

# ACLX-5036-A1-CC-S Specification

## 1. Features and Application :

This product is for GPS L1、L2、L5 bands & Glonass L1、L2、L3、L5 bands & Compass B1、B2、B3 bands

## 2. Explanation of Part Number :

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

- (1) Product Type : Chip Antenna
- (2) Center Frequency/Band Code : GPS/Glonass/Compass all bands
- (3) Product Code : 5.0\*3.6mm (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	1170 ~ 1270 MHz	1520 ~ 1610 MHz
Polarization	Linear	
Impedance	50 ohm Typ.	
VSWR	Less than 2.0	Less than 2.0
*Peak Gain	4.1 dBi Typ.	4.9 dBi Typ.
*Peak Efficiency	79.2% Typ.	82.2% 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:林豪建

CHECKED BY:吳柏青

DESIGNED BY:林豪建

APPROVED BY:黃月碧

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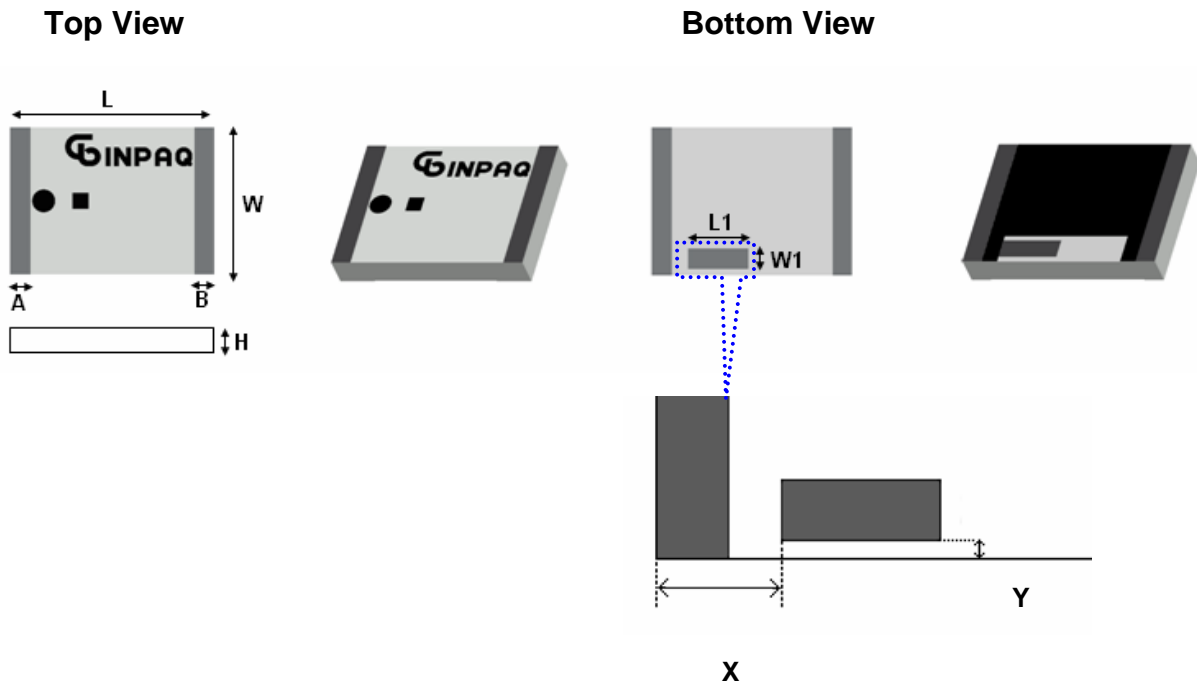
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4. Physical Dimension :



Chip Antenna	L	W	A	B	L1	W1	H	X	Y
ACLX5036	5.2±0.3	3.7±0.3	0.45±0.25	0.45±0.25	1.55±0.20	0.55±0.20	0.70±0.15	0.85±0.25	0.12±0.06

(Unit: mm)

