

深圳市创科华科技有限公司

地址：深圳市宝安区新安街道72区甲岸工业园D栋6楼602

产品规格承认书

SPECIFICATIONS

编号	
品名	PBX5021MA01
客户型号	
制作	周 阳
审核	范吉星
日期	2020. 09. 23

客户承认签印	
日期	

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=±
 ANGLES=± HOLE DIA=±

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SCALE: N/A UNIT: mm
 DRAWN BY : Sera CHECKED BY: ZL
 DESIGNED BY: Sera APPROVED BY: XL

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PBX5021MA01 Specification

Operating Temp. : -40℃~+85℃

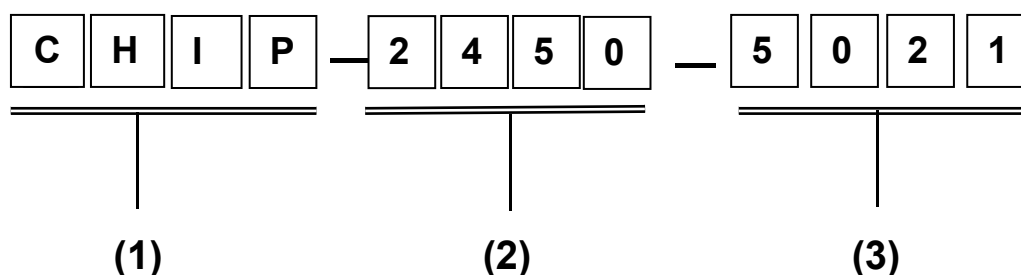
1. FEATURES:

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

2. APPLICATIONS:

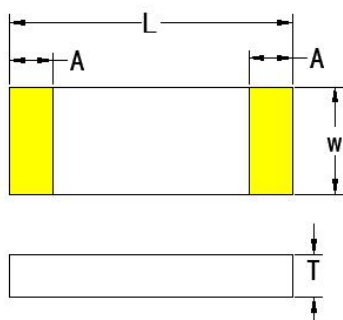
- Bluetooth, Wireless LAN, Mobile TV
- Home RF system, etc

3. PRODUCT IDENTIFICATION



- (1) Product type: Multilayer chip Antenna
 (2) Center Frequency: 2450MHz
 (3) External Dimensions (L×W) (mm): 5.0*2.1

