

Document	Datasheet
Type	Chip Antenna
Application	ISM 434/868/915MHz
Part No.	AMAN903012ST05
Revision	3.0

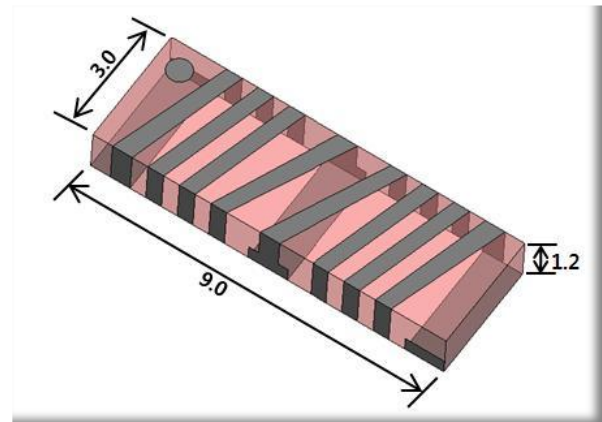
DATASHEET

Application

ISM 434/868/915 MHz

Features

Monopole Structure
Size (9.0*3.0*1.2mm³)
Performance Optimizing
with external lumped matching components
SMT Available under Pb-free Condition
RoHS Compliant



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Notes

The contents of this datasheet are subject to change without notice. Please confirm the specifications and delivery conditions when placing your order.

Revision History

Rev. No	Date	Title	Contents	Page
0.0	'08.12.03		New Published	
1.0	'09.05.15		Mark the antenna location on drawing	
2.0	'10.08.16		Additional Identification Mark	
3.0	'10.08.16		Format Change	

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1. Specifications

1.1 Electrical Specifications

No	Item	Spec.	Remark
1	Frequency Range [MHz]	434 / 868 / 915	
2	VSWR	Max 2.0:1	
3	Polarization	Linear	
4	Impedance [Ω]	Nominal 50	

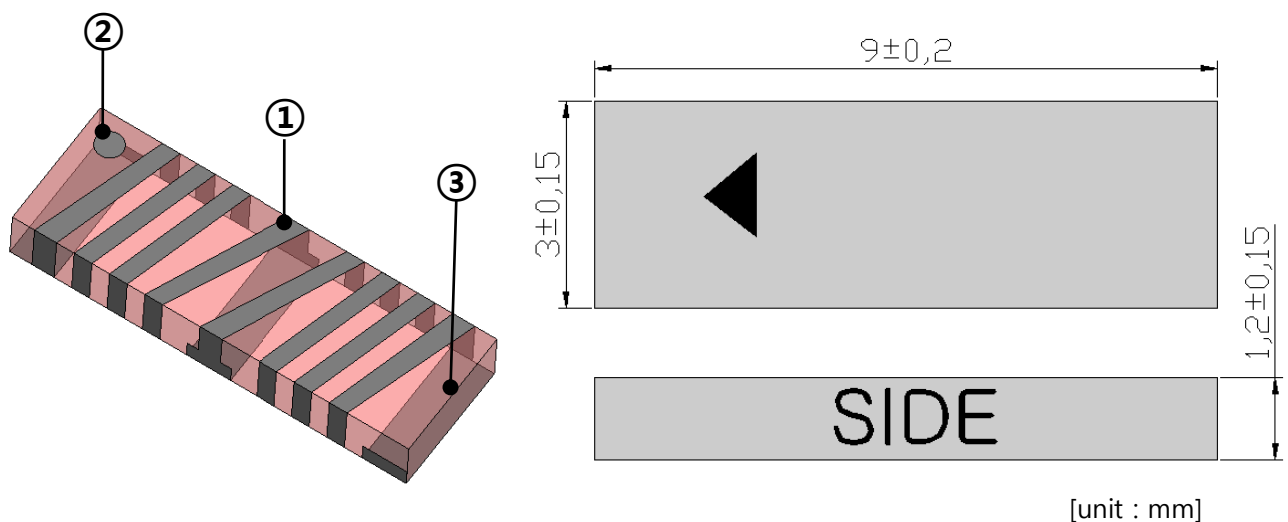
✓ The results are measured on the 100x50mm² evaluation board(EVB).

