

产 品 技 术 规 格 书

SPECIFICATION

产品型号 PART NO: LA31H2450-A55

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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送样日期 Formed On	产品版本 Document Version (V1.0)	

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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	2018. 12. 07

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……）。

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1. 概述 INTRODUCTION

"佳利"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。

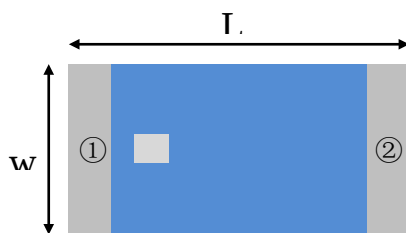
"GLEAD" Microwave Multi-Layer Ceramic Antenna LA series are designed to be used in WLAN、WiFi、Bluetooth、PHS、 Multiple-band Mobile phone antenna, FM, etc and compact size SMD chip design.

2. 型号 Part Number

LA 31 H 2450 - A55

LA	31	H	2450	A55	产品名称, 编号 A55/Product Name: A55
					天线频率/ Antenna Frequency: 2450 MHz
					产品设计结构 H 型/Via Design Series
					产品尺寸/Size: 3.2×1.6×0.6
					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



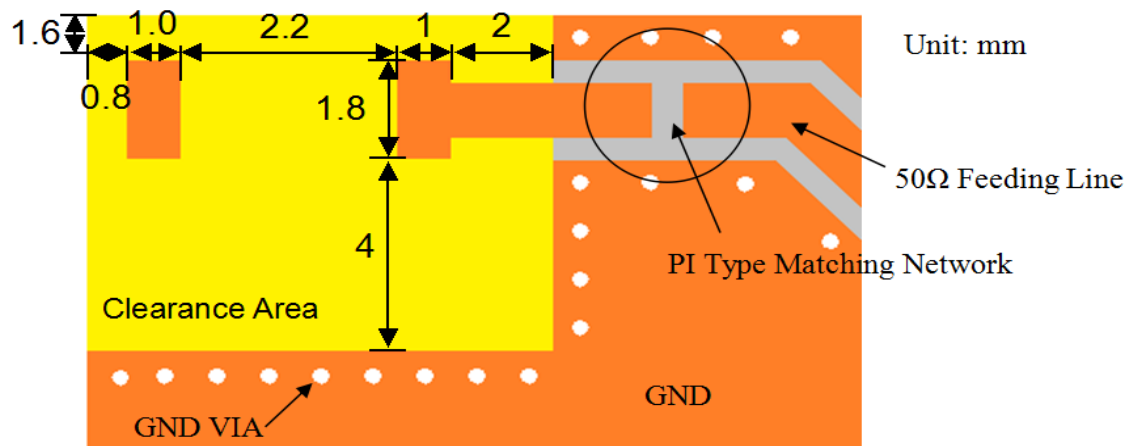
(Bottom View)



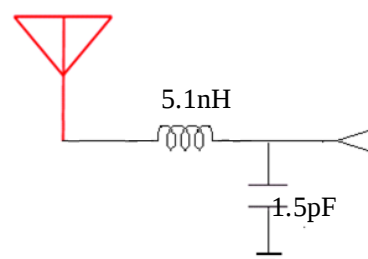
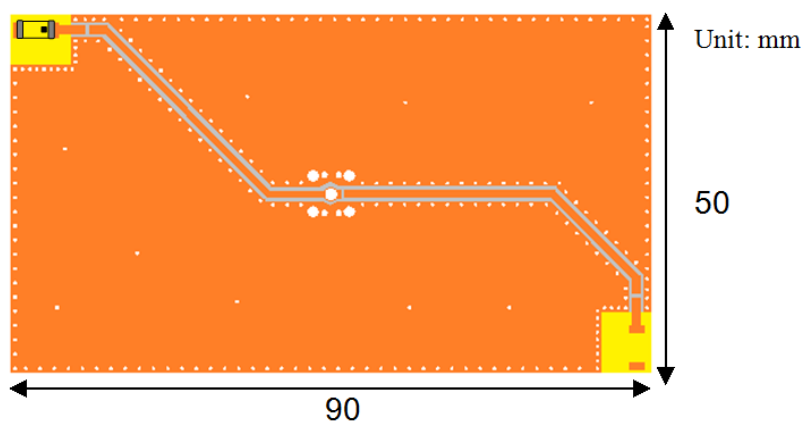
(Side View)

