洲光源
CHAULIGHT

产品规格书
SPECIFICATION

客户名称：
Customer Name

产品类型：红外接收头
Product Name

产品型号：ZSIRM-C2P1A81
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
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☐ 接收 Qualified ☐ 不接收 Disqualified		日期 Date：2022.08.14		

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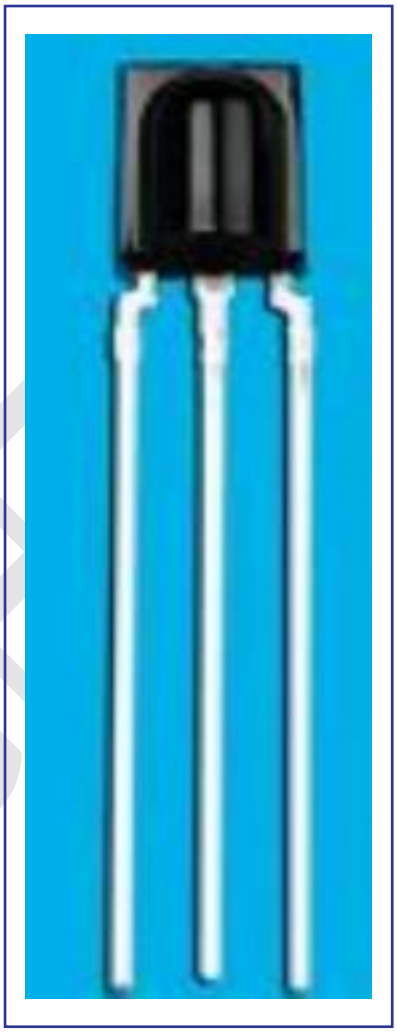
ZSIRM-C2P1A81

红外接收器
Infrared receivers

ZSIRM-C2P1A81 是一种红外接收器，用于红外远程控制和其它需要改进抑制环境光或灯光的应用。 单独的 PIN 光电二极管和前置放大器 IC 电路组装在单个引线框架上，环氧树脂封装含有一个特殊的红外线过滤器及内置屏蔽抗干扰设计。

The ZSIRM-C2P1A81 is an infrared receivers for infrared remote control and other remote control or reflection applications that requiring improved suppression of ambient light or lighting.

The individual PIN photo diode and preamplifier IC are assembled on a single lead frame. The epoxy resin package contains a special infrared filter and built-in shielding anti-interference design.



特性 Feature

--宽工作电压：2.7~5.5V
Wide voltage operating
--宽半角接收距离
Wide half angle & long reception distance
--自动调制环境光偏置
Automatic modulation of ambient light bias
--内屏蔽设计，抗光与电磁波干扰
Internal shielding design, resistant to light and electromagnetic interference
--兼容 TTL 和 COMS 电平，低电平有效
Compatible with TTL and COMS outputs, effective at low levels
--低功耗
Low-power consumption

应用 Application

--电视,录像机,音响设备,汽车立体声收音机,玩具,家庭电脑,所有需遥控设备
TV, VCR, audio equipment, air conditioning, car stereo radio, toys, home computer, all require remote control equipment

最大额定值 Absolute MaximumRatings

测试项目 Parameter（Ta=25℃）	符合 Symbol	范围 Ratings	单位 Unit
电源电压 Supply voltage	Vcc	0-6	V
工作温度 Operating Temperature	Topr	-20~+80	℃
储存温度 Storage Temperature	Tstg	-25~+85	℃
焊接温度 Lead Soldering Temperature*3	Tsol	260（<5s）	℃

*1、 在 25 摄氏度的环境中测试 below 25 Free Air Temperature
*2、离胶体 2.5mm 以上焊接 5s 内 2.5mm form body for 5 seconds

