

产 品 技 术 规 格 书

SPECIFICATION

产品型号 PART NO : LTA312450
客户料号CUSTOMER PART NO :
客户确认CUSTOMER APPROVED BY :
确认日期APPROVED DATE:

拟制 Prepared by:	审核 Checked by :	批准 Approved by:
送样日期Formed On	产品版本Document Version (V2.0)	

Shenzhen EJEAS Intelligent Technology Co., Ltd.
Address: Room 3A, B 1, Zhonxin road 9, Taoyuan Community, Dalang street,
Longhuadistrict, Shenzhen city, Guangdong province, China

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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
V1.0	首次发行	潘枫	卢冠宇	2019/07/12
V2.0	调整增益数据	肖谭平	唐师荣	2025/10/09
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……）。				

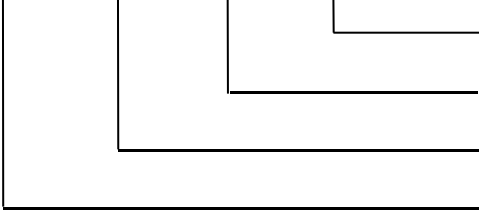
1. 概述 **INTRODUCTION**

微波多层陶瓷天线 LA 系列产品设计用于 WLAN、Wi-Fi、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、Wi-Fi、Bluetooth、PHS、 Multiple-band Mobile phone antenna, FM, etc and compact size SMD chip design.

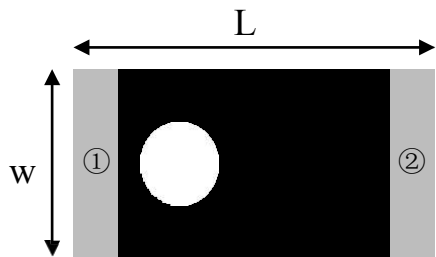
2. 型号 **Part Number**

LTA 31 2450 - P3M



- 产品名称，编号 P3M / Product Name: P3M
- 天线频率/ Antenna Frequency: 2450 MHz
- 产品尺寸/Size: 3.2×1.6×0.5
- 多层结构天线 / Multi-layer Antenna

3. 外型尺寸 **Dimensions (Unit : mm)**



(Top View)

Number	Terminal Name
①	INPUT
②	NC



(Bottom View)

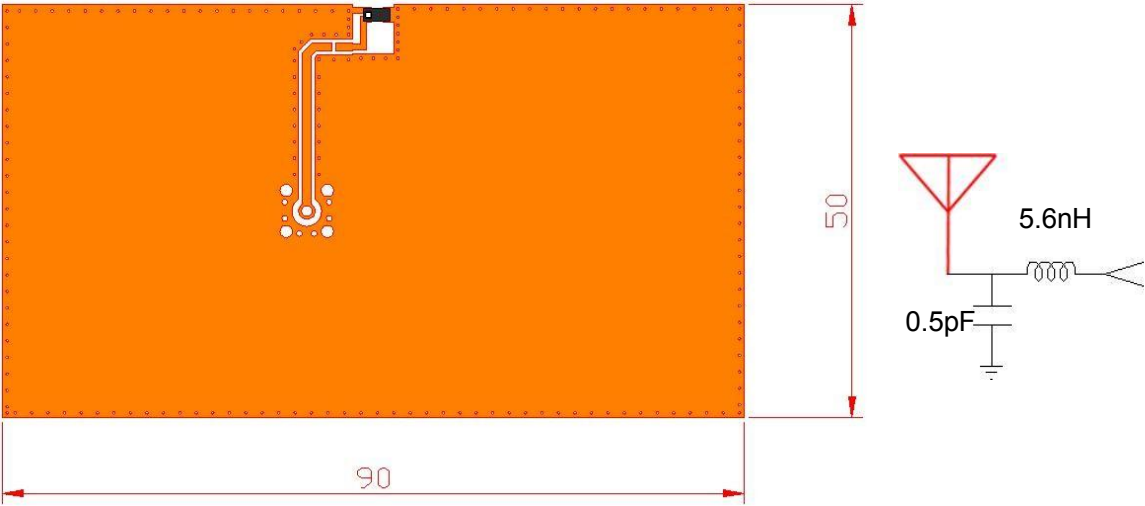
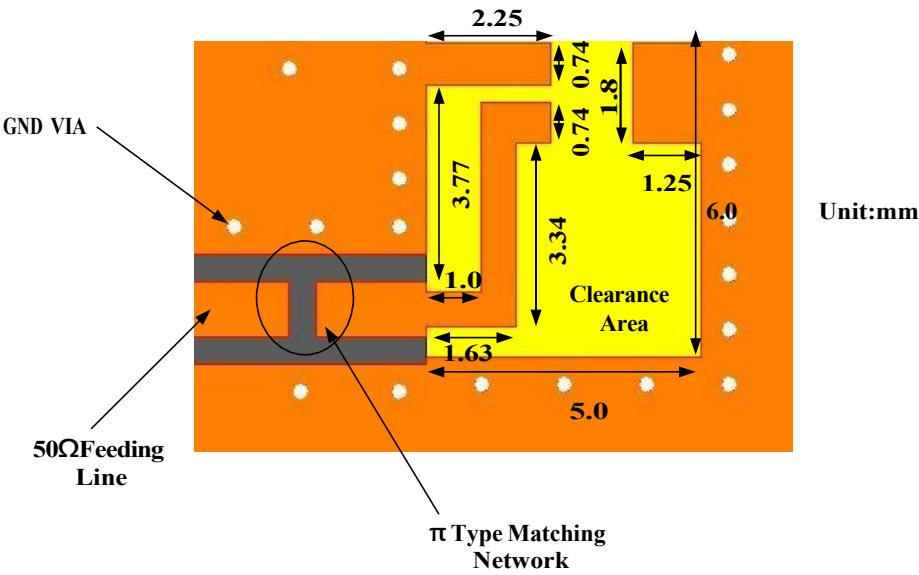


