

客戶名稱 : 和暢科技
CUSTOMER

Documnet No.: ENS000062410

Approval Sheet Rev.: A0

Spec. Rev. A2

承認書

APPROVAL SHEET

產品品名/Product Model No. : **ACM3-5036-A1-CC-S**

客戶料號/Customer No. : **GXACM35036IN1**

發行日期/ Issue Date : **2022/6/21**

承認日期/ Approved Date :

Approved by customer: (signing or stamping here)



佳邦科技股份有限公司
INPAQ TECHNOLOGY CO., LTD.

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ACM3-5036-A1-CC-S Specification

1. Features and Application :

This product is for 2.4/5 GHz Dual Band WiFi, 802.11 a/b/g/n, Zigbee, Bluetooth,...

2. Explanation of Part Number :

AC M3 - 5036 - A1 - CC - S -
 (1) (2) (3) (4) (5) (6) (7)

- (1) Product Type : Chip Antenna
- (2) Center Frequency/Band Code : 2.4/5 GHz Dual-Band
- (3) Size Code : 5.0*3.6 mm (Length * Width)
- (4) Design Revision Code : Rev. 1
- (5) Antenna Type : Coupling Ceramics
- (6) Special Code : RoHS Compliant
- (7) Suffix For Special Requirements

3. Electrical Specification :

Item	Specification	
Frequency Band	2400 ~ 2500 MHz	5000 ~ 6000 MHz
Polarization	Linear	
Impedance	50 ohm Typ.	
VSWR	Less than 2.0	Less than 2.0
*Peak Gain	3.0 dBi Typ.	3.3 dBi Typ.
*Peak Efficiency	73.4% Typ.	80.2% Typ.

* Test condition : Test board size 80*40 mm
 Matching circuit may be required

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=
 ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

DRAWN BY : 彭少君

CHECKED BY : 洪賢修

DESIGNED BY : 彭少君

APPROVED BY : 謝立庭

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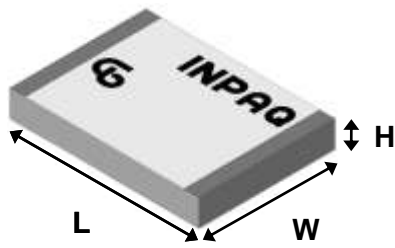
DOCUMENT NO.

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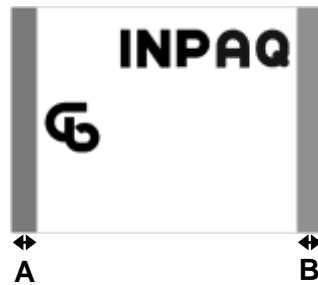
SPEC REV.

A2

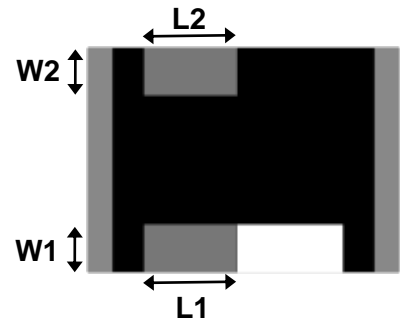
4. Physical Dimension :



Top view



Bottom view



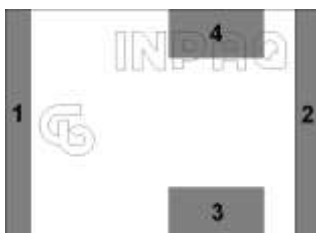
Marking is Black

L	5.20 ± 0.30
W	3.70 ± 0.30
H	0.70 ± 0.15
A	0.45 ± 0.25
B	0.45 ± 0.25
L1	1.50 ± 0.20
W1	0.62 ± 0.20
L2	1.50 ± 0.20
W2	0.62 ± 0.20

(Unit : mm)