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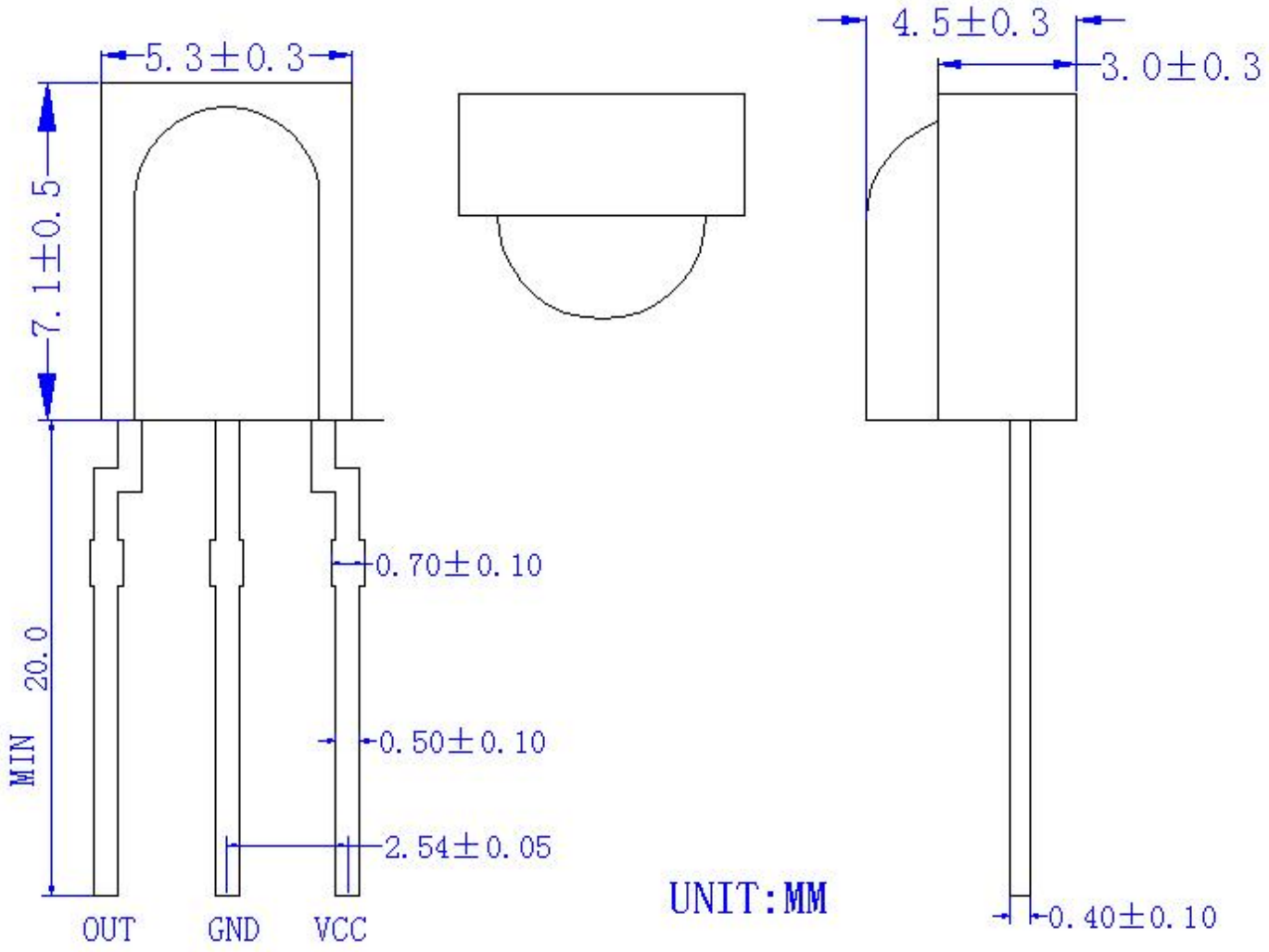
产品尺寸 Package Dimension