4. SHAPE AND DIMENSIONS:



Unit:mm	L	W	A	T
CHIP-5021	5.0±0.2	2.15±0.1	0.45±0.1	0.85±0.1

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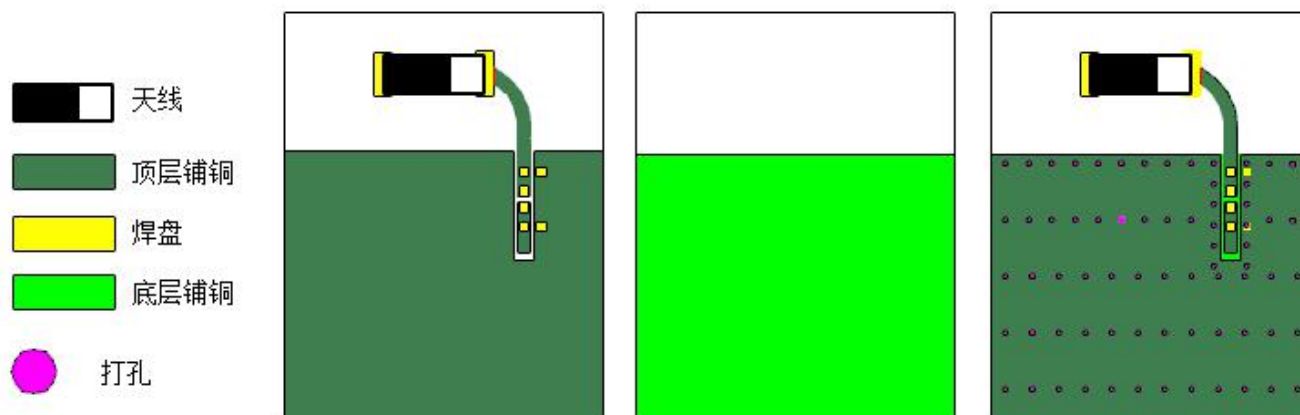
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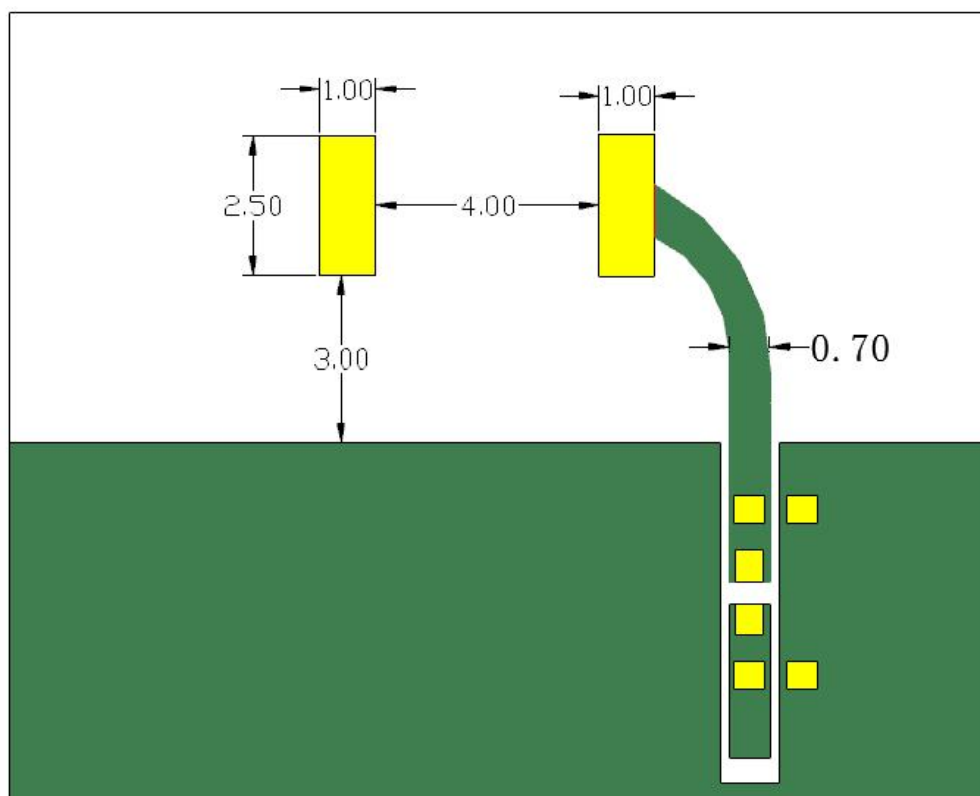
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测试板参考尺寸:

单位: mm



PBX5021MA01 焊盘尺寸:



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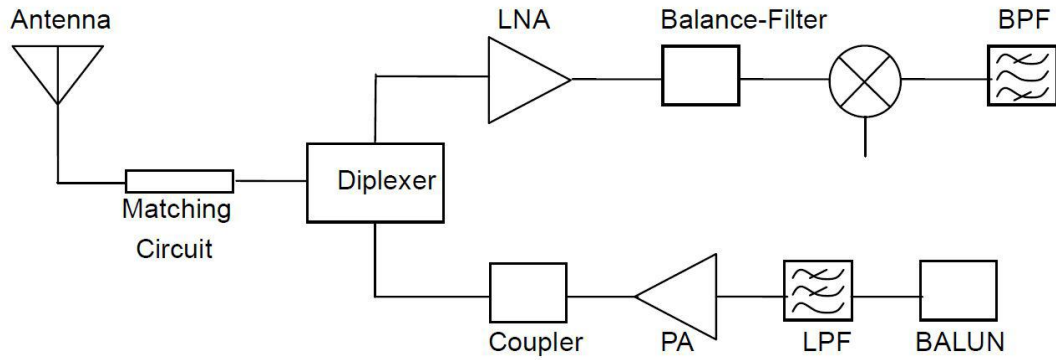
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APPLICATION GUIDE