1.2 Mechanical Specifications

No	Item	Spec.	Remark
1	Dimensions (LxWxH)	9.0x3.0x1.2 mm ³	
2	Unit Weight	typ. 170 mg	
3	Operating Temperature	-35 ~ +85 °C	

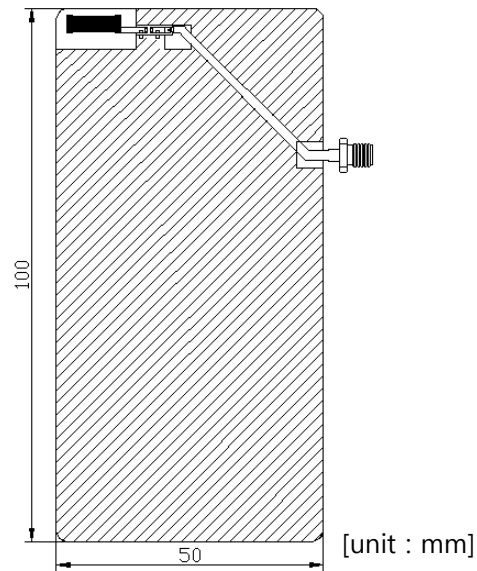
1.3 Appearance & Material

No	Name	Function	Material
1	Electrode	Radiation Element	Ag
2	Electrode	Identification Mark	Ag
3	Ceramic Body	-	Ceramic



