SPECIFICATION

PART NO: LA31H2450-A27 **CUSTOMER PART NO:**
CUSTOMER APPROVED BY: Validation Date **APPROVED DATE:**

RoHS Compliant Parts

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Fit the Prepared by:	Review of the Checked by:	Approved by the Approved by:
Sample delivery date is Forme d On	Product version, Document Version (V1.5)	

Catalogue

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Version change record

Version	Change the record	Prepared	Approve	Date
V1.0	initial issue	Luo Chang mast	Tang ambition	2015.8.11
V1.1	More adapted with thickness	Cai Zhuang	Lu Guanyu	2016.10.11
V1.2	Change the product dimensional tolerance value	Luo Chang mast	Lu Guanyu	2017.05.24
V1.3	Description of modified reliability test 8.1~8.4	Pan Feng	Lu Guanyu	2017.11.07
V1.4	Modify the reliability item 9.4 content Update the reflow weld temperature curve chart 11.1 Correction of product packaging display direction 11.3 Product storage condition is MSL: 1	Pan Feng	Lu Guanyu	2018.07.31
V1.5	Correct product bottom electrode width from 0.5- -> 0.7	Pan Feng	Lu Guanyu	2019.01.22

remarks:

1. When changing the electrical performance index of the product, the version number should be replaced (V1.0 to V2.0, V3.0...);

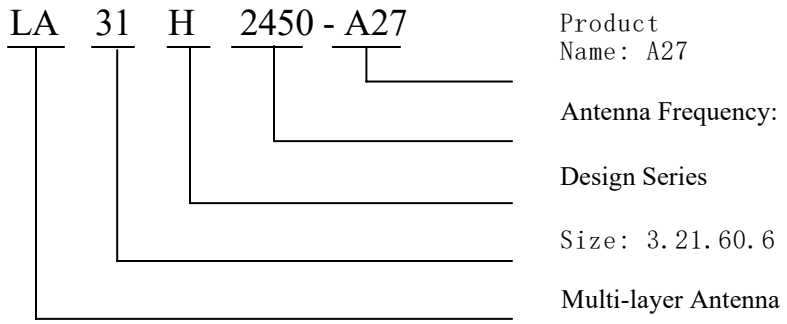
2. When changing the product test method (including the reliability test conditions), or changing the use conditions, the current version number plus series (V1.0 changes to V1.1, V1.2...…) 。

1. An Overview of the INTRODUCTION

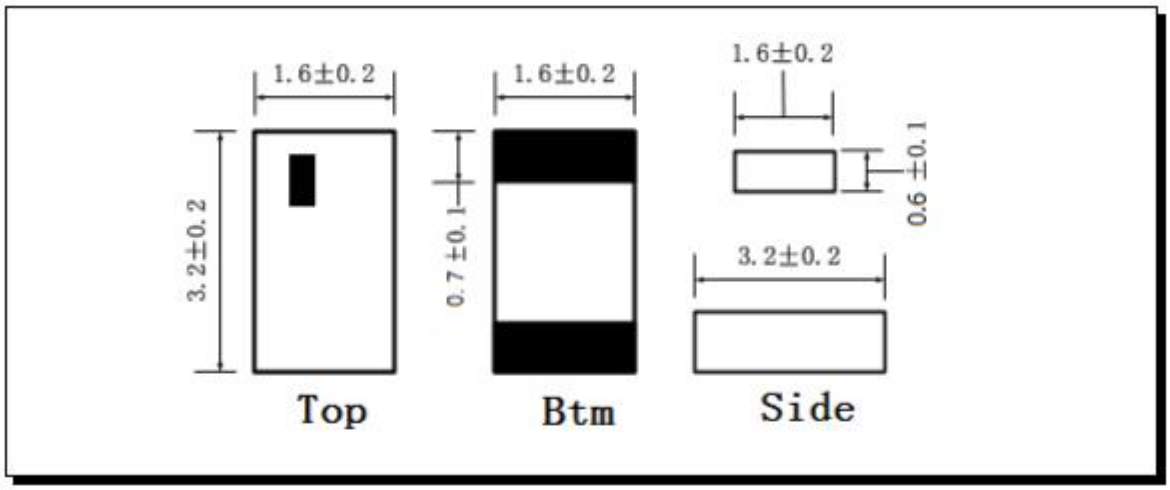
"Jiali" microwave multi-layer ceramic antenna LA series products are designed for WLAN, W iFi, Bluetooth, PHS, mobile phone multi-frequency antenna, FM and other small volume SMD chip design.