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 ±0.3mm

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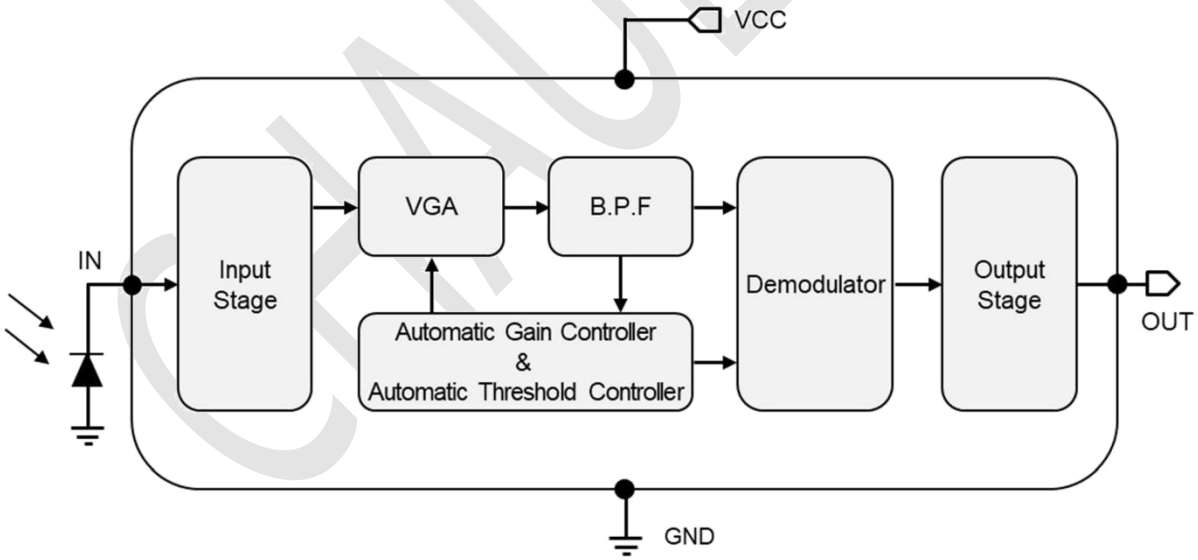
光电特性 Electro-Optical Characteristics

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
工作电压 working voltage	Vcc	--	2.7	--	5.5	V
静态电流 Supply Current	Icc	Vcc=5.0v	0.15	0.32	0.50	mA
载波频率 B.P.F. Center Frequency	fo	--	--	37.9	--	kHz
峰值波长 Peak Wavelength	λp	--	--	940	--	nm
低电平输出 Low Level Output Voltage	Vol	--	--	0.20	0.40	V
高电平输 High Level Output Voltage	Voh	Vcc=5.0v	Vs-0.4	--	Vs+0.2	V
脉冲宽度 pulse width	Tpw	--	450	--	750	μS
接收距离 Arrival Distance*1	L1	(θ=0)	8	12	--	m
	L2	(θ=30°)	5	8	--	m
半角 Half angle	2θ1/2	--	--	±40	--	Deg

*1、 在 25 摄氏度 200Lux 环境下，MI:3 装置采用 NEC 编码，ZIR053-30 发射源，流过电流是 175mA.

In a 200Lux environment at 25℃, the MI:3 device uses NEC code, ZIR053-30 emission source and a current of 175mA flowing through it.