Pin Configuration

Top View



Pin Assignments

Layout	
Pin	Function
1	GND
2	GND
3	Feed
4	No connect

Mirror Layout	
Pin	Function
1	GND
2	GND
3	No connect
4	Feed

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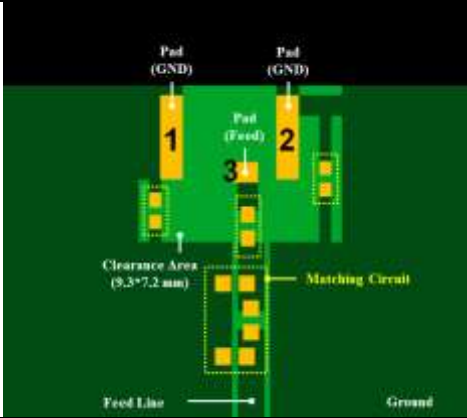
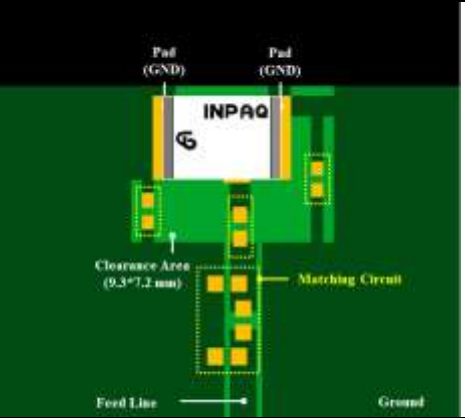
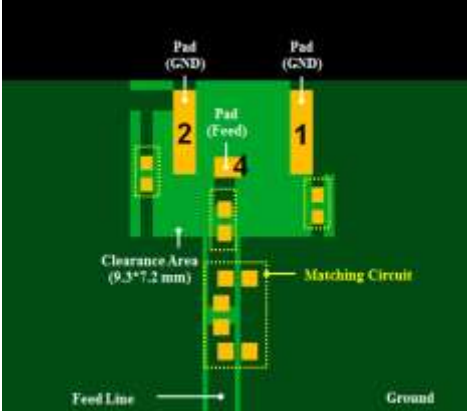
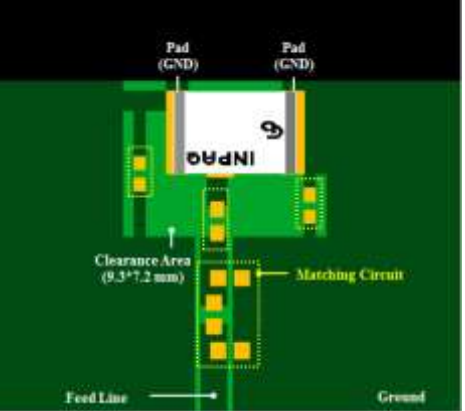
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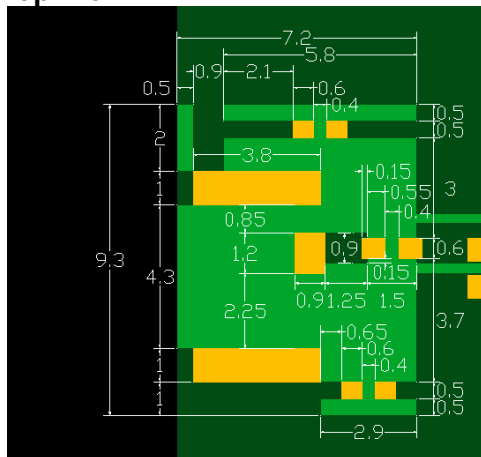
A2

5. Recommend PCB Layout :

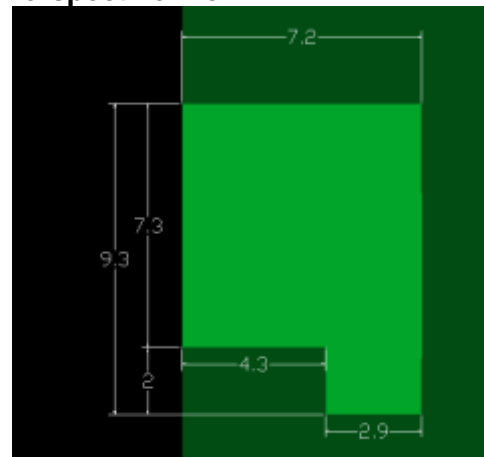
Layout	Usage
	
Mirror Layout	Usage
	

Pad Dimensions on PCB Layout

Top View



Perspective View



(Unit: mm)

