



广州市东裕光电科技有限公司

产品规格书

SPECIFICATION

客户名称 CUSTOMER	
产品名称 PRODUCTION	对射式（槽型）光电开关 Transmissive Sensor
产品型号 MODEL	DYWH-ITR1205-3T
版本号 VERSION NO	A1.0

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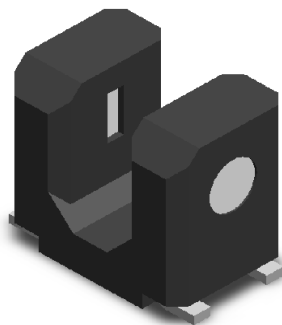
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客户确认 CUSTOMER CONFIRMATION	审 核 CHECKED BY	编 制 PREPARED BY
	邓晓军	区家俊



DYWH-ITR1205-3T



产品描述 Descriptions

- 对射式（槽型）光电开关。
(An transmissive sensor)

产品特性 Features

- 可靠性高 (High reliability)
- 响应时间快 (Fast response time)
- 解析度高 (High analytic)
- 敏感度高 (High sensitivity)
- 截止波长 940nm (Cut-off visible wavelength $\lambda_P=940\text{nm}$)
- 无铅 (Pb free)
- 符合 RoHS 要求 (This product itself will remain within RoHS compliant version)

产品应用 Applications

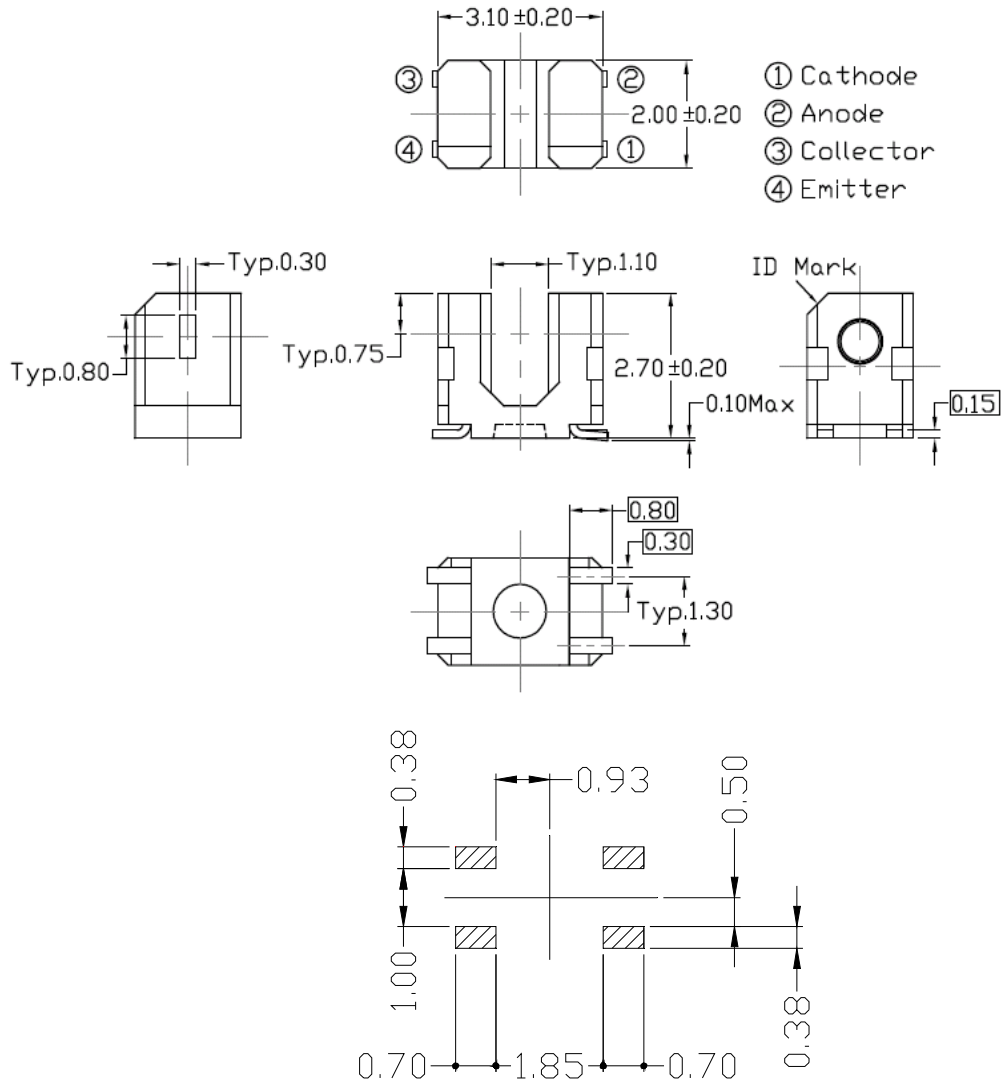
- 鼠标 (Mouse Copier)
- 码盘 (Switchc Scanner)
- 非接触式开关 (Non-contact Switching)
- 智能家电 (Smart Appliances)

