

深圳市金航标电子有限公司

产品技术规格书 SPECIFICATION

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| 客户料号 CUSTOMER PART NO: |
| 客户确认 CUSTOMER APPROVED BY: |
| 确认日期 APPROVED DATE: |

RoHS Compliant Parts

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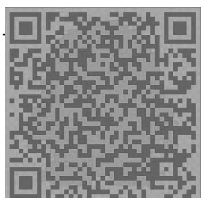
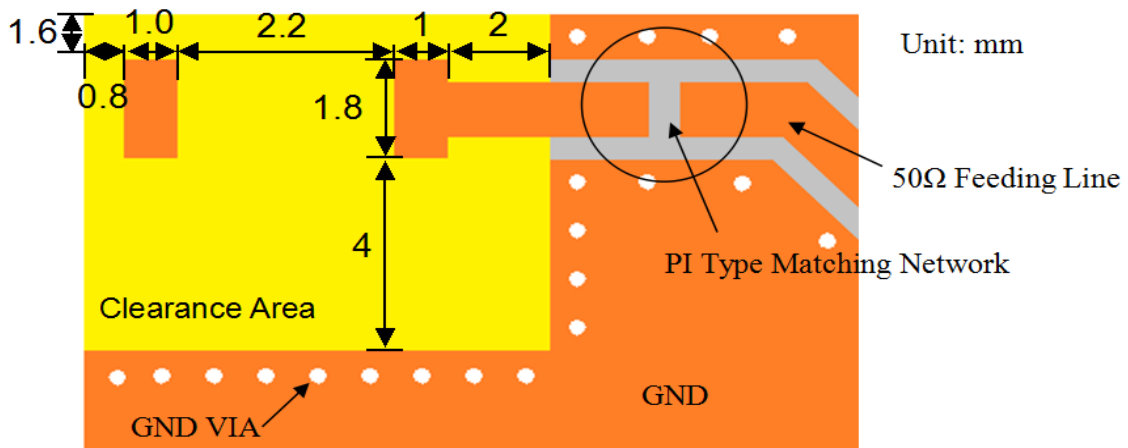
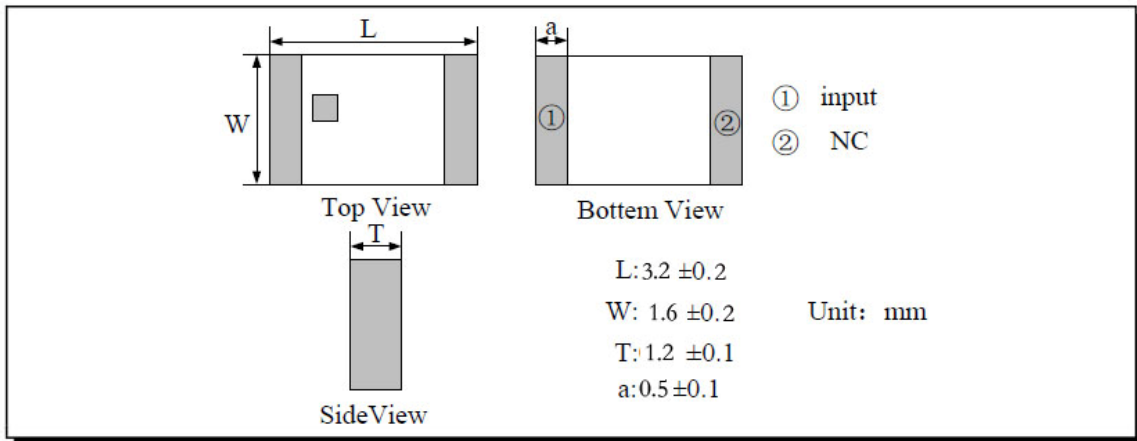
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1. 概述 INTRODUCTION

