

# 产品规格承认书

## SPECIFICATIONS

客户:

CUSTOMER: \_\_\_\_\_

产品名称:

DESCRIPTION: \_\_\_\_\_ Bipolar antenna

客户型号:

CUSTOMER PART No: \_\_\_\_\_

产品型号:

OUR MODEL NO: \_\_\_\_\_ 3216MA01

日期:

DATE: \_\_\_\_\_

确认签字, 盖章后请返回承认书一份

PLEASE RETURN TO US ONE COPY OF “SPECIFICATION FOR APPROVAL”

WITH YOUR APPROVED SIGNATURES

Approved	GaoYang	Audit	Jack Li	Making	KeJiaFeng
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Customer Acknowledges Signature	
Date	

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DESIGNED BY: Sera	APPROVED BY: XD			
TITLE: 3216MA01 Specification		DOCUMENT NO.	3216	SPEC REV. P1

**3216MA01 Specification**

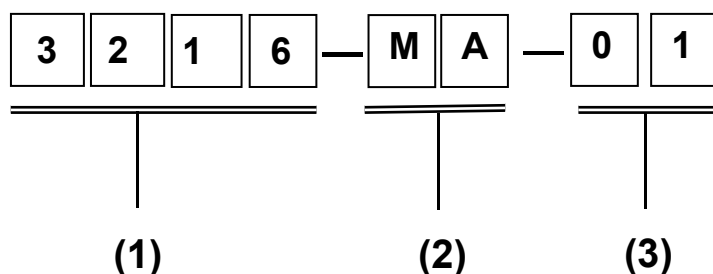
Operating Temp. : -40℃~+85℃

**1. FEATURES:**

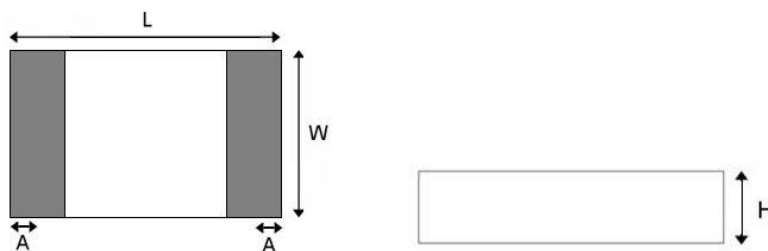
- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

**2. APPLICATIONS:**

- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

**3. PRODUCT IDENTIFICATION**

- (1) External Dimensions (L×W) (mm): 3.2\*1.6
- (2) Product type: Multilayer chip Antenna
- (3) Center Frequency: 2450MHz