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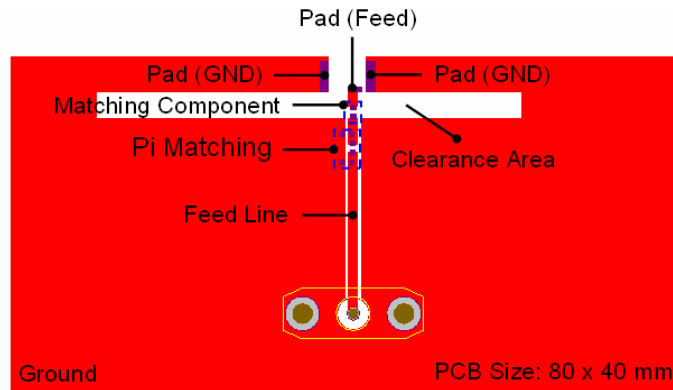
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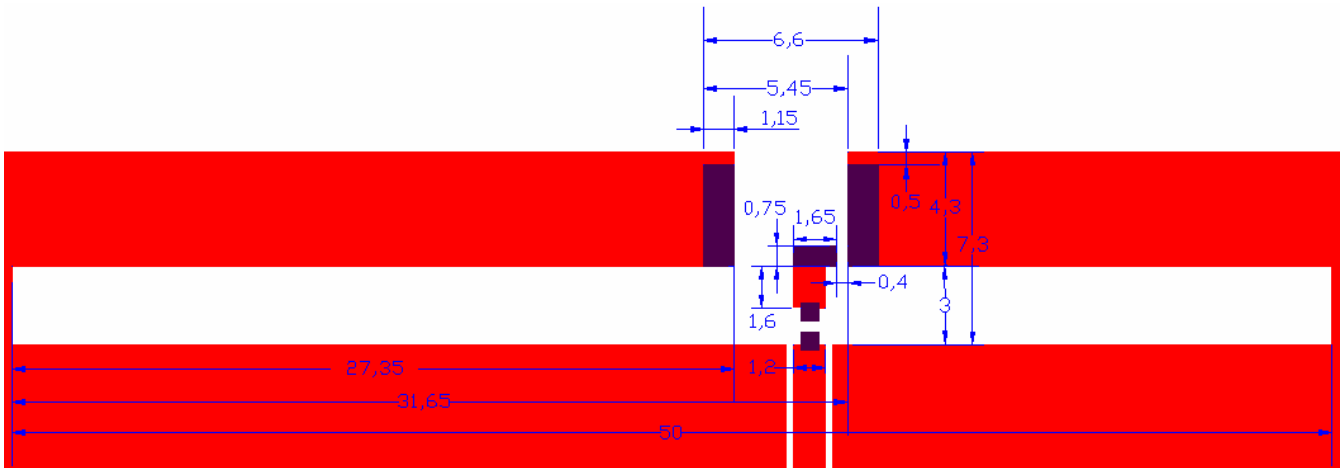
### 5. Recommend PCB Layout :

#### Layout

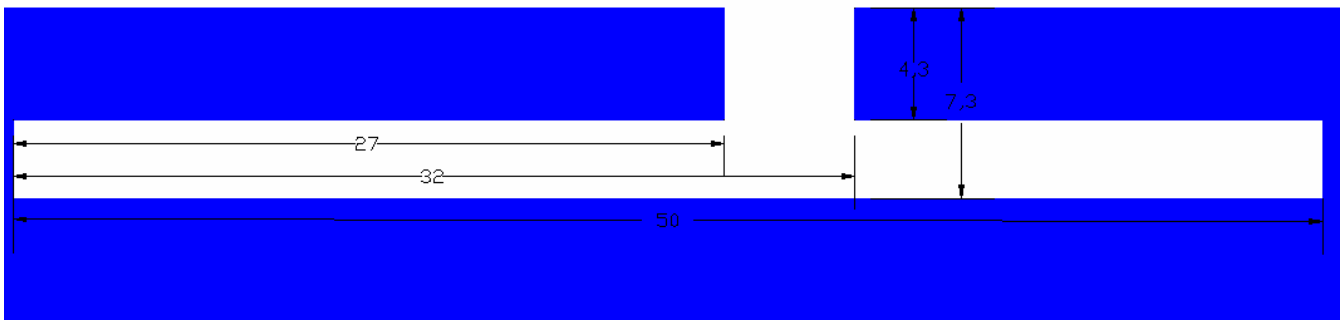


#### Pad Dimensions on PCB Layout

#### Top View



#### Perspective View



UNLESS OTHER SPECIFIED TOLERANCES ON :

