

# 产品技术规格书

## SPECIFICATION

产品型号 PART NO: A36
客户料号 CUSTOMER PART NO:
客户确认 CUSTOMER APPROVED BY:
确认日期 APPROVED DATE:

RoHS Compliant Parts

Manufacturer :  
Shenzhen Bat Wireless Technology Co.,Ltd  
1409, Building A, Zhiyun One Industrial Park, No. 13 Huaxing Road, Henglang  
Community, Dalang Street, Shenzhen, Guangdong, China

拟制 Prepared by:	审核 Checked by :	批准 Approved by:
送样日期 Formed On	产品版本 Document Version	

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## 产品规格书版本更改记录

### Version rejigger track record

版本号 Version	更改记录 Rejigger	拟制 Prepared	批准 Approve	日期 Date
备注： 1、更改产品电性能指标时，版本号需更换（V1.0 换为 V2.0、V3.0……）； 2、更改产品测试方法（包括可靠性测试条件），或更改使用条件时，当前版本号加系列（V1.0 换为 V1.1、V1.2……）。				

## 1. 概述 INTRODUCTION

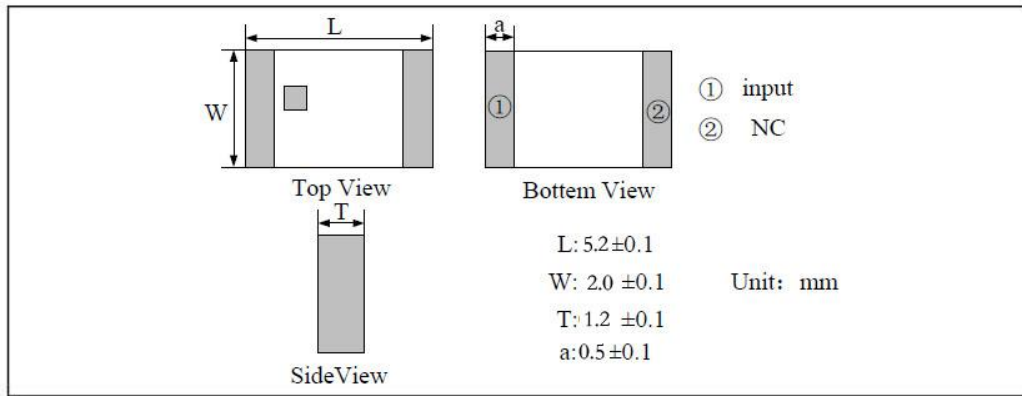
微波多层陶瓷天线 LA 系列产品设计用于 WLAN、WiFi、蓝牙、PHS，手机多频天线, FM 等小体积 SMD 片式设计。

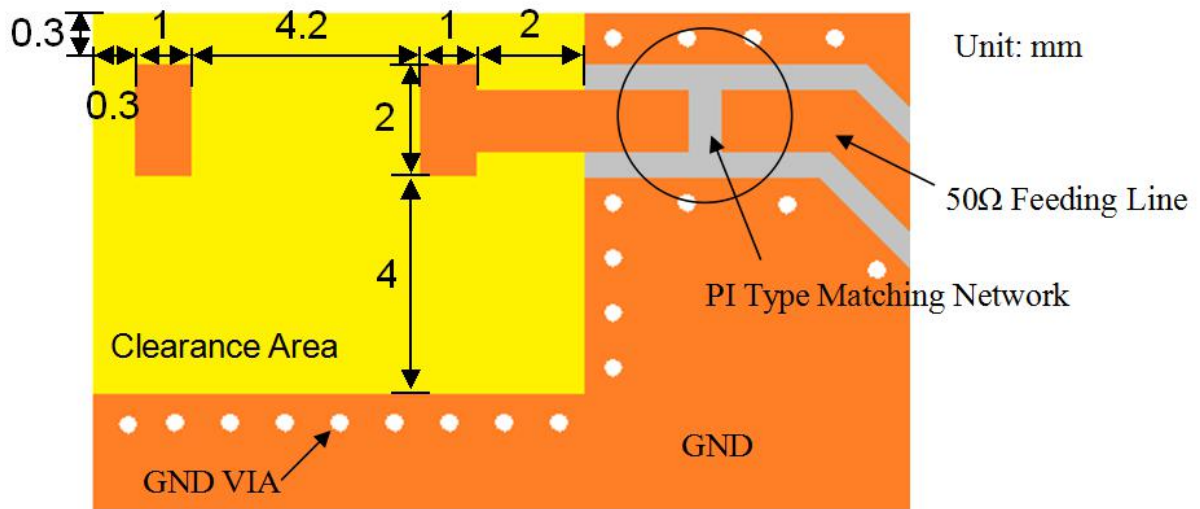
Microwave Multi-Layer Ceramic Antenna LA series are designed to be used in WLAN、WiFi、Bluetooth、PHS、 Multiple-band Mobile phone antenna, FM, etc and compact size SMD chip design.