方框图 Block Diagram



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试验方法 Test Method

A. Standard Transmitter

ON/OFF pulse width satisfied from 25 cm to detection limit

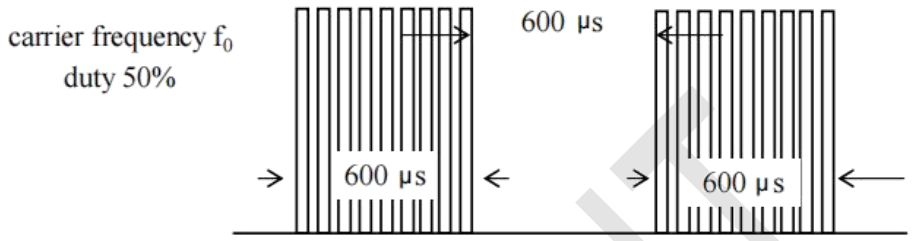


Fig 1. Burst Wave

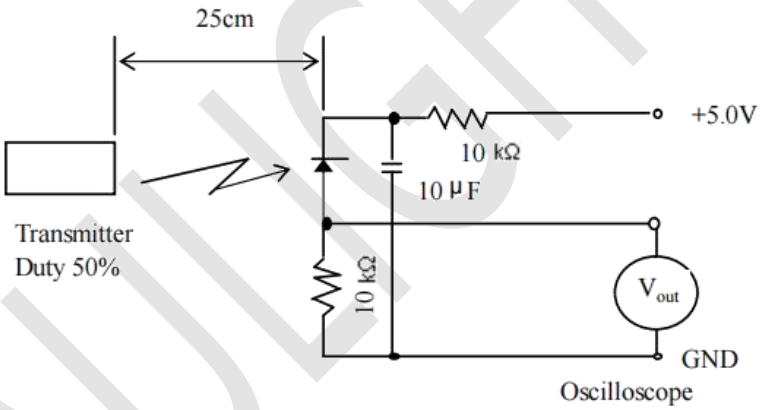
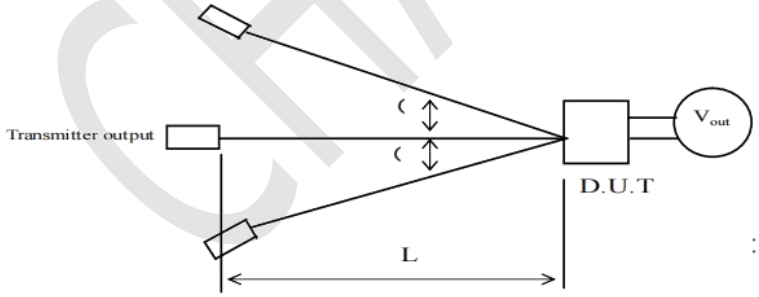


Fig 2. Standard Transmitter Measurement circuit

B. Detection Length Test



: indicates horizontal and vertical directions

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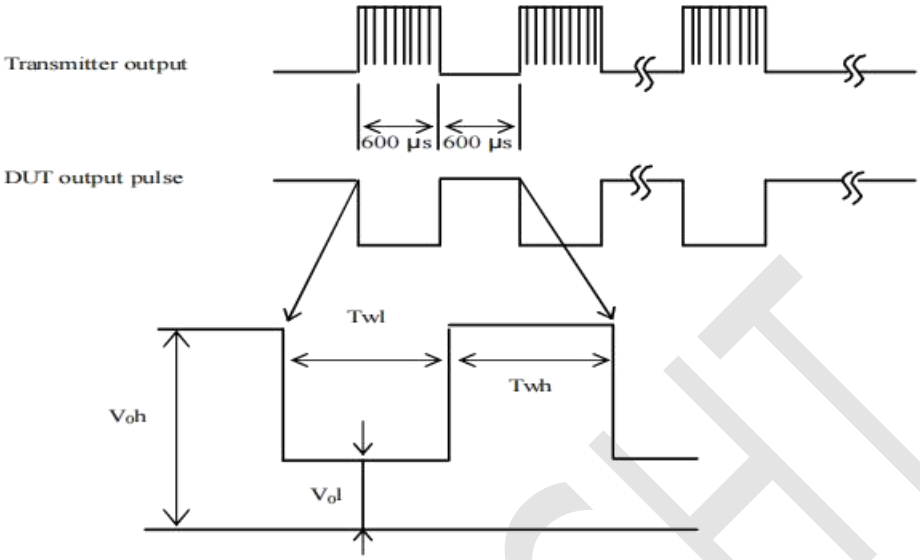
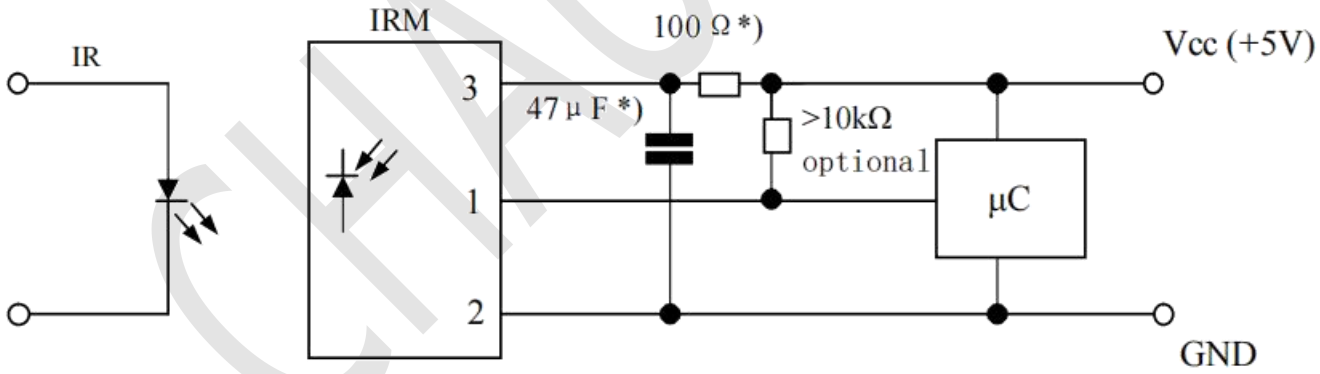
C . Pulse Width Test