5. SPECIFICATIONS:

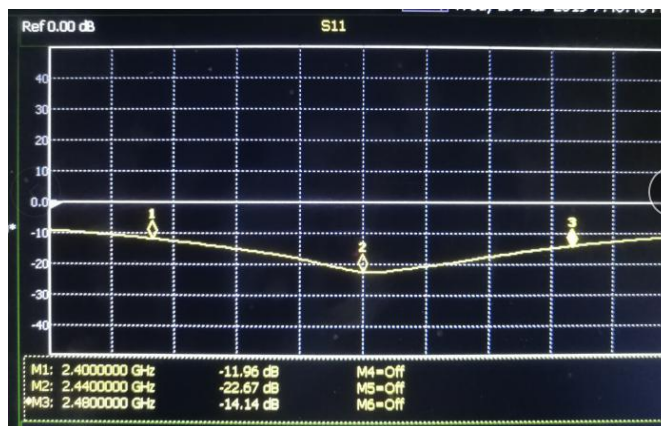
测试项目	结果
应用频段	2400-2500MHz
极化方式	线极化
*最大增益	2.73dBi
*效率	67.16%
输入阻抗	50Ω
最大功率	5W

* Test condition: Test board size 86*50 mm

Matching circuit: Pi matching circuit will be required

6. Electrical Characteristics :

回波损耗



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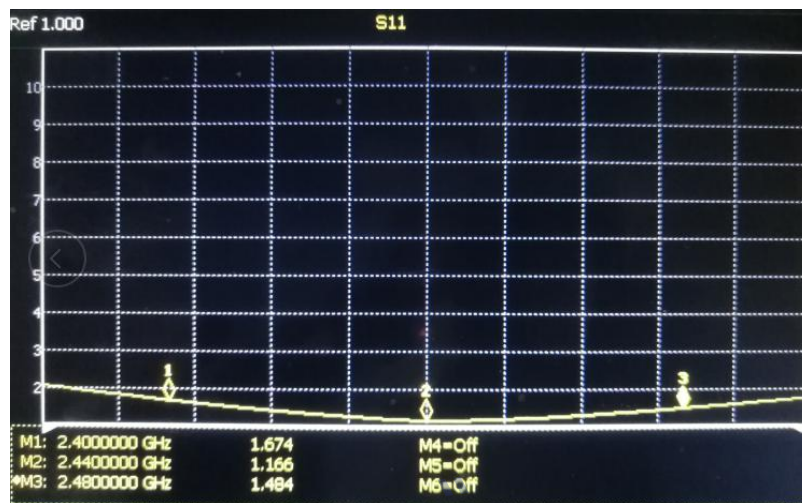
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驻波比