## 2. 型号 Part Number

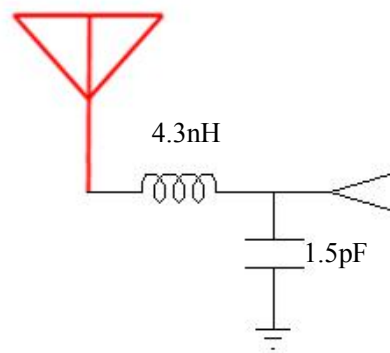
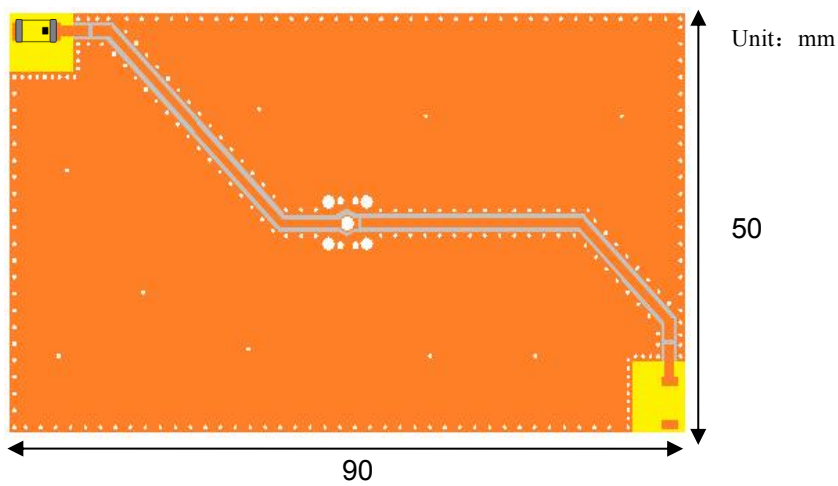
LA	52	H	2450	- A36	
					产品名称, 编号 A36/Product Name: A36
					天线频率/ Antenna Frequency: 2450 MHz
					产品设计结构 H 型/Via Design Series
					产品尺寸/Size: 5.2×2.0×1.2
					多层结构天线/Multi-layer Antenna

