

PBX3216DA01 Specification

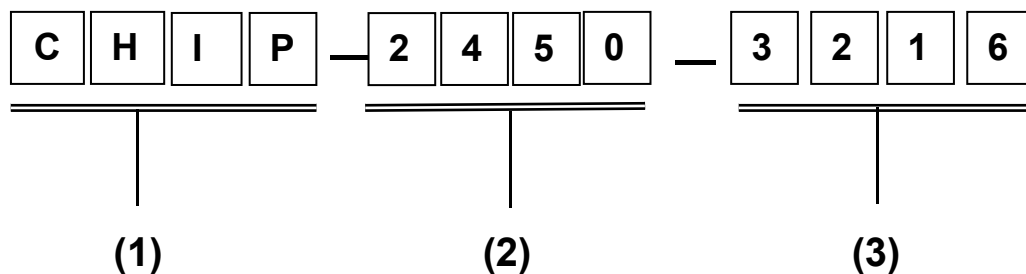
Operating Temp. : -40℃~+85℃

1. FEATURES:

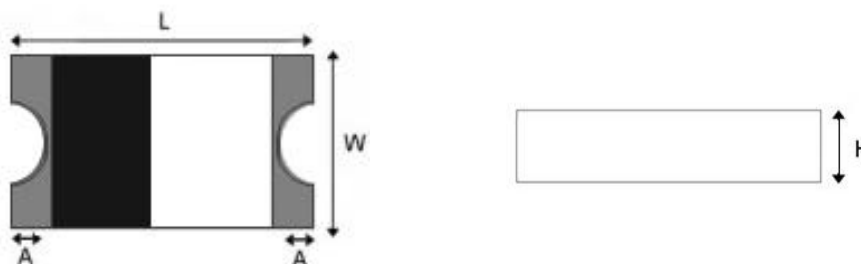
- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

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): 3.2*1.6

4. SHAPE AND DIMENSIONS:

| L | W | H | A |
|---------|---------|----------|---------|
| 3.2±0.2 | 1.6±0.2 | 0.75±0.1 | 0.4±0.1 |

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

DRAWN BY : Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD



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DOCUMENT
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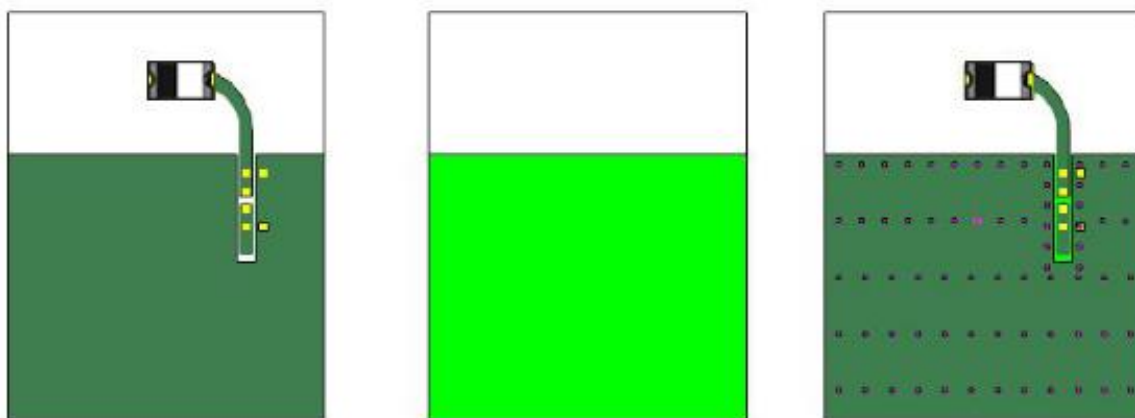
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测试板参考尺寸：（注：贴片时请将天线白色端朝向芯片）

