

# 深圳市金航标电子有限公司

## 产品技术规格书 SPECIFICATION

产品型号 PART NO:      KH3216-A55
客户料号 CUSTOMER PART NO:
客户确认 CUSTOMER APPROVED BY:
确认日期 APPROVED DATE:

RoHS Compliant Parts

深圳市龙华区民治大道1079号展滔科技大厦C座C809室

TEL: 0755-83040901    FAX: 0755-83040901

拟制 Prepared by:	审核 Checked by :	批准 Approved by:
送样日期 Formed On	产品版本 Document Version ( V1.0 )	

## 目 录

### Table of contents

规格书版本更改记录 Version rejigger track record	3
1. 概述 Introduction	4
2. 外型尺寸及测试板焊盘尺寸 Dimensions	4 ~ 5
3. 测试电路和匹配电路 Evaluation Board and Matching Circuits	5
4. 电气性能 Electrical Characteristics	6
5. 特性曲线 Characteristic curve	6
6. 方向图 Radiation Pattern	7 ~ 8
7. 可靠性试验后允许误差 Post Dependability Tolerance	9
8. 可靠性试验 Dependability Test	9 ~ 10
9. 回流焊温度 Reflow Soldering Standard Condition	10
10. 包装尺寸 Packaging and Dimensions	11

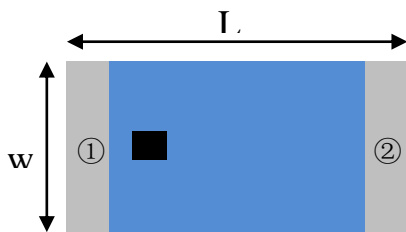


## 1. 概述 INTRODUCTION

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: mm)



( Top View )

Number	Terminal Name
①	INPUT
②	NC

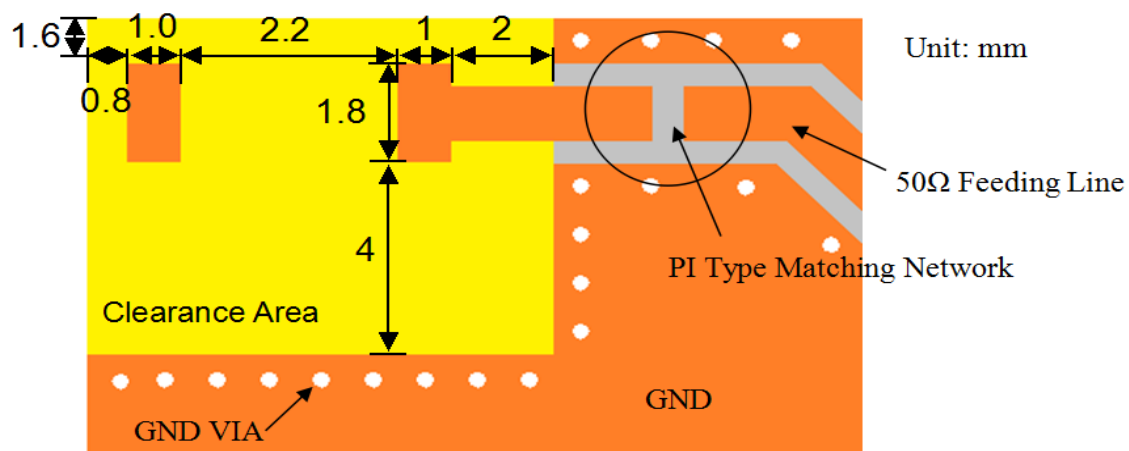


( Bottom View )