**4. SHAPE AND DIMENSIONS:**

L	W	H	A
3.2±0.2	1.6±0.2	0.52±0.1	0.4±0.1

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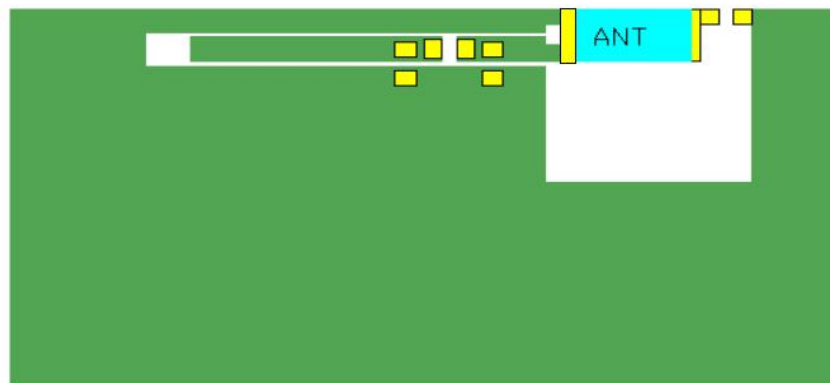
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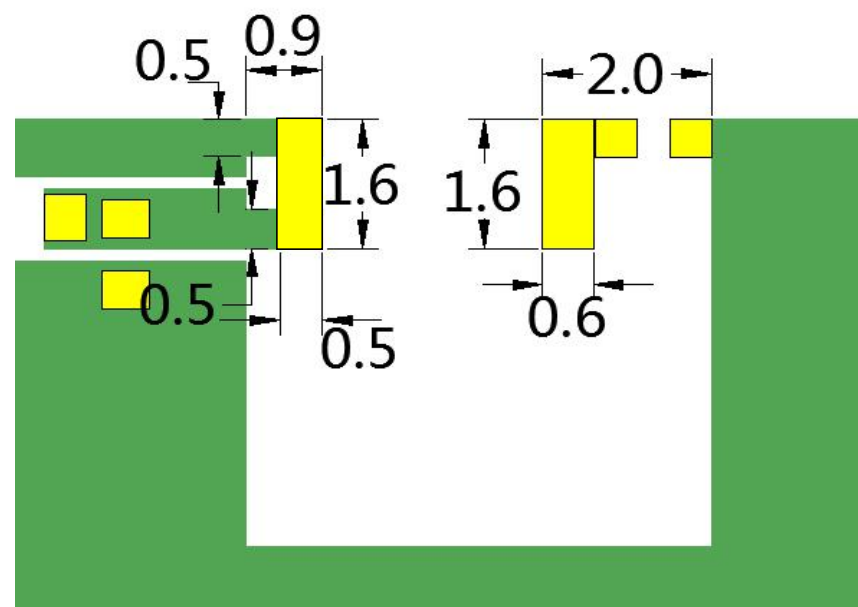
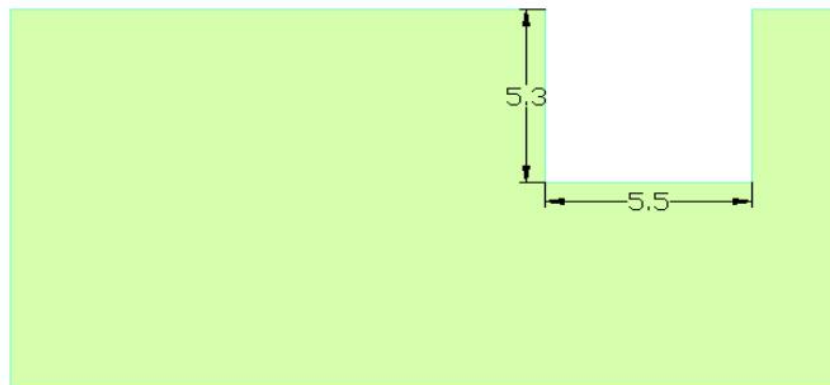
P1

Test plate reference size:

Company: mm



- Antenna
- PAD
- Copper laying on the bottom layer
- Top layer copper laying



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$X=\pm$        $X.X=\pm$        $X.XX=$

ANGLES =  $\pm$       HOLEDIA =  $\pm$

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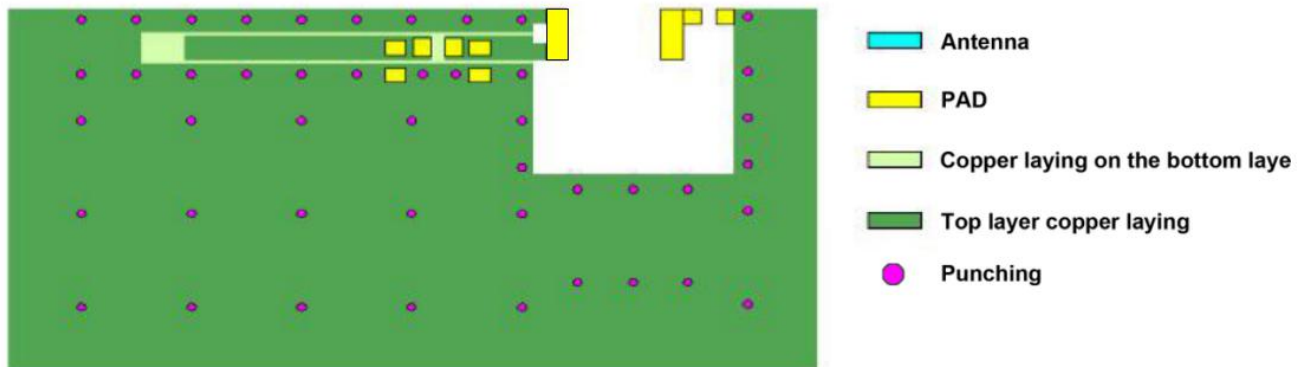
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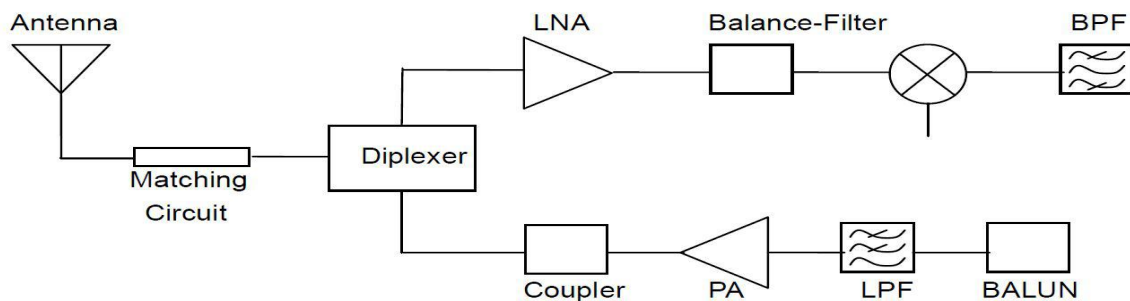
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## Hole punching reference diagram