Mark	Frequency	VSWR
1	2400 MHz	1.674
2	2440 MHz	1.166
3	2480 MHz	1.484

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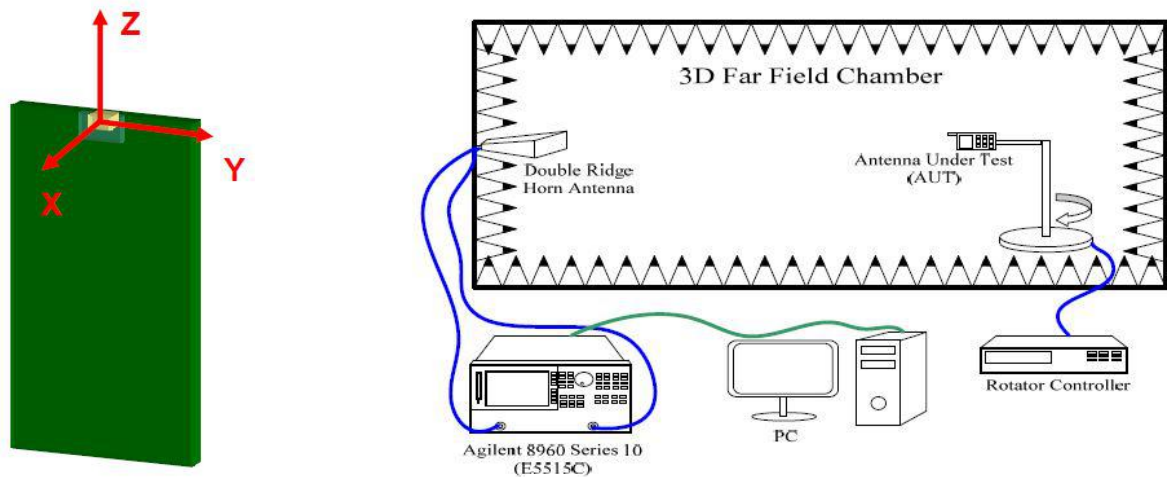
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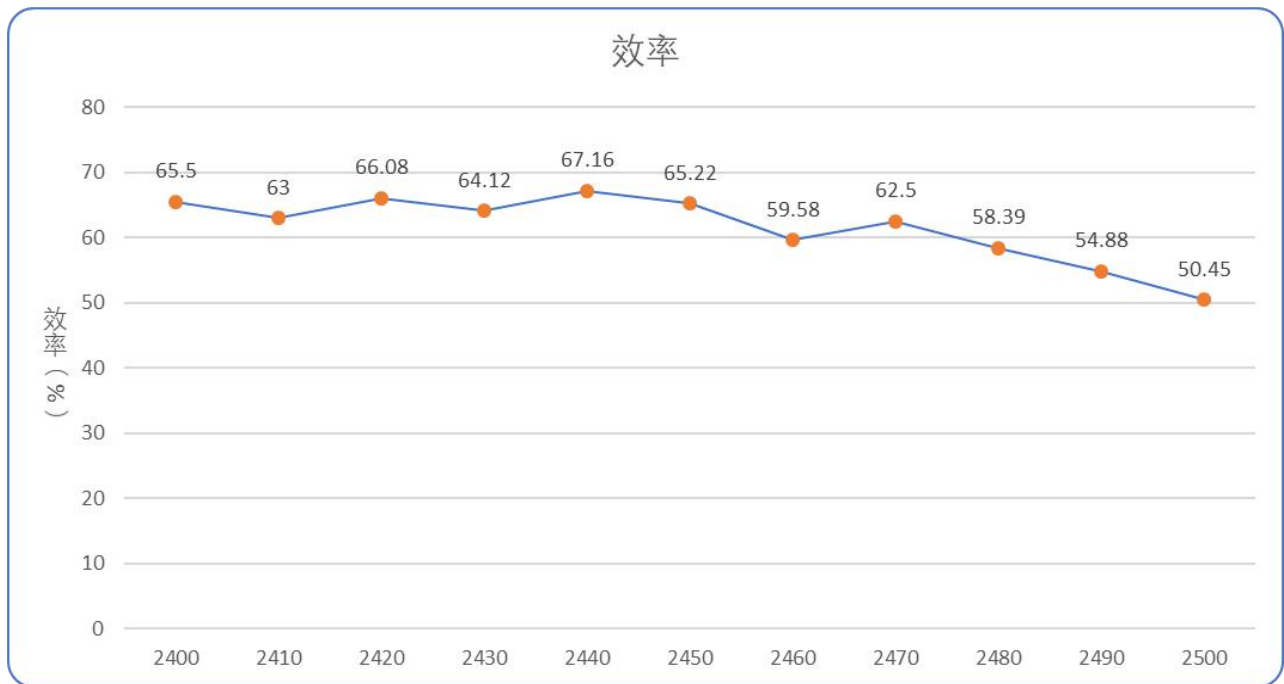
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Radiation Pattern

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.



