



規格承認書

SPECIFICATION FOR APPROVAL

Rev.A

客 戶

CUSTOMER: _____

客 戶 料 号

CUSTOMER NO: _____

品 名

PART NAME: 2.4G Wifi & Bluetooth Chip ANTENNA

供 方 料 号

SUPPLIER NO: SY31H2450-A27S

送样日期Date: 2021-10-08

送样数量Q' TY: PCS

客户确认 CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
Jammy	Jerry	Patrick



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1.概述 Introduction

The SY series products are designed for WLAN, WiFi, Bluetooth, PHS, multi-frequency antennas for mobile phones, FM, etc., with small-sized SMD surface-mount design.

2.型号 Part Number

SY 31 H 2450-A27S

产品名称/编号 Product Name: A27S

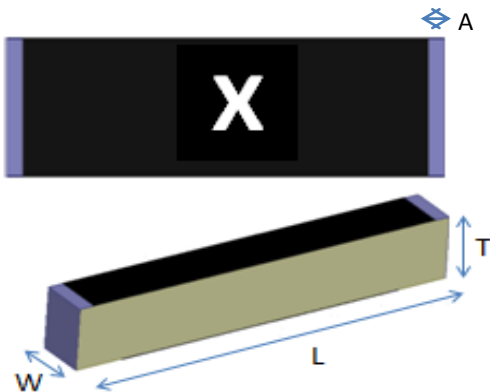
天线频率/ Antenna Frequency: 2450 MHz

产品设计结构 H 型/Via Design Series

产品尺寸/Size: 3.2*1.6*0.5mm

多层结构天线/Multi-layer Antenna

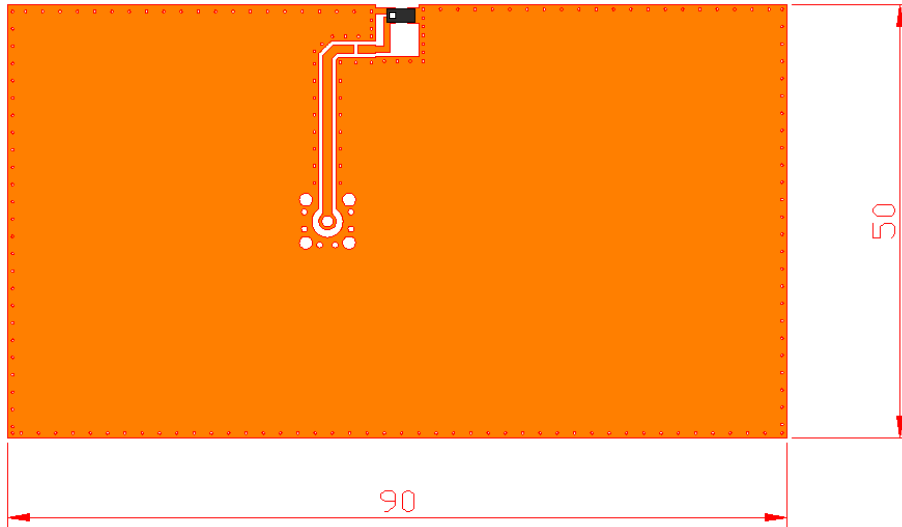
3.Overall dimensions and test board pad dimensions Dimensions



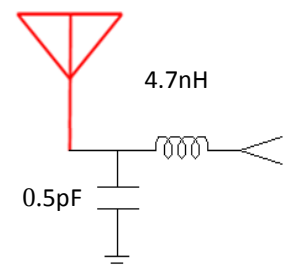
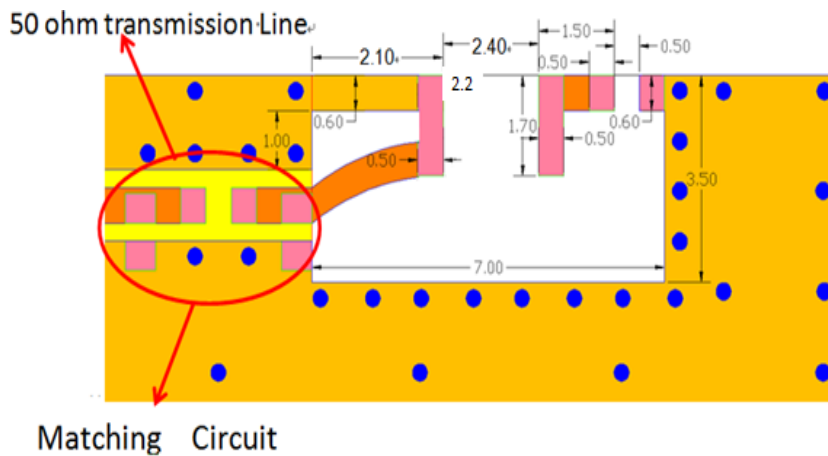
	Dimension (mm)
L	3.2 ± 0.20
W	1.6 ± 0.20
T	0.5 ± 0.10
A	0.4 ± 0.10