(Side View)

Symbols	L	W	T	A
Dimensions	3.2+/-0.2	1.6+/-0.2	0.5+/-0.1	0.4+/-0.1

4. 测试电路和匹配电路

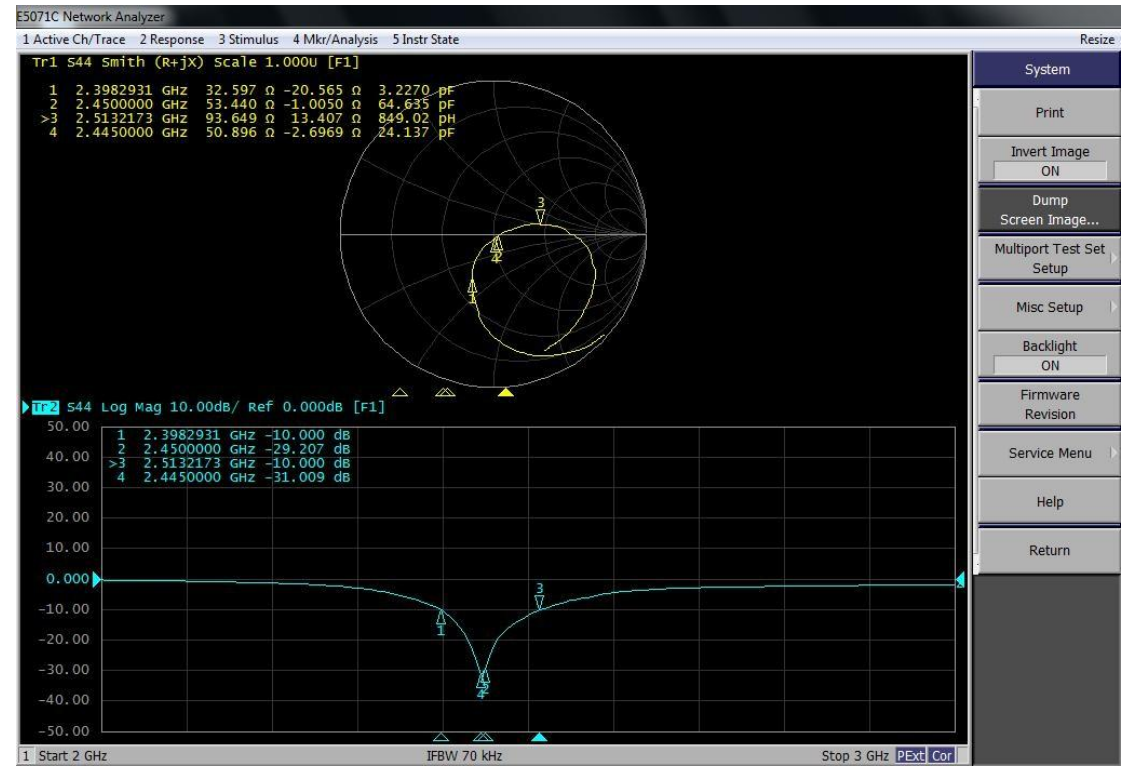
Evaluation Board and Matching Circuits



5. 电气性能 **Electrical Characteristics**

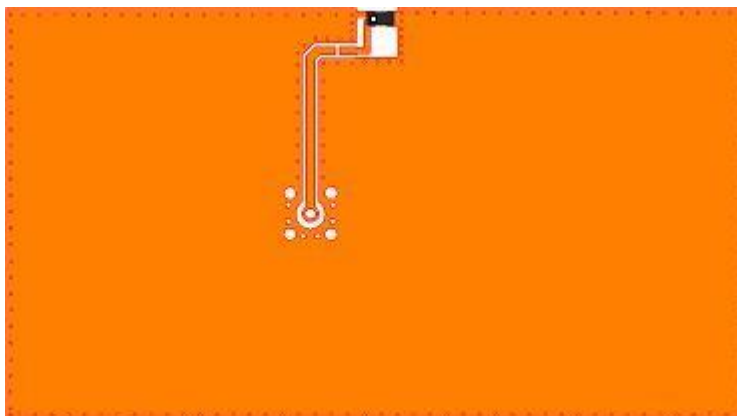
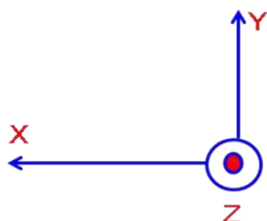
No.	Item （项目）	Specifications （特性）
5.1	Central Frequency 中心频率	2445MHz
5.2	Band Width 通带宽度	100 MHz typ.
5.3	Peak Gain 峰值增益	3.44 dBi
5.4	Return Loss 回波损耗	< -5 db