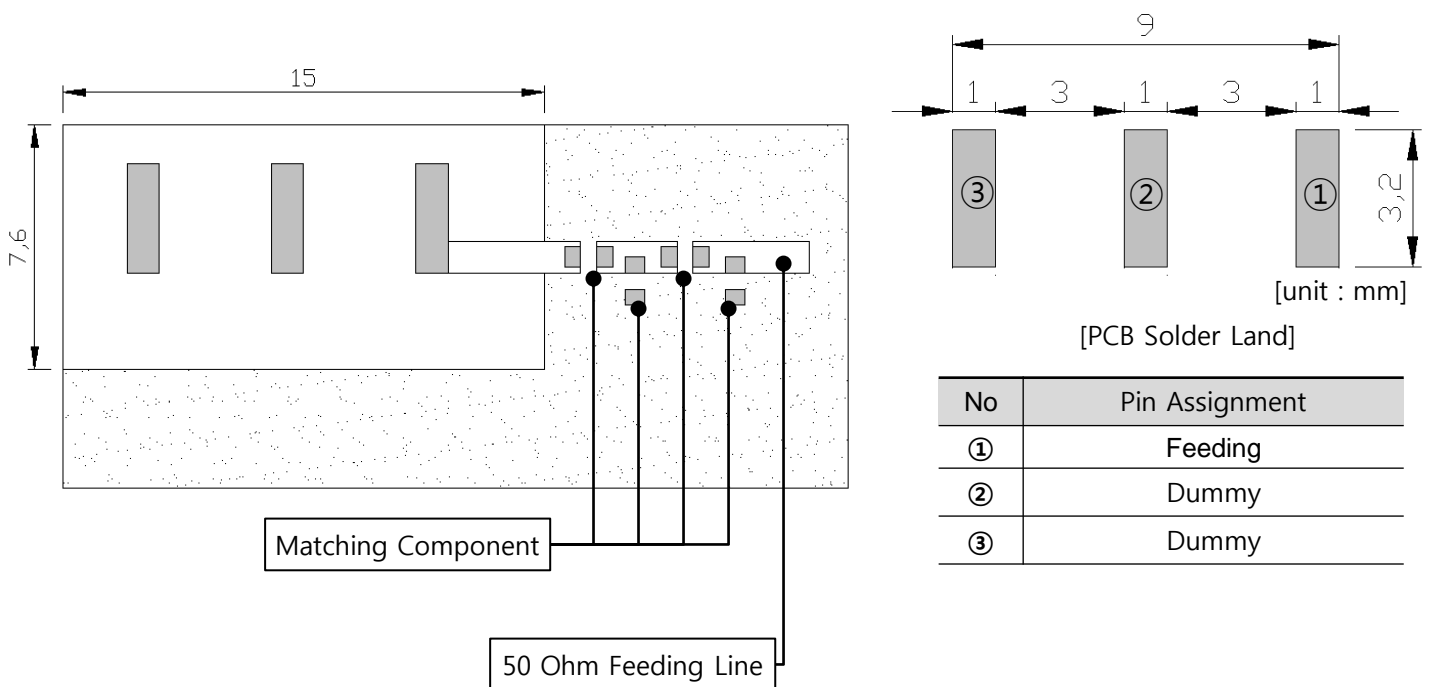
2. PCB Design for Test

2.1 Evaluation Board Dimension



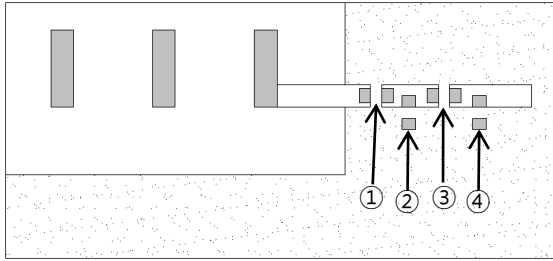
- ✓ Evaluation board size ~ 100x50
- ✓ Fill Cut Area (GND Clearance) ~ 15.0x7.6