包装方式 Packing Quantity Specification

- 编带：3000PCS/卷，13 卷/箱 (800 PCS /Reel, 13Reel/Carton)



一、外形图 Outline dimensions:



注(Notes): 1、所有尺寸均以毫米为单位(All dimensions are in millimeters)。

2、尺寸公差值为 $\pm 0.15\text{mm}$ (Tolerances unless dimensions $\pm 0.15\text{mm}$)。

※备注：承认书之编号和型号可用于查询，客户如有需要，请提供相应的编号和型号。

Remark: P/N & Model in samples approval sheet can be used to inquire, please provide corresponding P/N & model if customer need.

二、光电参数 Electro-Optical Characteristics:

(环境温度 Ambient temperature: 25°C, 环境湿度 Humidity: RH60%)

项目 Item		符号 Symbol	测试条件 Test condition	最小值 Min.	典型值 Type	最大值 Max..	单位 Unit.
输入 Input	正向电压 Forward voltage	V_F	$I_F=10\text{mA}$	-	1.2	1.4	V
	反向电流 Reverse current	I_R	$V_R=5\text{V}$	-	-	10	μA
	峰值波长 Peak wavelength	λ_p	$I_F=10\text{mA}$	-	940	-	nm
输出 Output	暗电流 Dark Current	I_{CEO}	$V_{CE}=20\text{V}$	-	-	0.1	nA
	C-E 饱和电压 C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=2\text{mA},$ $E_e=1\text{mW/cm}^2$	-	-	0.4	V
集电极电流(*) Collector Current(*)		$I_{C(ON)}$	$V_{CE}=2\text{V}$ $I_F=5\text{mA}$	150	-	1000	μA
响应时间 Response Time	上升时间 Rise Time	T_R	$V_{CE}=5\text{V}$ $I_C=1\text{mA}$ $R_L=1\text{K}\Omega$	-	9	-	μs
	下降时间 Fall Time	T_F		-	8	-	μs