应用电路 Application Circuit



*) recommended to suppress power supply disturbances

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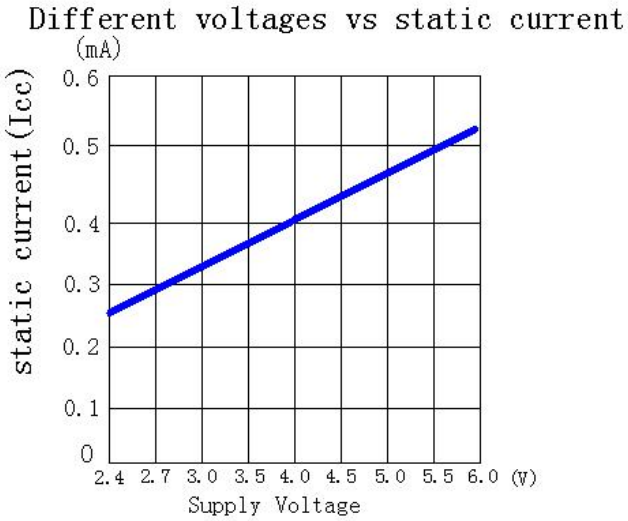
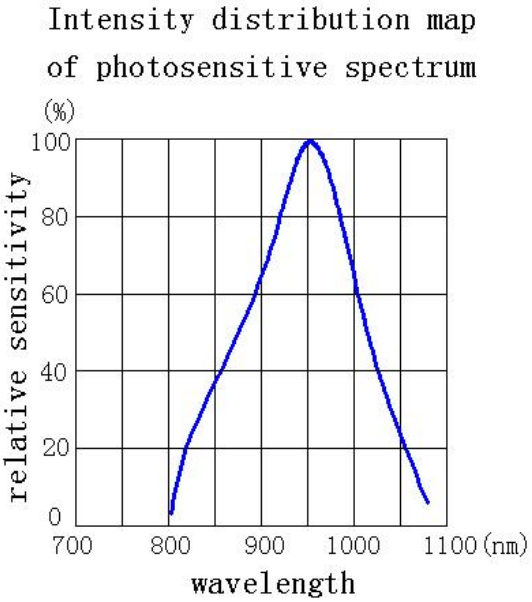
代码信息 Code information