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 ANGLES=±      HOLEDIA=±



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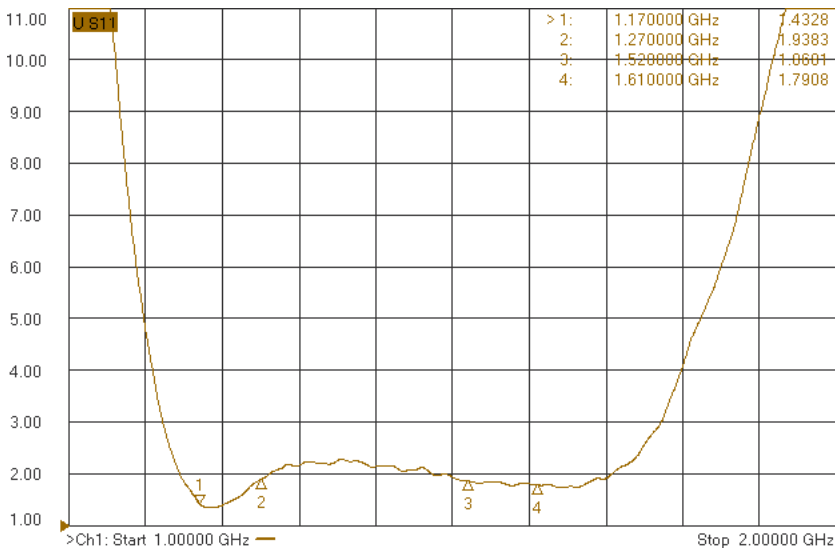
DOCUMENT NO.

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### 6. Electrical Characteristics :

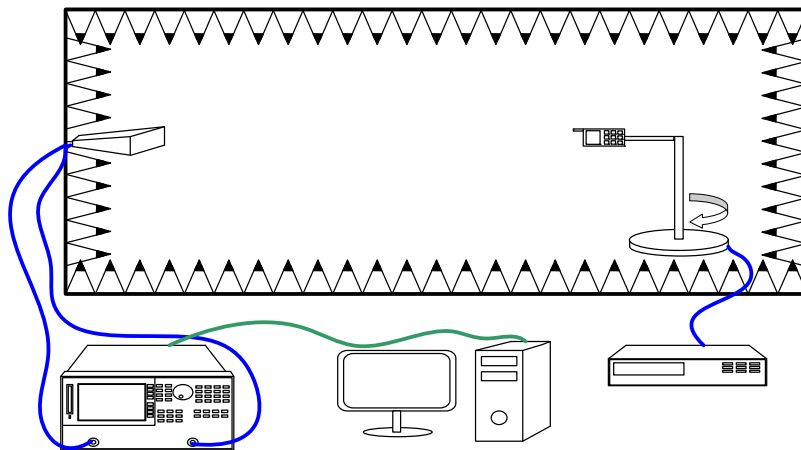
#### VSWR



Frequency (MHz)	VSWR
1170	1.43
1270	1.93
1520	1.86
1610	1.79

#### Radiation Pattern

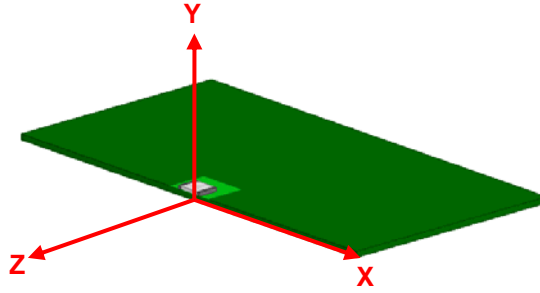
The Gain pattern is measured in INPAQ's FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



3D Chamber Definition

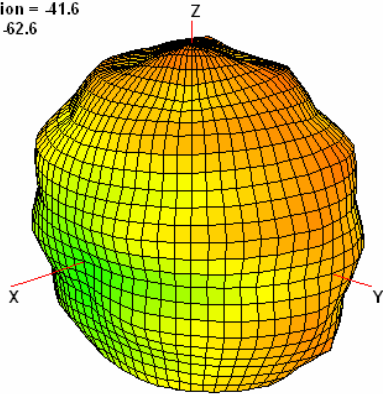
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3D Gain Pattern

