--	--	0.4	V
转换特性 Transfer Characteristics	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	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

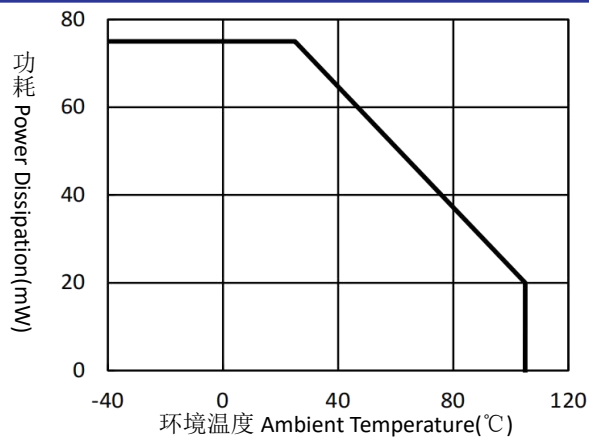
--未标识尺寸正负公差为 0.3mm

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

特性曲线图 Typical Electro-Optical Characteristics Curves

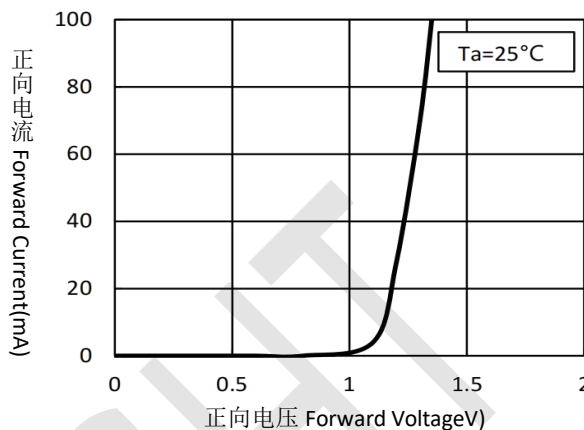
功耗与环境温度的关系

Power Dissipation vs. Ambient Temperature



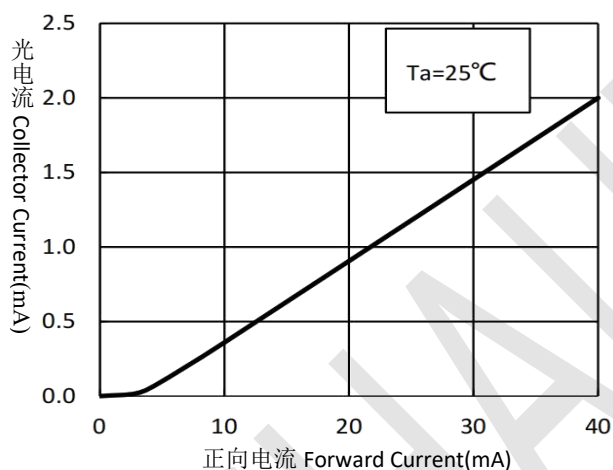
正向电流与正向电压的关系

Forward Current vs. Forward Voltage



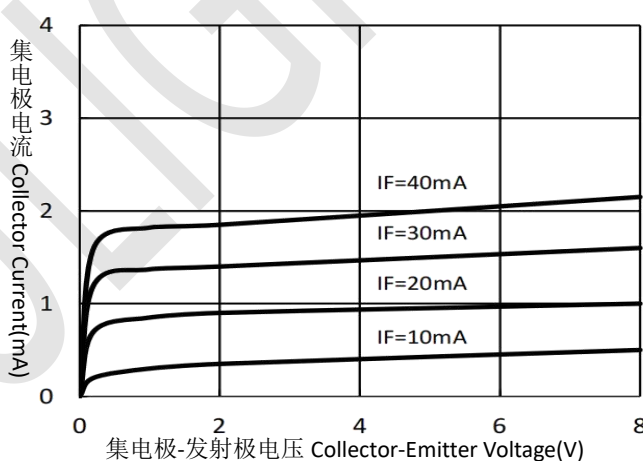
光电流与正向电流的关系