IR Code / Noise Immunity	Acceptable
NEC	O
RC5	O
RC6	X
Toshiba	X
Sharp	X
Sony 12bit	O
Sony 15bit	X
Sony 20bit	X
Zenith	X
JVC	O
RCMM	X
Continuous Code	X

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





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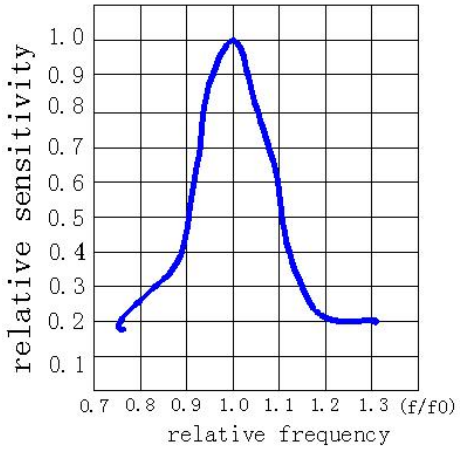
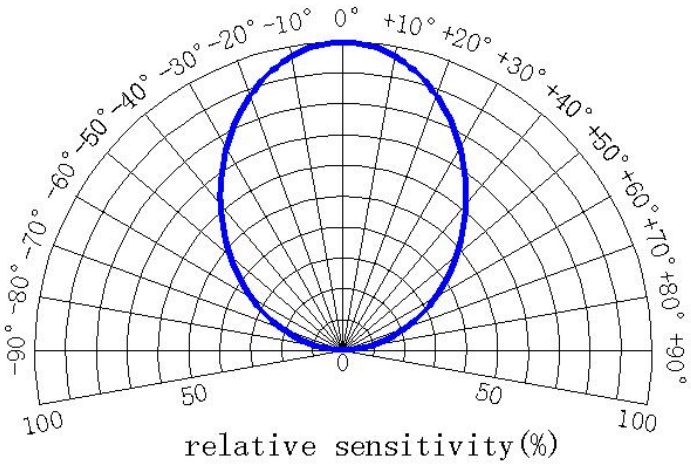
Carrier frequency bandwidth (-3dB)



Angular displacement θ (deg)



可靠性 Reliability

测试项目 Test item	测试条件 Test condition	适用 Standard
高温 High temperature	Ta=+80℃ t=48H	Note 1
寿命测试 Life Test	V_{CC}=5V t=500H	Note 1
低温 Low temperature	Ta=-30℃ t=48H	Note 1
温度循环 Temperature cycle	-35℃(0.5H)~+85℃(0.5H) 20cycle	Note 1
跌落 Dropping	Test devices shall be dropped 3 times naturally onto hard wooden board from a 75cm height position.	Note 1
焊接能力测试 Soldering ability test	Ta=260℃ t=5s	Note 2

注 1：所用的测试是在常温放置 1 小时后，室内无极端反射光、无高频照明，在表面照 度 200±50Lux 环境下测试。

Note 1: The test used is to be placed at room temperature for 1 hour, no extreme reflected light, no high-frequency illumination, and the surface illumination is 200±50Lux.

注 2：产品焊接区域是被焊料覆盖 90%以上。

Note 2: The soldering area of the product is more than 90% covered by solder.

注意事项Note

--过流保护Over-current-proof

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）。

The customer must apply resistance for protection, otherwise it will cause a slight voltage offset and a large current change (burning will occur).

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--储存Storage

1、产品准备使用前不要打开防潮袋。

Do not open the moisture-proof bag before the product is ready for use.

2、在打开包装之前，产品应保持在10℃~30℃和90%RH 或以下。

Before opening the package, the product should be kept at 10°C~30°C and 90%RH or below.

3、产品建议在一年内使用。

The product is recommended to 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48小时内使用（地板寿命）。如果未使用的产品仍然存在，它应储存在防潮包装中。

After opening the package, the device must be stored at 10°C~30°C and 60%RH and used within 48 hours (floor life). If the unused product remains, it should be stored in moisture-proof packaging.

