

Specification

Product technical specifications

SPECIFICATION

Product number	PART NO: LA18H2450-A58
Customer part number	CUSTOMER PART NO:
client confirmation	CUSTOMER APPROVED BY:
Confirmation date	APPROVED DATE:

RoHS Compliant Parts

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Sample delivery dateFormed On	product versionDocument Version (V1.0)	

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Version rejigger track record

Jiaxing Jiali Electronics Co., Ltd. <http://www.glead.com.cn>
JIA XING GLEAD ELECTRONICS CO., LTD

Specification

1. Overview

INTRODUCTION

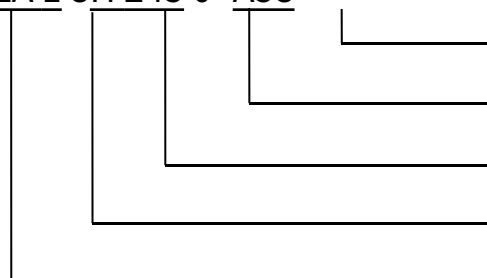
"Jiali" microwave multilayer ceramic antenna LA series of products designed for WLAN, WiFi, Bluetooth, PHS, mobile phone multi-band antenna, FMS small volume SMD chip design.

"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. Model

Part Number

LA 1 8H 245 0 -A58



Product name, number A58/Product Name: A58

Antenna frequency/Antenna Frequency: 2450 MHz

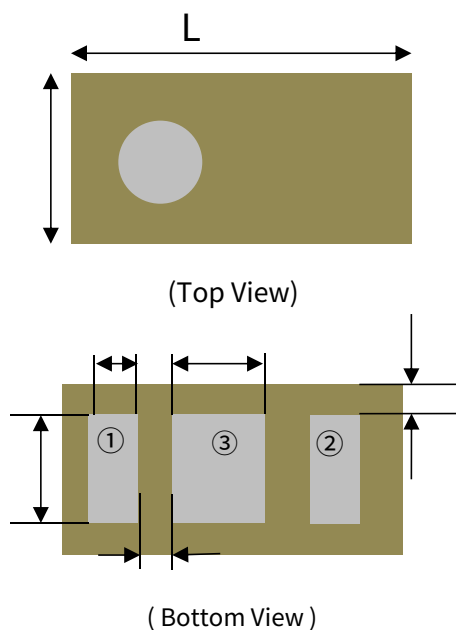
product design structure H type/Via Design Series

Product Size/Size: 1.6×0.8×0.5 Multi-layer

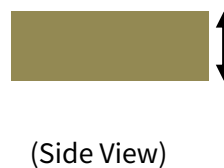
structure antenna/Multi-layer Antenna

3. Overall dimensions

Dimensions (Unit:mm)