5.5	Polarization 极化方式	Linear 线性
5.6	Azimuth Beam width 方位角	Omni-directional 全向
5.7	Impedance 阻抗	50 欧姆

6. 特性曲线 **Characteristic curve**

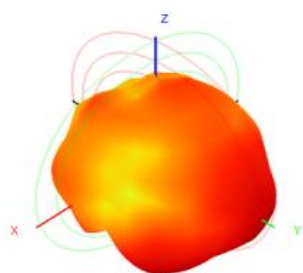


7. 方向图 Radiation Pattern

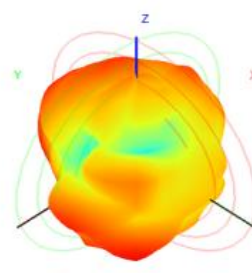
coordinates:



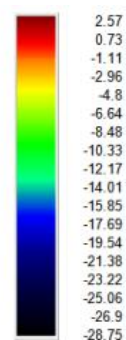
2400MHZ



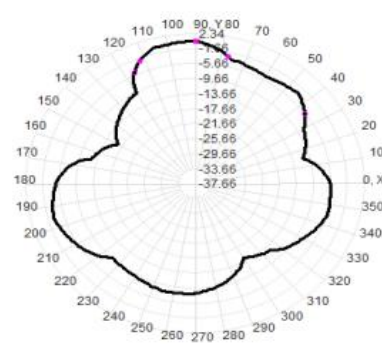
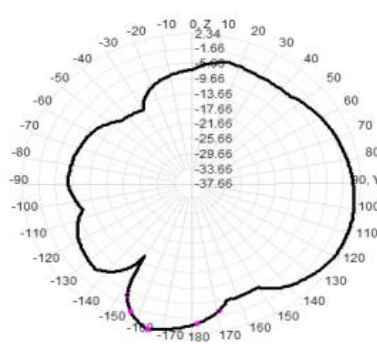
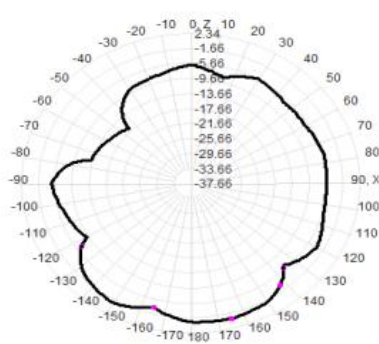
Total(E1-XZ)