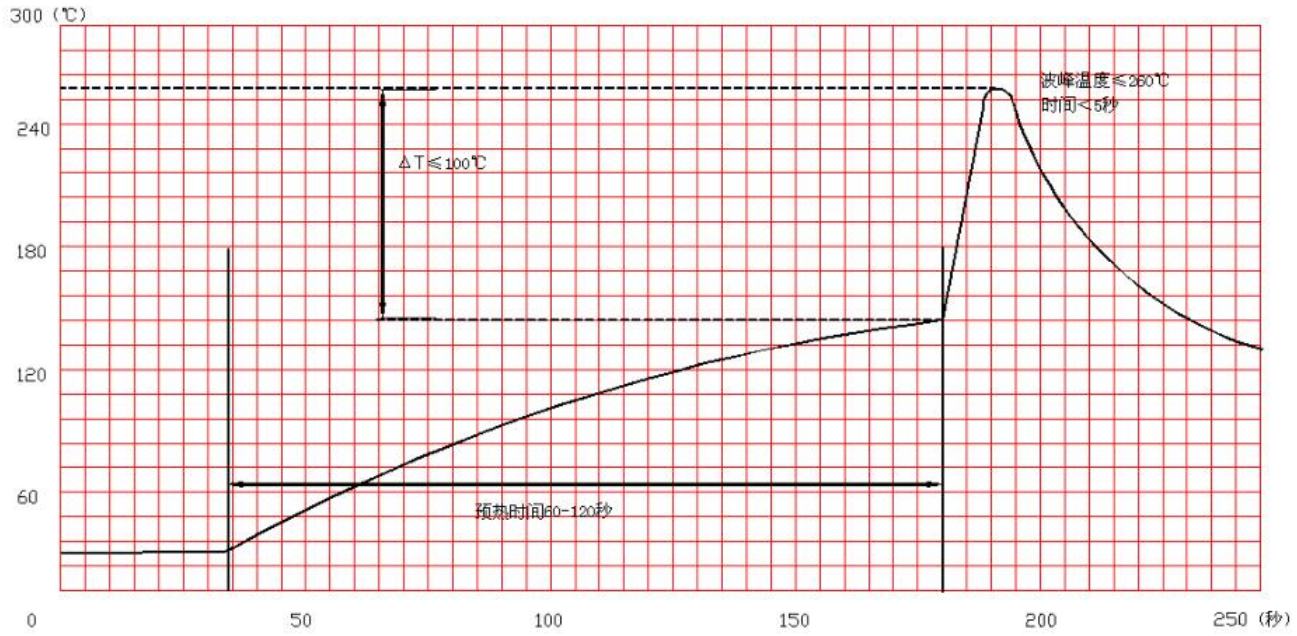
5、如果吸湿材料（干燥剂材料）已褪色或未打开的袋子已超过保质期或设备（袋外）已超过地板寿命，需要烘焙处理。

Baking is required if the hygroscopic material (desiccant material) has faded or the unopened bag has exceeded its shelf life or the equipment (outside the bag) has exceeded the life of the floor.

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, please refer to IPC/JEDECJ-STD-033 for baking procedures or recommend the following conditions: 60°C±5°C and 5%RH<96 hours (sieve/tube/sleeve unit)

--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 twice.

3、焊接时，不要在加热过程中对IRM 施加压力。

When welding, do not apply pressure to the IRM during the heating process。

--烙铁条件Soldering Iron

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每个端子都要去烙铁尖端温度低于350℃为3 秒内一次少于烙铁功率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 removed from the soldering iron tip at a temperature below 350°C for 3 seconds, less than 25W at a time. Leave two seconds and then more intervals, and do soldering each terminal. Manual solder is often prone to damage to the product at the beginning.

--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
A/1	2024-11-14	新版本发布 New Edition	赖华棋	谢小金

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