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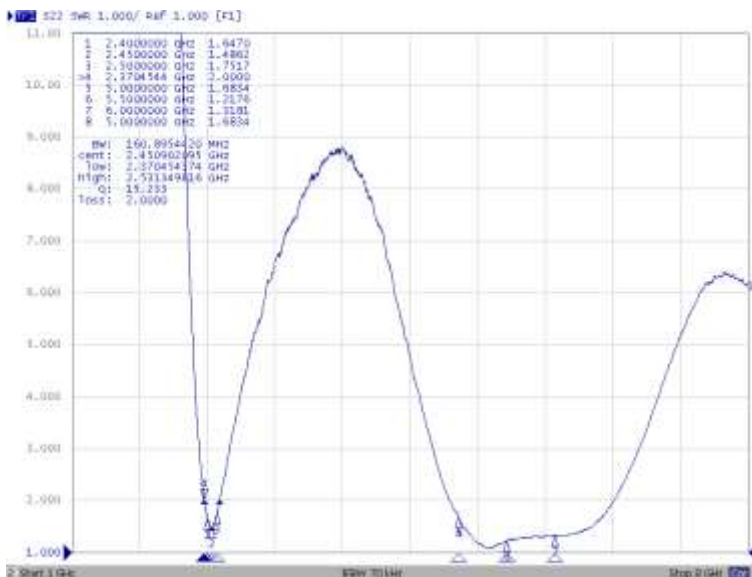
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A2

6. Electrical Characteristics :

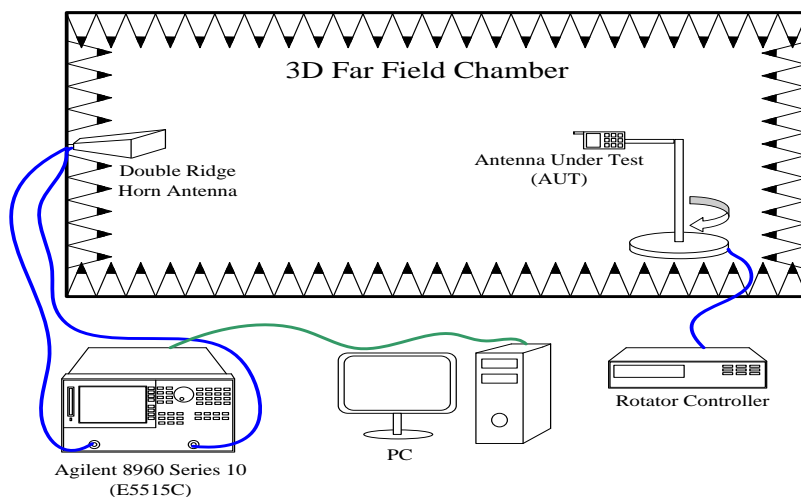
VSWR



Frequency (MHz)	VSWR
2400	1.7
2450	1.5
2500	1.7
5000	1.7
5500	1.2
6000	1.3

Radiation Pattern

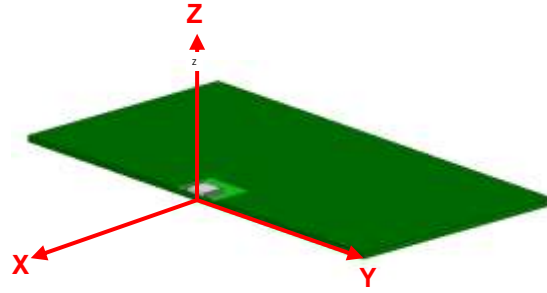
The Gain pattern is measured in INPAQ's FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