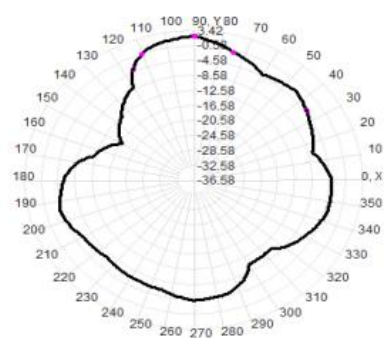
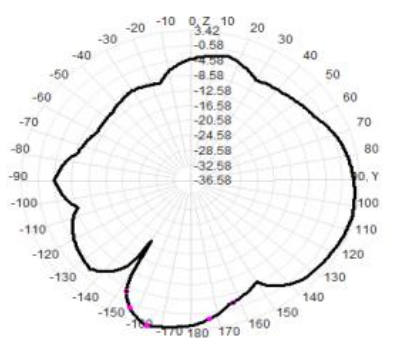
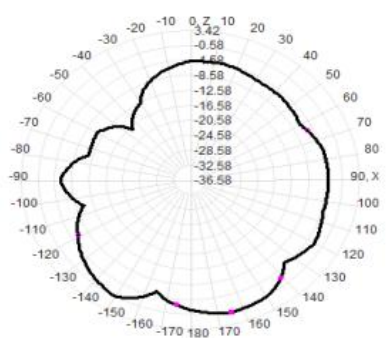
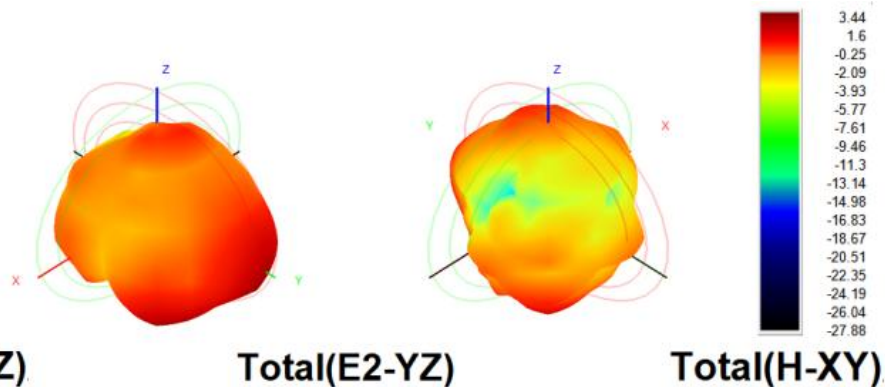
Total(E2-YZ)



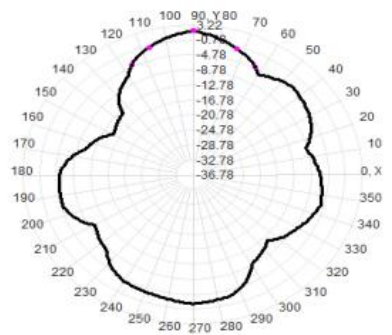
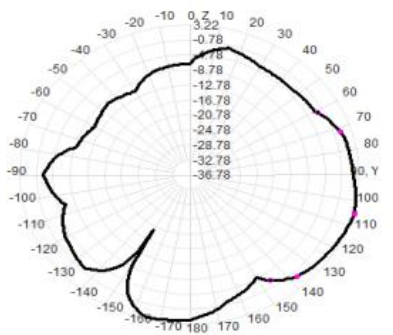
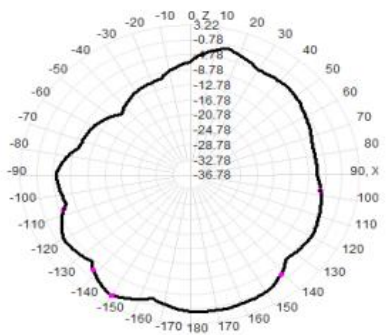
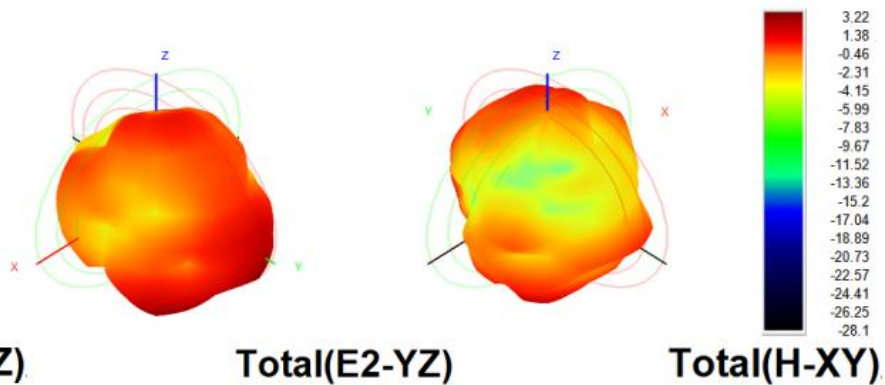
Total(H-XY)