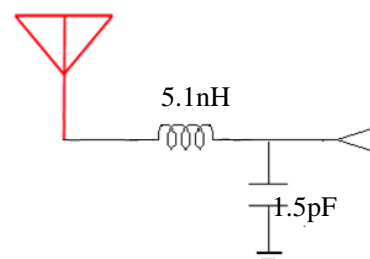
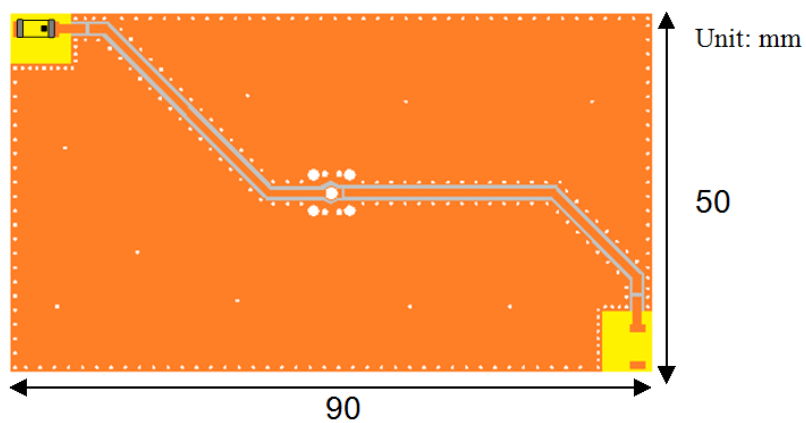


( Side View )

Symbols	L	W	T	A
Dimensions	3.2+/-0.2	1.6+/-0.2	0.6+/-0.1	0.4+/-0.1



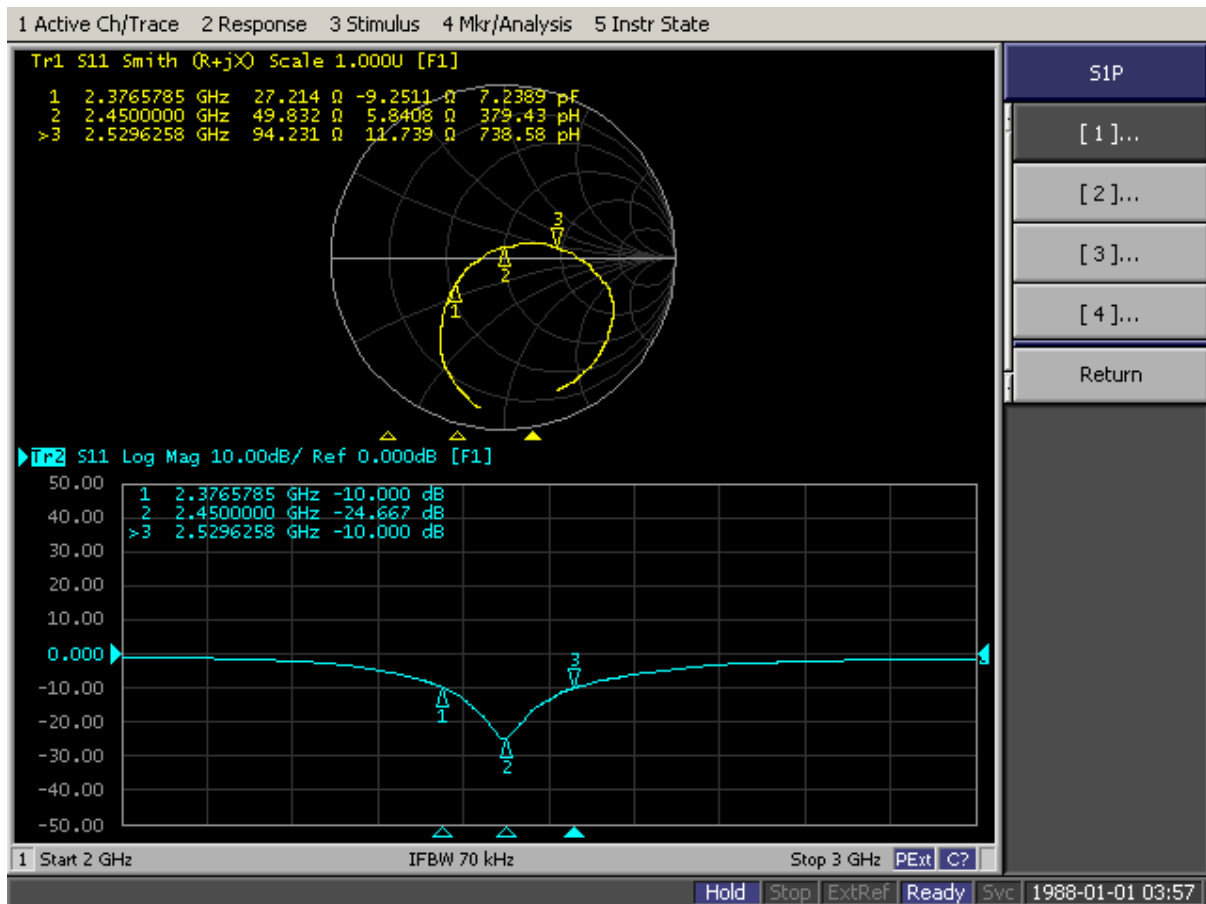
### 3. 测试电路和匹配电路 Evaluation Board and Matching Circuits