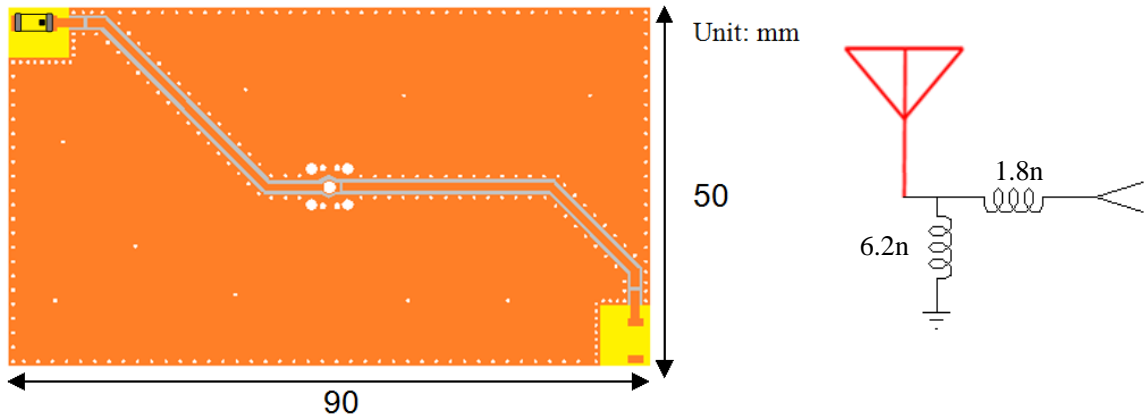
金航标微波多层陶瓷天线 LA 系列产品设计用于 WLAN、WiFi、蓝牙、PHS，手机多频天线, FM 等小体积 SMD 片式设计。

kinghelm 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. 外型尺寸 Dimensions (Unit: r