## APPLICATION GUIDE



## 5. SPECIFICATIONS:

Test Item	Specifications
Bandwidth	2400-2483MHz
Polarization mode	Linear polarization
* Maximum gain	2.67dBi
* Efficiency	72.3%
Input Impedance	50Ω

\* Test condition: Test board size 90\*40 mm

Matching circuit: Pi matching circuit will be required

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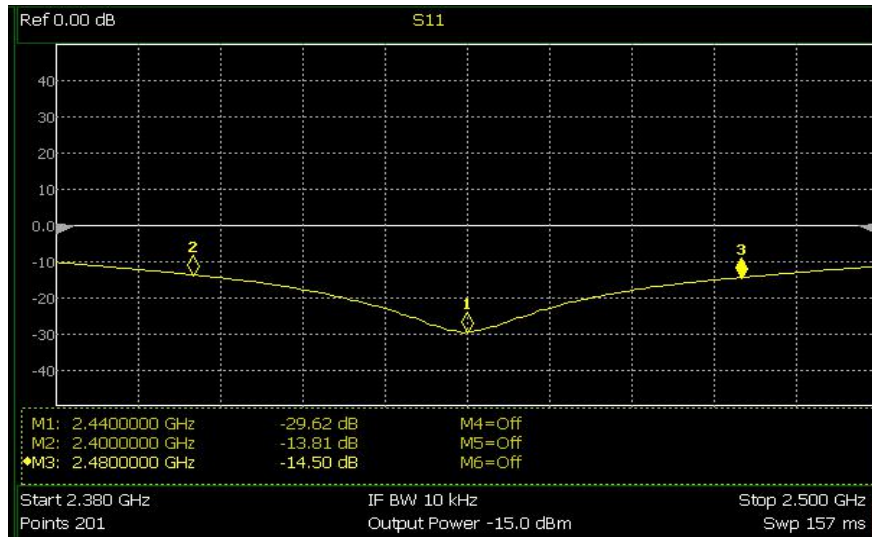
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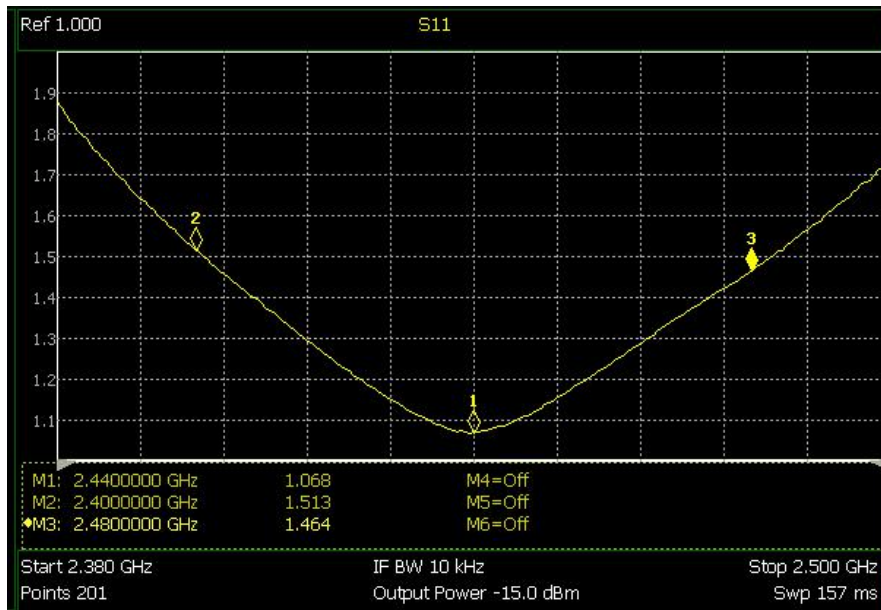
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## 6. Electrical Characteristics :