Collector Current vs. Forward Current



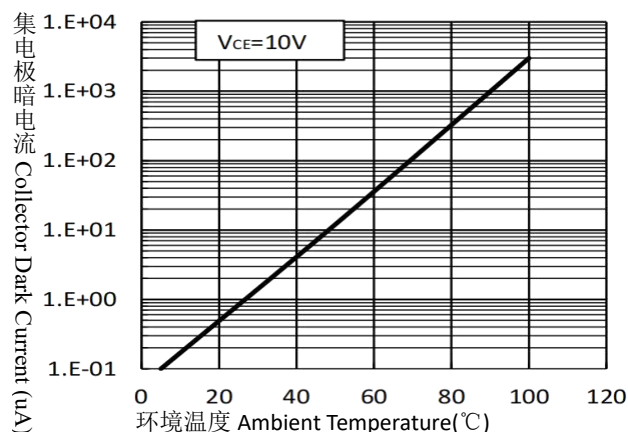
集电极电流与发射极电压

Collector Current vs. Collector-Emitter Voltage



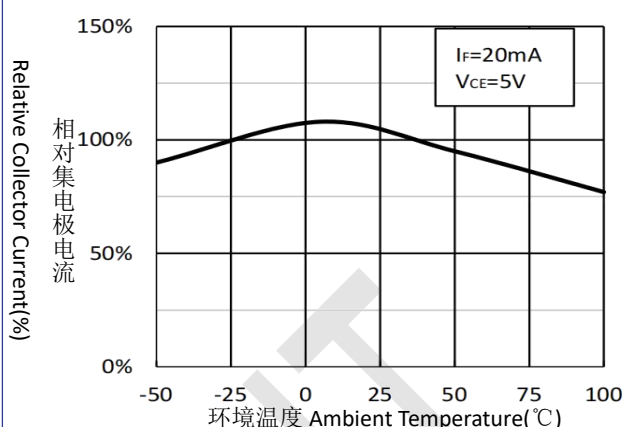
集电极暗电流与环境温度的关系

Collector Dark Current vs. Ambient Temperature



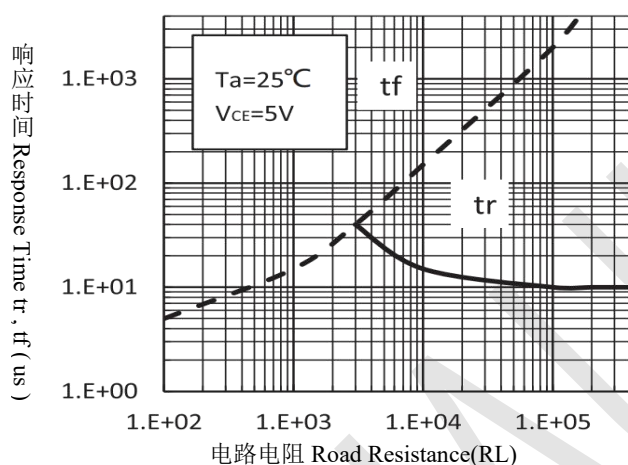
相对集电极电流与环境温度的关系

Relative Collector Current vs. Ambient Temperature



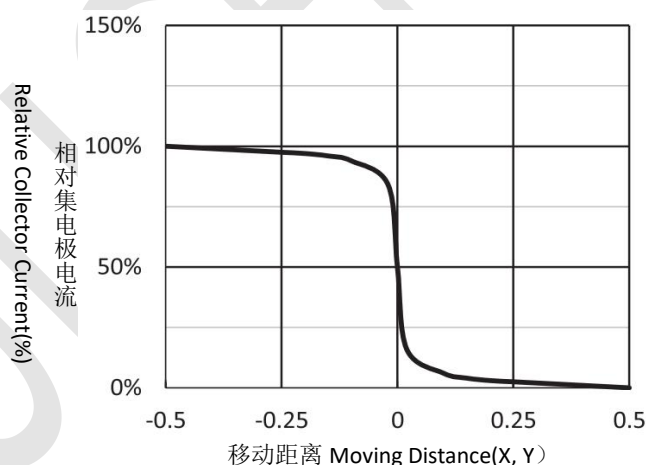
开关时间与负载电阻

Switching Time Vs Load Resistance

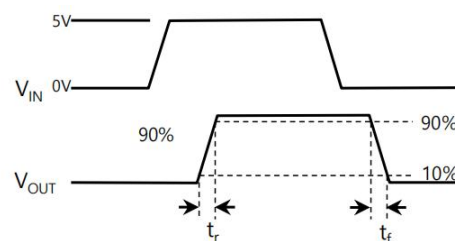
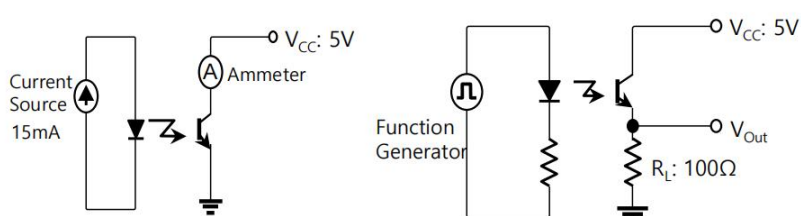


相对集电极电流与移动距离

Relative Collector Current vs. Moving Distance (X, Y)