## 3.外型尺寸及测试板焊盘尺寸 Dimensions (Unit: mm)





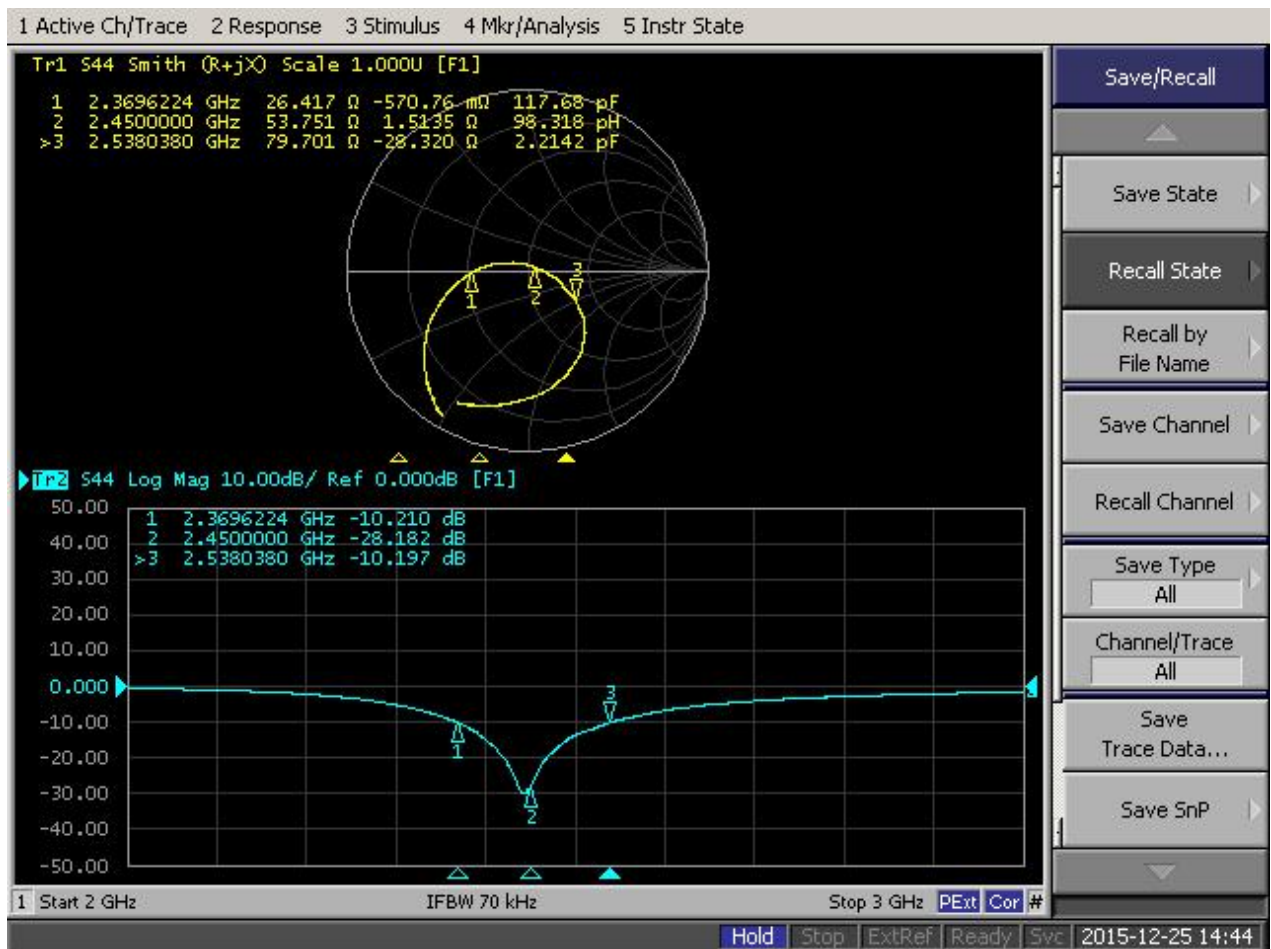
#### 4. 测试电路和匹配电路 Evaluation Board and Matching Circuits