### Return loss



### Standing wave ratio



Mark	Frequency	VSWR
1	2400 MHz	1.513
2	2440 MHz	1.068
3	2480 MHz	1.464

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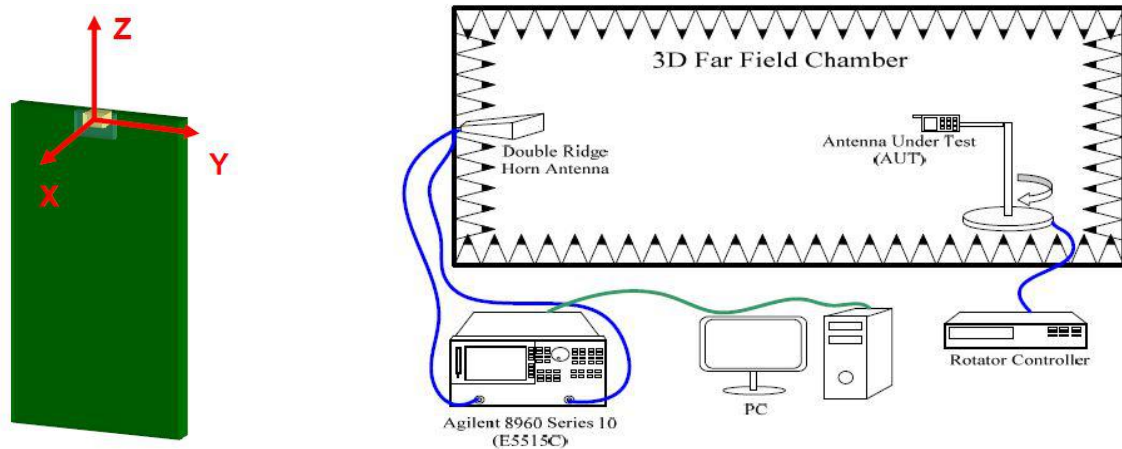
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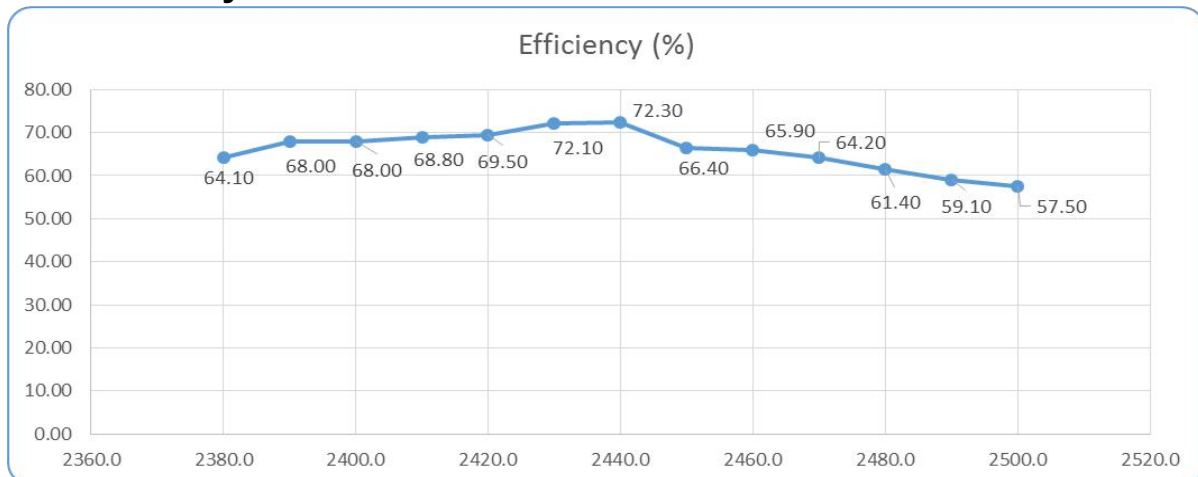
P1