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

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

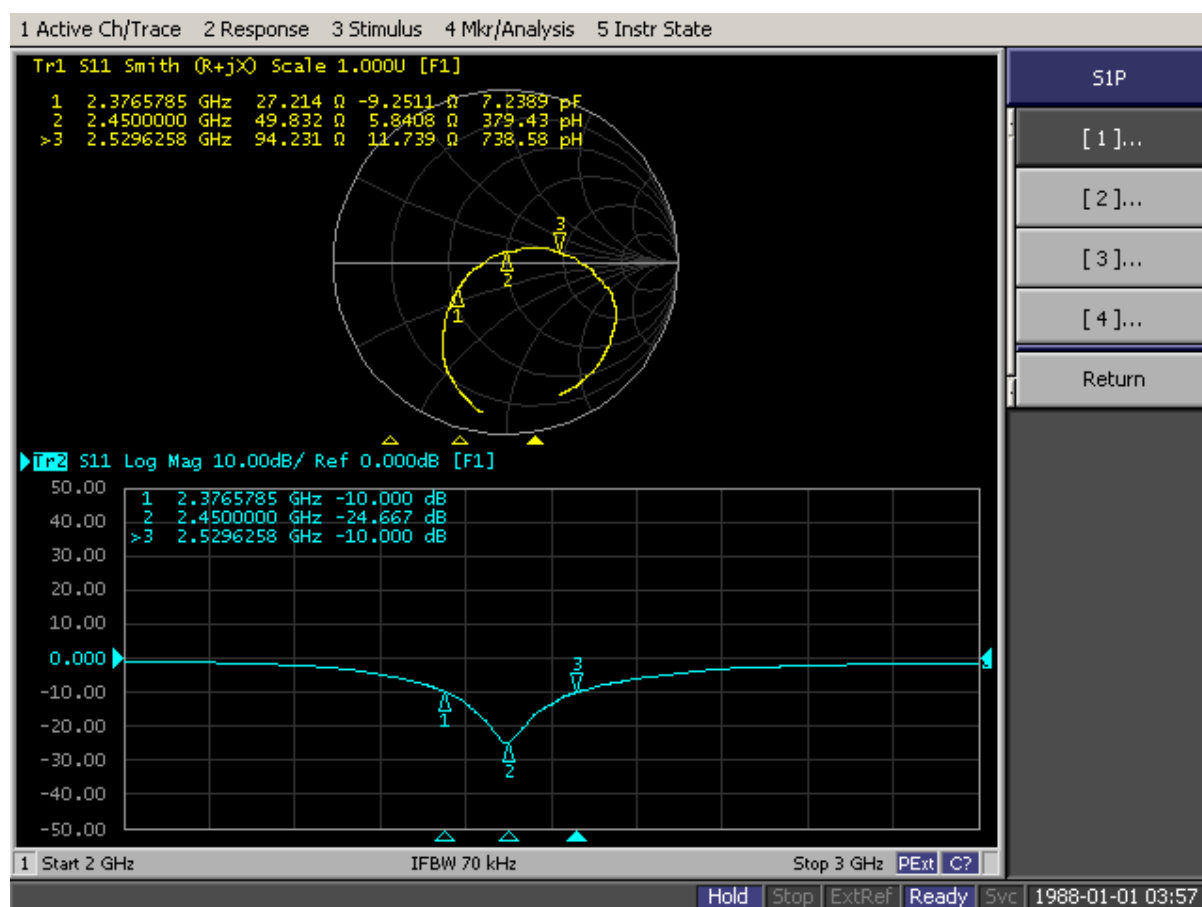


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5. 电气性能 Electrical Characteristics

No.	Item (项目)	Specifications (特性)
5.1	(带匹配电路测试)After Matching	2450 MHz
5.2	Band Width 通带宽度	100MHz typ.
5.3	Peak Gain 峰值增益	4.75 dBi
5.4	V.S.W.R 驻波比	≤ 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 Ω

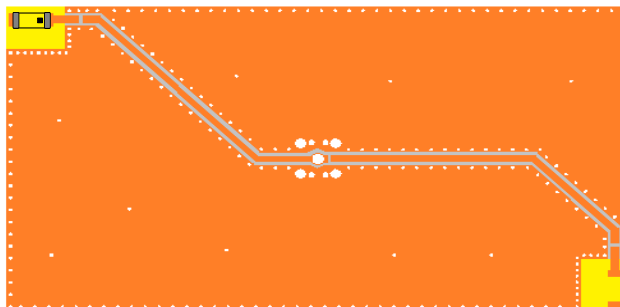
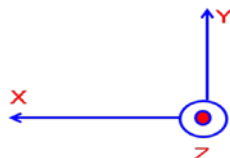
6. 特性曲线 Characteristic curve