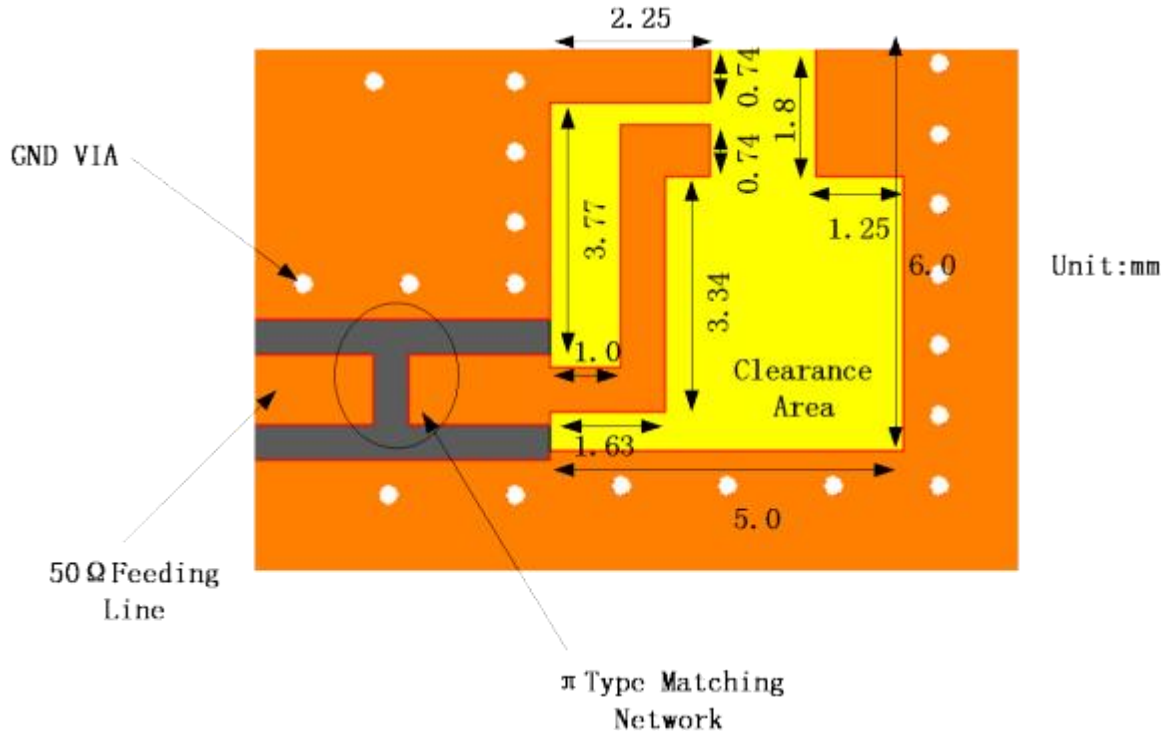
"GLEAD" Mi crowave Multi-Layer Ceramic Antenna LA series are designed to be used in WLAN 、WiFi、Bluetooth、PHS 、 Multiple-band Mobile phone antenna, FM, e tc and compact size S MD chip design.