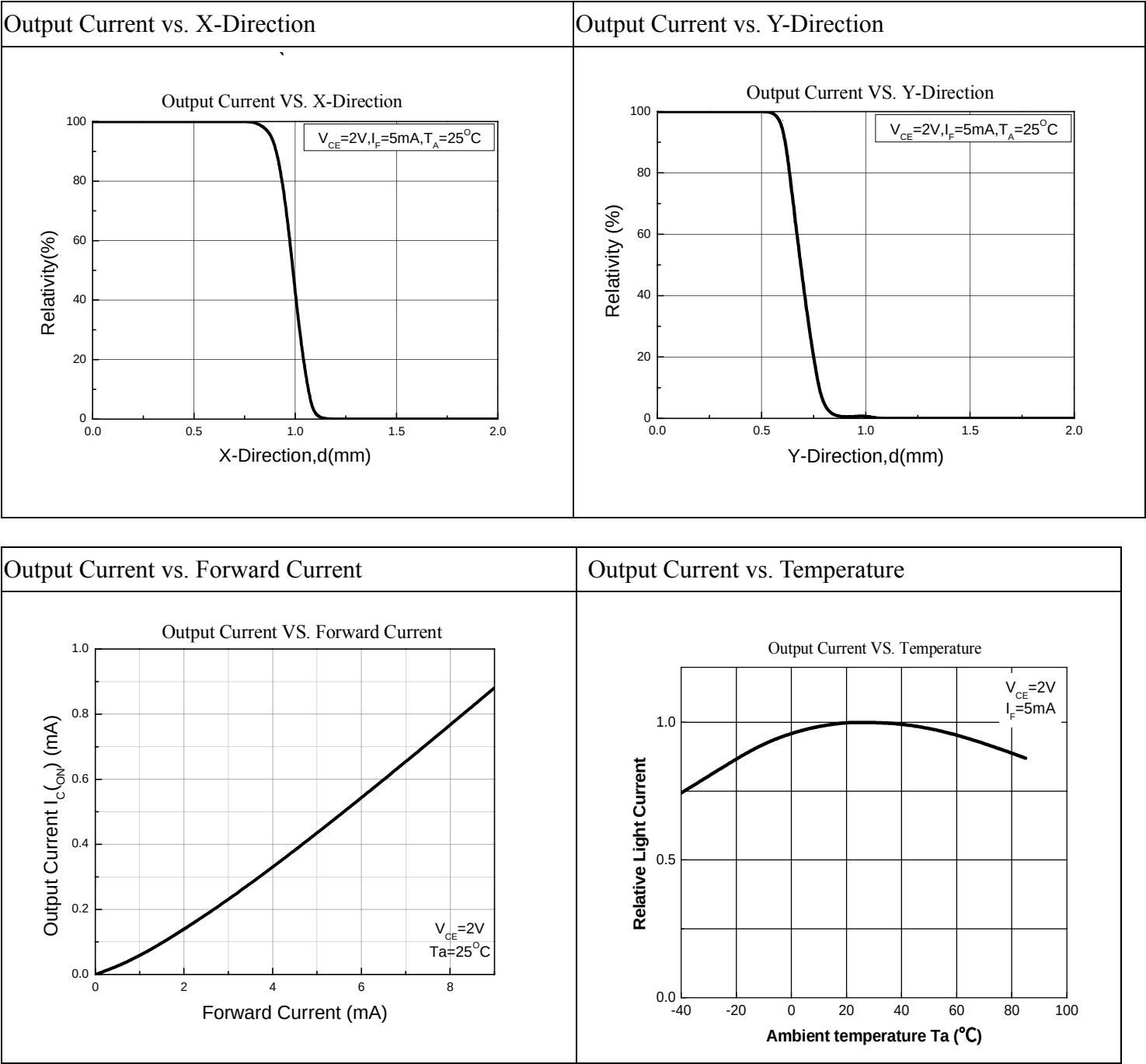
注(Notes): *正向电压公差范围(Forward voltage tolerance): $\pm 0.1\text{V}$