## Radiation Pattern

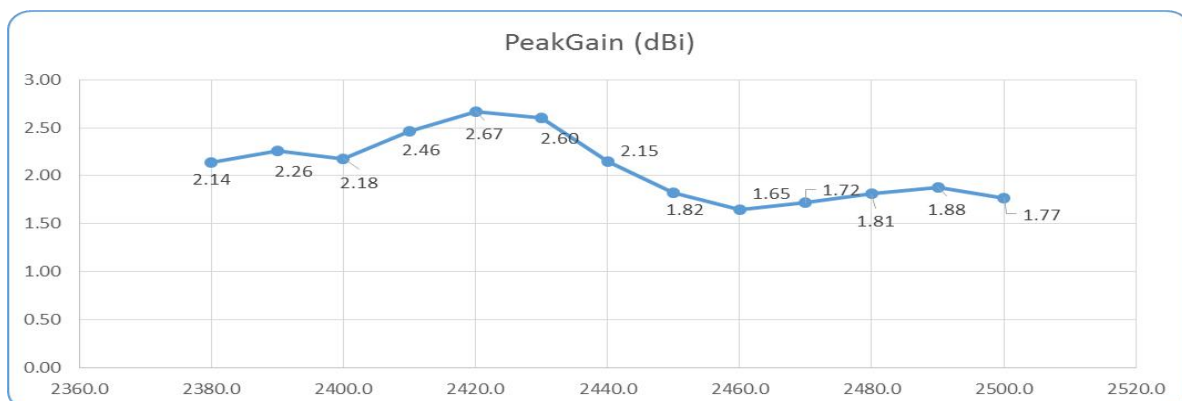
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



## ◎ Efficiency



## Maximum gain



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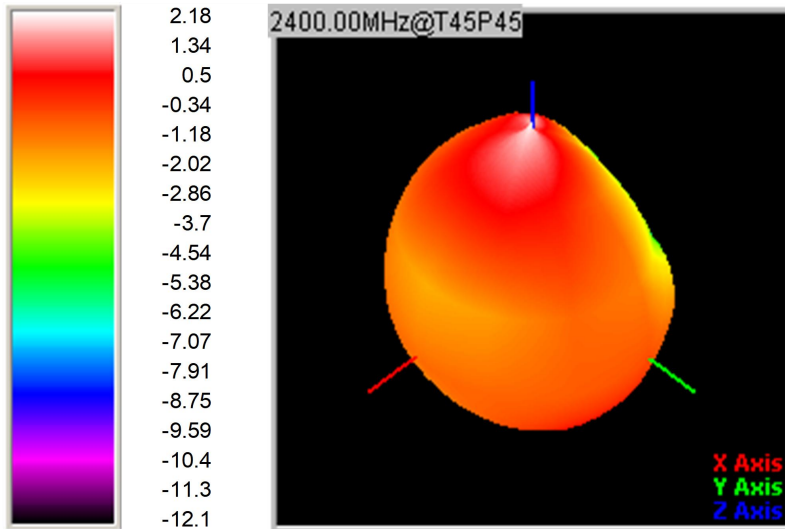
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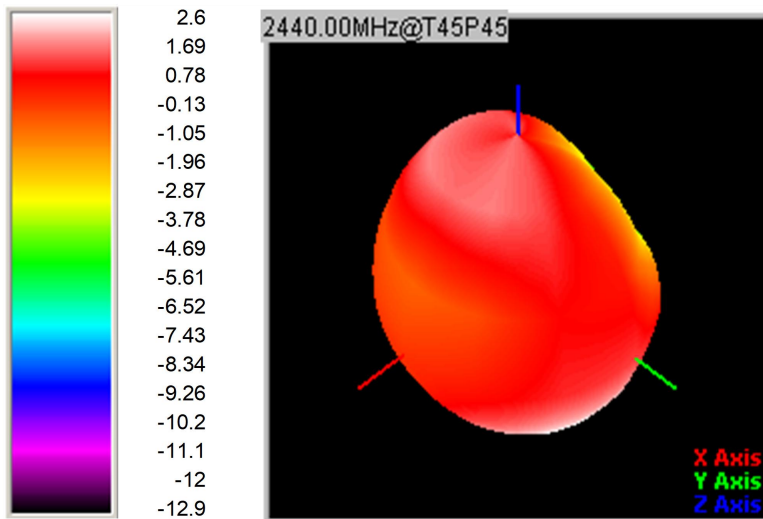
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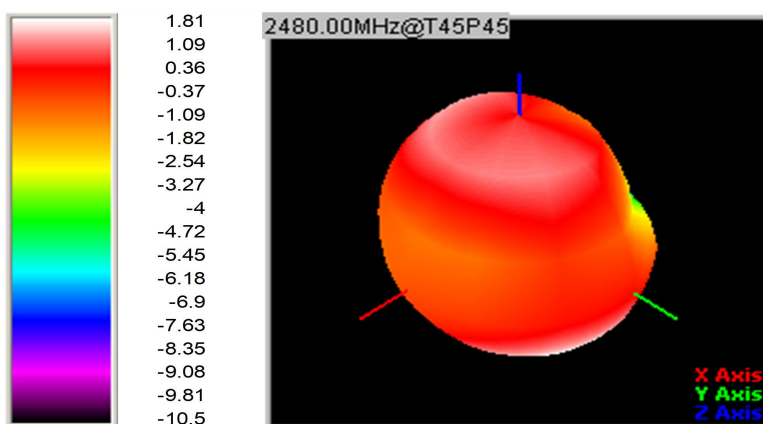
◎ 3D Gain Pattern (2400 MHz)