## 5. 电气性能 Electrical Characteristics

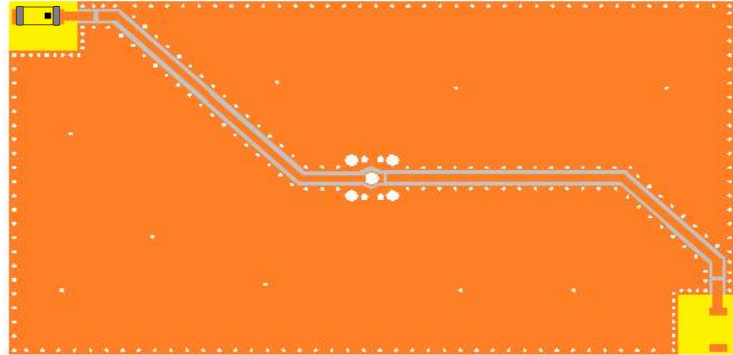
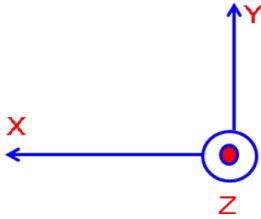
No.	Item (项目)	Specifications (特性)
5.1	Working Central Frequency 中心工作频率	2450 MHz
5.2	Band Width 通带宽度	100MHz typ.
5.3	Peak Gain 峰值增益	4.97 dBi
5.4	V.S.W.R 驻波比	$\leq 2.0$
5.5	Polarization 极化方式	Linear 线性
5.6	Azimuth Beam width 方位角	Omni-directional 全向
5.7	Impedance 阻抗	50 $\Omega$