## 4. 电气性能 Electrical Characteristics

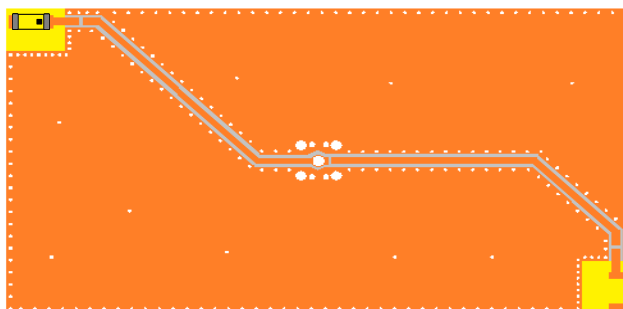
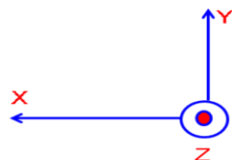
No.	Item (项目)	Specifications (特性)
4.1	(带匹配电路测试)After Matching	2450 MHz
4.2	Band Width 通带宽度	100MHz typ.
4.3	Peak Gain 峰值增益	4.75 dBi
4.4	V.S.W.R 驻波比	≤2.0
4.5	Polarization 极化方式	Linear 线性
4.6	Azimuth Beam width 方位角	Omni-directional 全向
4.7	Impedance 阻抗	50 Ω