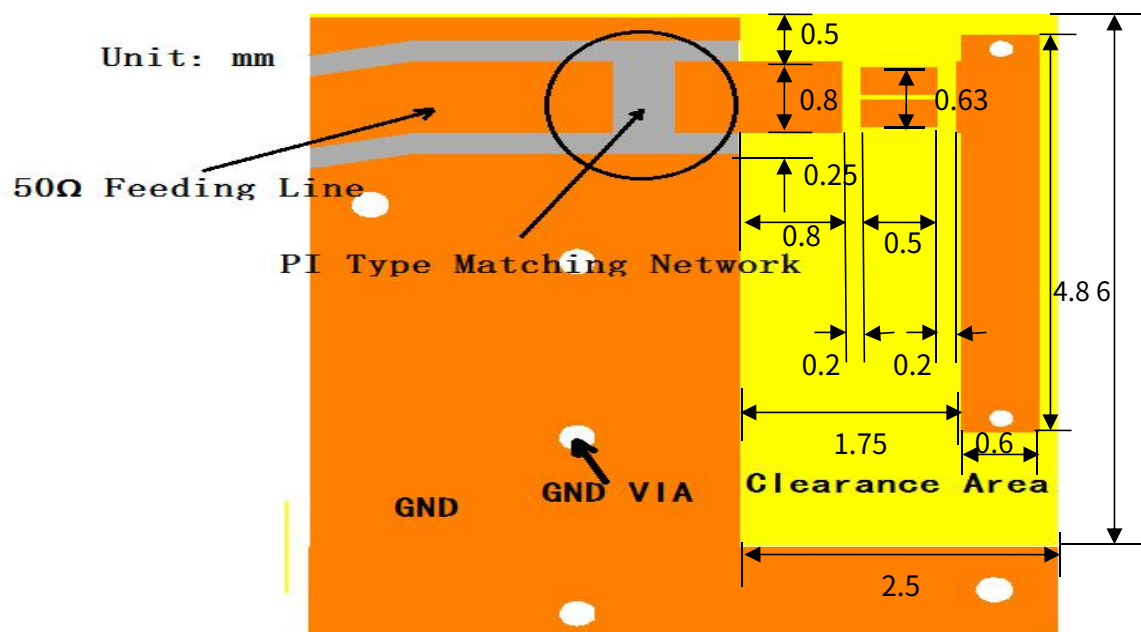


Number	Terminal Name
①	INPUT
②	OUTPUT
③	NC



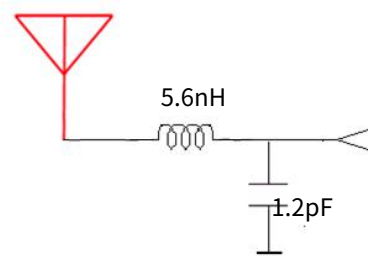
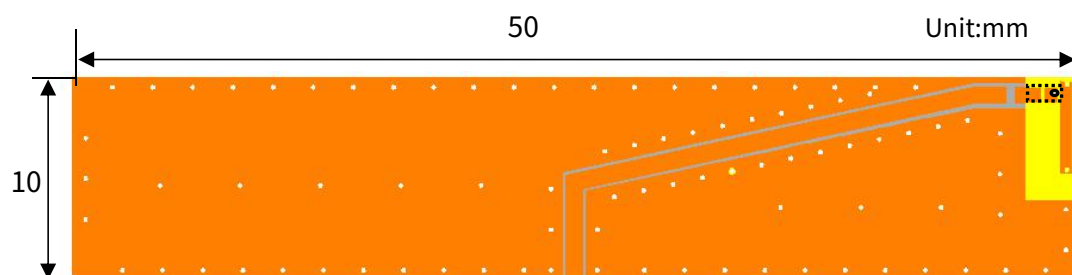
Symbols	L	W	T	a	b	c	d	e
Dimensions	1.6±0.10	0.8±0.10	0.5+/-0.1	0.215±0.10	0.25±0.10	0.5±0.10	0.63±0.10	0.085

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4. Test circuit and matching circuit