## 6. 特性曲线 Characteristic curve

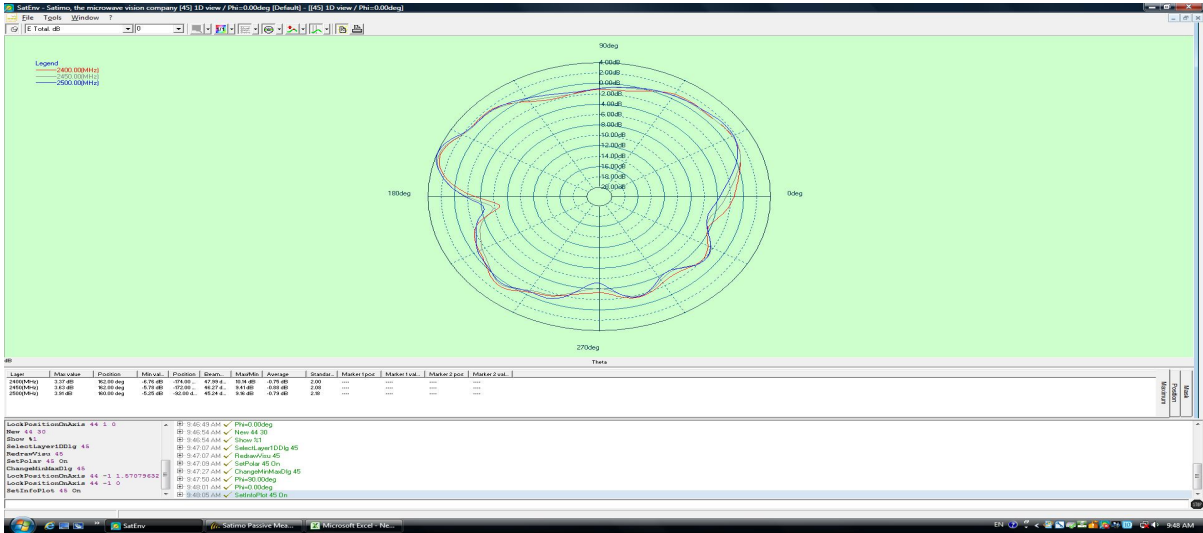


# 7. 方向图及效率 Radiation Pattern & Efficiency

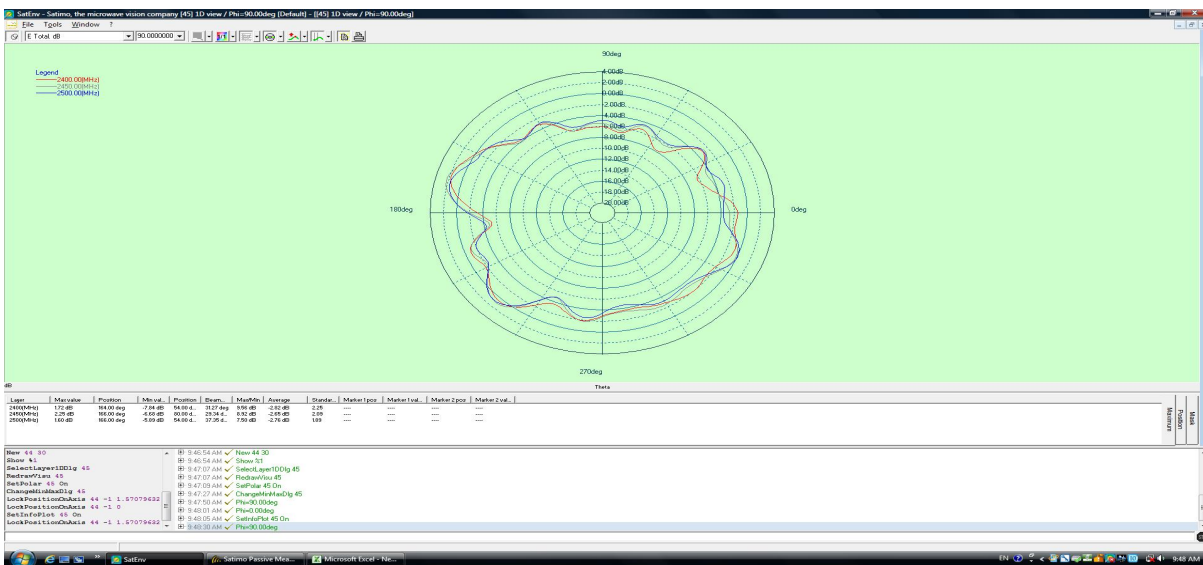
coordinates:



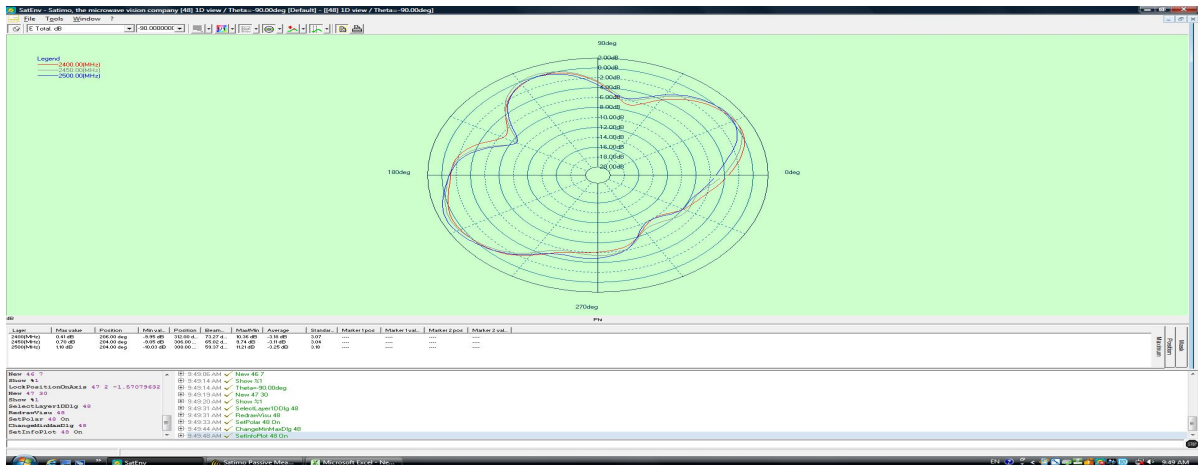
## X-Z Plane



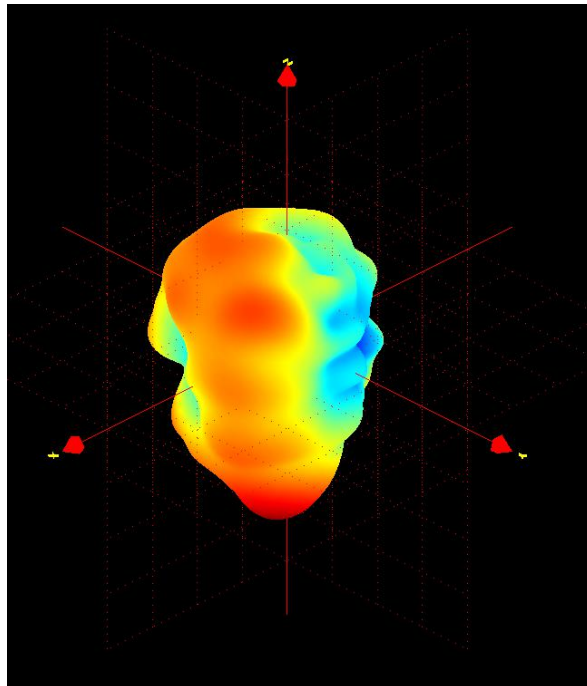
## Y-Z Plane



## X-Y Plane



## 3D Radiation Pattern



Frequency (MHz)	2400	2450	2500
Avg. Gain (dBi)	-0.75	-0.79	-0.88
Peck Gain (dBi)	4.52	4.97	4.85
Efficiency (%)	70.2	71.1	71.2



## 8 可靠性试验后允许误差 Post Dependability Tolerance

经可靠性试验后允许比起始读数偏差见下表

Post Dependability Tolerance (Refer to the table)

No.	Item (项目)	Post Dependability Tolerance (可靠性试验后允许附加误差)
8.1	Central Frequency 中心频率	±5 MHz
8.2	Band Width 通带宽度	±5 MHz
8.3	Gain 增益	±0.1 dBi
8.4	V.S.W.R (in BW) 驻波比	±0.1

## 9 可靠性试验 Dependability Test

基准条件: 温度范围 Temperature range	25±5°C
相对湿度范围 Relative Humidity range	55~75%RH
工作温度 Operating Temperature range	-40°C~+85°C
贮藏温度 Storage Temperature range	-40°C~+85°C

### 9.1 耐振动 Vibration Resist

在振动频率为 10~55Hz 振幅为 1.5mm 沿 X.Y.Z 方向各振动 2 小时后测试符合表 9.1~9.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 9.1~9.4 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

### 9.2 耐跌落冲击 Drop Shock

在 100cm 高度处按 X, Y, Z 三个面分别自由跌落在木制地板上共 3 次后测试符合表 9.1~9.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 9.1~9.4 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

### 9.3 耐焊接热 Solder Heat Proof

能承受经 120~150°C 的温度预热 120 秒后, 在 255°C+10°C 的焊锡浸 5±0.5 秒, 或 300°C-10°C 的电烙铁焊接 3±0.5 秒, 焊接面无损伤。

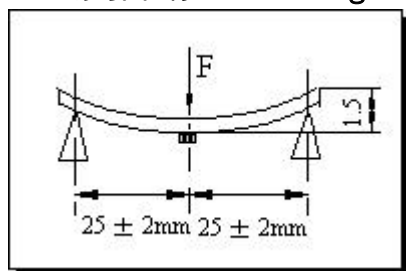
The device should be satisfied after preheating at 120°C~150°C for 120 seconds and dipping in soldering Sn at 255°C+10°C for 5±0.5 seconds, or electric iron 300°C-10°C for 3±0.5 seconds, without damage.

### 9.4 结合力试验 Tensile Strength of Terminal

在产品电极端子上或表面上应能承受 1kg 垂直拉力 10±1 秒。

The device should not be broken after tensile force of 1.0kg is slowly applied to pull a lead pin of the fixed device in the lead axis direction for 10±1 seconds.

### 9.5 耐弯曲试验 Bending Resist Test



将产品按图焊在  $1.6 \pm 0.2\text{mm}$  的 PCB 板中间，由箭头方向施力： $1\text{mm/S}$ ，弯曲距离： $1.5\text{mm}$ ，保持  $5 \pm 1\text{S}$ ，产品金属层无脱落。

Weld the product to the center part of the PCB with the thickness  $1.6 \pm 0.2\text{mm}$  as the illustration shows, and keep exerting force arrow-ward on it at speed of  $1\text{mm/S}$ , and hold for  $5 \pm 1\text{S}$  at the position of  $1.5\text{mm}$  bending distance, so far, any peeling off of the

product metal coating should not be detected.