◎ 效率



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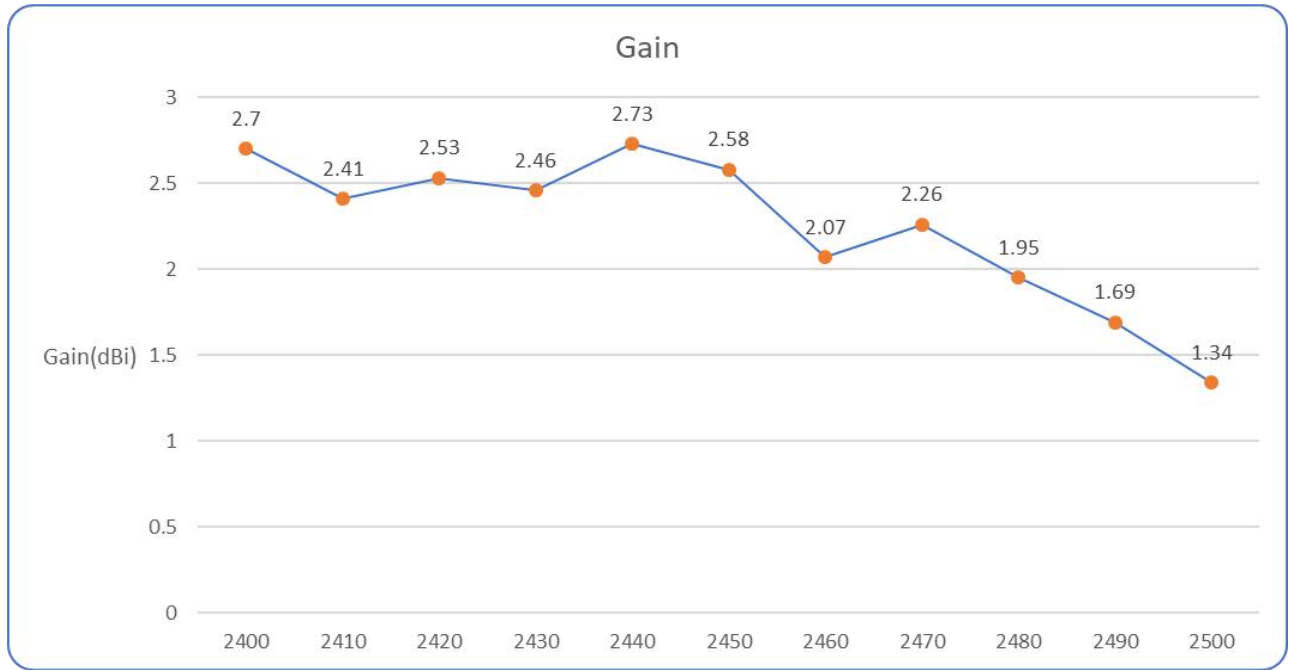
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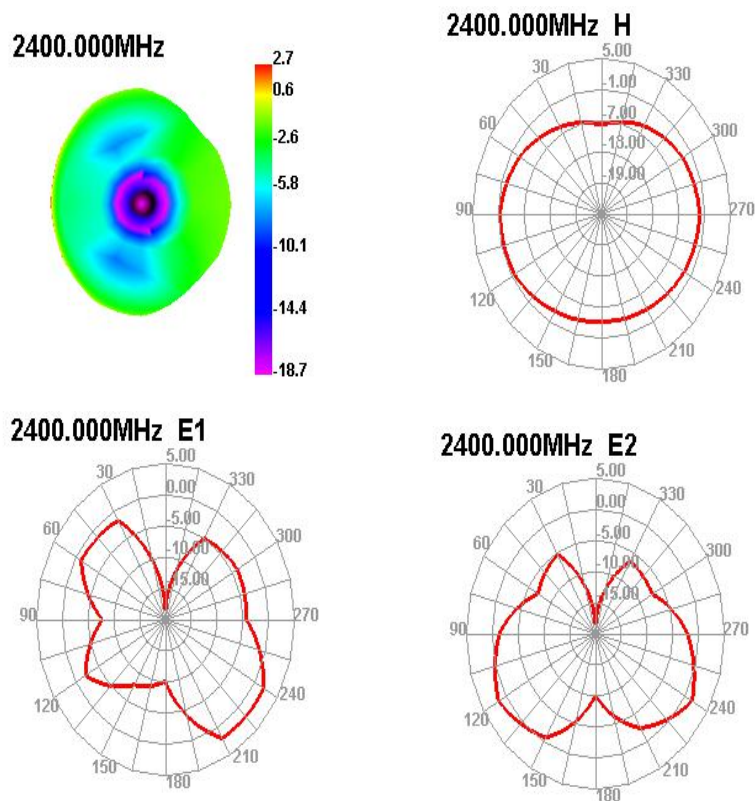
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◎ 最大增益