Evaluation Board and Matching Circuits



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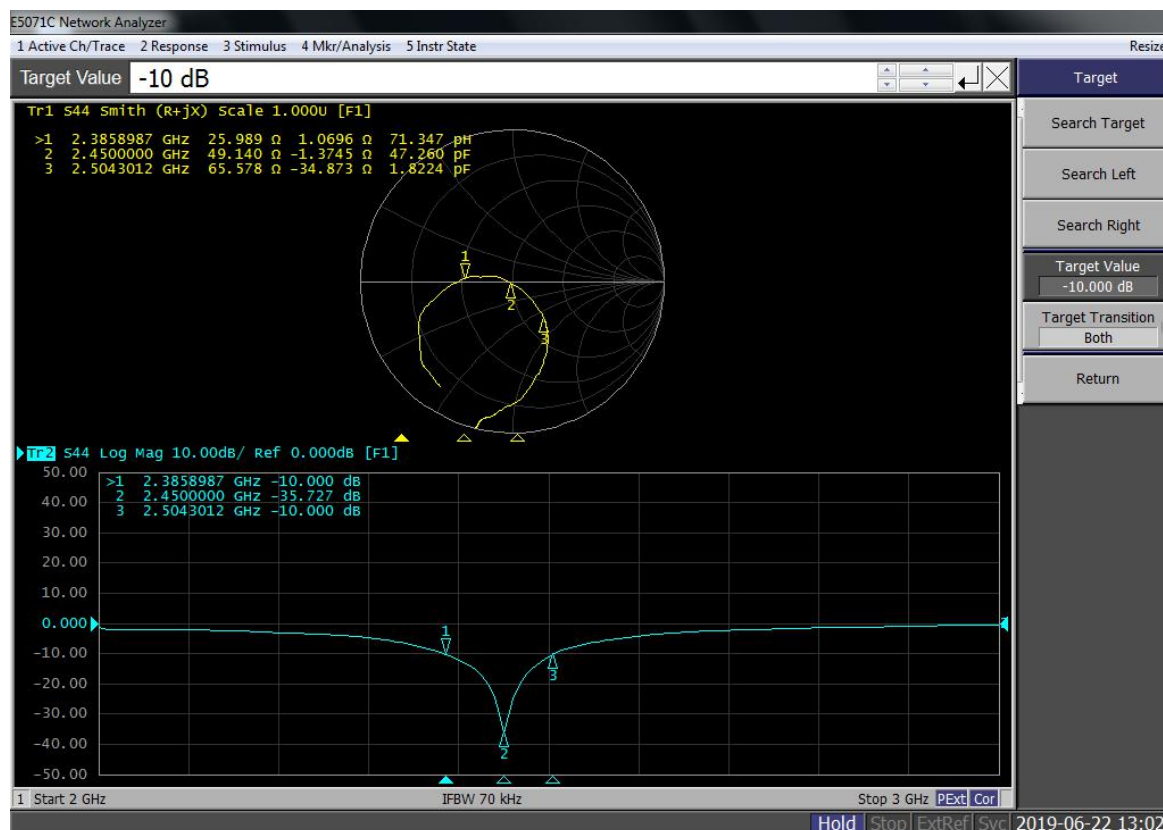
5. Electrical performance

Electrical Characteristics

No.	Item(project)	Specifications(characteristic)
5.1	(Tested with matching circuit)After Matching	2450MHz
5.2	Band WidthPassbandwidth	100MHz type.
5.3	Peak Gainpeak gain	2.38dBi
5.4	VSWRstanding wave ratio	≤ 2.0
5.5	PolarizationPolarization mode	LinearLinear
5.6	Azimuth beam widthAzimuth	Omni-directionalOmnidirectional
5.7	Impedanceimpedance	50 Ω

6.Characteristic curve

Characteristic curve

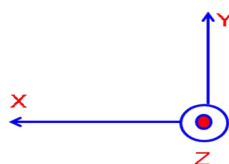


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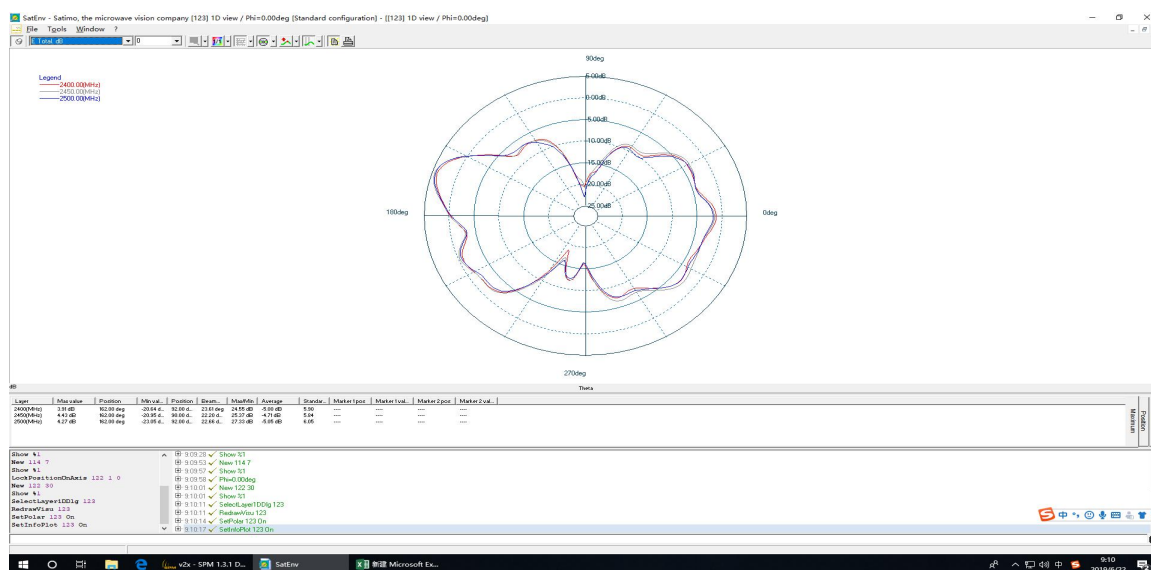
7.direction map