2. Model # Part Number

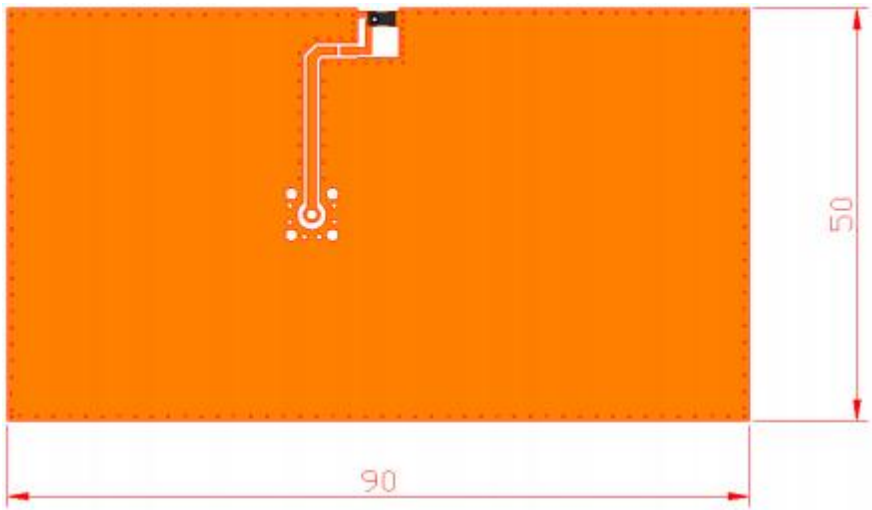


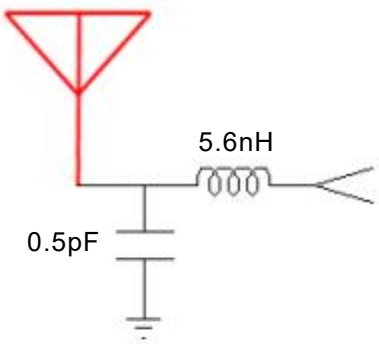
3. Exsize and test plate size Dimensions (Unit: mm)