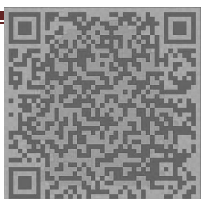


3. 测试电路和匹配电路 Evaluation Board and Matching Circuits

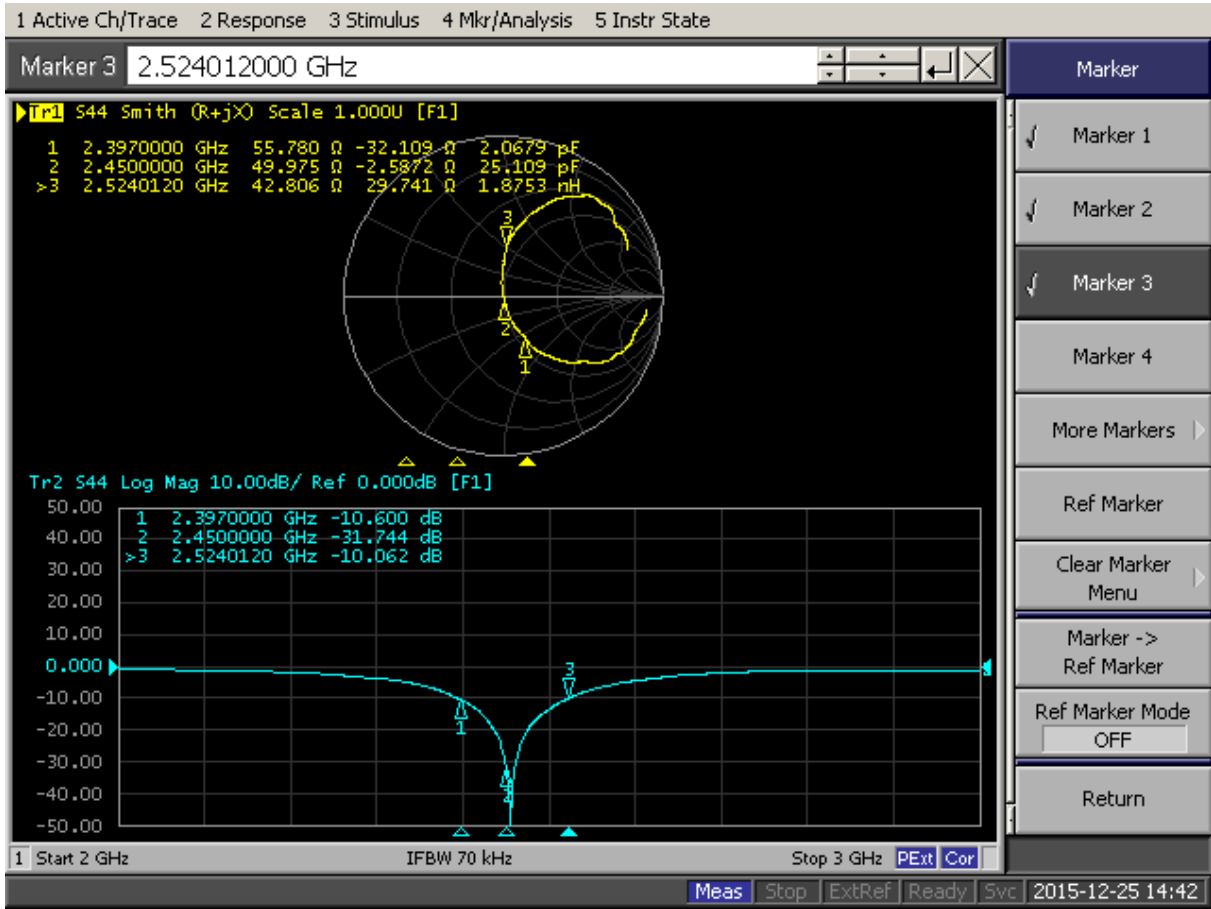


4. 电气性能 Electrical Characteristics

| No. | Item (项目) | Specifications (特性) |
|-----|-------------------------------------|---------------------|
| 4.1 | Central Frequency 中心频率(No matching) | 2875MHz |
| | (带匹配电路测试)After Matching | 2450 MHz |
| 4.2 | Band Width 通带宽度 | 100MHz typ. |
| 4.3 | Peak Gain 峰值增益 | 5.19 dBi |
| 4.4 | V.S.W.R 驻波比 | ≤2.0 |
| 4.5 | Polarization 极化方式 | Linear 线性 |
| 4.6 | Azimuth Beam width 方位角 | Omni-directional 全向 |
| 4.7 | Impedance 阻抗 | 50 Ω |