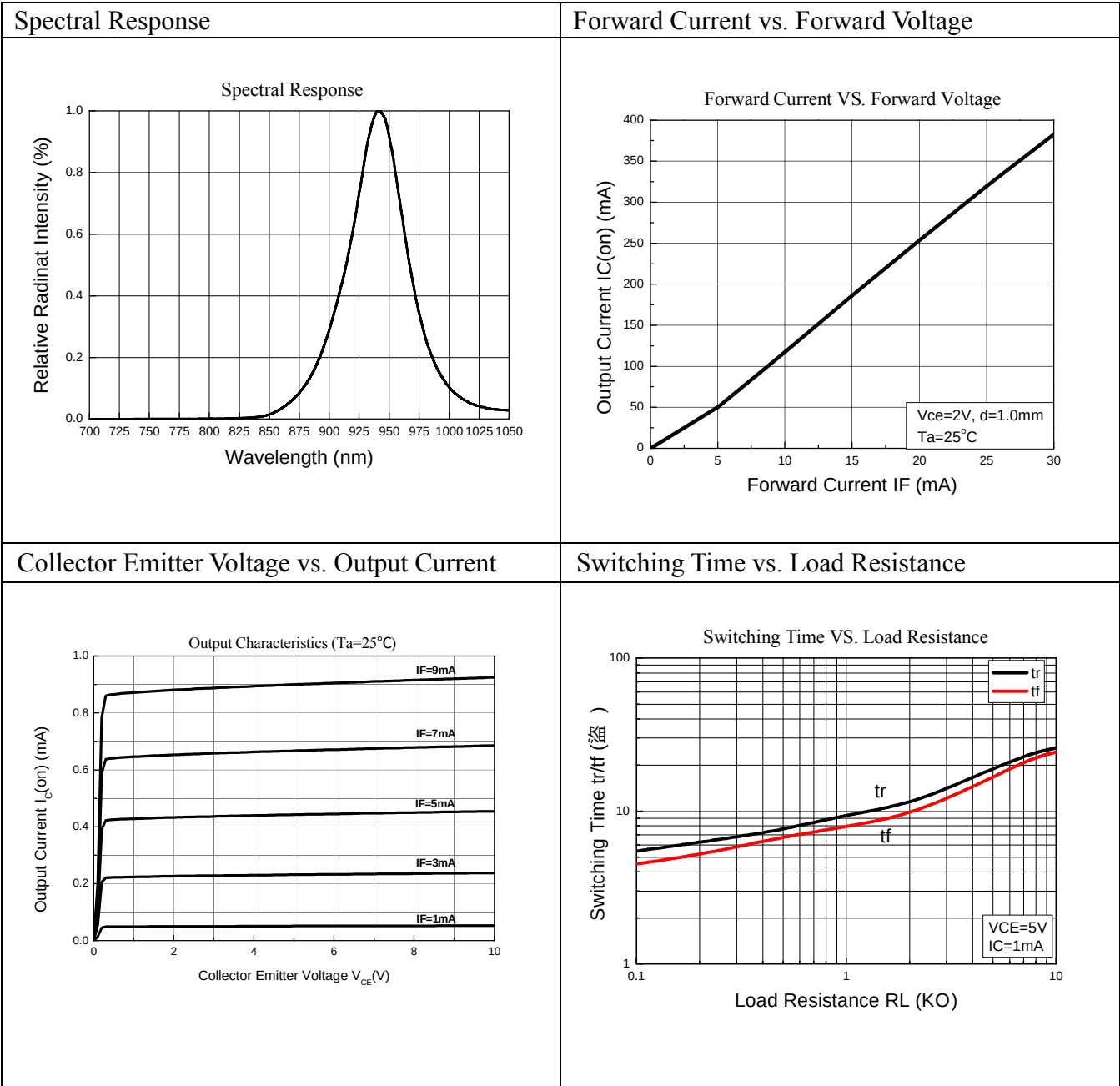
*辐射强度公差范围(Radiant intensity tolerance): $\pm 10\%$

*波长公差范围(wavelength tolerance): $\pm 1.0\text{nm}$

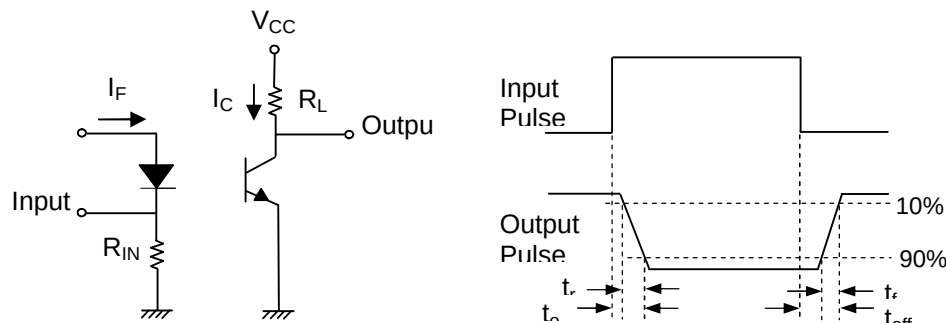


三、典型光电特性曲线图 Typical photoelectricity characteristic curve chart:





