

# 产品规格承认书

## SPECIFICATIONS

客户:

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

产品名称:

DESCRIPTION: \_\_\_\_\_ 双极天线

客户型号:

CUSTOMER PART NO: \_\_\_\_\_

产品型号:

OUR MODEL NO: \_\_\_\_\_ **PBX1608MC01**

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

Manufacturer: Shenzhen Pengban Xingye Technology Co., Ltd

Address: Room 605, Building 4, 1970 Science Park, Minzhi Community, Minzhi Street, Longhua District, Shenzhen

|    |  |    |    |    |     |
|----|--|----|----|----|-----|
| 核准 |  | 审核 | 刘飞 | 制作 | 刘小美 |
|----|--|----|----|----|-----|

|        |  |
|--------|--|
| 客户承认签印 |  |
| 日期     |  |

|                                                                                                     |                 |                                                                                                                                                                                                       |           |
|-----------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
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| DESIGNED BY: Sera                                                                                   | APPROVED BY: XD |                                                                                                                                                                                                       |           |
| TITLE: CHIP2450-1608 Specification                                                                  |                 | DOCUMENT NO.                                                                                                                                                                                          | SPEC REV. |
|                                                                                                     |                 | 1608                                                                                                                                                                                                  | P1        |

## PBX1608MC01 Specification

### 1. Features:

- Stable and reliable in performances
- Low profile, compact size
- RoHS compliance
- SMT processes compatible

### 2. APPLICATIONS:

- ISM 2 . 4 GHz applications
- ZigBee/BLE applications
- Bluetooth earphone systems
- Hand-held devices when WiFi/Bluetooth functions are needed, e.g., Smart phones
- IEEE802.11 b/g/n
- Wireless PCMCIA cards or USB dongles

### 3. Part Number Information

AN      1608      S      24      LS  
A                  B                  C                  D                  E

|          |        |                     |
|----------|--------|---------------------|
| <b>A</b> | 贴片陶瓷天线 | <b>Antenna</b>      |
| <b>B</b> | 尺寸     | <b>1.5X0.8mm</b>    |
| <b>C</b> | 天线类型   | <b>S: 双极 D:单极</b>   |
| <b>D</b> | 频率     | <b>2.4 ~ 2.5GHz</b> |
| <b>E</b> | 产品类型   | <b>LS</b>           |

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X=±      X.X=±      X.XX=

ANGLES = ±      HOLE DIA = ±



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SCALE: N/A

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#### 4. Product dimensions:

##### 1608 双极天线

| Figure                                                                            | Symbol   | Dimension (mm)  |
|-----------------------------------------------------------------------------------|----------|-----------------|
|  | L (长)    | $1.5 \pm 0.10$  |
|                                                                                   | W (宽)    | $0.8 \pm 0.10$  |
|                                                                                   | T (厚度)   | $0.50 \pm 0.10$ |
|                                                                                   | A (电极宽度) | $0.2 \pm 0.10$  |

#### 5. Electrical Specification:

| Specification                 |                                                |      |
|-------------------------------|------------------------------------------------|------|
| Part Number                   | AN1608S24LS                                    |      |
| Central Frequency             | 2450                                           | MHz  |
| Bandwidth                     | 120 (Min.)                                     | MHz  |
| Return Loss                   | -6.5 (Max)                                     | dB   |
| Peak Gain                     | 1.66                                           | dBi  |
| Impedance                     | 50                                             | Ohm  |
| Operating Temperature         | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | C    |
| Maximum Power                 | 4                                              | W    |
| Resistance to Soldering Heats | 10 ( @ 260C)                                   | sec. |
| Polarization                  | Linear                                         |      |
| Azimuth Beamwidth             | Omni-directional                               |      |
| Termination                   | Ni / Sn (Leadless)                             |      |