Radiation Pattern

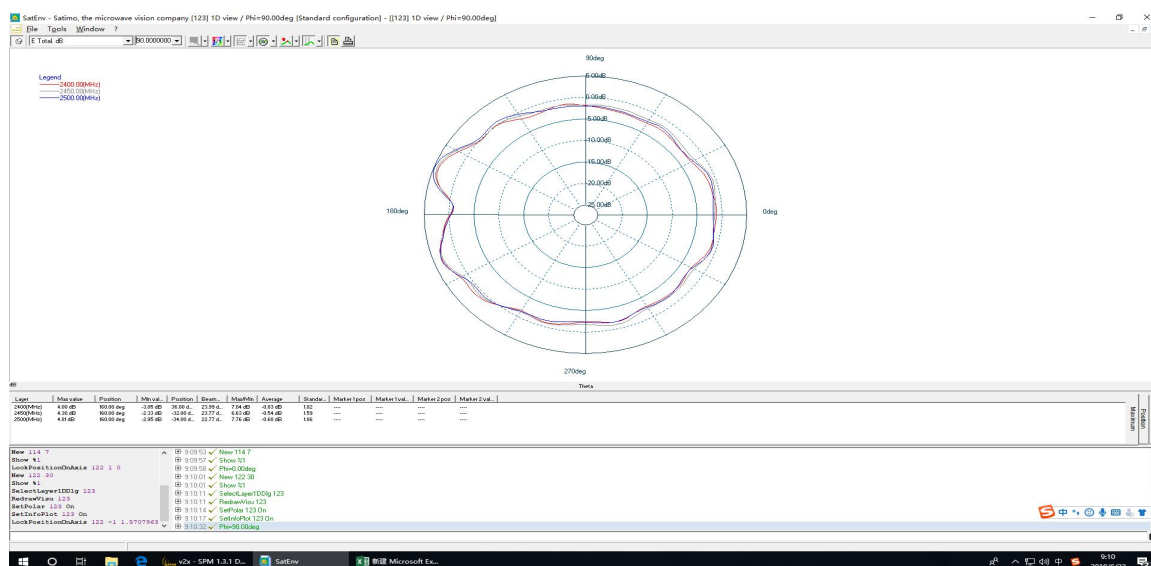
coordinates:



XZ Plane

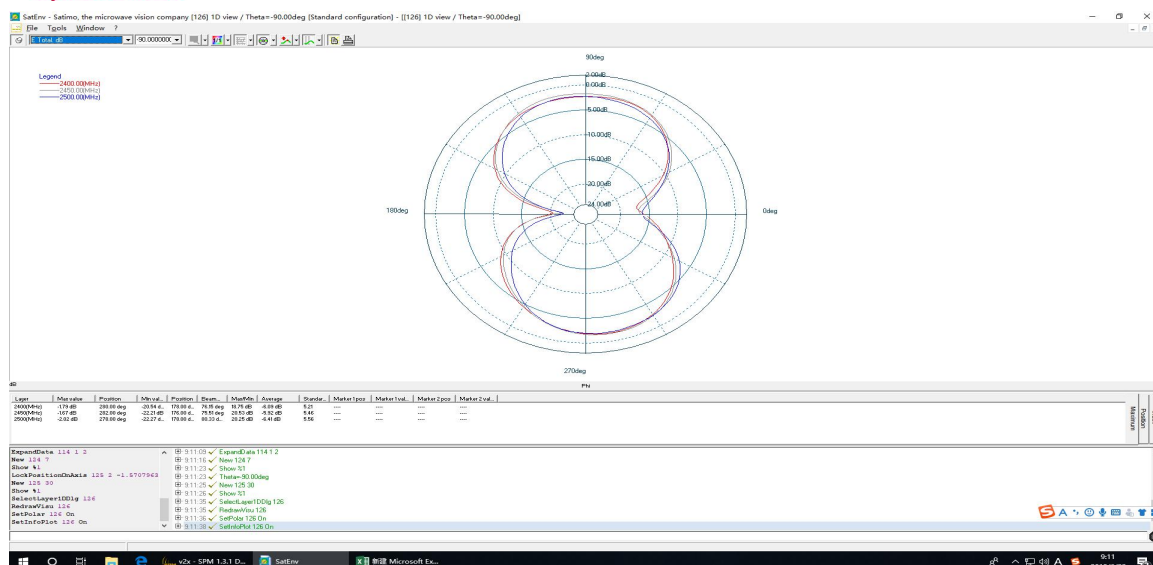


YZ Plane

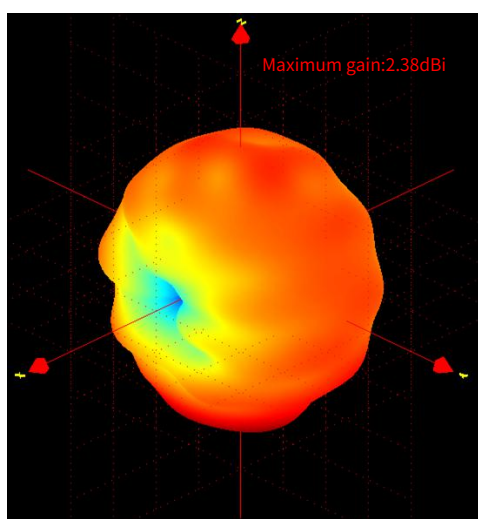


XY Plane

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3DRadiation Pattern



Frequency (MHz)	2400	2450	2500
Avg. Gain (dBi)	- 3.97	- 3.72	- 4.05
Peck Gain (dBi)	2.04	2.38	2.35
Efficiency (%)	51	57	53

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8 Allowable error after reliability test

Post Dependability Tolerance

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

Post Dependability Tolerance (Refer to the table)

No.	Item(project)	Post Dependability Tolerance (Additional error allowed after reliability test)
8.1	Central FrequencyCenter frequency	$\pm 5\text{MHz}$
8.2	Band WidthPassbandwidth	$\pm 5\text{MHz}$
8.3	GainGain	$\pm 0.1\text{ dBi}$
8.4	VSWR (in BW)standing wave ratio	± 0.1

9 Reliability test

Dependability Test

Baseline Conditions: Temperature RangeTemperature range $25 \pm 5^\circ\text{C}$
 Relative humidity rangeRelative Humidity range $55 \sim 75\% \text{RH}$
 Operating temperatureOperating Temperature range $-40^\circ\text{C} \sim +85^\circ\text{C}$

9.1 Vibration resistance

Vibration Resist

The vibration frequency is $10 \sim 55\text{Hz}$ The amplitude is 1.5mm along XYZ Vibration in all directions 2 Test compliance table after hours 8.1~8.4 Regulation. 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 Resistance to drop impact

Drop Shock

exist 100cm Press at height X, Y, Z The three sides fell freely on the wooden floor. 3 Post-test compliance table 8.1~8.4 regulation
 Certainly.

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 Resistance to welding heat

Solder Heat Proof

able to withstand $120 \sim 150^\circ\text{C}$ Temperature preheating at $^\circ\text{C}$ 120 seconds later, at $255^\circ\text{C} + 10^\circ\text{C}$ solder dip 5 ± 0.5 seconds, or $300^\circ\text{C} - 10^\circ\text{C}$ Soldering with soldering iron at $^\circ\text{C}$ 3 ± 0.5 seconds, there is no damage to the welding surface.