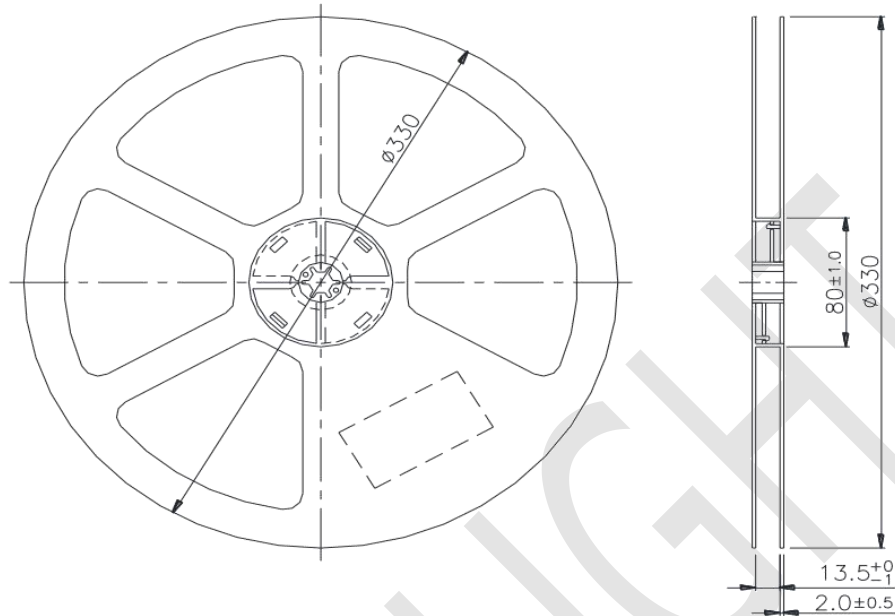


测试连接图 Connection Diagram for testing



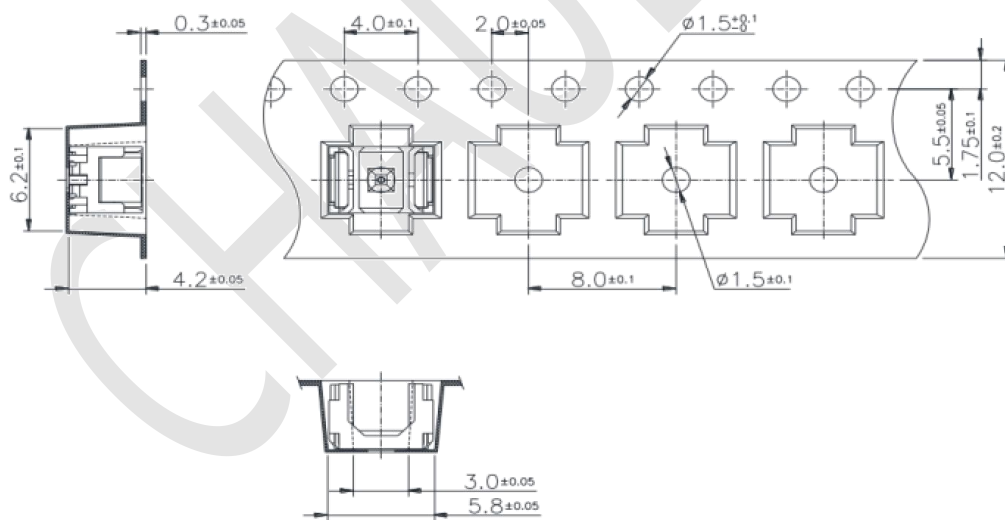
包装规格 Packing Specification

--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 $\pm 0.1\text{mm}$

广东洲光源红外半导体有限公司

CHAULIGHT

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► 注意事项 Note

--回流焊曲线 Reflow Soldering Profile

① 建议使用以下焊锡膏。Following soldering paste recommended .

融化温度: 245 ~ 255℃。 Melting temperature : 245 ~ 255℃.