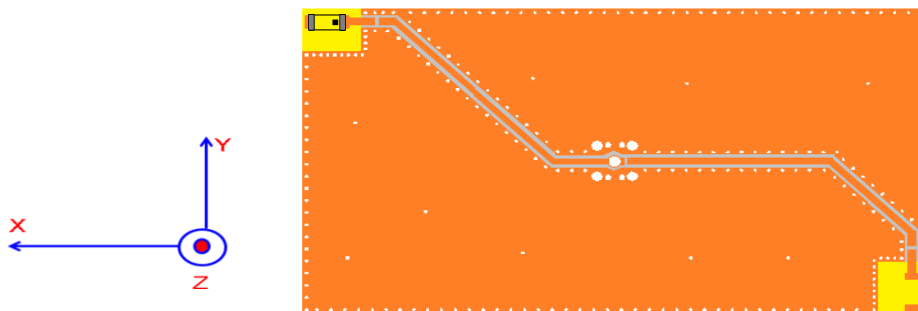


5. 特性曲线 Characteristic curve

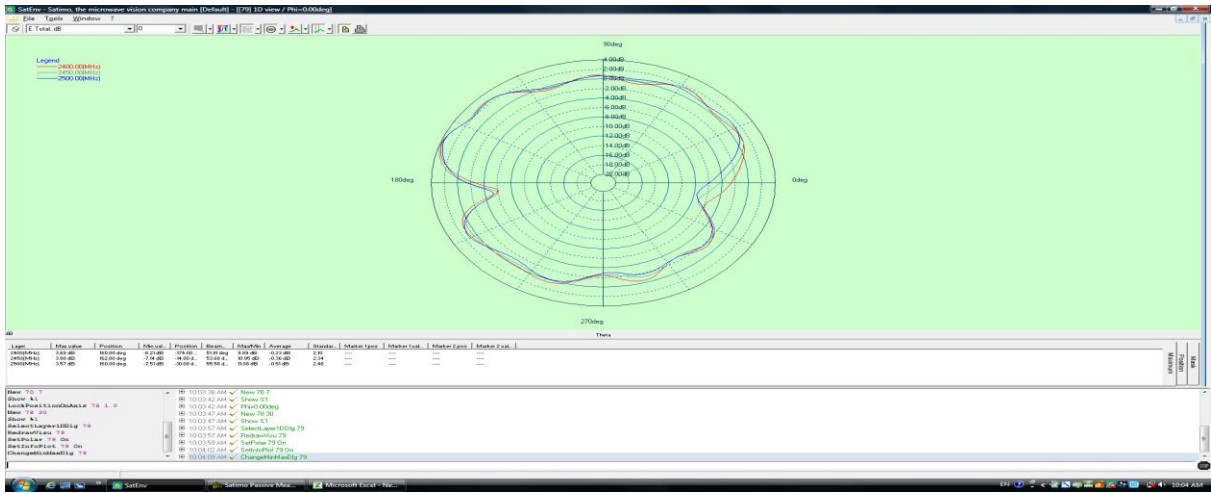


6. 方向图 Radiation Pattern

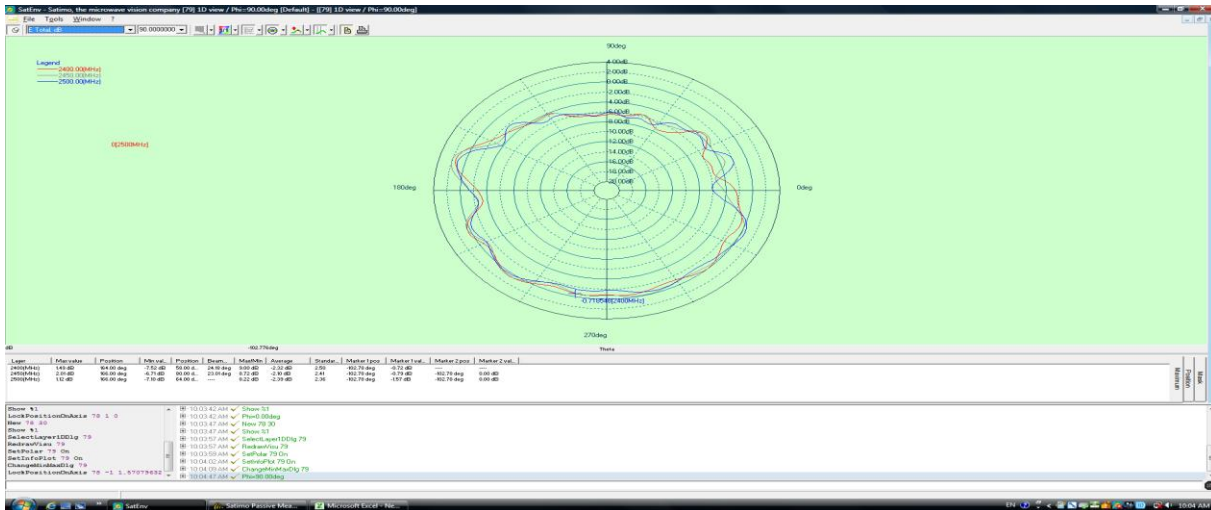
coordinates:



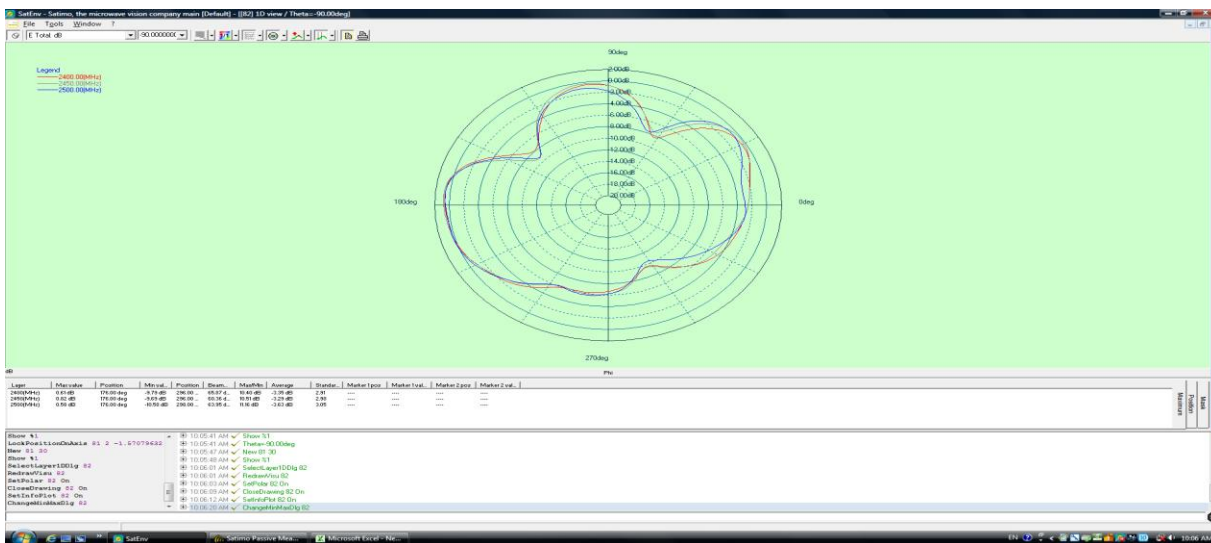
X-Z Plane



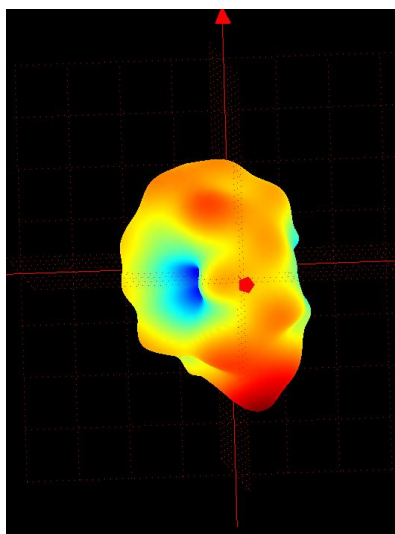
Y-Z Plane



X-Y Plane



3D Radiation Pattern



| | | | |
|-----------------|-------|-------|-------|
| Frequency (MHz) | 2400 | 2450 | 2500 |
| Avg. Gain (dBi) | -0.23 | -0.36 | -0.51 |
| Peck Gain (dBi) | 4.98 | 5.19 | 4.55 |
| Efficiency (%) | 70 | 71.2 | 69 |

7. 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) |
|-----|------------------------|--|
| 7.1 | Central Frequency 中心频率 | ±5 MHz |
| 7.2 | Band Width 通带宽度 | ±5 MHz |
| 7.3 | Gain 增益 | ±0.1 dBi |
| 7.4 | V.S.W.R (in BW) 驻波比 | ±0.1 |

8. 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

8.1 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 8.1~8.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X, Y and Z directions.

8.2 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 8.1~8.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

8.3 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。

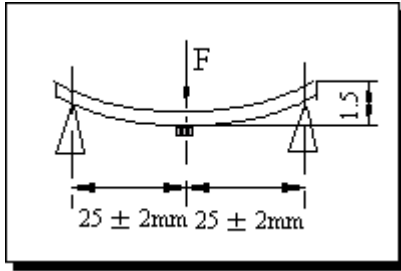
The device should be satisfied after preheating at 120°C~150°C for 120 seconds and dipping in soldering Sn at 255°C+10°C for 5±0.5 seconds, or electric iron 300°C-10°C for 3±0.5 seconds, without damage.

8.4 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.

8.5 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： 1mm/S ，弯曲距离： 1.5mm ，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 1mm/S , and hold for $5 \pm 1\text{S}$ at the position of 1.5mm bending distance, so far, any peeling off of the

product metal coating should not be detected.

8.6 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 8.1~8.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature $60 \pm 2^\circ\text{C}$ and the relative humidity $90\sim 95\%$ RH for 96 hours and 1~2 hours recovery time under normal condition.

8.7 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 ± 2 小时，在常温中恢复 1~2 小时后测试。符合表 8.1~8.4 规定。

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to temperature $85 \pm 5^\circ\text{C}$ for 96 ± 2 hours and 1~2 hours recovery time under normal temperature.

8.8 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 ± 2 小时后恢复 1~2 小时测试符合表 8.1~8.4 规定。

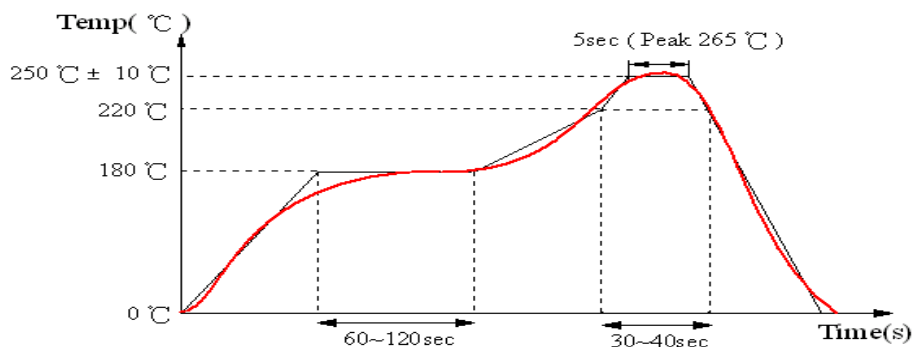
The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature $-40^\circ\text{C} \pm 5^\circ\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