2450MHZ



2500MHZ



Frequency (MHz)	2400	2450	2500
Avg. Gain (dBi)	-1.93	-1.32	-1.46
Peck Gain (dBi)	2.57	3.44	3.22
Efficiency (%)	72.2	78.1	71.5

8 可靠性试验 Dependability Test

基准条件: 温度范围	Temperature range	$25 \pm 5^{\circ}\text{C}$
相对湿度范围	Relative Humidity range	55~75%RH
工作温度	Operating Temperature range	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
贮藏温度	Storage Temperature range	$-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

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 小时后测试需符合电气性能指标。

The device should fulfill the electrical specification 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, 要求无机械损伤。

The device should have no mechanical damage 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℃ 的温度预热 120 秒后, 在 255℃+10℃ 的焊锡浸 5±0.5 秒, 或 300℃-10℃ 的电烙铁焊接 3±0.5 秒, 焊接面无损伤。

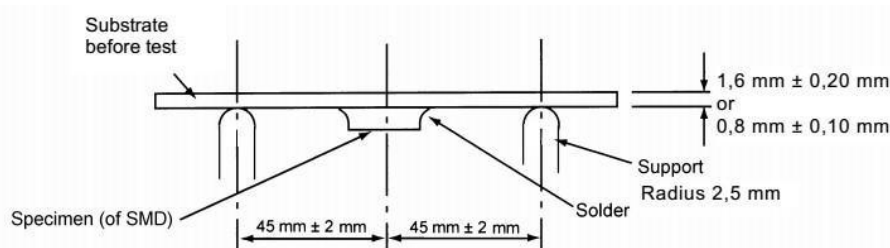
The device should be satisfied after preheating at 120℃~150℃ for 120 seconds and dipping in soldering Sn at 255℃+10℃ for 5±0.5 seconds, or electric iron 300℃-10℃ for 3±0.5 seconds, without damage.

8.4 推力试验 Adhesive Strength of Termination

在产品电极端子上或表面上可承受 5N(≤0603); 10N(>0603) 水平推力 10±1 秒而无明显外观损坏与电极移位。

The device have no remarkable damage or removal of the termination after horizontal force of 5N(≤0603); 10N(>0603) with 10±1 seconds.

8.5 耐弯曲试验 Bending Resist Test



将产品按图焊在 1.6±0.2mm 或 0.8±0.1mm 的 PCB 板中间, 由箭头方向施力: 1mm/S, 弯曲距离: 1.5mm, 保持 5±1S, 产品金属层无脱落。

Weld the product to the center part of the PCB with the thickness 1.6±0.2mm or 0.8±0.1mm as the illustration shows, and keep exerting force arrow-ward on it at speed of :1mm/S, and hold for 5±1S 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 90~95%的恒温湿箱中放置 96 小时，在常温中恢复 1~2 小时后测试，测试需符合电气性能指标。

The device should fulfill the electrical specification after exposed to the temperature $60\pm 2^{\circ}\text{C}$ and the relative humidity 90~95% 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。测试需符合电气性能指标。

The device should fulfill the electrical specification 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，测试需符合电气性能指标。

