

INPAQ TECHNOLOGY

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Latitude and longitude : 224.726532, 120.909706

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 (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 : 趙彥年 *Olson*

DESIGNED BY: 林豪建 *Stan*

CHECKED BY : 黃啓傑 *Tommy*

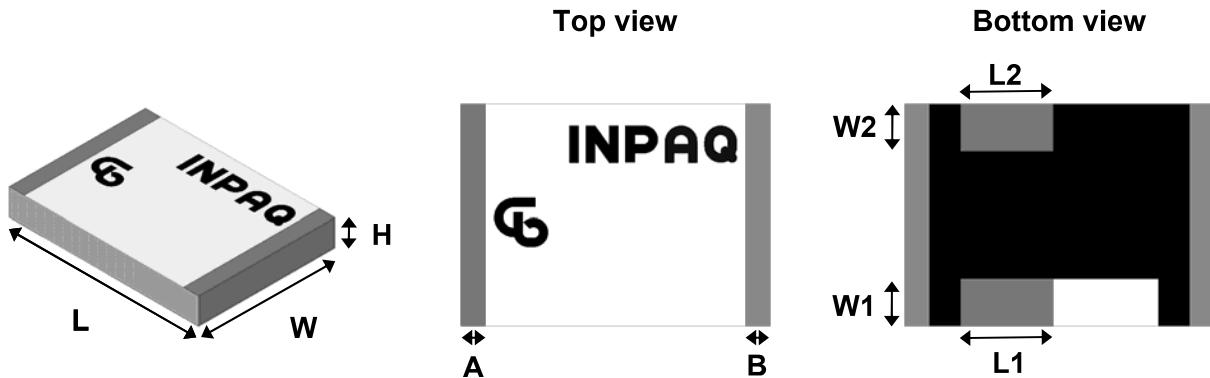
APPROVED BY : 蘇志銘 *Jimmy*

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DOCUMENT NO.	ENS000062410	SPEC REV.
		A1