The device should be satisfied after preheating at $120^\circ\text{C} \sim 150^\circ\text{C}$ for 120 seconds and dipping in soldering Sn at $255^\circ\text{C} + 10^\circ\text{C}$ for 5 ± 0.5 seconds, or electric iron $300^\circ\text{C} - 10^\circ\text{C}$ for 3 ± 0.5 seconds, without damage.

9.4 Thrust test

Adhesive Strength of Termination

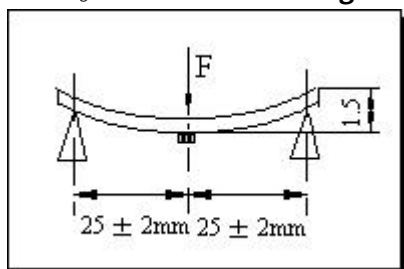
The product electrode terminal or surface can withstand 5N (≤ 0603); 10N (>0603) horizontal thrust for 10 ± 1 seconds without obvious appearance damage or electrode displacement.

The device has 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 Bending resistance test

Bending Resist Test



Solder the product in the middle of the $1.6 \pm 0.2\text{mm}$ PCB board according to the diagram, apply from the direction of the arrow: 1mm/S , bending distance: 1.5mm , keep $5 \pm 1\text{S}$, the metal layer of the product does not fall off. 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 row-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 Humidity and heat resistance properties

Moisture Proof

at a temperature of $60 \pm 2^\circ\text{C}$, relative humidity $90 \sim 95\%$ placed in a constant temperature and humidity chamber 96hours , recover at room temperature $1 \sim 2\text{Tested}$ after hours, consistent with table $8.1 \sim 8.4$ Regulation.

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 $90 \sim 95\% \text{ RH}$ for 96hours and $1 \sim 2\text{hours}$ recovery time under normal conditions.

9.7 High temperature characteristics

High Temperature Endurance

at a temperature of $85 \pm 5^\circ\text{C}$ placed in a thermostat at $^\circ\text{C} 96 \pm 2\text{hours}$, recover at room temperature $1 \sim 2\text{Test}$ after hours. Compliance table $8.1 \sim 8.4$ Regulation.

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 $96 \pm 2\text{hours}$ and $1 \sim 2\text{hours}$ recovery time under normal temperature.

9.8 Low temperature characteristics

Low Temperature Endurance

At temperature $-40^\circ\text{C} \pm 5^\circ\text{C}$ placed in cryogenic chamber $96 \pm 2\text{Restore}$ after hours $1 \sim 2\text{Hourly}$ test compliance table $8.1 \sim 8.4$ Regulation.

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 $96 \pm 2\text{hours}$ and to 2hours recovery time under normal temperature.

9.9 Temperature cycling

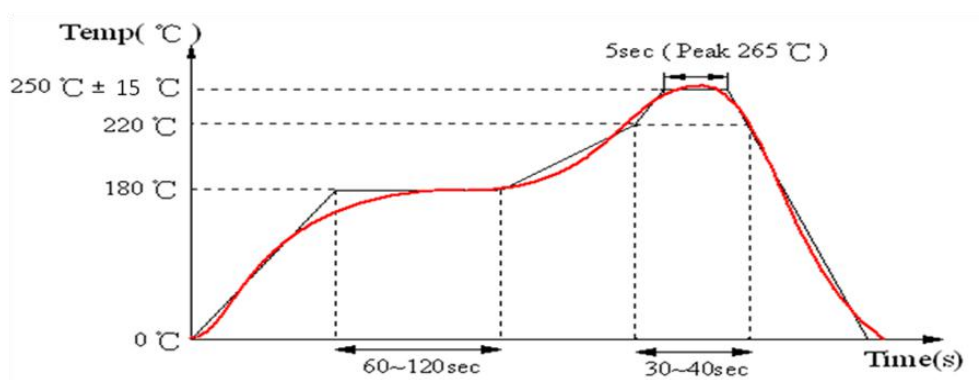
Temperature Cycle Test

exist -40°C Maintained at $^\circ\text{C}$ temperature 30minutes , then $+85^\circ\text{C}$ Maintained at $^\circ\text{C}$ temperature 30minutes , total cycle 5Recover at room temperature after $1 \sim 2\text{Test}$ compliance table after hours $8.1 \sim 8.4$ Regulation.