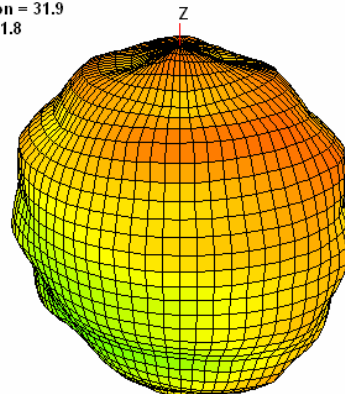


1227 MHz

Azimuth = 109.0  
Elevation = -41.6  
Roll = -62.6

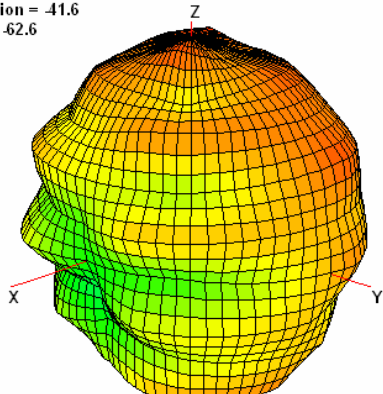


Azimuth = -74.4  
Elevation = 31.9  
Roll = 61.8

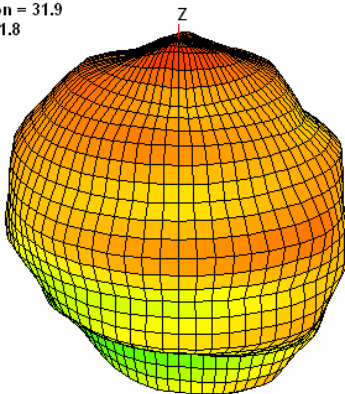


1575 MHz

Azimuth = 109.0  
Elevation = -41.6  
Roll = -62.6



Azimuth = -74.4  
Elevation = 31.9  
Roll = 61.8



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±      X.X=±      X.XX=  
 ANGLES=±      HOLEDIA=±



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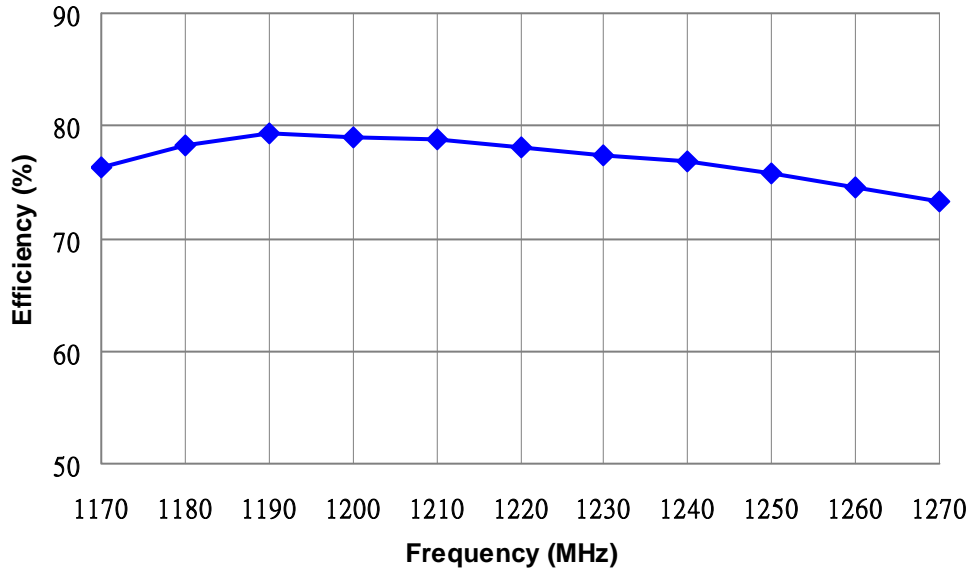
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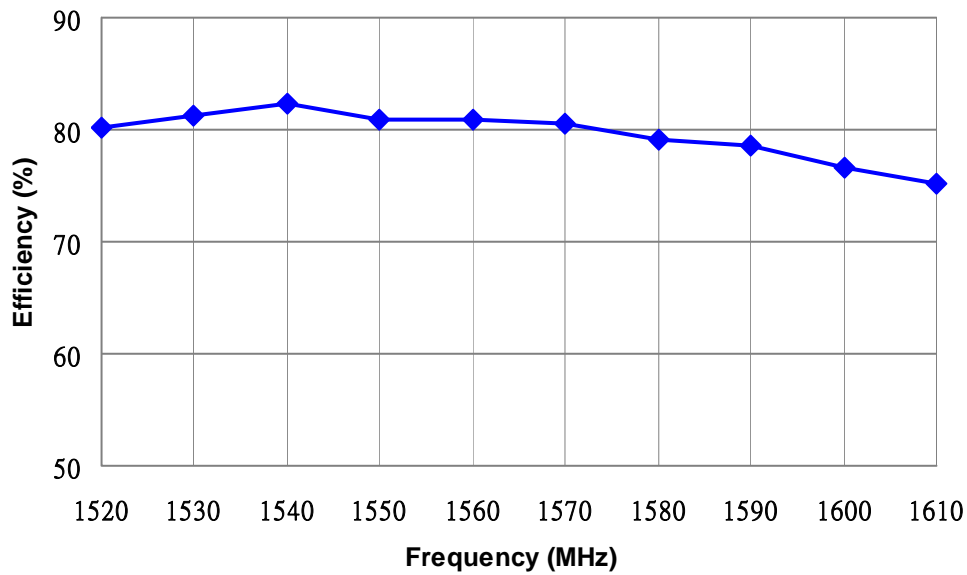
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Efficiency