### 9.6 耐湿热特性 Moisture Proof

在温度为  $60 \pm 2^\circ\text{C}$ ，相对湿度  $90\sim 95\%$  的恒温湿箱中放置 96 小时，在常温中恢复 1~2 小时后测试，符合表 9.1~9.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 9.1~9.4 after exposed to the temperature  $60 \pm 2^\circ\text{C}$  and the relative humidity  $90\sim 95\% \text{ RH}$  for 96 hours and 1~2 hours recovery time under normal condition.

### 9.7 高温特性 High Temperature Endurance

在温度为  $85 \pm 5^\circ\text{C}$  的恒温箱中放置  $96 \pm 2$  小时，在常温中恢复 1~2 小时后测试。符合表 9.1~9.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 9.1~9.4 after exposed to temperature  $85 \pm 5^\circ\text{C}$  for  $96 \pm 2$  hours and 1~2 hours recovery time under normal temperature.

### 9.8 低温特性 Low Temperature Endurance

在温度为  $-40^\circ\text{C} \pm 5^\circ\text{C}$  低温箱中放置  $96 \pm 2$  小时后恢复 1~2 小时测试符合表 9.1~9.4 规定。

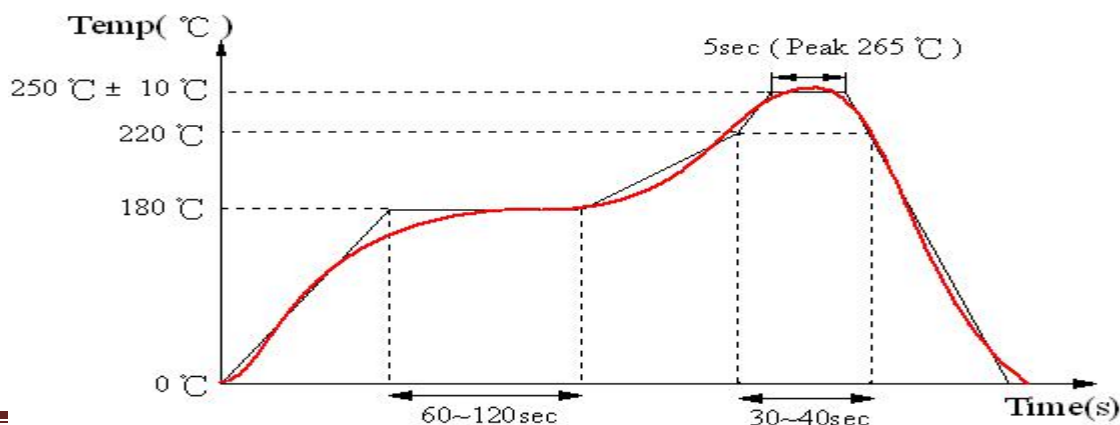
The device should also satisfy the electrical characteristics specified in paragraph 9.1~9.4 after exposed to the temperature  $-40^\circ\text{C} \pm 5^\circ\text{C}$  for  $96 \pm 2$  hours and to 2 hours recovery time under normal temperature.

### 9.9 温度循环 Temperature Cycle Test

在  $-40^\circ\text{C}$  温度中保持 30 分钟，再在  $+85^\circ\text{C}$  温度中保持 30 分钟，共循环 5 次后在常温中恢复 1~2 小时后测试符合表 9.1~9.4 规定。