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 $30 \pm 2\text{min}$ each by 5cycles and $1\text{to } 2\text{hours}$ recovery time under normal temperature.

10 Reflow soldering temperature

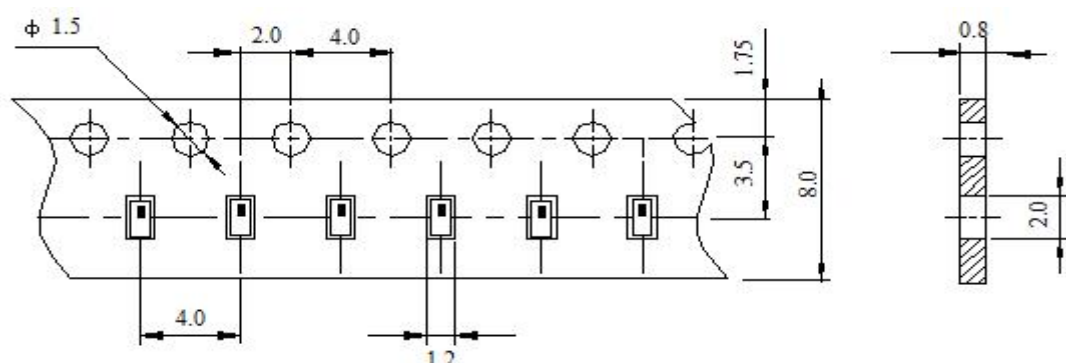
Reflow Soldering Standard Condition



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11 Package Size(1608) Packaging and Dimensions

11.1 Plastic Tape

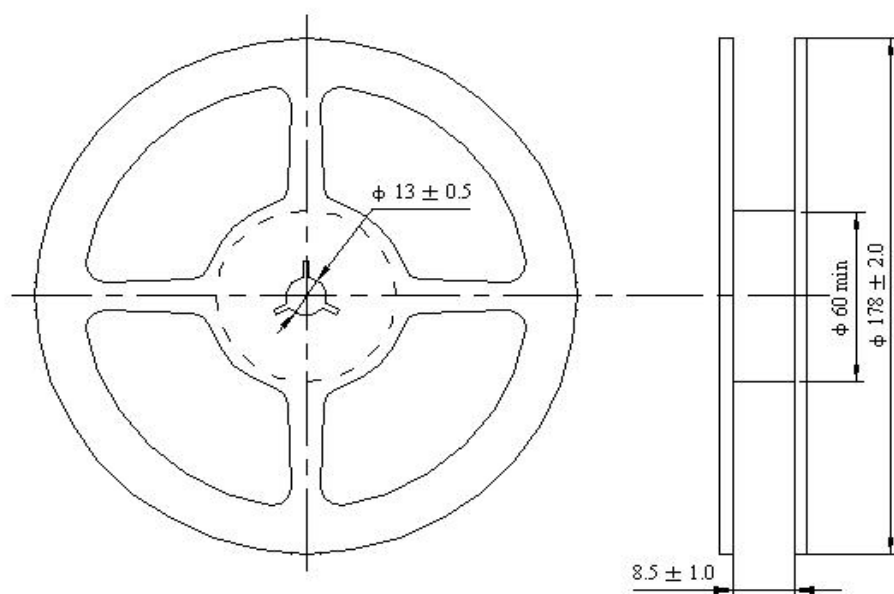


package instruction:Remarks for Packages

Carrier tape tail hole length 200mm, the length of the carrier tape head cavity 200mm, the cover strap on the head is lengthened 250mm.

Reserve a length of 200mm for the trailer of the carrier and 200 mm for the leader of the carrier and further 200mm of cover tape at the leading part of the carrier.

11.2 Reel (6000 pcs/Reel)



11.3 Storage Conditions Storage Period

The product must be used within six months after receipt.

Product should be used within six months of receipt. Humidity Sensitivity

Level 1 / Storage Temperature and Humidity:

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