单位：mm



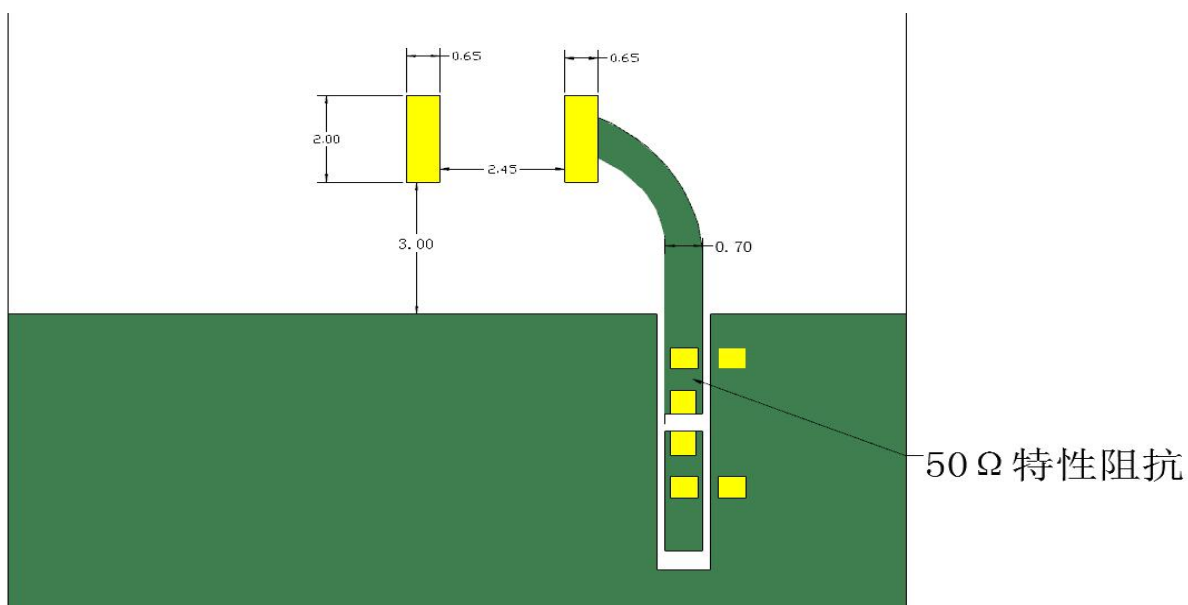
 CHIP2450-3216

 顶层铺铜

 焊盘

 底层铺铜

 打孔



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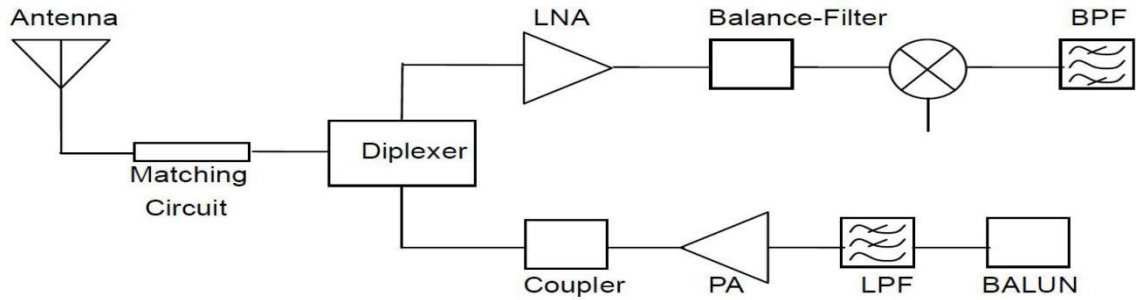
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APPLICATION GUIDE



5. SPECIFICATIONS:

| No. | Product number | PBX3216DA01 | |
|-----|------------------------------|-------------------------------|--------------------|
| 1 | Central Frequency | 2440 | MHz |
| 2 | Bandwidth | 100 (Min.) | MHz |
| 3 | Return Loss | -11.96 (Max.) | dB |
| 4 | Peak Gain | 2.70 | dBi |
| 5 | Impedance | 50 | Ω |
| 6 | Operating Temperature | -40~+85 | $^{\circ}\text{C}$ |
| 7 | Maximum Power | 5 | W |
| 8 | Resistance to soldering heat | 10 (@260 $^{\circ}\text{C}$) | Sec. |
| 9 | Polarization | Linear | |
| 10 | Azimuth Beam width | Omni-directional | |
| 11 | Termination | Sn (leadless) | |

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SPEC REV.

P1

6. Electrical Characteristics :



| | | | |
|-----------------|-------|-------|-------|
| Frequency (MHz) | 2400 | 2450 | 2500 |
| Avg. Gain (dBi) | -1.83 | -1.86 | -2.97 |
| Peck Gain (dBi) | 2.7 | 2.58 | 1.34 |
| Efficiency (%) | 65.5 | 65.22 | 50.45 |