◎ 3D Gain Pattern (2400 MHz)



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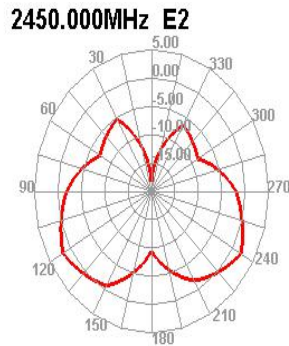
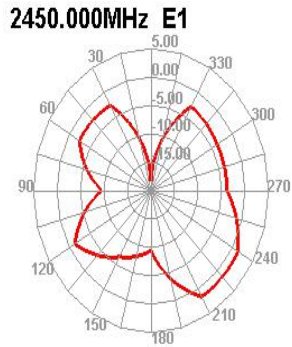
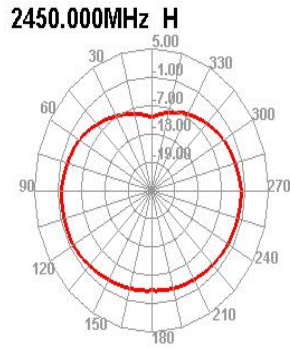
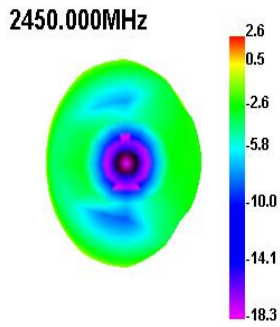
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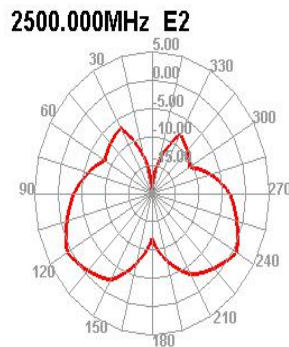
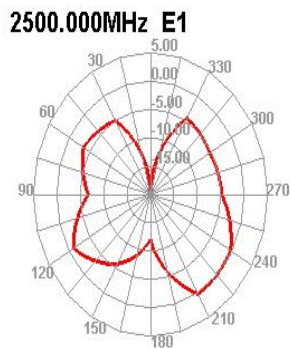
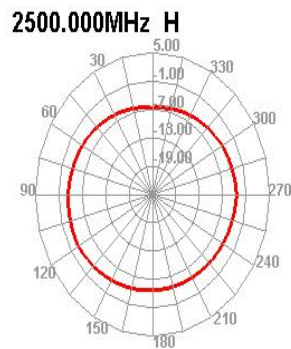
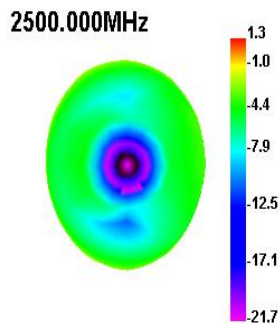
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◎ 3D Gain Pattern (2450 MHz)



◎ 3D Gain Pattern (2500 MHz)



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7. Environmental Characteristics

(1) Reliability Test

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

(2) Storage Condition

(a) At warehouse:

The temperature should be within $0\sim 30^{\circ}\text{C}$ 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 $-40\sim 85^{\circ}\text{C}$ and humidity should be less than 85% RH.