1170 ~ 1270 MHz



1520 ~ 1610 MHz



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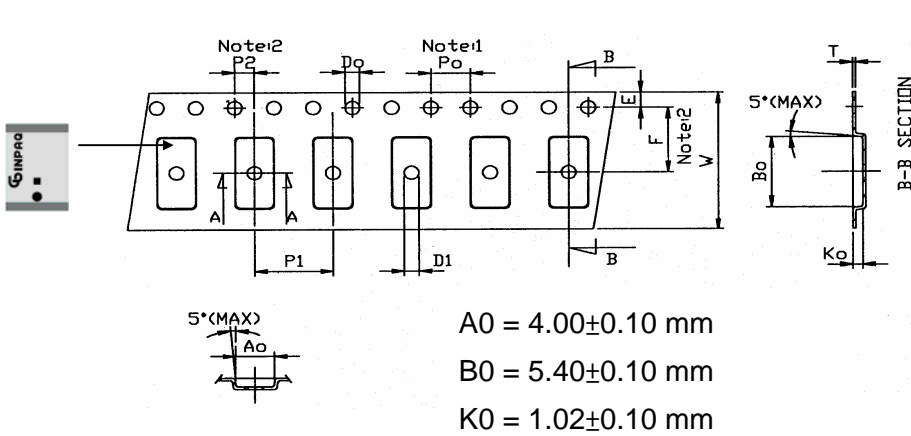
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### 7. Tape & Reel Specifications (Unit : mm)