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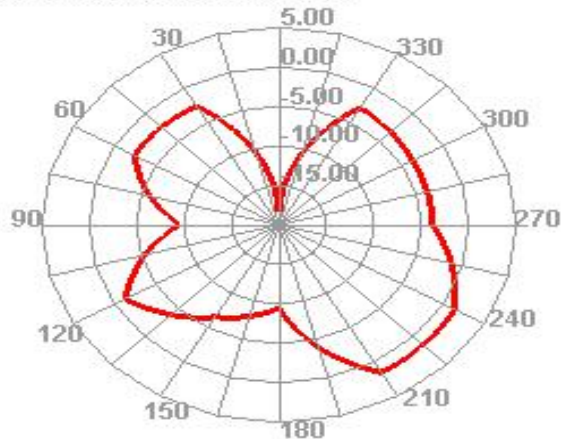
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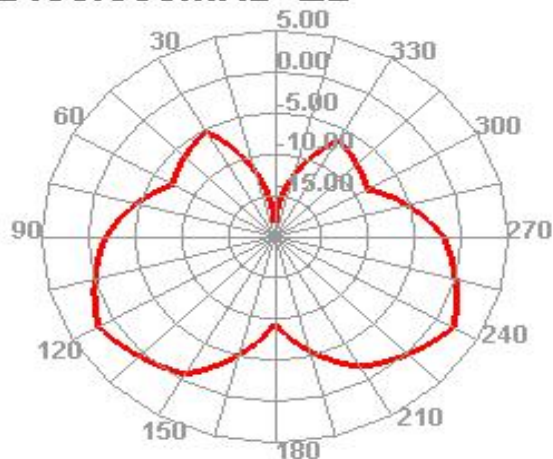
X-Y Plane

2450.000MHz E1



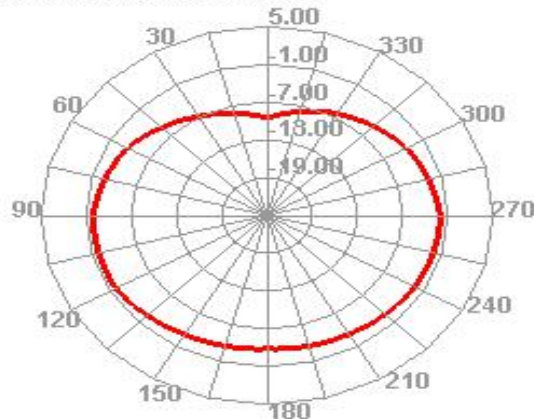
X-Y Plane

2450.000MHz E2



X-Y Plane

2450.000MHz H



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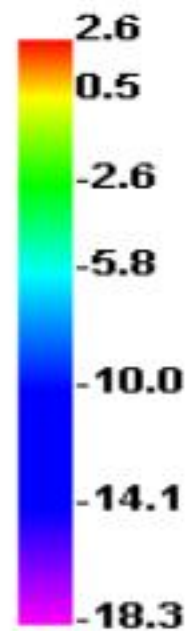
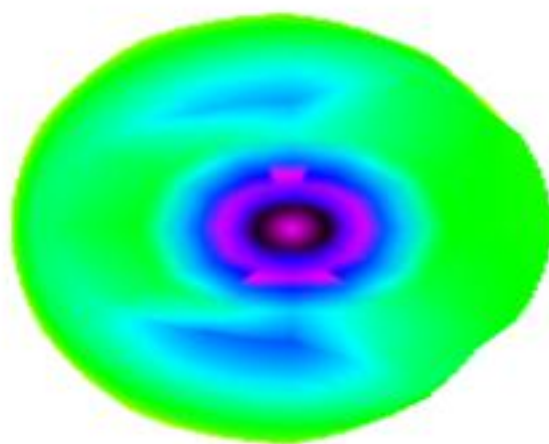
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3D Radiation Pattern

2450.000MHz



| | | | | |
|--|-----------------|---|------|-----------|
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| ANGLES = ± HOLEDIA = ± | | | | |
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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 $+105^{\circ} \text{C}$.

UNLESS OTHER SPECIFIED TOLERANCES ON:

$X = \pm$ $X.X = \pm$ $X.XX =$
ANGLES = \pm **HOLE DIA** = \pm



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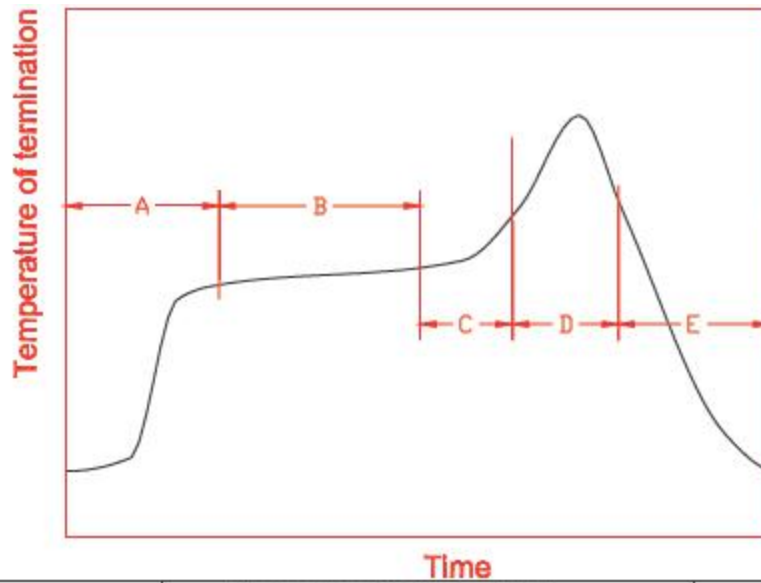
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8. Recommended Reflow Soldering



| | | | |
|---|------------------------------------|--------------------------------------|---------------|
| 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