## 5. 特性曲线 Characteristic curve

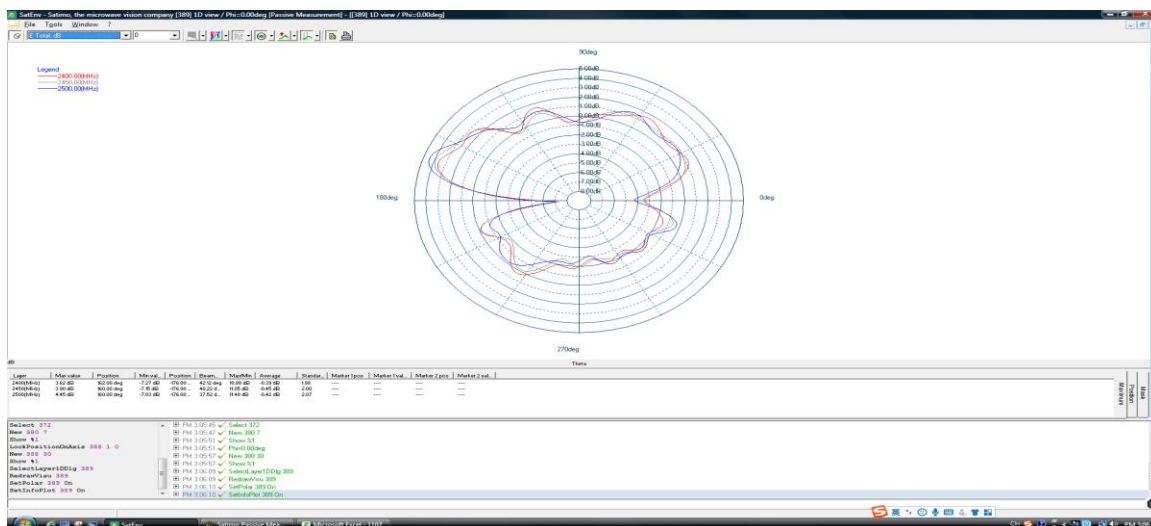


## 6. 方向图 Radiation Pattern

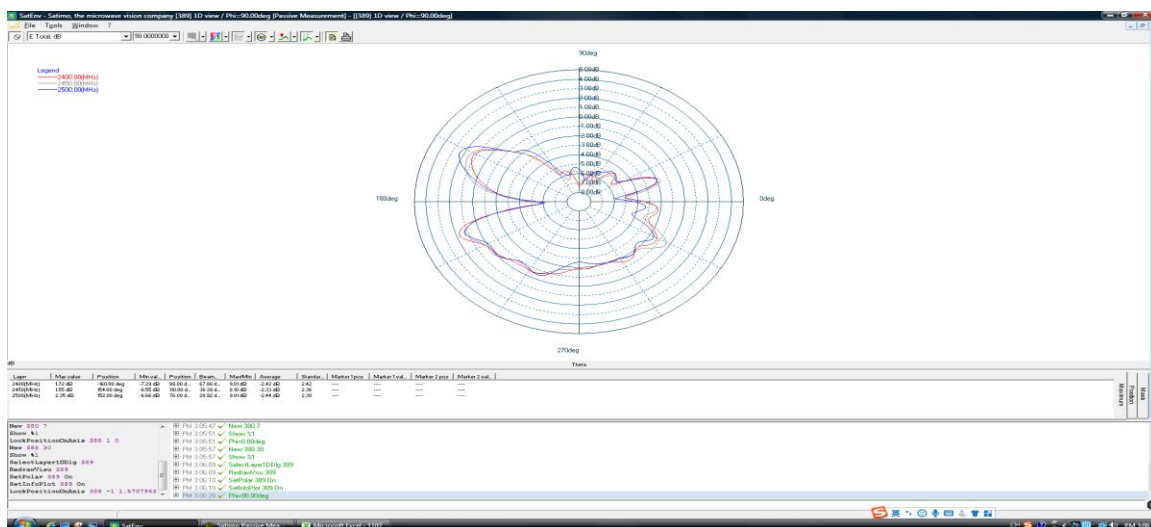
coordinates:



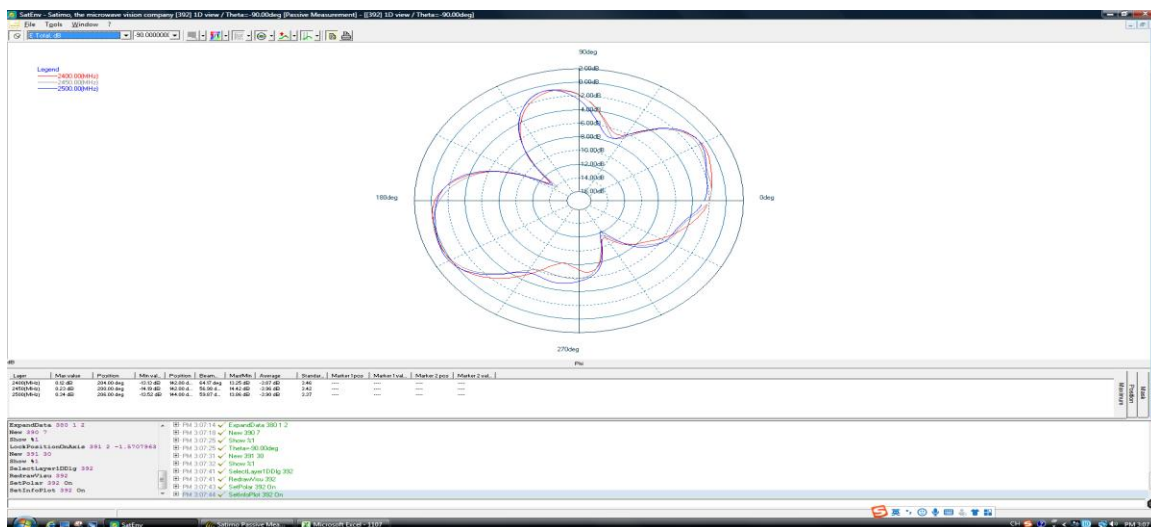
### X-Z Plane



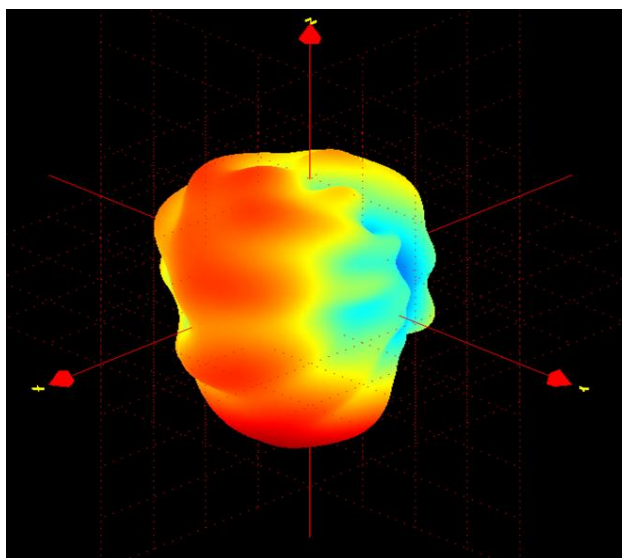
### Y-Z Plane



## X-Y Plane



## 3D Radiation Pattern



Frequency (MHz)	2400	2450	2500
Avg. Gain (dBi)	-2.25	-2.23	-2.25
Peck Gain (dBi)	3.68	4.75	3.72
Efficiency (%)	68	71	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	±3 MHz
7.2	Band Width 通带宽度	±3 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。

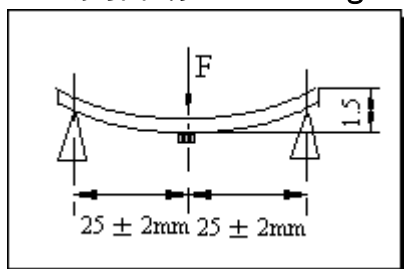
The device should be satisfied after preheating at 120°C~150°C for 120 seconds and dipping in soldering Sn at 255°C+10°C for 5±0.5 seconds, or electric iron 300°C-10°C for 3±0.5 seconds, without damage.

### 8.4 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  $1.6 \pm 0.2\text{mm}$  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.

## 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  $1\sim 2$  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  $1\sim 2$  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  $96 \pm 2$  小时，在常温中恢复  $1\sim 2$  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  $96 \pm 2$  hours and  $1\sim 2$  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  $96 \pm 2$  小时后恢复  $1\sim 2$  小时测试符合表 8.1~8.4 规定。

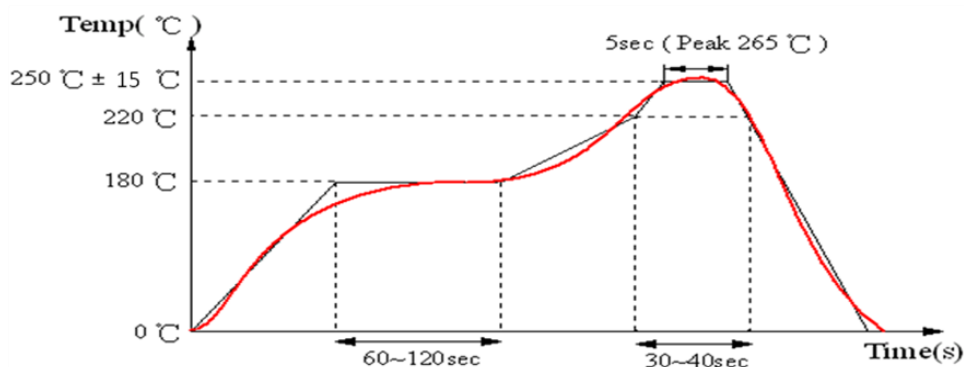
The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature  $-40^\circ\text{C} \pm 5^\circ\text{C}$  for  $96 \pm 2$  hours and to 2 hours recovery time under normal temperature.