Measuring Circuit For Response Time



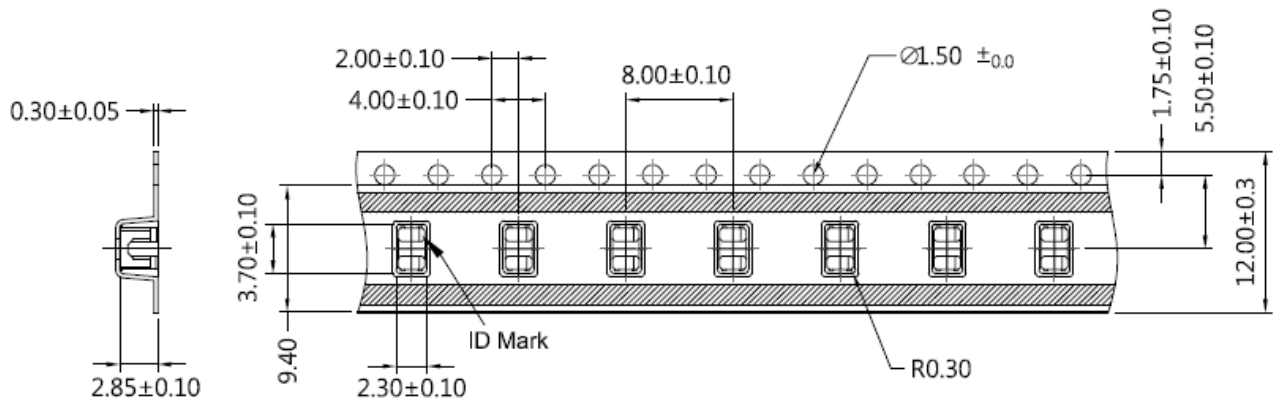
四、极限参数 Absolute Maximum Rating:

（环境温度 Ambient temperature: 25°C, 环境湿度 Humidity: RH60%）

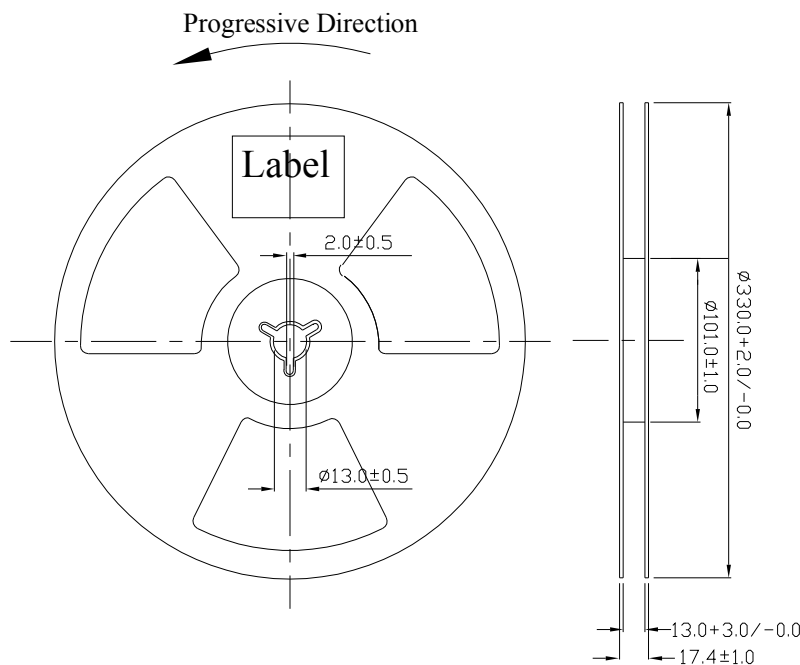
项目 Item		符号 Symbol	数值 Value	单位 Unit	备注 Remark
输入 Input	常温下功耗 Power Dissipation	Pd	75	mW	at(or below) 25°C Free Air Temperature
	反向耐压 Reverse Voltage	V _R	5	V	---
	正向电流 Forward Current	I _F	50	mA	---
	正向峰值电流 Peck forward current	I _{FP}	1	A	Pulse width ≤100μs, Duty cycle=1% tw=100 μsec, T=10 msec
输出 Output	集电极功耗 Collector Power Dissipation	Pc	75	mW	---
	集电极电流 Collector Current	Ic	20	mA	---
	C-E 电压 Collector-Emitter Voltage	BV _{CEO}	35	V	
	E-C 电压 Emitter-Collector Voltage	BV _{ECO}	6	V	
使用温度 Operating Temperature		Topr	-40~+85	°C	
储存温度 Storage Temperature		Tstg	-40~+100	°C	
焊接温度 Soldering temperature		Tsol	260	°C	回流焊 Reflow soldering : 260 °C for 5 sec. 手动焊 Hand soldering : 300 °C for 3s sec.