4. Evaluation Board and Matching Circuits

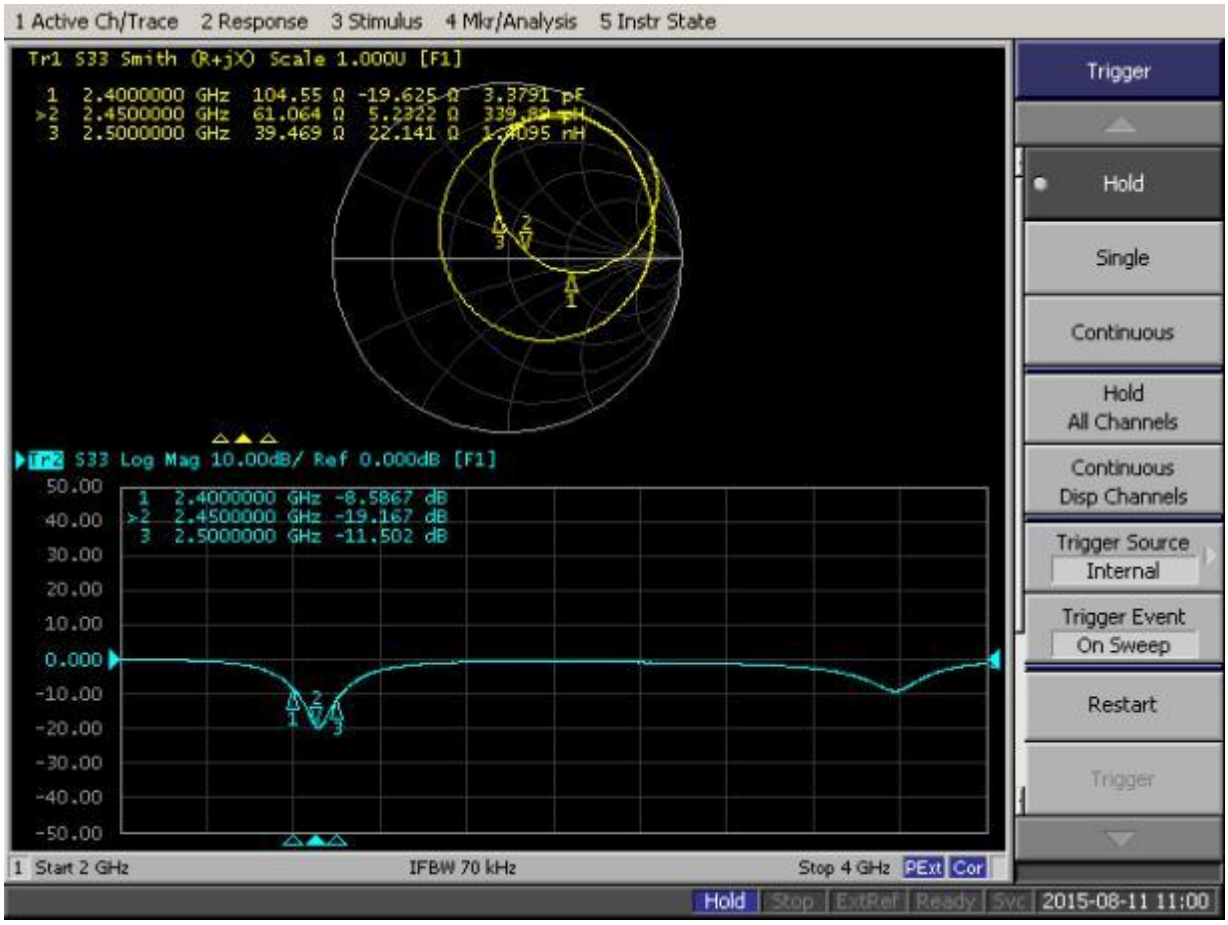




5. Electrical Characteristics

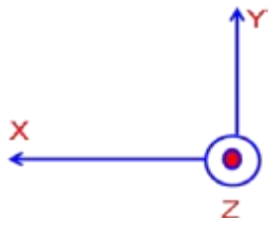
No .	I. Item (Project)	Specifications (Feature)
5.1	Central Frequency Center Frequency (No matching)	2545MHz
	(With the matching circuit test) After Matching	2450 MHz
5.2	Band Width Pass-band width	100 MHz typ.
5.3	Peak Gain, Peak gain	5.62 dBi
5.4	V.S.W. R (inBW), in Bobbi	≤2.0
5.5	Polarization Polarization mode	Linear Linearity
5.6	Azimuth Beam width Azimuth angle	The Omni-directional is omnidirectional
5.7	Impedance Impedance	50 Ω