(3) Operating Temperature Range

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

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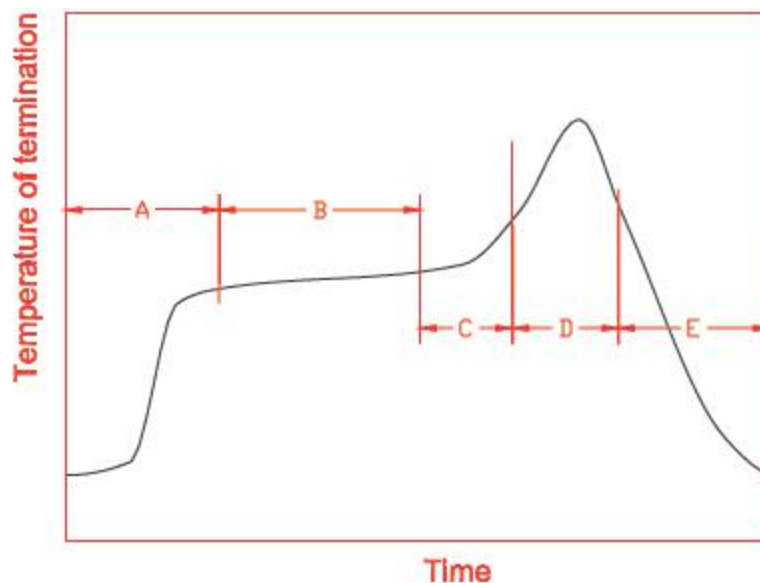
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8. Recommended Reflow Soldering



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

*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.

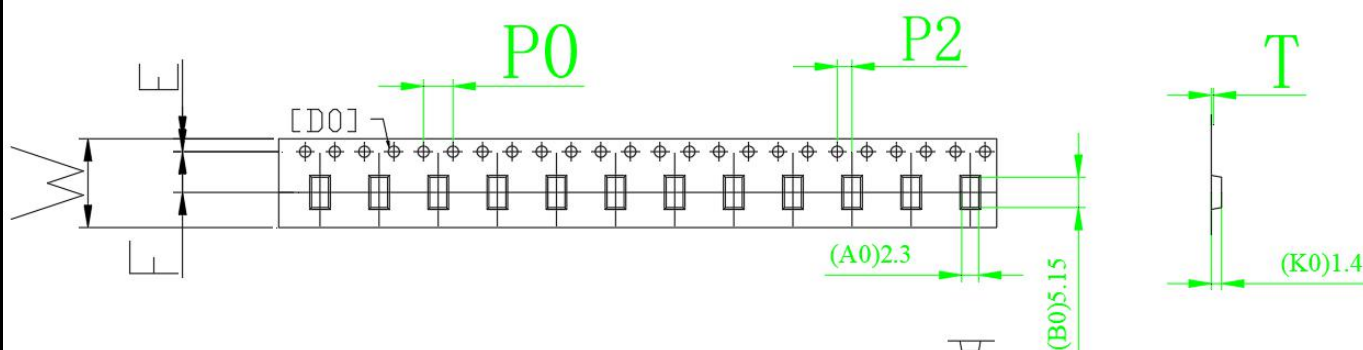
(2) Soldering Volume

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

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

(1) Quantity/Reel: 3000pcs/Reel



ITEM	W	A0	B0	K0	K1	P	F	E	S0	D0	D1	P0	P2	T
DIM	12.00	2.30	5.15	1.40	0.00	8.00	5.50	1.75	52.40	1.50	0.00	4.00	2.00	0.30

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