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

a.Evaluation Board Dimension



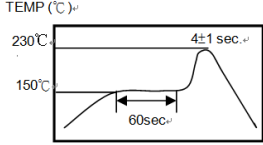
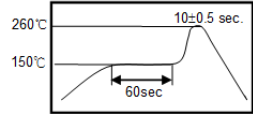
a-1.Layout Dimensions in Clearance area(Size=7.0*3.5mm)



5.电气性能 Electrical Characteristics

Specification		
Part Number	SY31H2450-A27S	
Central Frequency	2450	MHz
Bandwidth	90 (Min.)	MHz
Return Loss	-9.6 (Max)	dB
Peak Gain	3.78	dBi
Impedance	50	Ohm
Operating Temperature	-40 ~ +85	°C
Maximum Power	1	W
Resistance to Soldering Heats	10 (@ 260°C)	sec.
Polarization	Linear	
Azimuth Beamwidth	Omni-directional	
Termination	Cu / Sn (Leadless)	

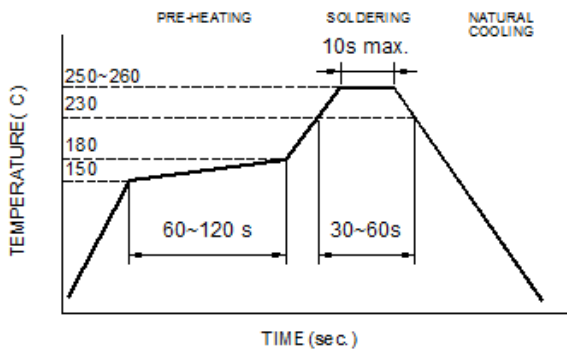
8. 可靠性试验后允许误差 Post Dependability Tolerance

ITEM	REQUIREMENTS	TEST CONDITION															
Solderability	1. Wetting shall exceed 90% coverage 2. No visible mechanical damage 	Pre-heating temperature:150℃/60sec. Solder temperature:230±5℃ Duration:4±1sec. Solder:Sn-Ag3.0-Cu0.5 Flux for lead free: rosin															
Solder heat Resistance	1. No visible mechanical damage 2. Central Freq. change :within ± 6% 	Pre-heating temperature:150℃/60sec. Solder temperature:260±5℃ Duration:10±0.5sec. Solder:Sn-Ag3.0-Cu0.5 Flux for lead free: rosin															
Component Adhesion (Push test)	1. No visible mechanical damage	The device should be reflow soldered(230±5℃ for 10sec.) to a tinned copper substrate A dynameter force gauge should be applied the side of the component. The device must with-ST-F 0.5 Kg without failure of the termination attached to component.															
Component Adhesion (Pull test)	1. No visible mechanical damage	Insert 10cm wire into the remaining open eye bend ,the ends of even wire lengths upward and wind together. Terminal shall not be remarkably damaged.															
Thermal shock	1. No visible mechanical damage 2. Central Freq. change :within ±6% <table border="1" data-bbox="371 1110 763 1323"> <thead> <tr> <th>Phase</th><th>Temperature(℃)</th><th>Time(min)</th></tr> </thead> <tbody> <tr> <td>1</td><td>+85±5℃</td><td>30±3</td></tr> <tr> <td>2</td><td>Room Temperature</td><td>Within 3sec</td></tr> <tr> <td>3</td><td>-40±2℃</td><td>30±3</td></tr> <tr> <td>4</td><td>Room Temperature</td><td>Within 3sec</td></tr> </tbody> </table>	Phase	Temperature(℃)	Time(min)	1	+85±5℃	30±3	2	Room Temperature	Within 3sec	3	-40±2℃	30±3	4	Room Temperature	Within 3sec	+85℃=>30±3min -40℃=>30±3min Test cycle:10 cycles The chip shall be stabilized at normal condition for 2~3 hours before measuring.
Phase	Temperature(℃)	Time(min)															
1	+85±5℃	30±3															
2	Room Temperature	Within 3sec															
3	-40±2℃	30±3															
4	Room Temperature	Within 3sec															
Resistance to High Temperature	1. No visible mechanical damage 2. Central Freq. change :within ±6% 3. No disconnection or short circuit.	Temperature: 85±5℃ Duration: 1000±12hrs The chip shall be stabilized at normal condition for 2~3 hours before measuring.															
Resistance to Low Temperature	1. No visible mechanical damage 2. Central Freq. change :within ±6% 3. No disconnection or short circuit.	Temperature:-40±5℃ Duration: 1000±12hrs The chip shall be stabilized at normal condition for 2~3 hours before measuring.															
Humidity	1. No visible mechanical damage 2. Central Freq. change :within ±6% 3. No disconnection or short circuit.	Temperature: 40±2℃ Humidity: 90% to 95% RH Duration: 1000±12hrs The chip shall be stabilized at normal condition for 2~3 hours before measuring.															