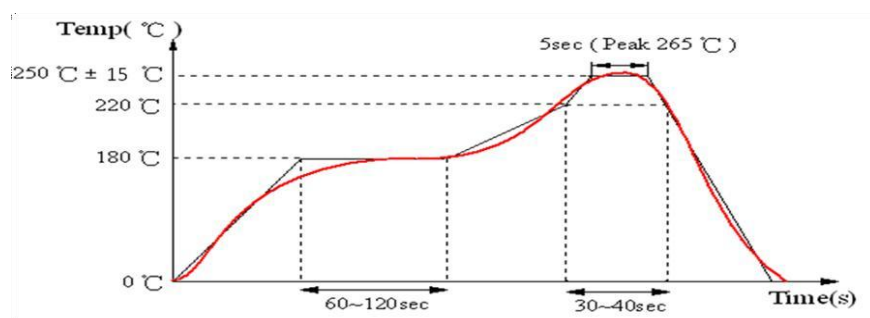
The device should fulfill the electrical specification after exposed to the temperature $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

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 小时后测试需符合电气性能指标。

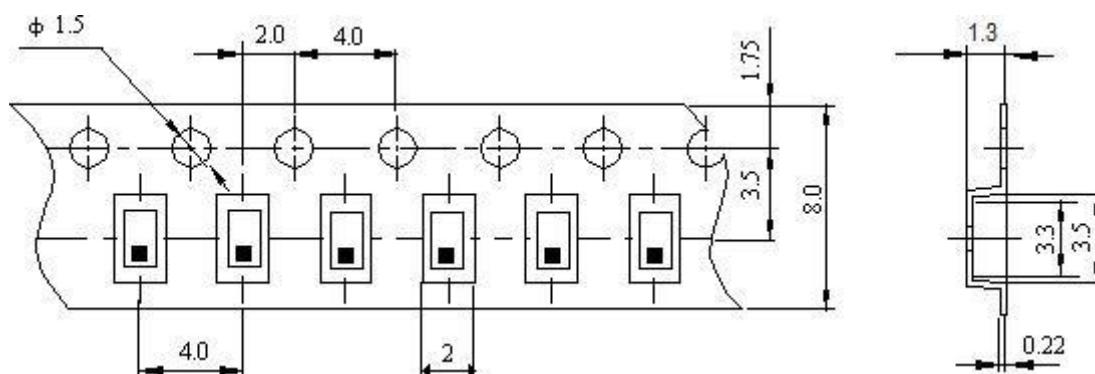
The device should fulfill the electrical specification after exposed to the low temperature -40°C and high temperature $+85^{\circ}\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

9 回流焊温度 **Reflow Soldering Standard Condition**



10 包装尺寸 (3216) Packaging and Dimensions

10.1 Plastic Tape

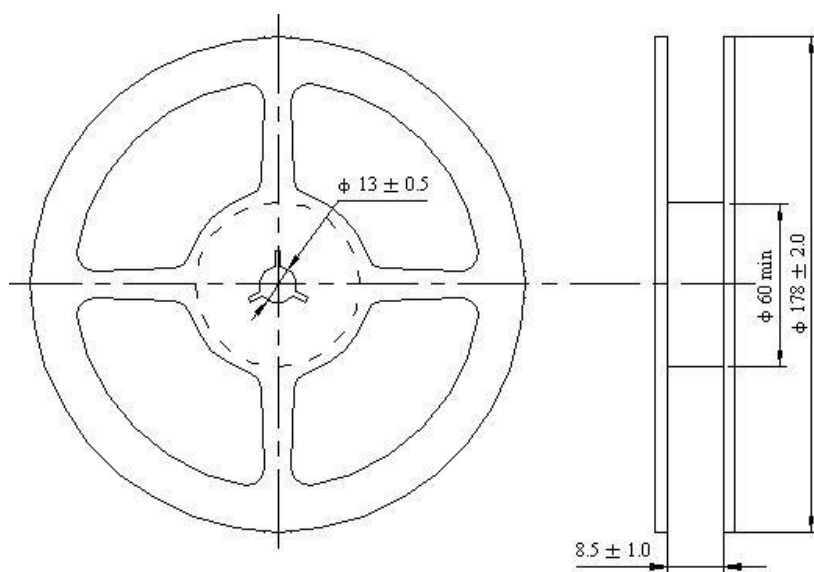


包装说明: Remarks for Package

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

产品收到后半年内使用完毕.

Product should be used within six months of receipt.

湿敏等级 1 / 储存温度与湿度:

MSL 1 / Storage Temperature Range : <30 degree C, Humidity : <85%RH