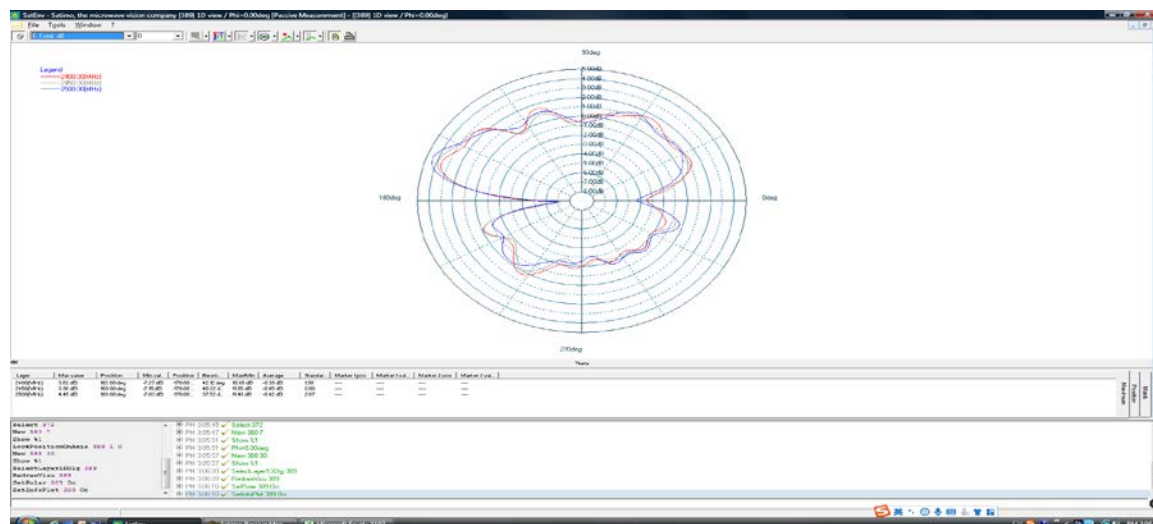
Specification

7. 方向图 Radiation Pattern

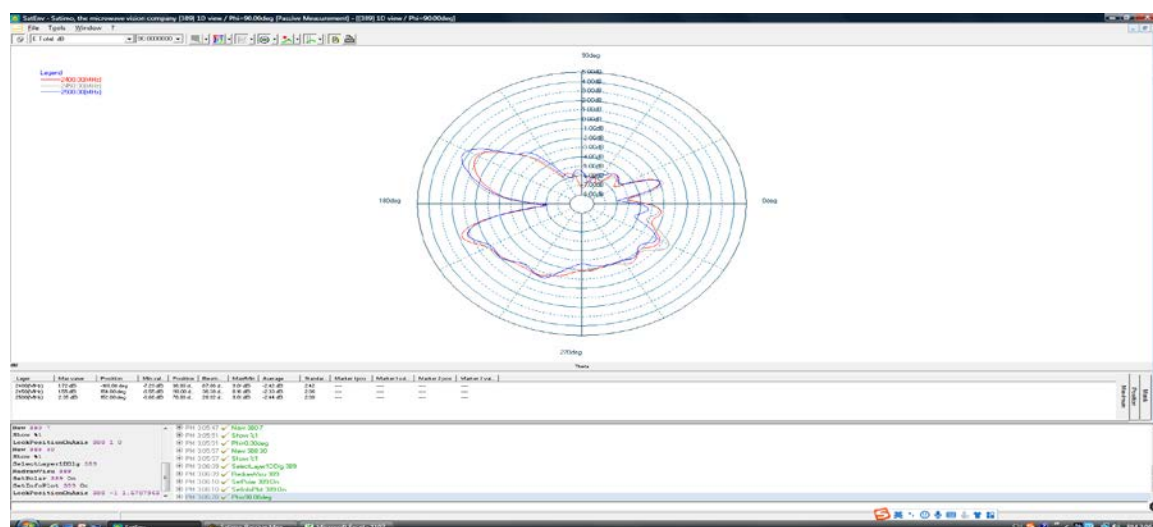
coordinates:



X-Z Plane



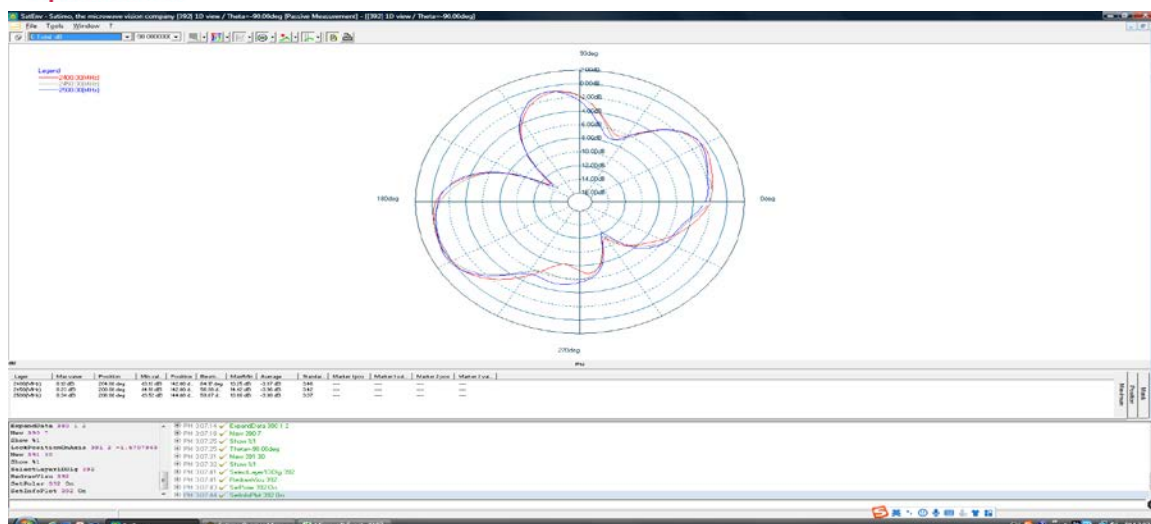
Y-Z Plane



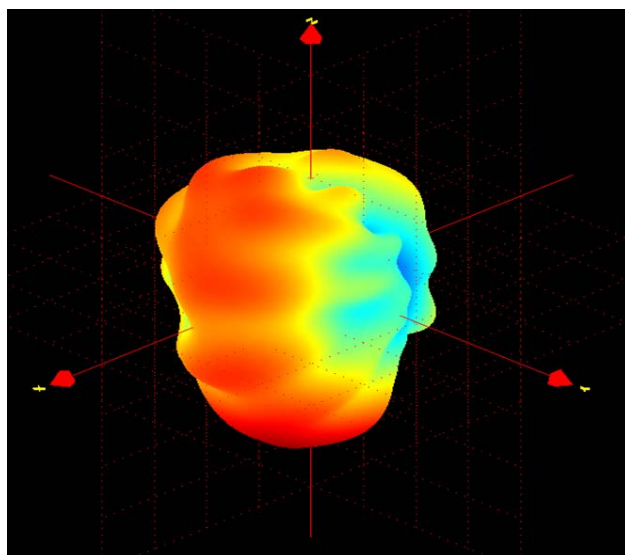
X-Y

Plane

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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

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

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 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.

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 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.

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.

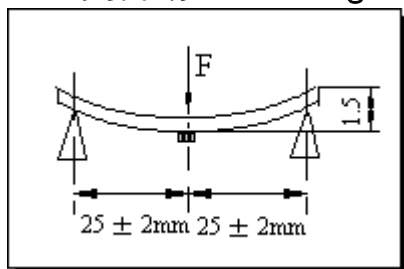
9.4 推力试验 Adhesive Strength of Termination

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.

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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: 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.

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 $1 \sim 2$ 小时后测试, 符合表 $8.1 \sim 8.4$ 规定。

The device should satisfy the electrical characteristics specified in paragraph $8.1 \sim 8.4$ 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.

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 ± 2 小时, 在常温中恢复 $1 \sim 2$ 小时后测试。符合表 $8.1 \sim 8.4$ 规定。

The device should satisfy the electrical characteristics specified in paragraph $8.1 \sim 8.4$ after exposed to temperature $85 \pm 5^\circ\text{C}$ for 96 ± 2 hours and $1 \sim 2$ 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 ± 2 小时后恢复 $1 \sim 2$ 小时测试符合表 $8.1 \sim 8.4$ 规定。

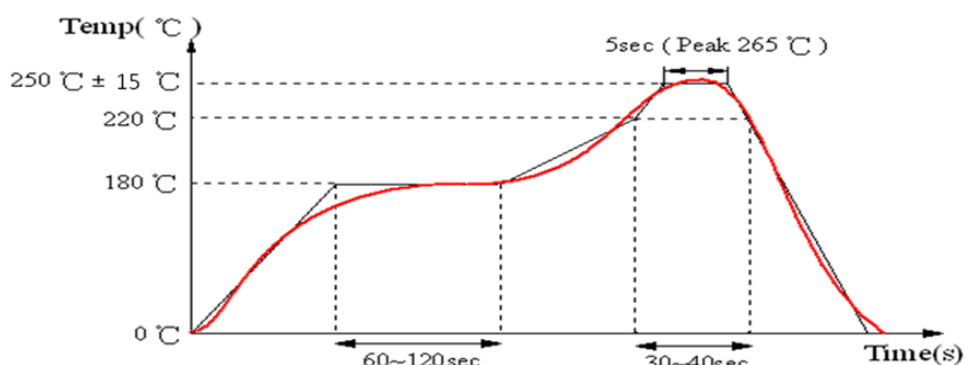
The device should also satisfy the electrical characteristics specified in paragraph $8.1 \sim 8.4$ after exposed to the temperature $-40^\circ\text{C} \pm 5^\circ\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