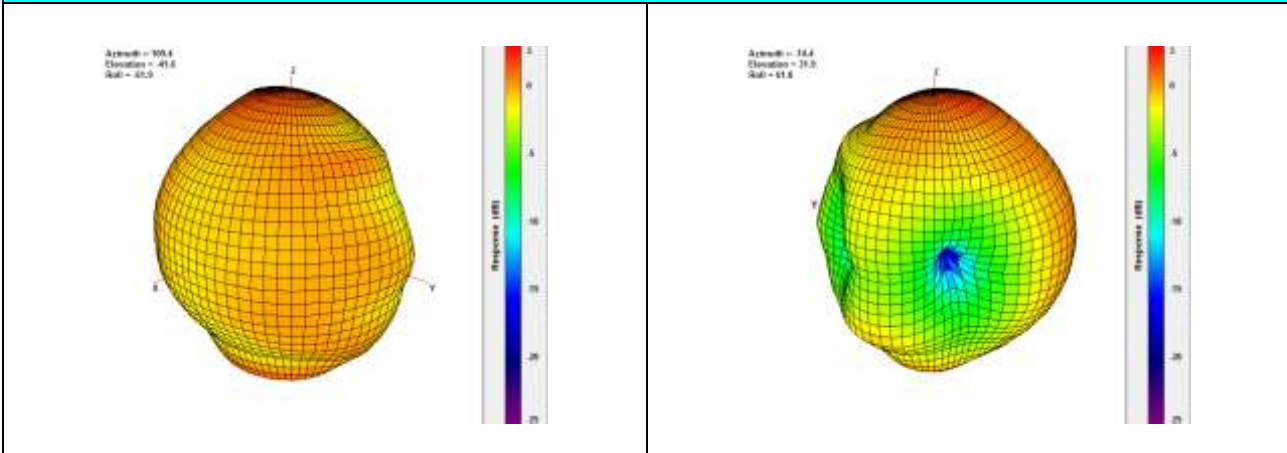
3D Chamber Definition

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ANGLES=±	HOLEDIA=±	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION
SCALE : -----	UNIT : mm	
DRAWN BY : 彭少君	CHECKED BY : 洪賢修	
DESIGNED BY : 彭少君	APPROVED BY : 謝立庭	DOCUMENT NO. ENS000062410
TITLE : ACM3-5036-A1-CC-S Specification		

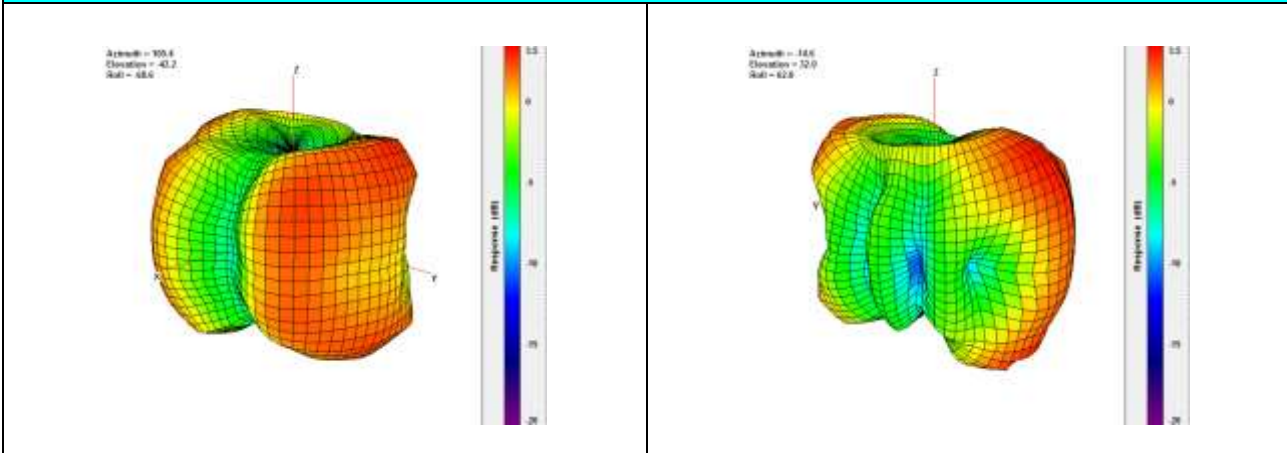
3D Gain Pattern



2450 MHz



5500 MHz



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 ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

DRAWN BY : 彭少君

CHECKED BY : 洪賢修

DESIGNED BY : 彭少君

APPROVED BY : 謝立庭

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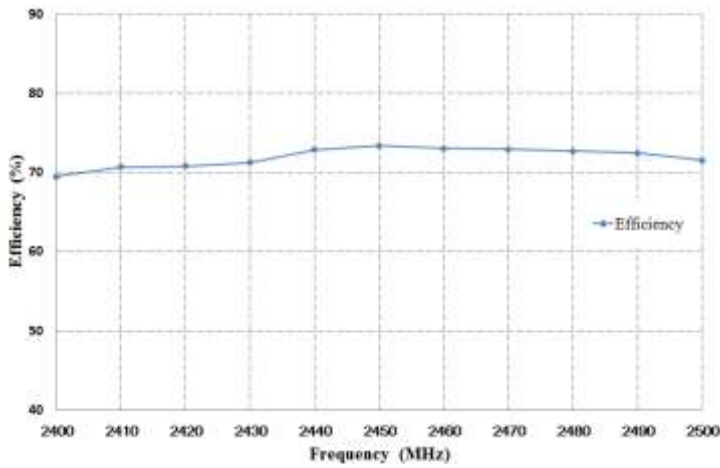
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DOCUMENT NO.