◎ 3D Gain Pattern (2440 MHz)



◎ 3D Gain Pattern (2480 MHz)



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## 7. Environmental Characteristics

### (1) Reliability Test

Item	Condition	Specification
Thermal shock	1. $30\pm3$ minutes at $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$ , 2. Convert to $+105^{\circ}\text{C}$ (5 minutes) 3. $30\pm3$ minutes at $+105^{\circ}\text{C}\pm5^{\circ}\text{C}$ , 4. Convert to $-40^{\circ}\text{C}$ (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: $85\pm5^{\circ}\text{C}$ 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: $150^{\circ}\text{C}\pm5^{\circ}\text{C}$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : $260\pm5^{\circ}\text{C}$ 2. Bathing time: $10\pm1$ 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 $245\pm5^{\circ}\text{C}$ for $3\pm1$ seconds.	No apparent damage

### (2) Storage Condition

#### (a) At warehouse:

The temperature should be within  $0\sim30^{\circ}\text{C}$  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  $-40\sim85^{\circ}\text{C}$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

Operating temperature range :  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$ .

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**ANGLES** =  $\pm$       **HOLE DIA** =  $\pm$

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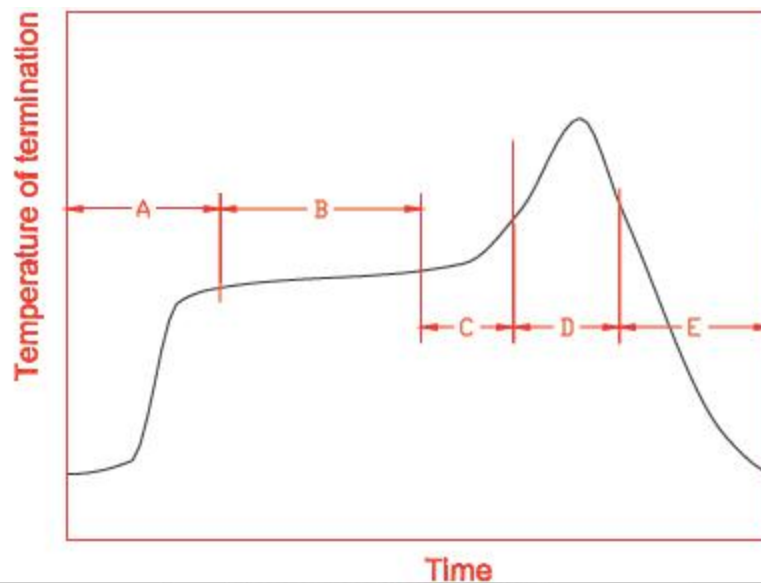
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## 8. Recommended Reflow Soldering



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
		if 260°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.