2.2 PCB Design Guide

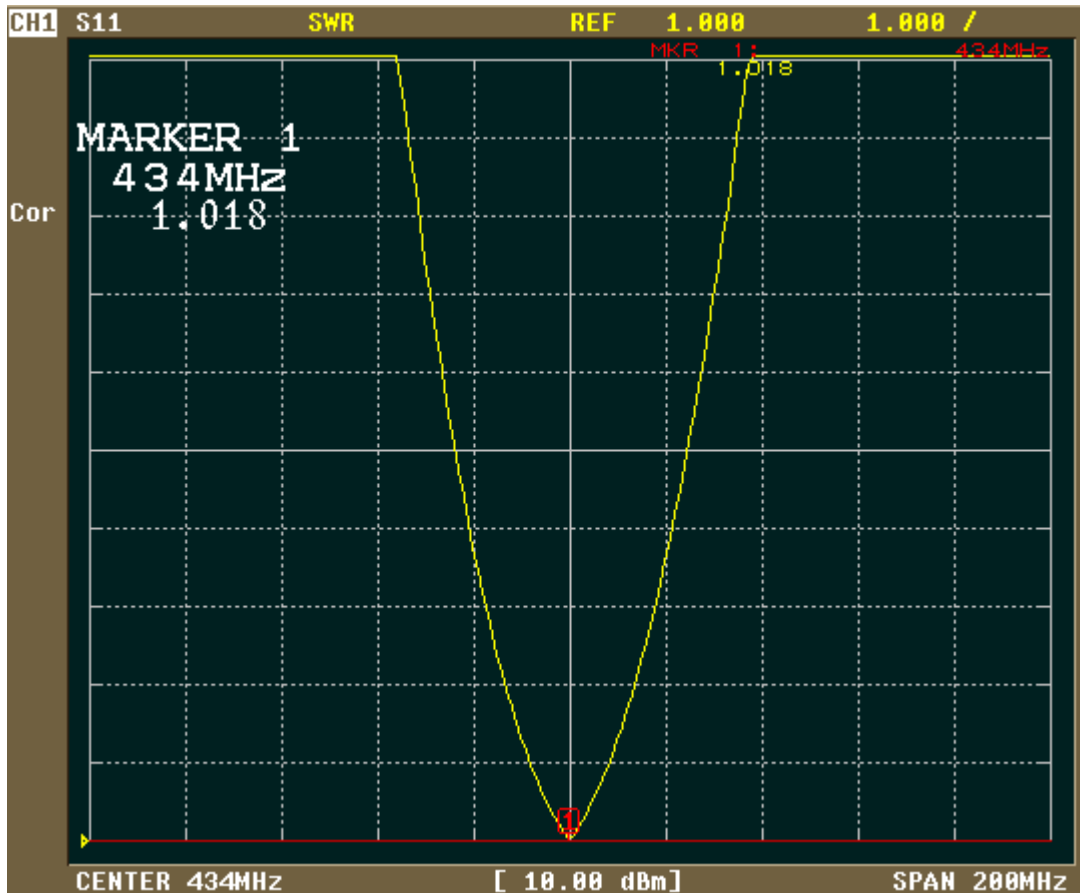


3. Measurement Result

3.1 Typical Measurement Result (VSWR/RL) – 434MHz



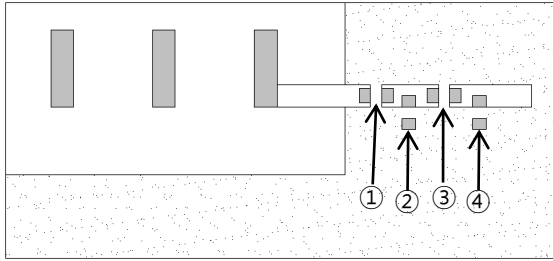
No	Matching Value
①	68 nH
②	N.C
③	100 nH
④	5.0 pF



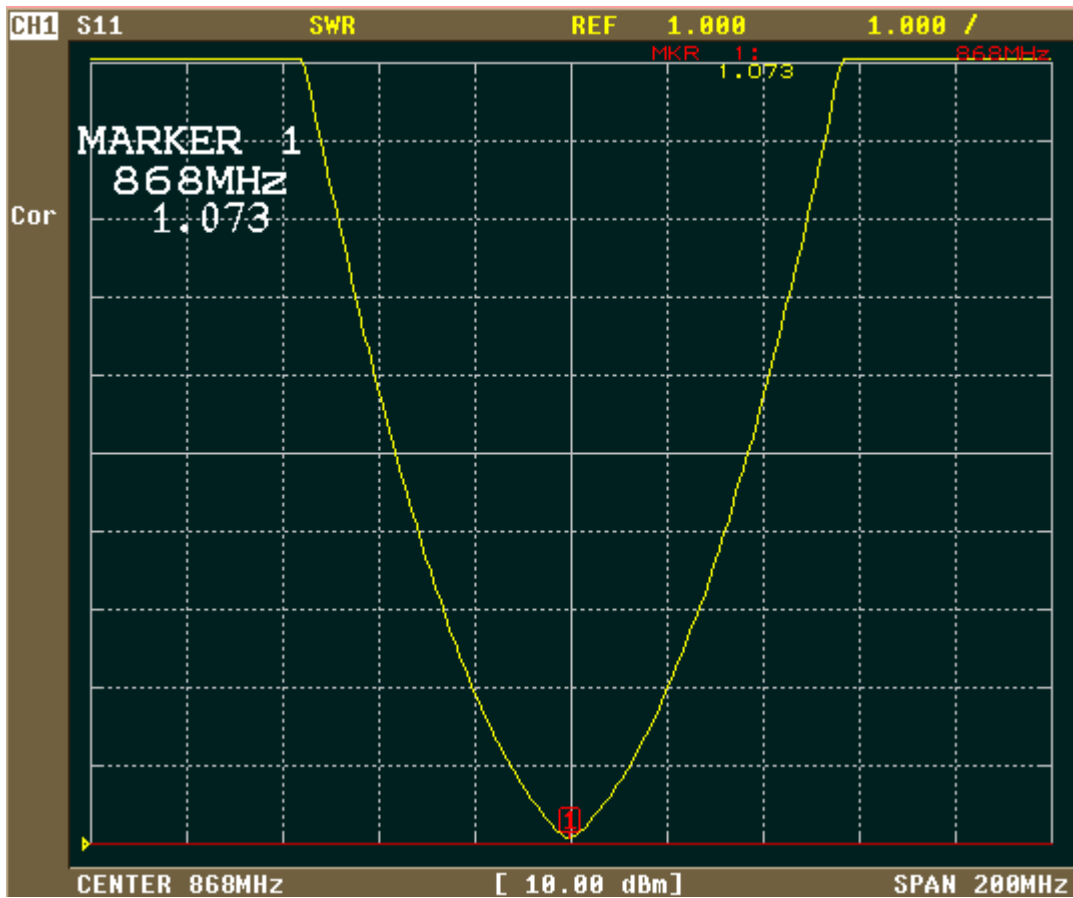
✓ The results are measured on the 100x50mm² evaluation board(EVB).