五、包装规范 Packing Spec:



Reel Dimensions

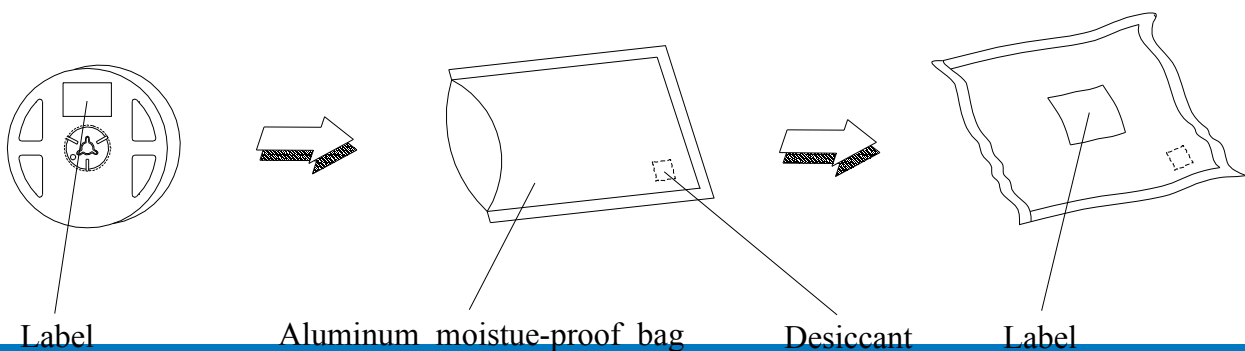


Note: The tolerances unless mentioned is $\pm 1.0\text{mm}$, Unit = mm

Packing Quantity Specification

- 3000pcs / 1 Reel
- 13 Reels (39Kpcs) / 1 Carton

Packing Procedure



六、可靠性实验项目 Reliability Test Project:

描述 Description	项目 Item	测试标准 Test criterion	测试条件 Test condition	测试时间 Test time	数量 Qty.	失效数量 Fail Qty.
寿命测试 Life test	常温寿命测试 Life test (room temperature)	JIS7021:B4	Ta=25°C±5°C, IF=10mA	1000Hrs	22	0
环境测试 Ambience test	高温存储 High temperature store	JIS7021:B10 MIL-STD-202:210A MIL-STD-750:2031	Ta=85°C±5°C	1000Hrs	22	0
	低温存储 Low temperature store	JIS7021:B12	Ta= -35°C±5°C	1000Hrs	22	0
	高温高湿测试 High temperature/ humidity test	JIS7021:B11 MIL-STD-202:103D	Ta=85°C±5°C RH=85%	1000Hrs	22	0
	冷热冲击测试 Cold / Heat strike test	JIS7021:B4 MIL-STD-202:107D MIL-STD-750:1026	30min -10°C±5°C←→100°C±5°C 5min 5min	50Cycles	22	0
	冷热循环测试 Cold and heat cycle test	JIS7021:A3 MIL-STD-202:107D MIL-STD-705:105E	5min 5min 5min -35°C~25°C~85°C~-35°C 30min 5min 30min 5min	50Cycles	22	0