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

### (2) Soldering Volume

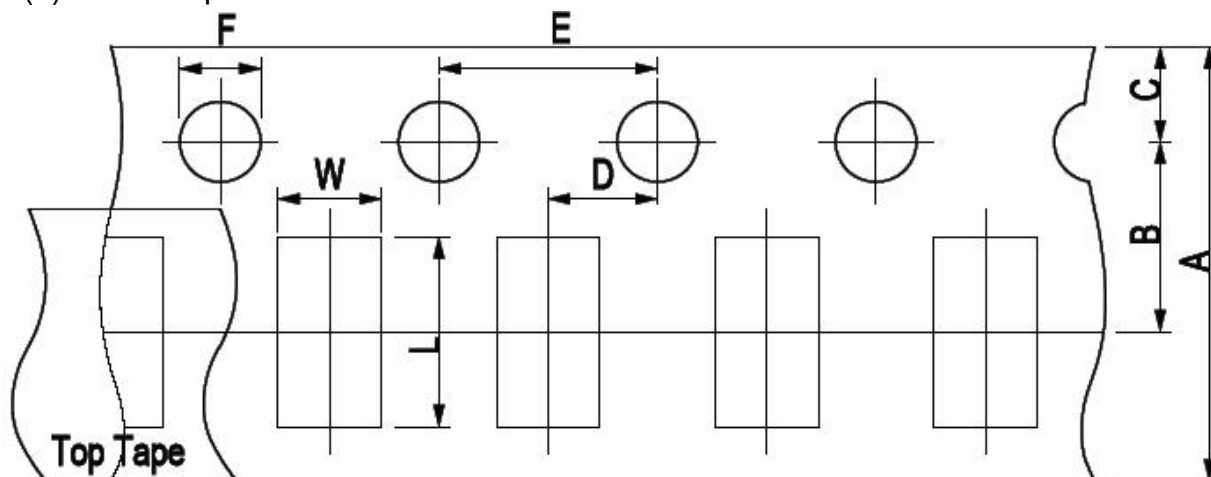
Note that excess of soldering volume will easily get crack the body of this product.

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**9. Taping Package and Label Marking:** (unit: mm)

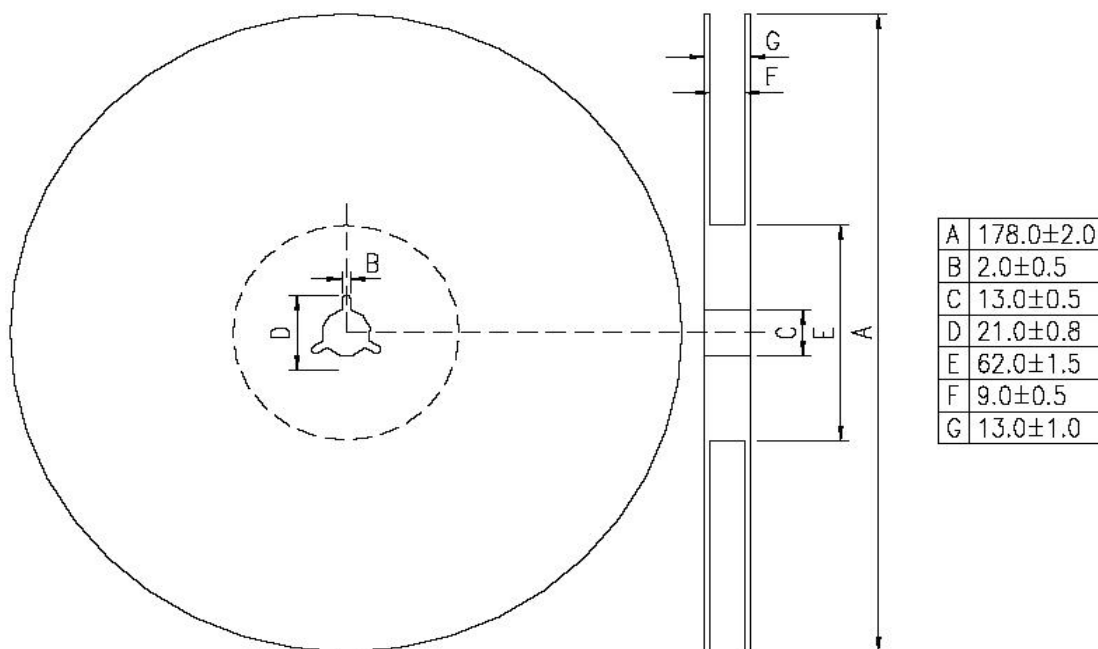
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



Type	A	B	C	D	E	F	L	W
2450-21	$8.00 \pm 0.3$	$3.50 \pm 0.05$	$1.75 \pm 0.1$	$2.00 \pm 0.05$	$4.00 \pm 0.1$	$1.50 \pm 0.1$	$2.30 \pm 0.1$	$1.55 \pm 0.1$

(3) Taping reel dimensions



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