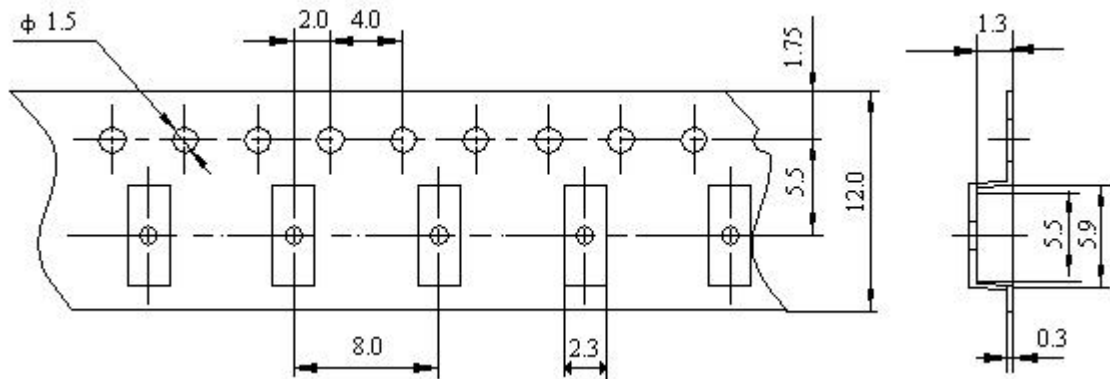
The device should also satisfy the electrical characteristics specified in paragraph 9.1~9.4 after exposed to the low temperature  $-40^\circ\text{C}$  and high temperature  $+85^\circ\text{C}$  for  $30 \pm 2$  min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

## 10 回流焊温度 Reflow Soldering Standard Condition



## 11 包装尺寸 (5220) Packaging and Dimensions

### 11.1 Plastic Tape

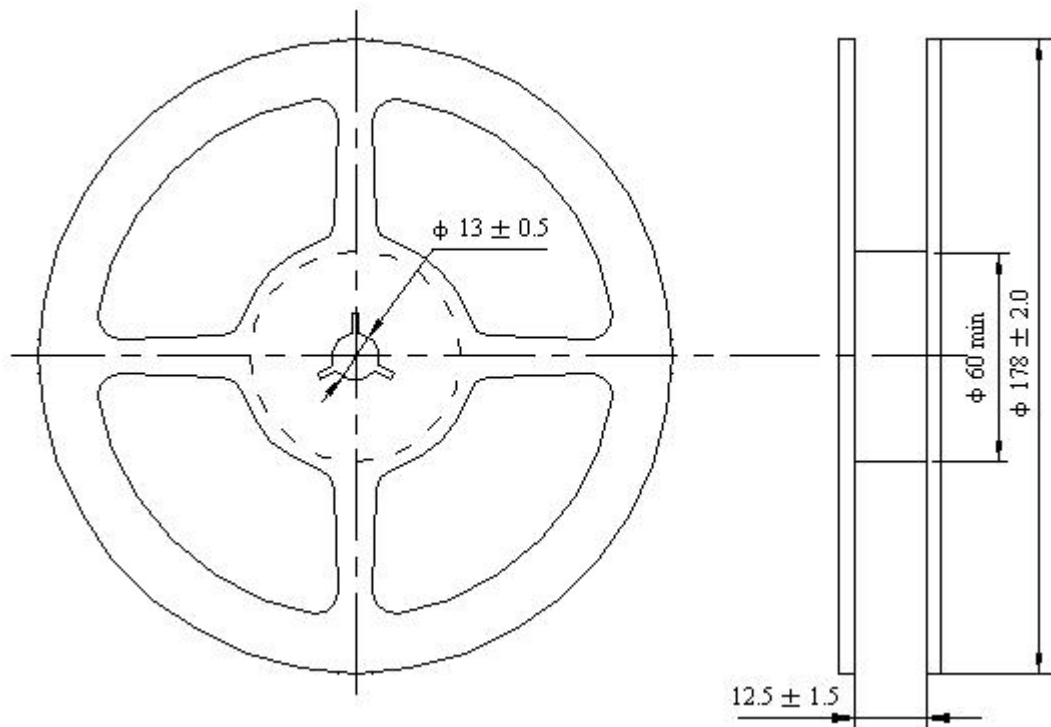


包装说明: Remarks for Package

载带尾部空穴长度 150~200mm, 载带头部空穴长度 250~300mm, 头部的盖带加长 250mm。

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

### 11.2 Reel (1000 pcs/Reel)



### 11.3 储存条件 Storage Period

易氧化产品, 产品拆封后请于 48 小时内用完或重新密封包装!

Oxidizable. material, please repack within 48 hours by re-seal the package treatment after use them!