## 8.9 温度循环 Temperature Cycle Test

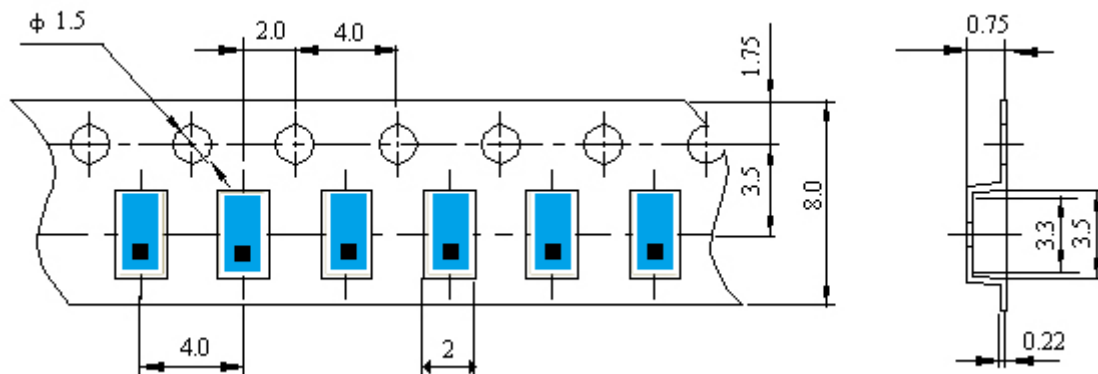
在  $-40^\circ\text{C}$  温度中保持  $30$  分钟，再在  $+85^\circ\text{C}$  温度中保持  $30$  分钟，共循环  $5$  次后在常温中恢复  $1\sim 2$  小时后测试符合表 8.1~8.4 规定。

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the low temperature  $-40^\circ\text{C}$  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.

## 9. 回流焊温度 Reflow Soldering Standard Condition



## 10. 包装尺寸 (3216) Packaging and Dimensions



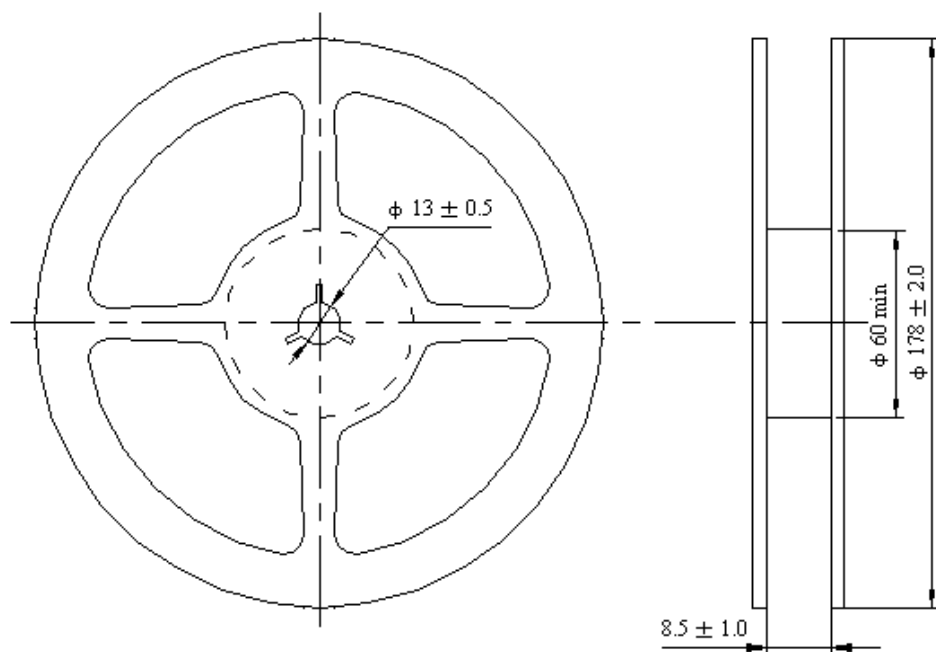
### 10.1 Plastic Tape

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