- (1) Quantity/reel : 2000 pcs/reel
- (2) Carrier Tape Dimensions



A-A SECTION

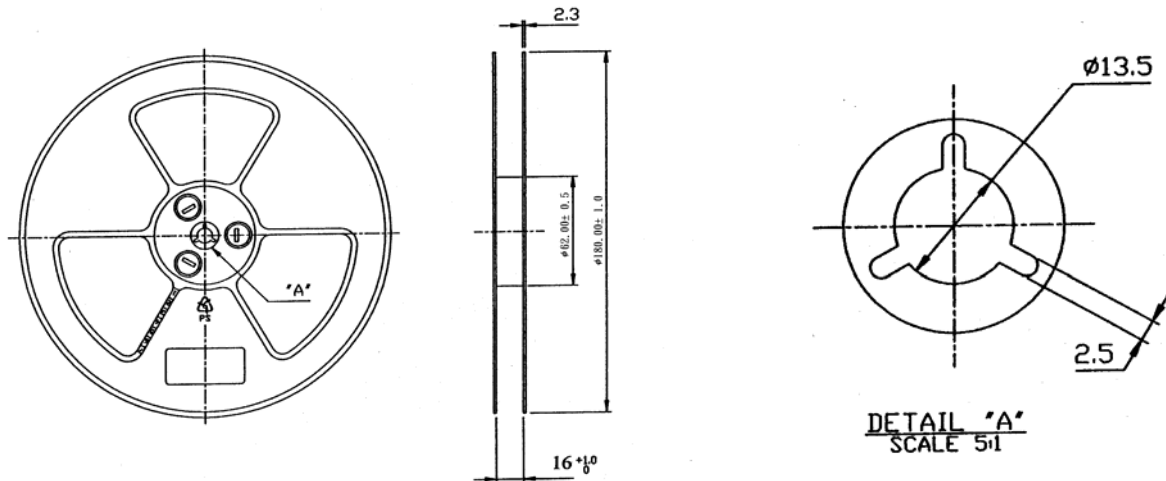
Unit: mm

Symbol	Spec.
K1	-
Po	4.0±0.10
P1	8.0±0.10
P2	2.0±0.10
Do	1.50 <sup>+0.1</sup> <sub>+0.</sub>
D1	1.50(MIN)
E	1.75±0.10
F	7.50±0.10
10Po	40.0±0.10
W	16.0±0.20
T	0.30±0.10

Notice:

1. 10 Sprocket hole pitch cumulative tolerance is ±0.1mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. A0 & B0 measured on a plane 0.3mm above the bottom of the pocket to top surface of the carrier.
4. K0 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



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## 8. Environmental Characteristics :

### (1) Reliability Test

Item	Condition	Specification
<b>Thermal shock</b>	1. 30±3 minutes at -40±5°C 2. Convert to +105°C (5 minutes) 3. 30±3 minutes at +105±5°C 4. Convert to -40°C (5 minutes) 5. Total 100 continuous cycles	No apparent damage fulfill the electrical spec. after test
<b>Humidity resistance</b>	1. Humidity: 85% R.H. 2. Temperature: 85±5°C 3. Time: 1000 hours	No apparent damage Fulfill the electrical spec. after test
<b>High temperature resistance</b>	1. Temperature: 150±5°C 2. Time: 1000 hours	No apparent damage Fulfill the electrical spec. after test
<b>Low temperature resistance</b>	1. Temperature: -40±5°C 2. Time: 1000 hours	No apparent damage Fulfill the electrical spec. after test
<b>Soldering heat resistance</b>	1. Solder bath temperature : 260±5°C 2. Bathing time: 10±1 seconds	No apparent damage
<b>Solderability</b>	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.

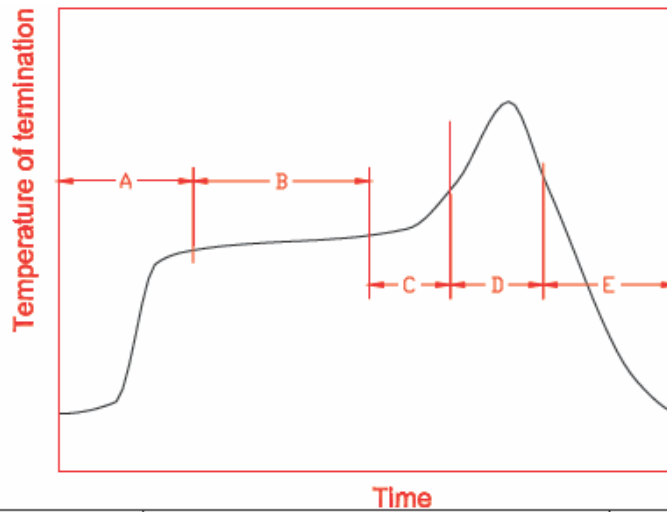
### (3) Operating Temperature Range

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

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### 9. Recommended reflow soldering :



Time			
A	1 <sup>st</sup> rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 <sup>nd</sup> 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
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

\*reference: J-STD-020C

(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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