8.9 温度循环 Temperature Cycle Test

在 -40°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 8.1~8.4 规定。

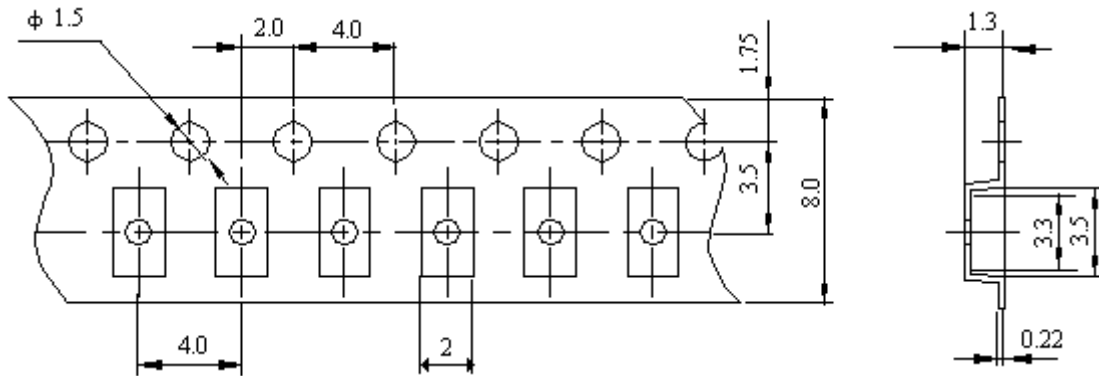
The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the low temperature -40°C and high temperature $+85^\circ\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

9. 回流焊温度 Reflow Soldering Standard Condition



10 包装尺寸 (3216) Packaging and Dimensions

10.1 Plastic Tape

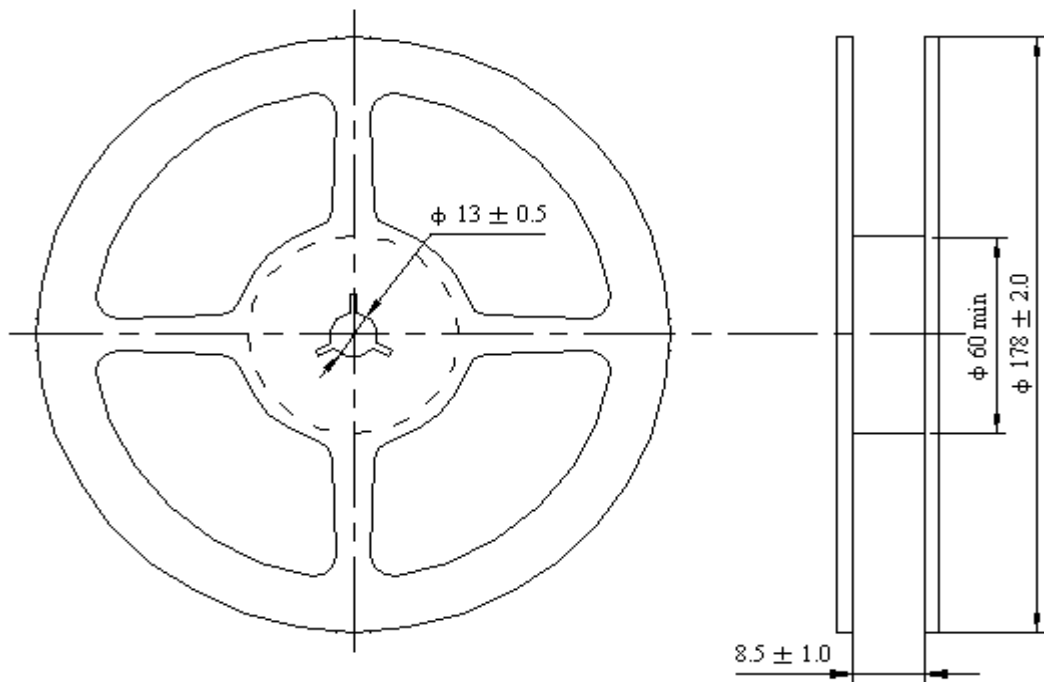


包装说明: Remarks for Package

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.

10.2 Reel (3000 pcs/Reel)



10.3 储存条件 Storage Period

易氧化产品, 真空状态储存一年. 产品拆封后请于 168 小时内用完或重新密封包装!

Oxidizable, 12 months in vacuum sealed bag . Material, please repack within 168 hours by re-seal the package treatment after use them!

储存温度与湿度:

Storage Temperature Range : <30 degree C, Humidity : <60%RH