4. Physical Dimension



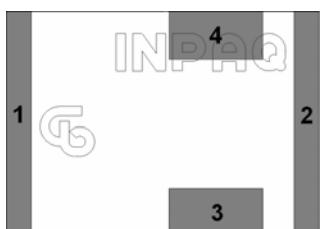
Marking is Black

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	1.60 ± 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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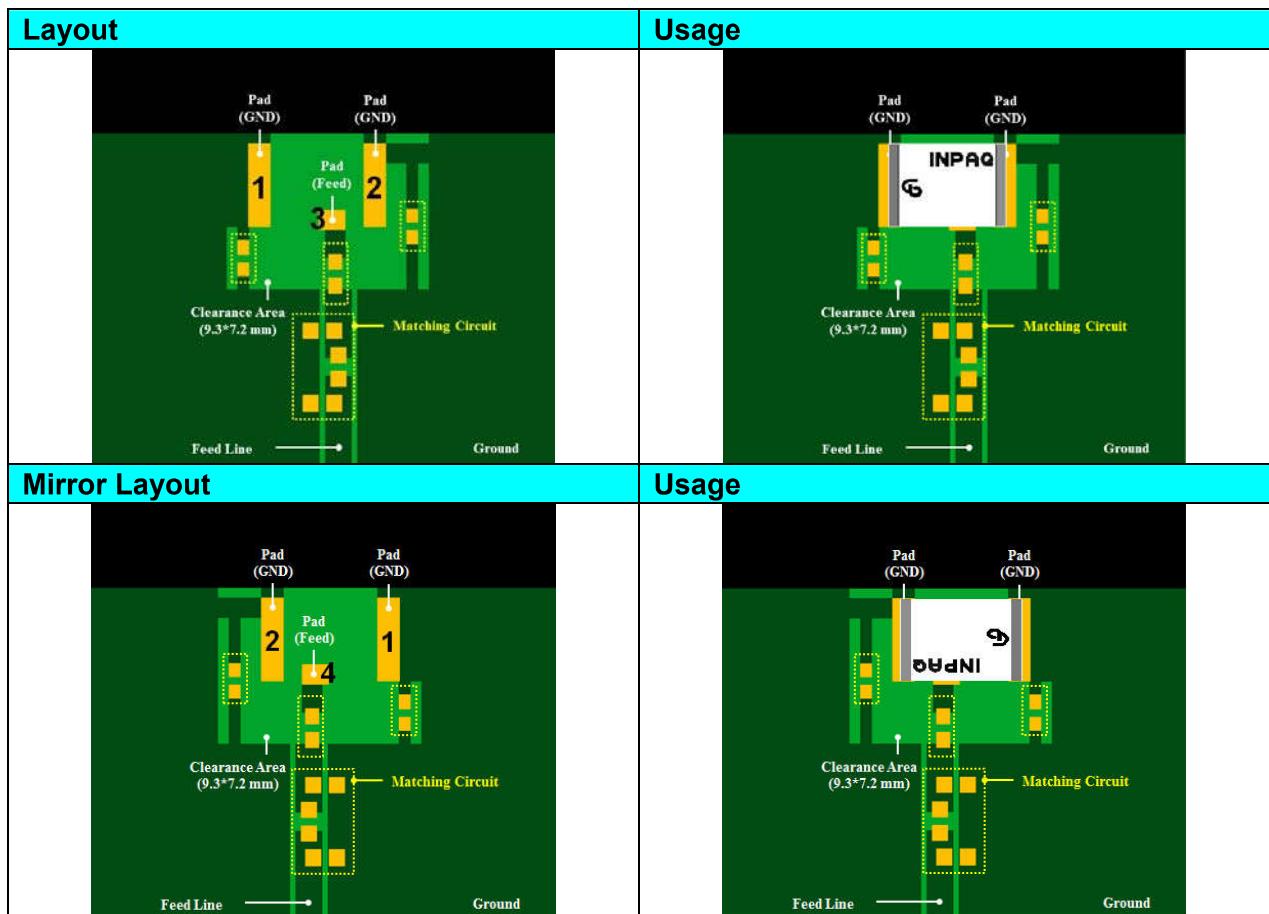
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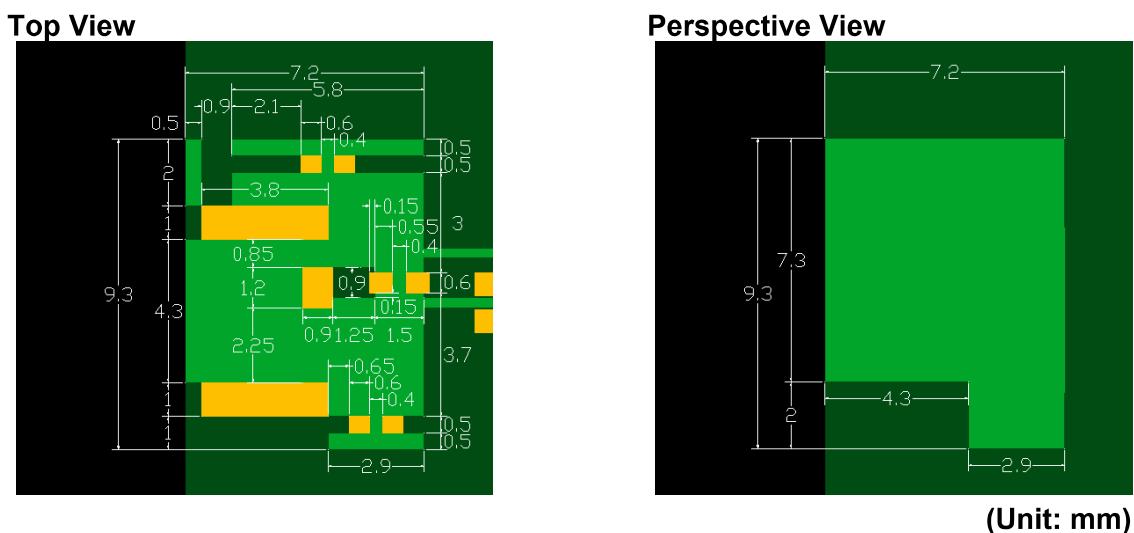
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5. Recommend PCB Layout