3. Measurement Result

3.2 Typical Measurement Result (VSWR/RL) – 868MHz



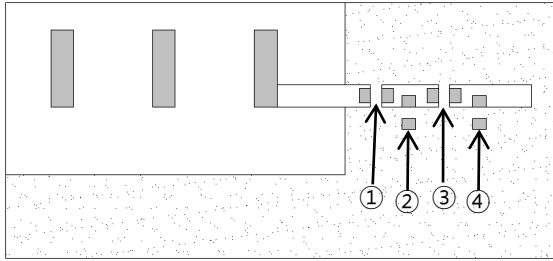
No	Matching Value
①	3.9 nH
②	N.C
③	27 nH
④	5.0 pF



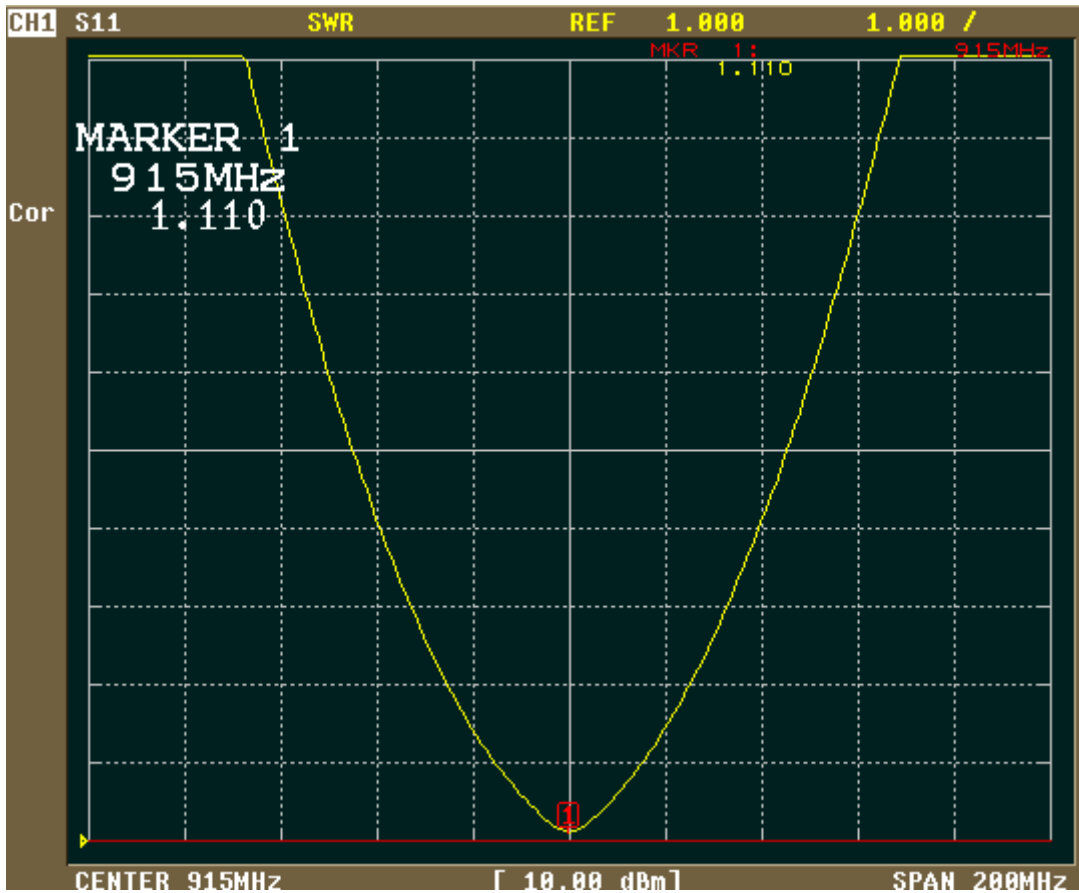
✓ The results are measured on the 100x50mm² evaluation board(EVB).