七、使用注意事项 Precautions For Use:

The following are general recommendations for moisture sensitive level (MSL) 3 storage and use :

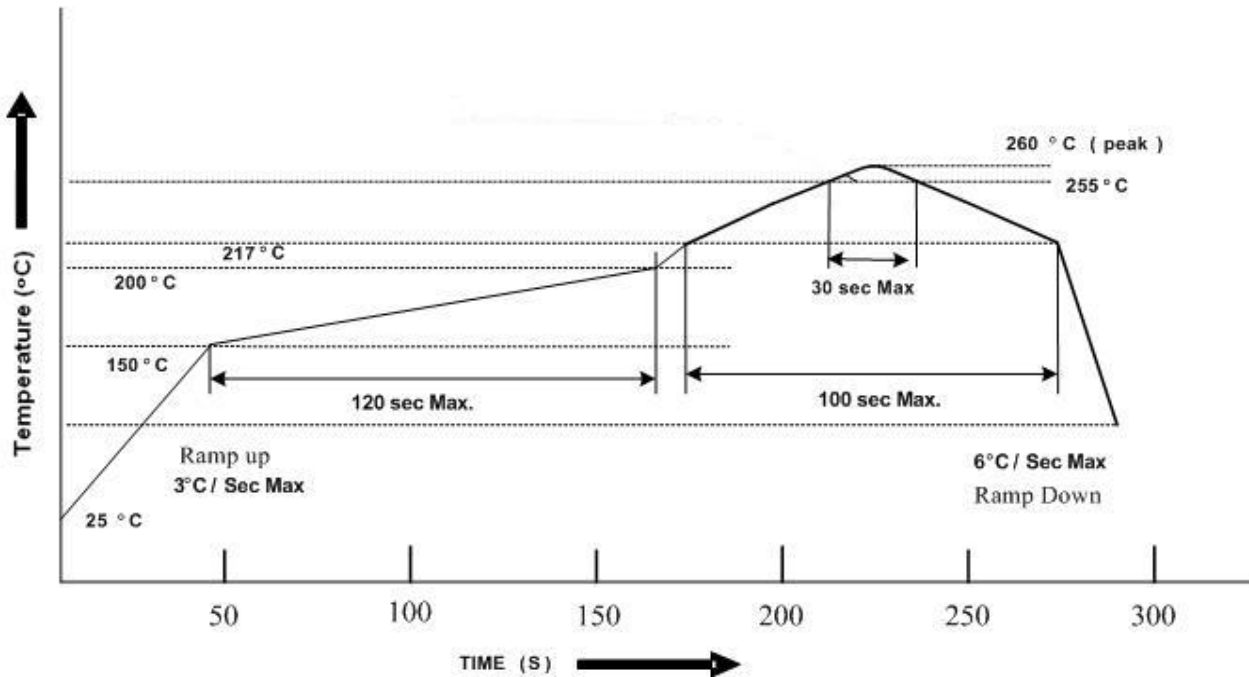
1. Storage

- 1.1 Do not open moisture proof bag before the products are ready to use.
- 1.2 Before opening the package, the device should be kept at 30°C or less and 90%RH or less.
- 1.3 The device should be used within a year.
- 1.4 After opening the package, the device should be kept at 30°C or less and 70%RH or less.
- 1.5 The device should be used within 168 hours (7 days) after opening the package.
- 1.6 If the moisture absorbent material (silica gel) has faded away or the device have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : 60±5°C for 24 hours.

2. Soldering Condition

2.1 Pb-free solder temperature profile



2.2 Reflow soldering should not be done more than two times.

2.3 When soldering, do not put stress on the device during heating.

2.4 After soldering, do not warp the circuit board.

3. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C 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.

4. Repairing

Repair should not be done after the device 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 device will or will not be damaged by repairing.