Pad Dimensions on PCB Layout



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UNIT : mm

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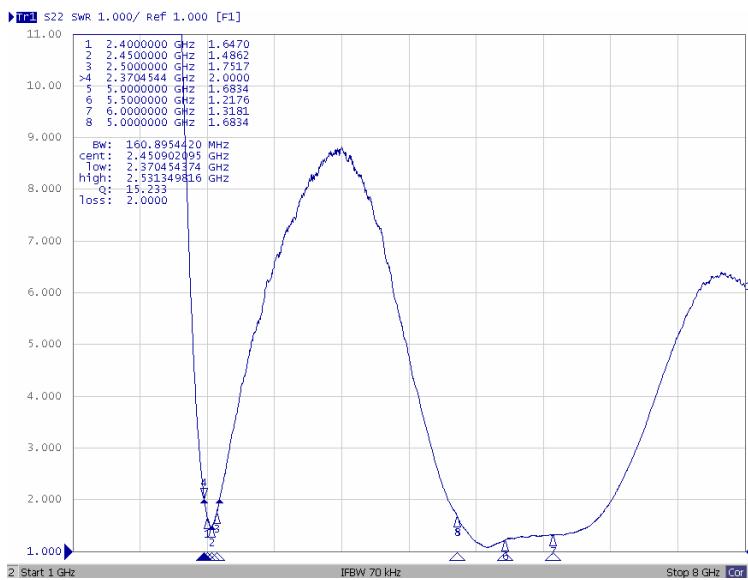
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6.Electrical Characteristics

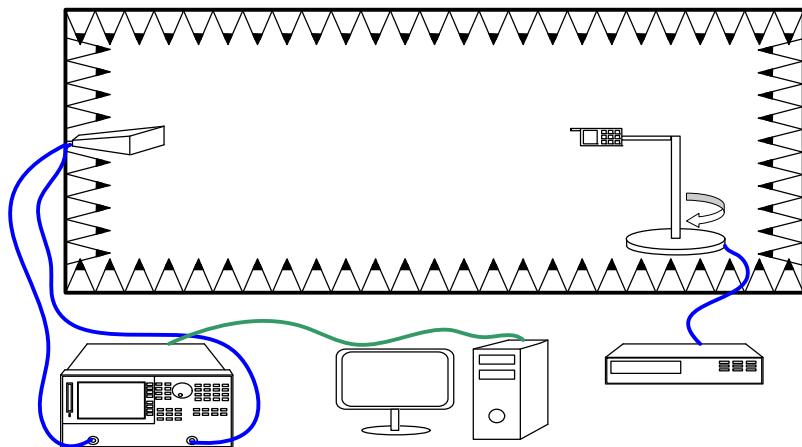
VSWR



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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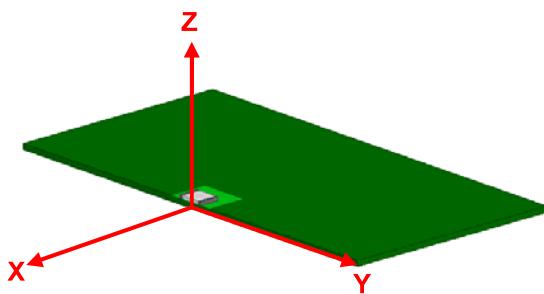
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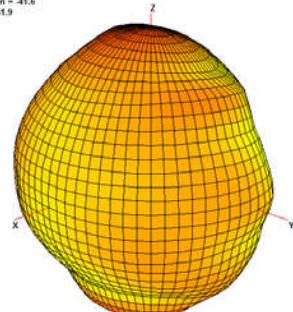
A1