3. Measurement Result

3.3 Typical Measurement Result (VSWR/RL) – 915MHz

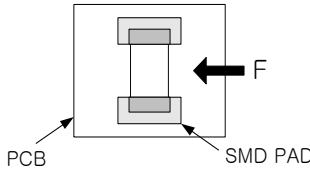


No	Matching Value
①	10 nH
②	N.C
③	18 nH
④	4.3 pF

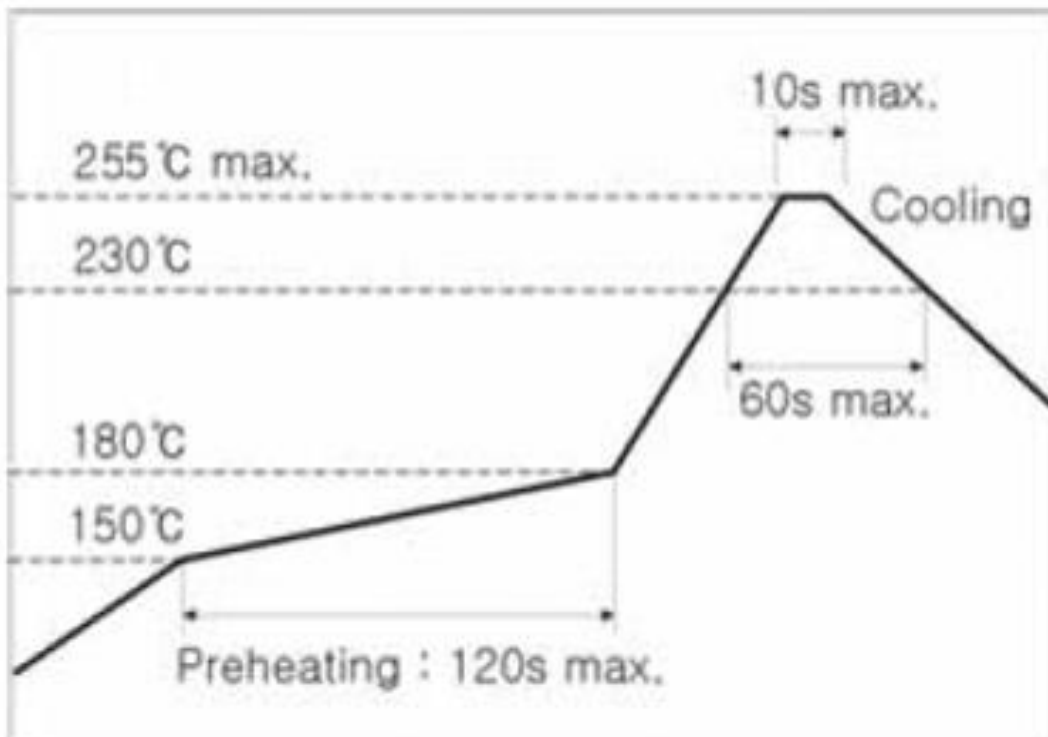


✓ The results are measured on the 100x50mm² evaluation board(EVB).