9.9 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 $1 \sim 2$ 小时后测试符合表 $8.1 \sim 8.4$ 规定。

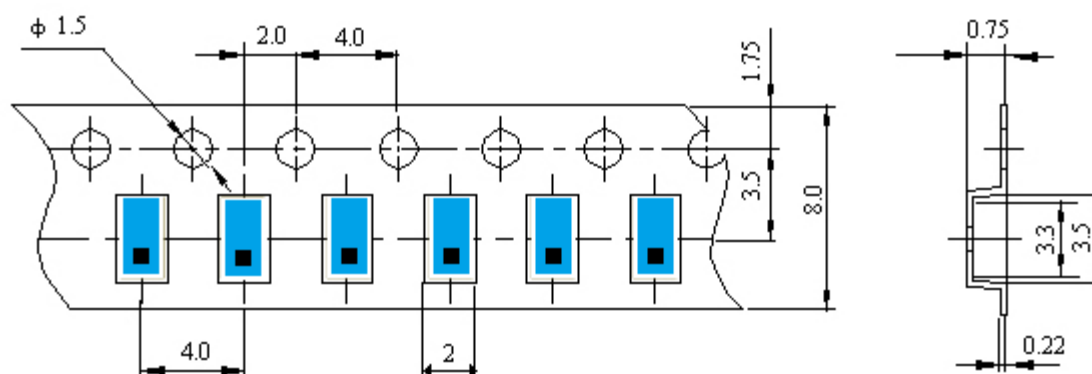
The device should also satisfy the electrical characteristics specified in paragraph $8.1 \sim 8.4$ after exposed to the low temperature -40°C and high temperature $+85^\circ\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

10 回流焊温度 Reflow Soldering Standard Condition



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11 包装尺寸 (3216) Packaging and Dimensions



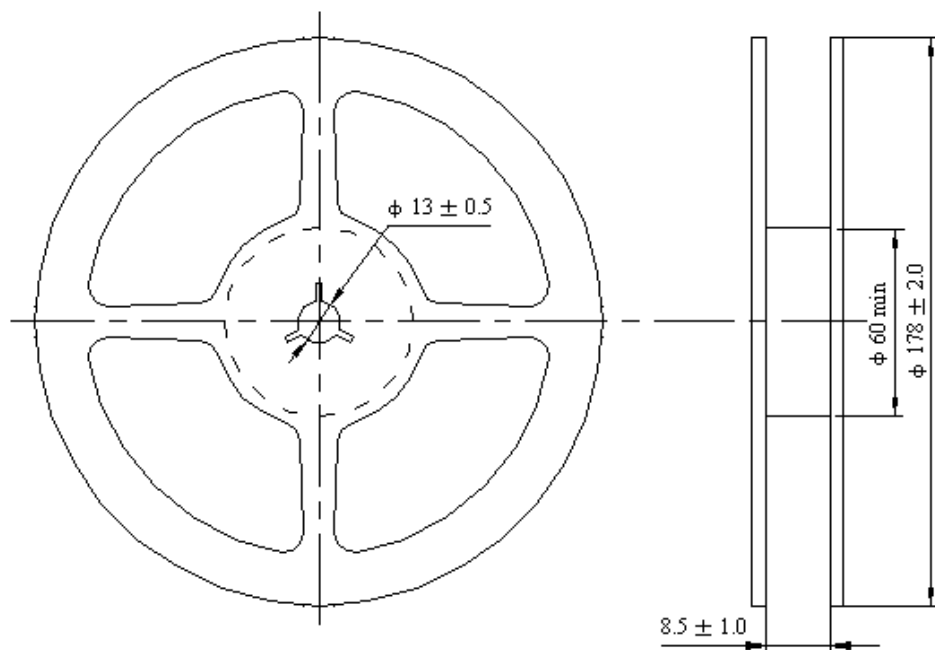
11.1 Plastic Tape

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 (3000 pcs/Reel)



11.3 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