3D Gain Pattern

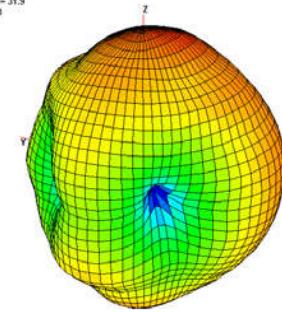


2450 MHz

Azimuth = 109.4
Elevation = -41.6
Roll = -61.9

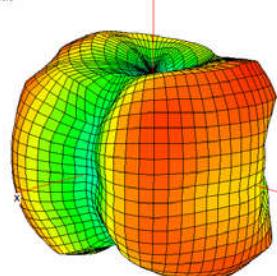


Azimuth = 74.4
Elevation = 31.9
Roll = 61.8

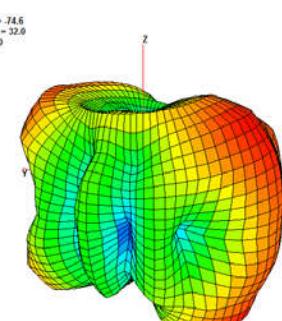


5500 MHz

Azimuth = 105.4
Elevation = -42.2
Roll = -68.6



Azimuth = 74.6
Elevation = 32.0
Roll = 62.0



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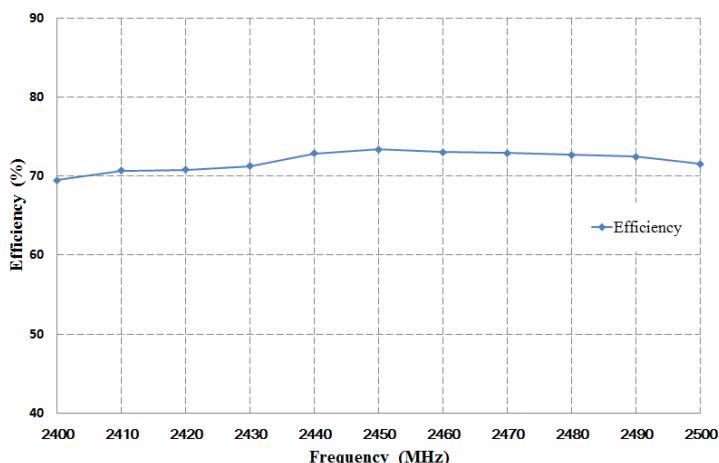
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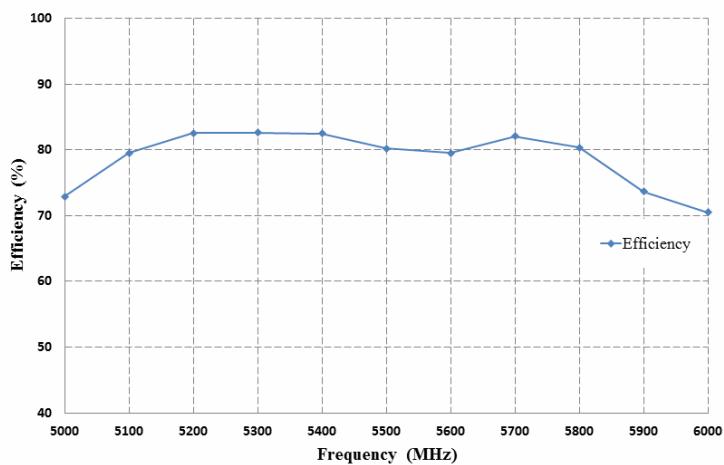
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Efficiency