4. Reliability

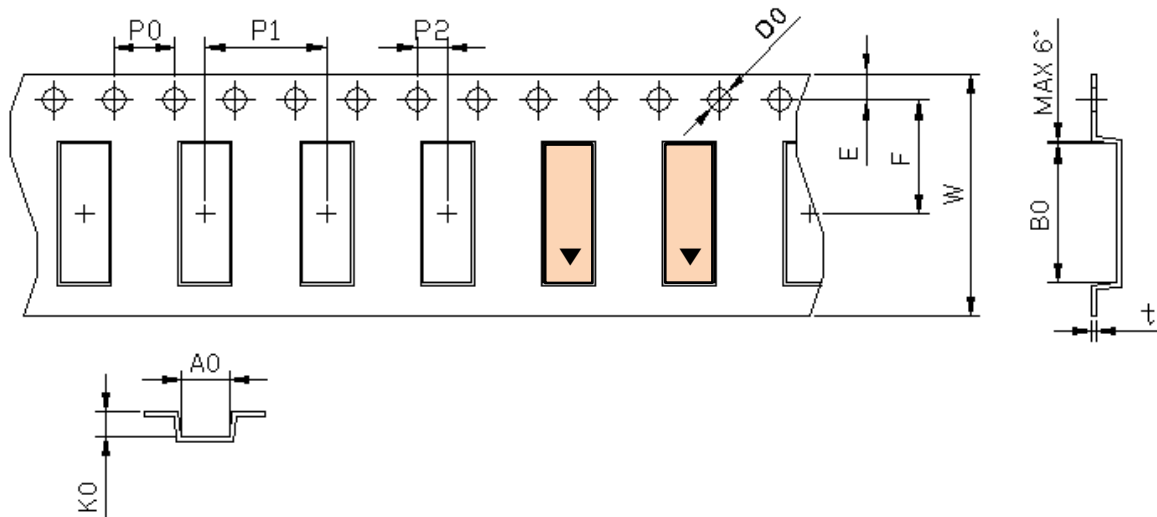
No	Item	Test Condition	Test Requirements
1	Adhesive Strength of Termination	1. Applied force on SMT chip till detached point from PCB. 	1. No mechanical damage by forces applied on the right. 2. Strength (F) > 5 kgf
2	Thermal Shock (Cycle)	1. Step 1 : $-40 \pm 3^\circ\text{C}$, 30 min Step 2 : $+125 \pm 3^\circ\text{C}$, 30 min 2. Number of cycle : 30	1. No visual damage 2. Within electric spec (VSWR)
3	High Temperature Resistance	1. Temperature : $+125 \pm 5^\circ\text{C}$ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)
4	Low Temperature Resistance	1. Temperature : $-40 \pm 5^\circ\text{C}$ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)
5	Humidity	1. Humidity : 85 % RH Temperature : $+85 \pm 3^\circ\text{C}$ 2. Time : 1000 ± 24 hrs	1. No visual damage 2. Within electric spec (VSWR)

5. Soldering Reflow Profile



6. Packaging

6.1 Carrier Tape Dimension



Item	Spec.	Item	Spec.	Item	Spec.
A0	3.20 ±0.10	P0	4.00 ±0.10	E	1.75 ±0.10
B0	9.20 ±0.10	P1	8.00 ±0.10	F	7.50 ±0.10
K0	1.65 ±0.10	P2	2.00 ±0.10	W	16.00 ±0.30
D0	1.55 ±0.05	-	-	t	0.30 ±0.05

6.2 Packaging Quantity

Item	Quantity	Dimension
Reel	2,000 ea	Φ7" * 16mm
Inner	6,000 ea (3 Reel)	185 * 185 * 68 (mm ³)
Outer Box	30,000 ea (5 Inner Box)	365 * 200 * 200 (mm ³)

6.3 Packaging Label

AMOTECH Co., Ltd.

5BL-1Lot, 617, Namchon-Dong, Namdong-Gu, Incheon, Korea

Chip Antenna

P/N : AMAN903012ST05

Lot No :

Quantity : 2,000 pcs Date : 2010/08/16