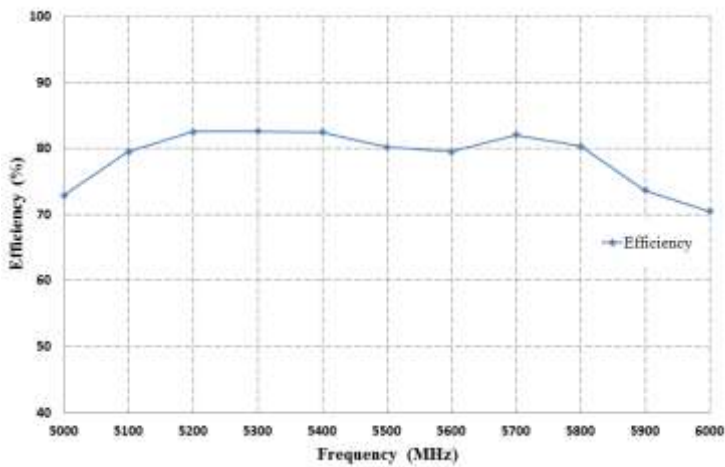
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A2

Efficiency



Frequency (MHz)	Efficiency (%)
2400	69.5
2450	73.4
2500	71.5
5000	72.9
5500	80.2
6000	70.5



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=
 ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

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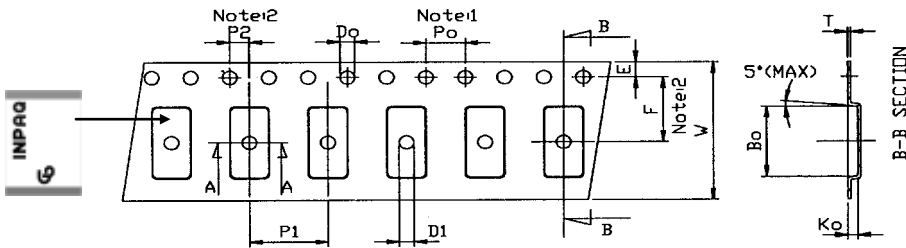
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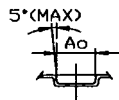
A2

7. Taping Package and Label Marking :

- (1) Quantity/Reel : 2000pcs/Reel
- (2) Carrier tape dimensions



Symbol	Spec.
Po	4.00±0.1
P1	8.00±0.1
P2	2.00±0.05
Do	1.55±0.05
D1	1.50(MIN)
E	1.75±0.1
F	5.50±0.05
10Po	40.00±0.2
W	12.00±0.1
T	0.25±0.05



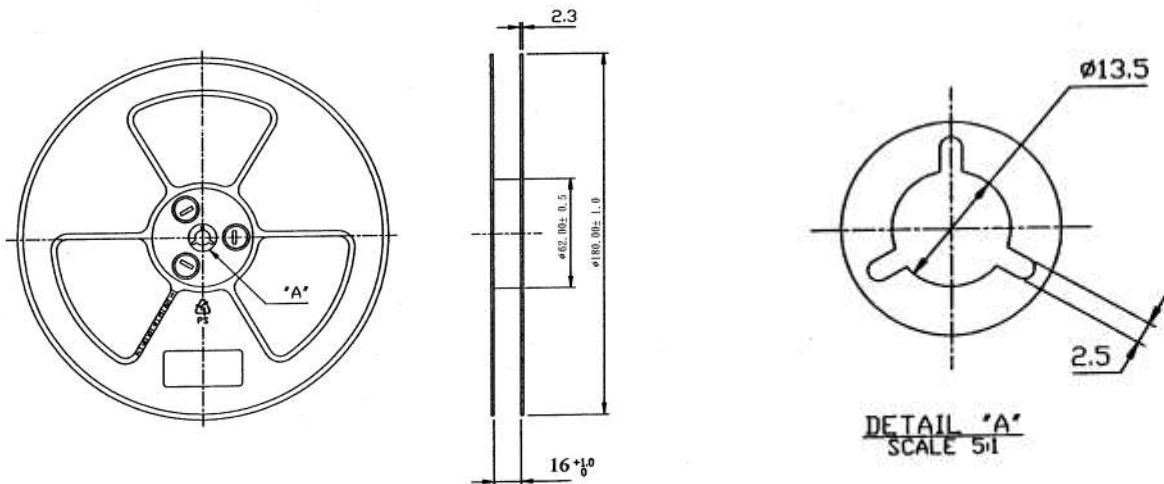
$A0 = 4.10 \pm 0.10 \text{ mm}$
 $B0 = 5.60 \pm 0.10 \text{ mm}$
 $K0 = 1.02 \pm 0.10 \text{ mm}$