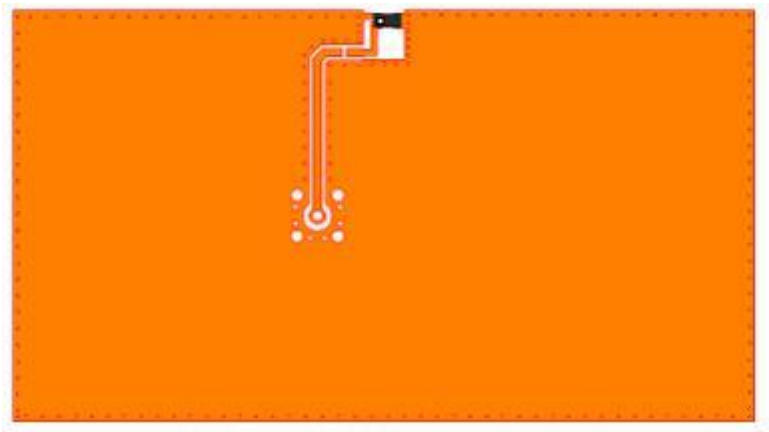
6. Characteristic curve,



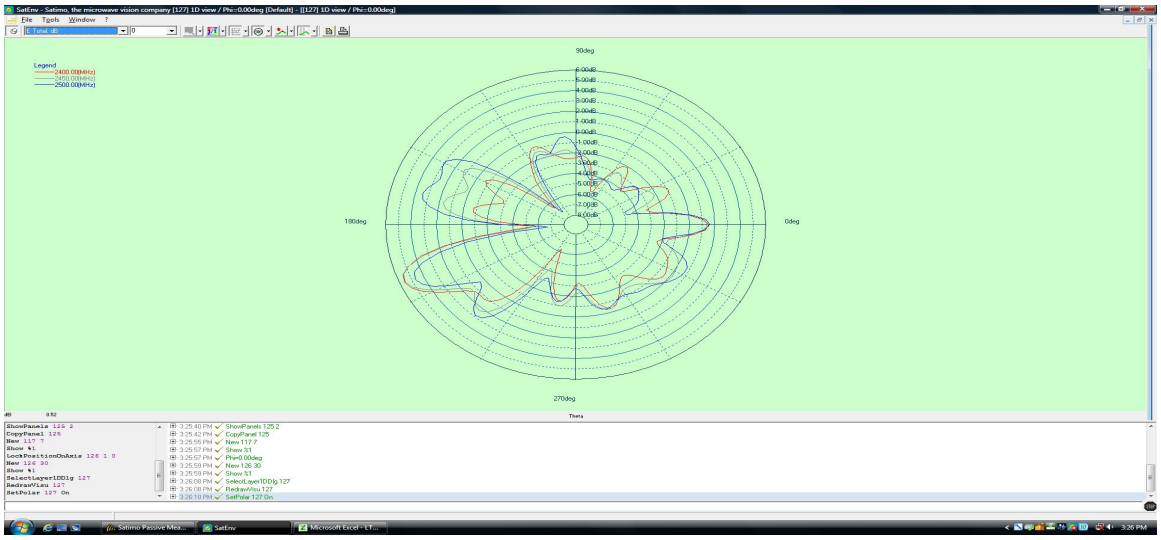
7. Radiation Pattern & Efficiency

coordinates：

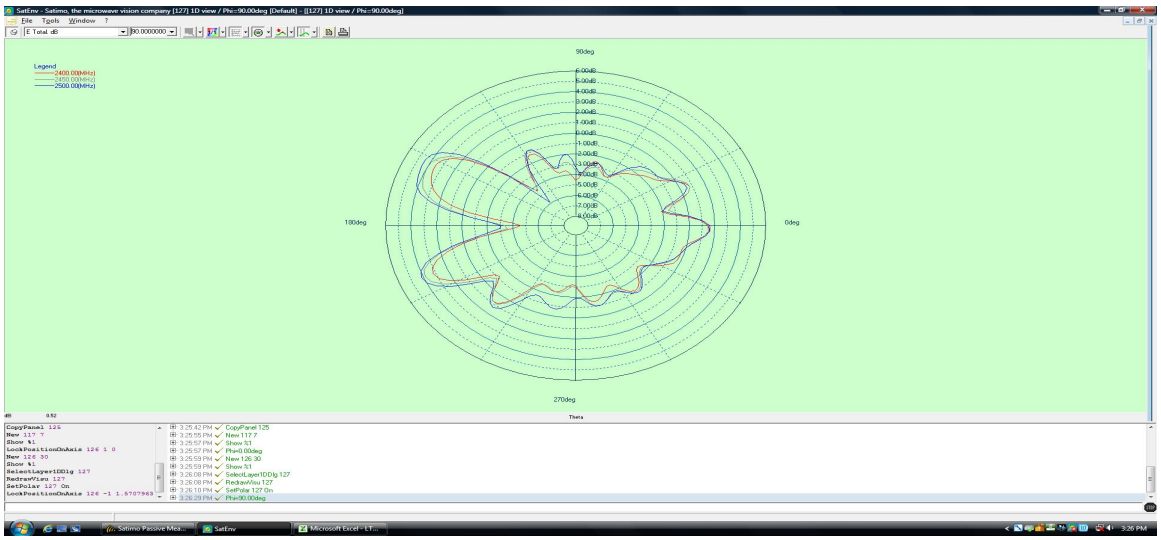




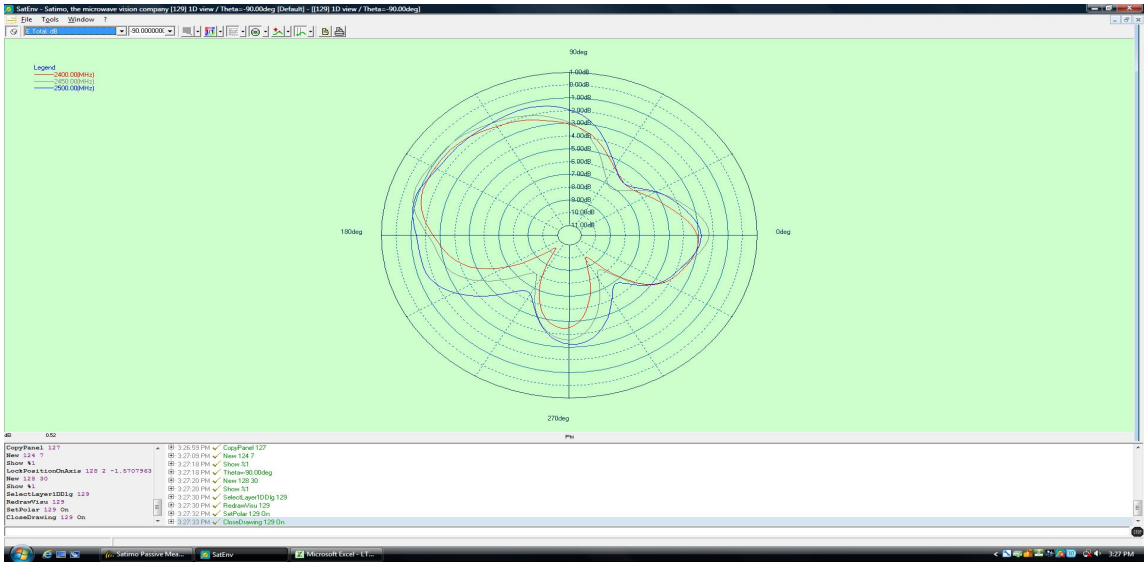
X-Z Plane



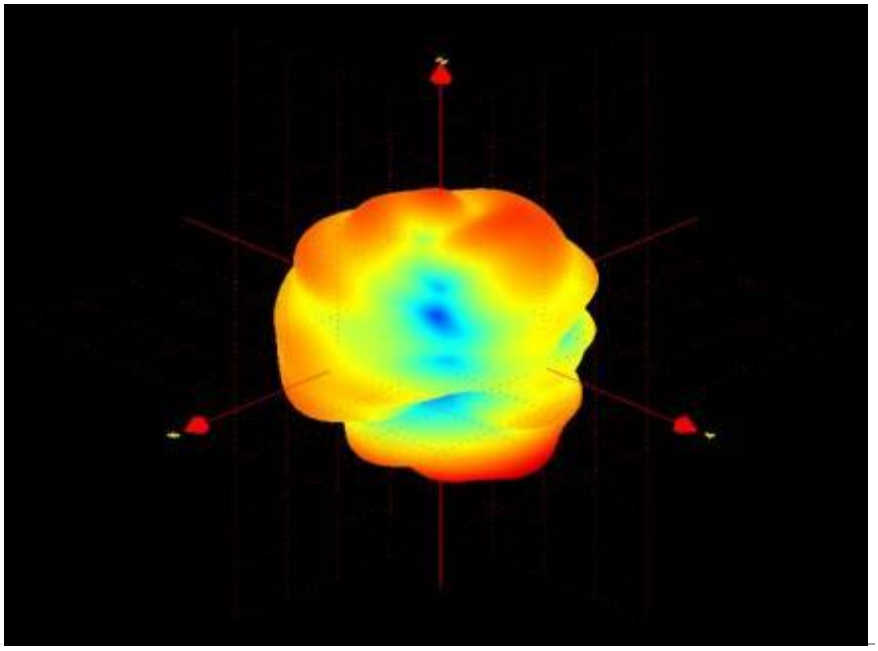
X-Y Plane



Y-Z Plane



3D Radiation Pattern



Frequency (MHz)	2400	2450	2500
Avg.Gain (dBi)	-1.56	**-1.28**	-1.15
Peck Gain (dBi)	5.62	**5.54**	4.48
Efficiency (%)	**71.8**	**73.5**	**75.6**

8 Post Dependability Tolerance

The allowable deviation from the start reading after the reliability test is shown in the table below

Post Dependability Tolerance (Refer to the table)