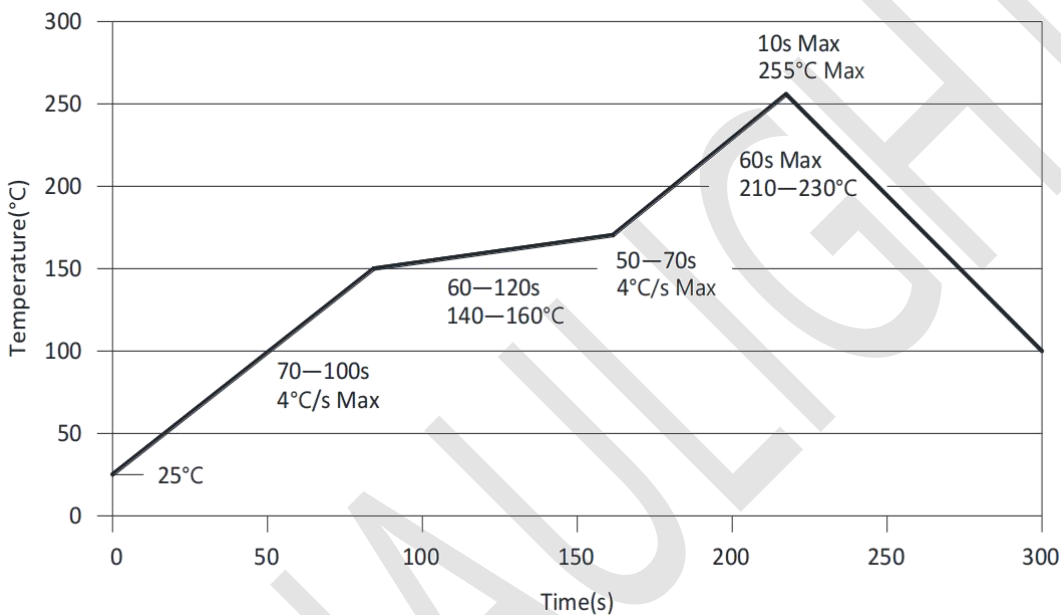
成分: 无铅。 Composition : Pb-free.

②对于丝网印刷, 金属掩模的推荐厚度在 0.12mm 到 0.2mm 之间。

Recommended thickness of metal mask is between 0.12mm and 0.2mm for screen printing.

③以下所示的产品上表面温度分布是焊接所需的。

The below illustrated temperature profile at the top surface of the product is requested for soldering .



--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
1.0	2022-10-12	新产品发布 New Production	黄瑞良	郝三强