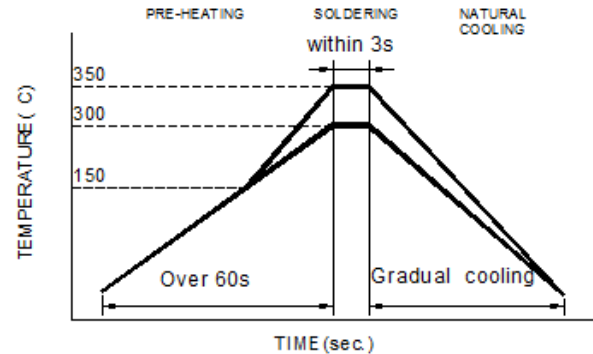
9. 焊接和安裝 Soldering and Mounting

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. The terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

Reflow Soldering



Iron Soldering

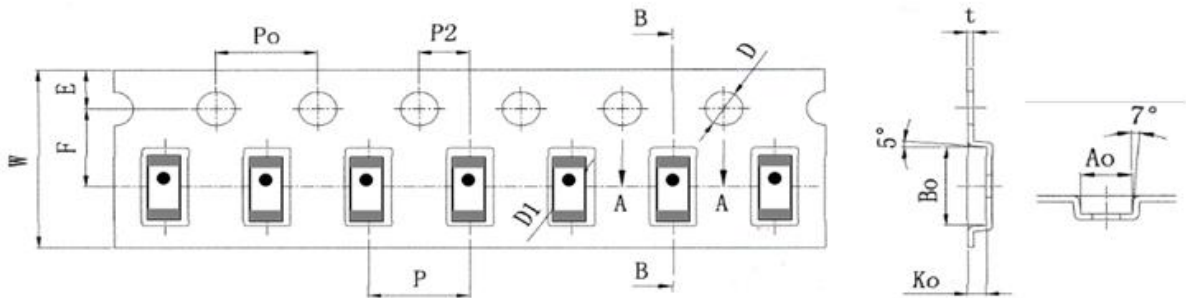


Recommended temperature profiles for re-flow soldering in Figure 1. Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- Preheat circuit and products to 150°C
- Never contact the ceramic with the iron tip
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- 280°C tip temperature (max)
- 1.0mm tip diameter (max)
- Limit soldering time to 3 sec.

10. 包裝尺寸 Packaging and Dimensions

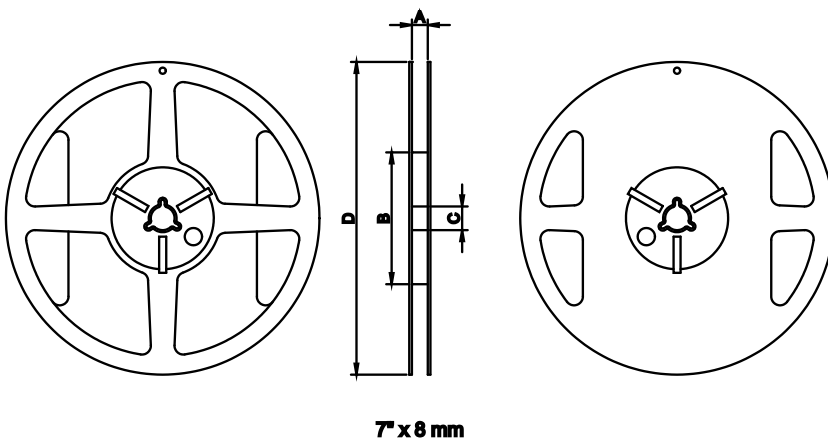
Tape Specification:



外觀	規格	公差
W	8.00	±0.10
P	4.00	±0.10
E	1.75	±0.10
F	3.50	±0.05
P ₂	2.00	±0.05
D	1.50	+0.10 -0.00
D ₁	1.00	±0.10
P ₀	4.00	±0.10
10P ₀	40.00	±0.20

外觀	規格	公差
A ₀	1.85	±0.10
B ₀	3.50	±0.10
K ₀	0.73	±0.10
t	0.23	±0.05

Reel Specification: (7", Φ180 mm)



Tape Width(mm)	A(mm)	B(mm)	C(mm)	D(mm)	Chip/Reel(pcs)
8	9.0±0.5	60±2	13.5±0.5	178±2	6000

11. 存储和运输信息 **Storage and Transportation Information**

Storage Conditions

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: -10~ 40℃ and 30~70% RH.
2. Recommended products should be used within 6 months from the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

Transportation Conditions

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

Manufacturer Add: No. 26, Juxiang 1st Road, Xiruan Industrial Park, Xiaotai Management Area, Dalong Town, Dongguan City