(Unit : mm)

Notice:

1. 10 Sprocket hole pitch cumulative tolerance is $\pm 0.1\text{mm}$
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. Ao & Bo measured on a place 0.3mm above the bottom of the pocket to top surface of the carrier.
4. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

(3) Taping reel dimensions



UNLESS OTHER SPECIFIED TOLERANCES ON :

$X = \pm$ $X.X = \pm$ $X.XX =$
 ANGLES = \pm HOLEDIA = \pm



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8. Environmental Characteristics :

(1) Reliability Test

Item	Condition	Specification
Thermal shock	1. 30±3 minutes at -40°C±5°C, 2. Convert to +105°C (5 minutes) 3. 30±3 minutes at +105°C±5°C, 4. Convert to -40°C (5 minutes) 5. Total 100 continuous cycles	No apparent damage Fulfill the electrical spec. after test.
Humidity resistance	1. Humidity: 85% R.H. 2. Temperature: 85±5°C 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: 150°C±5°C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: -40°C±5°C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature: 260±5°C 2. Bathing time: 10±1 seconds	No apparent damage
Solderability	The dipped surface of the terminal shall be at least 95% covered with solder after dipped in solder bath of 245±5°C for 3±1 seconds.	No apparent damage

(2) Storage condition

(a) At warehouse

The temperature should be within 0 ~ 30°C and humidity should be less than 60% RH.

The product should be used within 1 year from the time of delivery.

(b) On board

The temperature should be within -40 ~ 85°C and humidity should be less than 85% RH.

(3) Operating temperature range

Operating temperature range : -40 ~ +105°C.

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=
 ANGLES=± HOLEDIA=±



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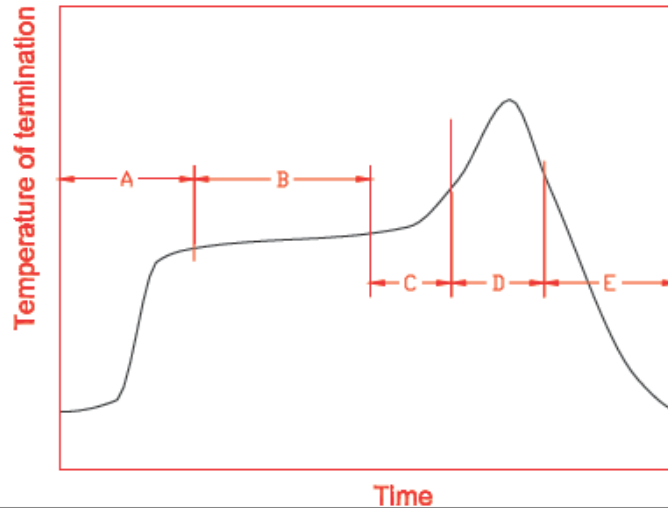
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A2

9. Recommended reflow soldering :



Time			
A	1 st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 nd rising temperature	Preheating to 200°C	20s to 40s
D	Main heating	if 220°C	50s~60s
		if 230°C	40s~50s
		if 240°C	30s~40s
		if 250°C	20s~40s
		if 260°C	20s~40s
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

(1) Soldering gun procedure

Note the follows, in case of using solder gun for replacement.

- (a) The tip temperature must be less than 350°C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

(2) Soldering volume

Note that excess of soldering volume will easily get crack the body of this product.

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