No .	I. Item (Project)	Post Dependability Toleranc e (Additional error is allowed after reliability test)
8.1	Central Frequency Center frequency	±5 MHz
8.2	Band Width Pass-band width	±5 MHz
8.3	Gain gain	±0.1 dBi
8.4	V.S.W. R (inBW), in Bobbi	±0.1

9 Dependability Test

Base condition: Temperature range 25±5℃

Relative humidity range Relative Humidity range 55~75%RHworking temperature Operating Temperature range -40℃~+85℃ reserve temperature Storage Temperature range -40℃~+85℃

9.1, Vibration Resist

At a vibration frequency of 10 to 55 Hz with an amplitude of 1.5mm along the X.Y. After 2 hours of vibration, each test conforms to Table 8.1~8.4.

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 Drop Shock

At the height of 100cm, fall on the wooden floor for 3 times before the test meets Table 8.1~8.4.

The device should satisfy the elec trical 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 Solder Heat Proof

After preheat of 120-150℃ for 120 seconds, 3 ± 0.5 seconds, 3 ± 0.5 seconds, or 300℃ -10℃, without damage to the welding surface.

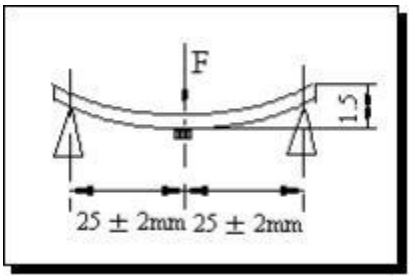
The device should be satisfied after preheating at 120℃~150℃ for 120 seconds and dipping in soldering Sn at 255℃+10℃ for 5±0.5 seconds , or electric iron 300℃-10℃ for 3±0.5 seconds , without damnify.

9.4 Adhesive Strength of Termination

5N (0603) on product electrode terminals; 10N (> 0603) horizontal thrust for 10 ± 1 seconds without obvious visual damage and electrode displacement.

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

9.5 Bending Resist Test



Welded the product in the middle of the PCB board of 1.6±0.2mm according to the drawing, apply the force by the arrow direction: 1mm / S, bending distance: 1.5mm, keep 5 ± 1S, the product metal layer does not fall off. Weld the product to the center part of the PCB with the thickness 1.6±0.2mm 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 di stance , so far , any peeling off of the product metal coating should not be detected .

9.6 Moisture Proof

If in a temperature of 60 ± 2℃ with 96 hours relative humidity of 90~95%, and restored for 1 to 2 hours in room temperature, the test is in accordance with Table 8.1~8.4.

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature 60±2℃and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under norma l condition.

9.7 High Temperature Endurance

Place for 96 ± 2 hours in an incubator at 85 ± 5℃ and recover for 1 to 2 hours at room temperature before testing. Compliance with Table 8.1~8.4.

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to temperature 85±5℃for 96±2 hours and 1~2 hours recovery time under normal temperature .

9.8 Low Temperature Endurance

Place 96 ± in a temperature of-40℃± 5℃ and recover for 1~2 hours as specified in Table 8.1~8.4.

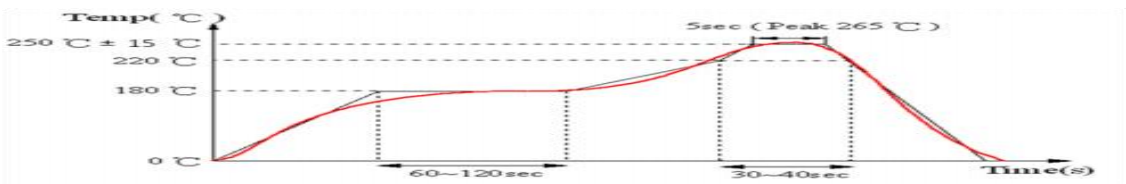
The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature -40℃±5℃ for 96±2 hours and to 2 hours recovery time under normal temperature .

9.9 Temperature Cycle Test

At-40℃ for 30 minutes and + 85℃ for 30 minutes, after 5 cycles and 1 to 2 hours in room temperature, the test conforms to Table 8.1~8.4.