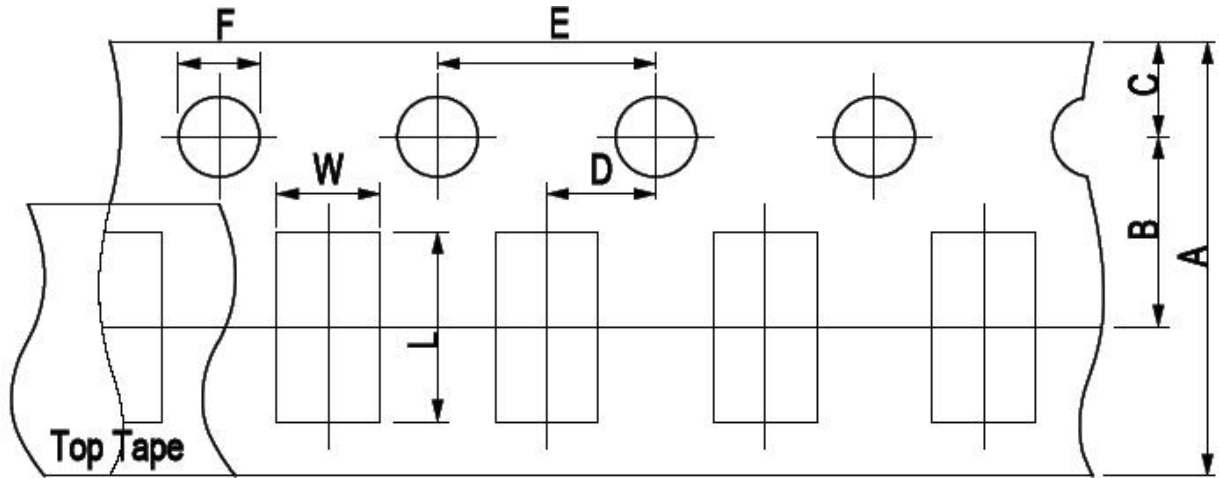
Note that excess of soldering volume will easily get crack the body of this product.

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

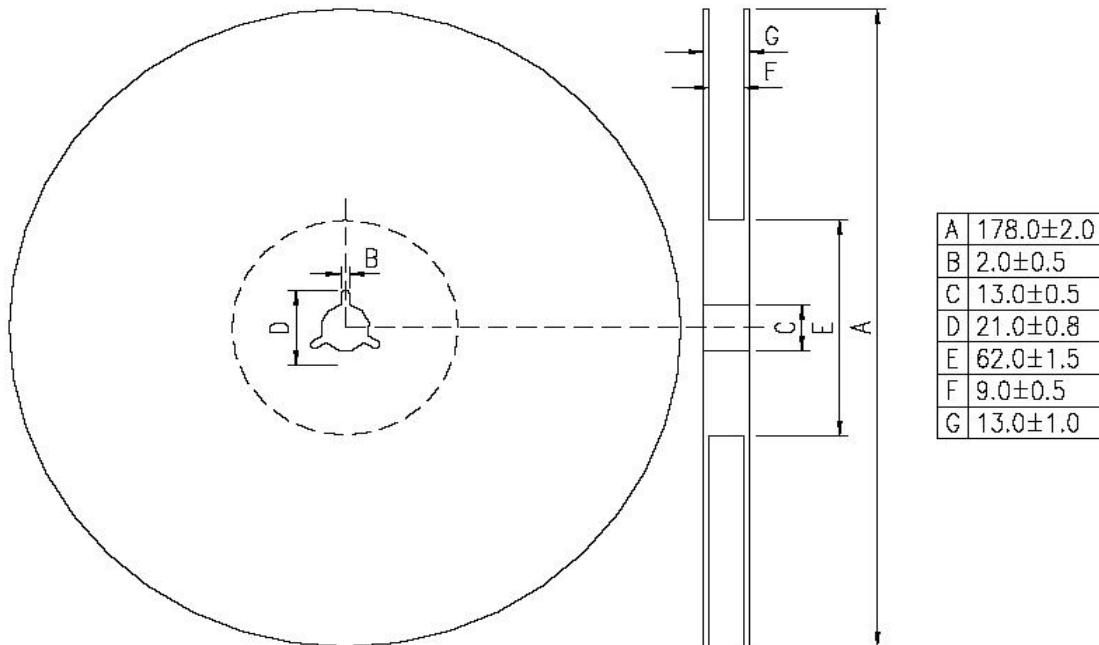
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



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

(3) Taping reel dimensions



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