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



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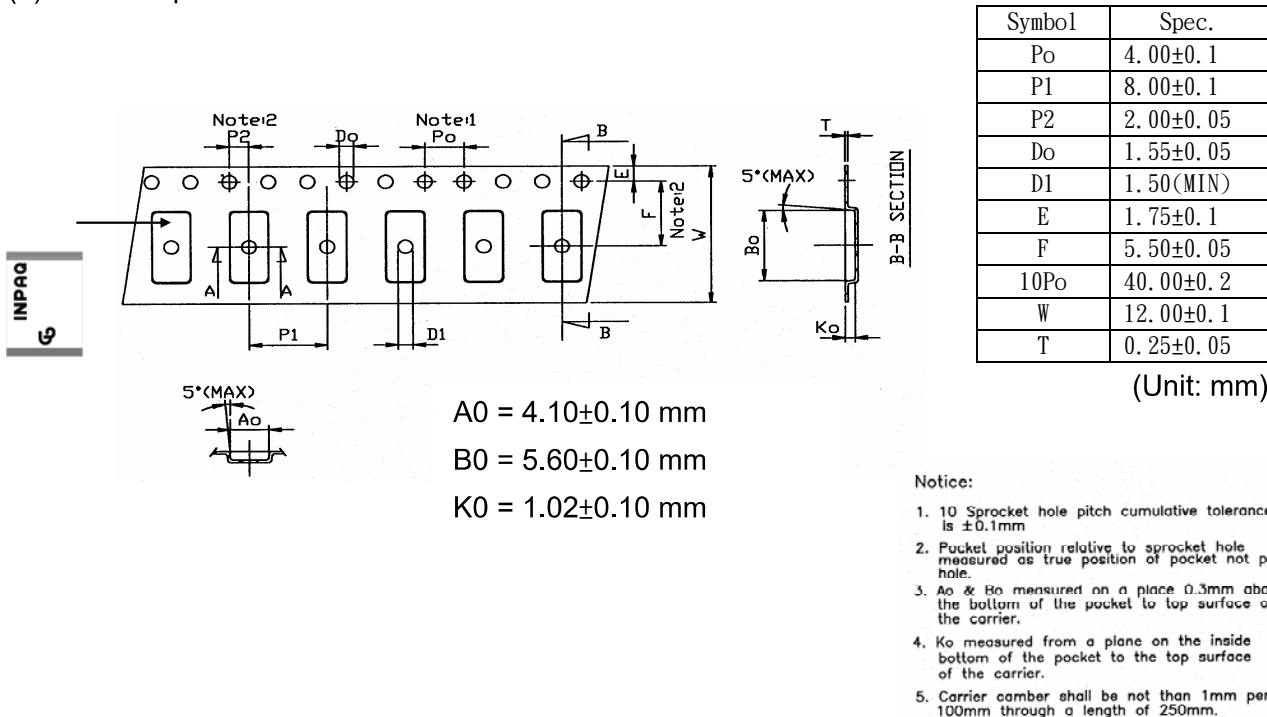
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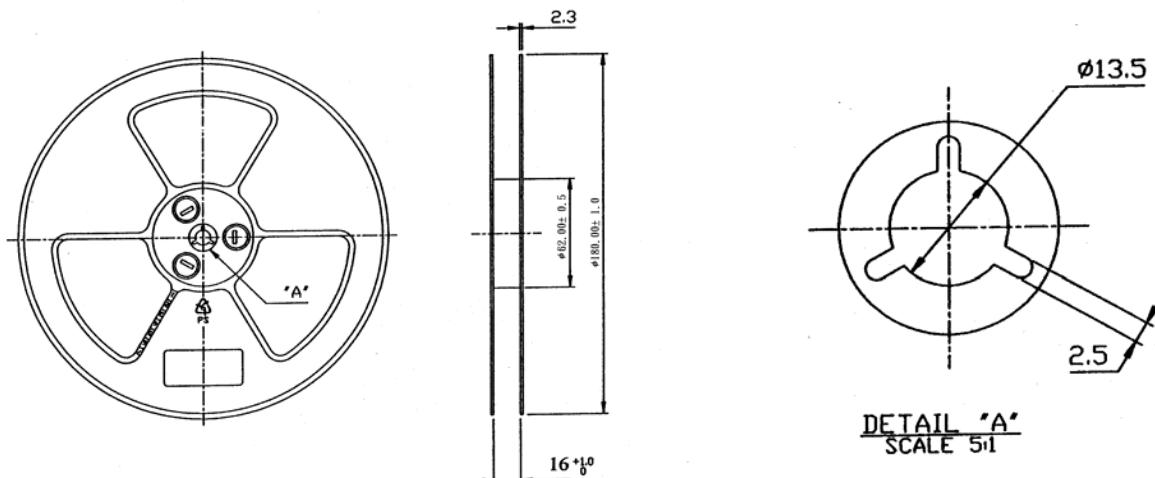
7. Taping Package and Label Marking

(1) Quantity/Reel: 2000pcs/Reel

(2) Carrier tape dimensions



(3) Taping reel dimensions



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A1

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:

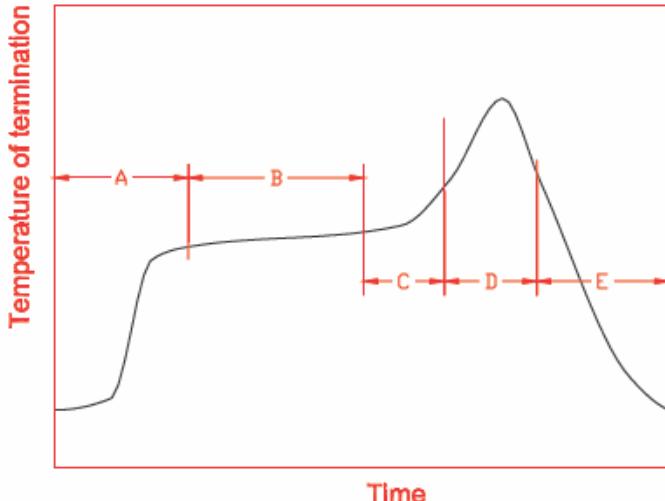
The temperature should be within -40 ~ 85°C and humidity should be less than 85% RH.

(3) Operating temperature range

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

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DESIGNED BY:林豪建 <i>Stan</i>	APPROVED BY : 蘇志銘 <i>Jimmy</i>	DOCUMENT NO.	ENS000062410	SPEC REV. A1		
TITLE : ACM3-5036-A1-CC-S Specification		PAGE	8	OF		

9. Recommended reflow soldering



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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