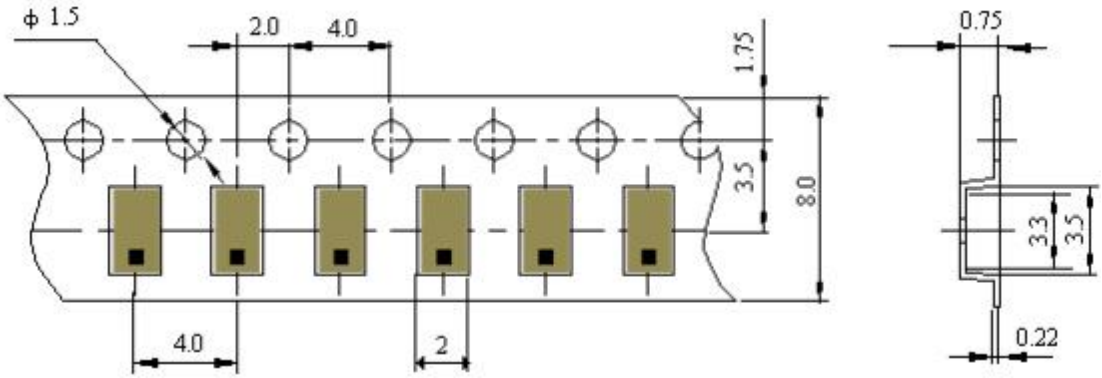
The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the low temperature -40℃ and high temperature +85℃ for 30±2 min each by 5 cycles and 1 to 2 hours recovery time under norma l temperature.

10 Reflow Soldering Standard Condition



11 Packaging and Dimensions

11.1 Plastic Tape

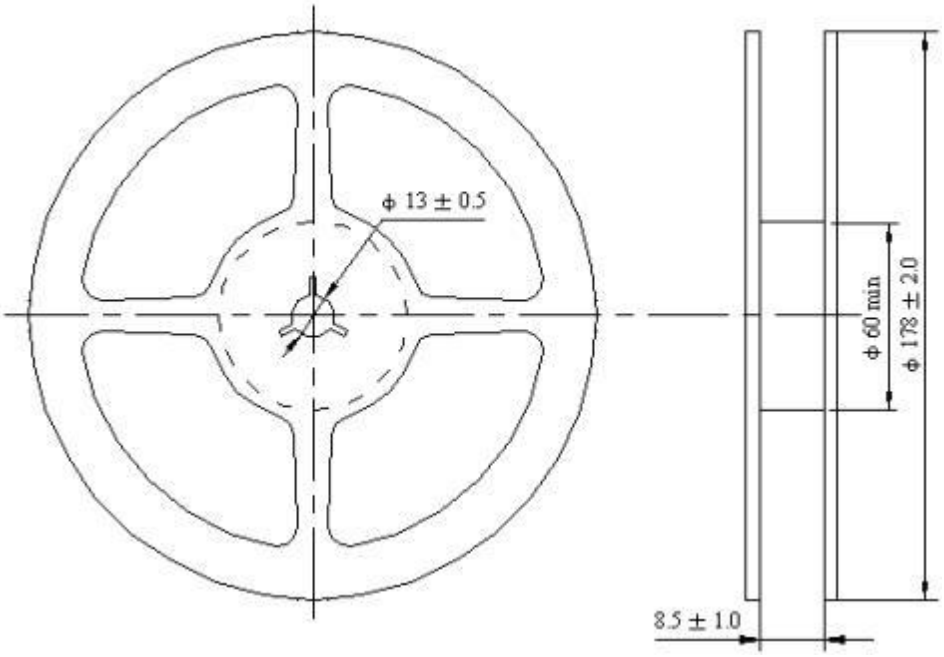


Packaging description: Remarks for Package

The length of the tail hole of the carrier is 150~200mm, the length of the carrier head is 250~300mm, and the cover of the head is 250mm longer.

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, Storage Period

The product shall be used up within half a year after being received.

Product should be used within six months of receipt.

Wet sensitivity level 1 / Storage temperature and humidity:

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