Remark : Bandwidth & Peak Gain was measured under evaluation board of next page

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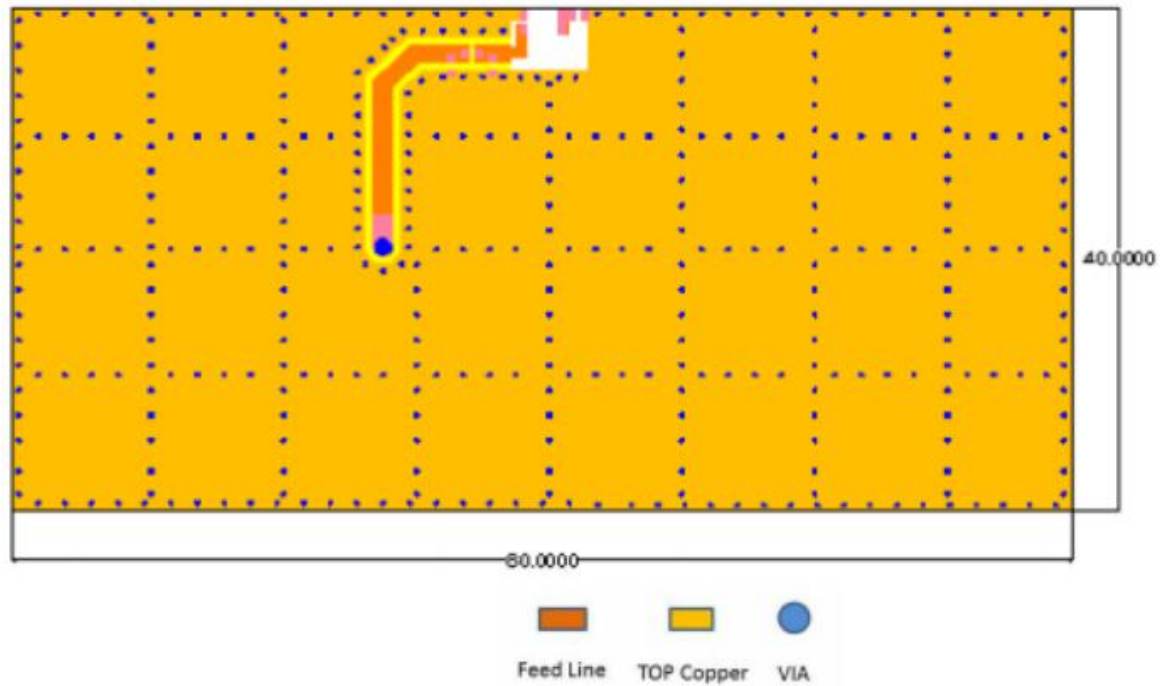
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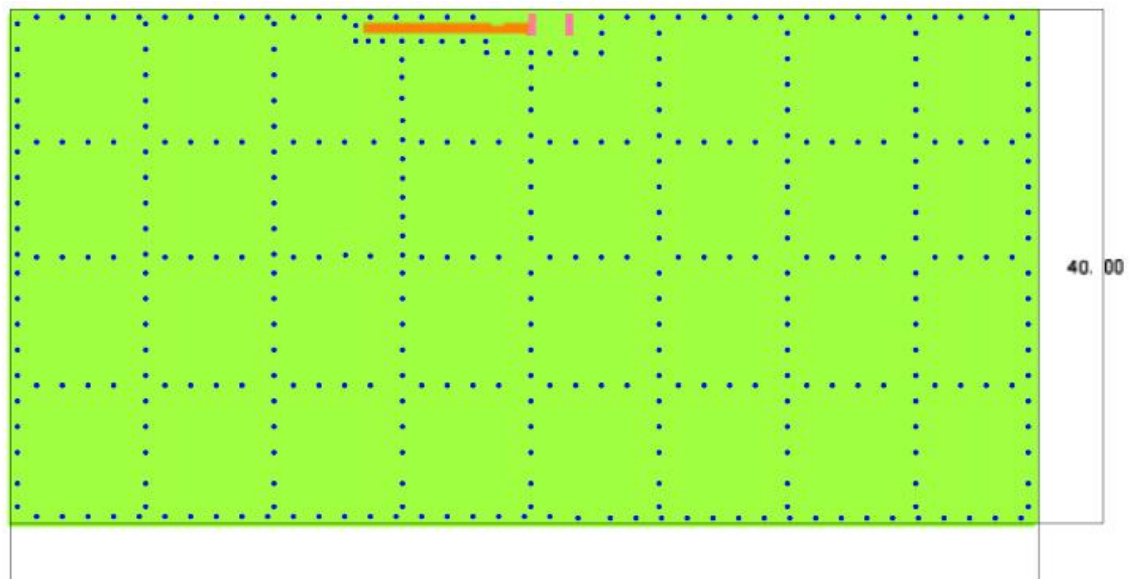
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## 6. 1608 双极天线推荐 PCB



## 2<sup>nd</sup> Evaluation Board Dimension



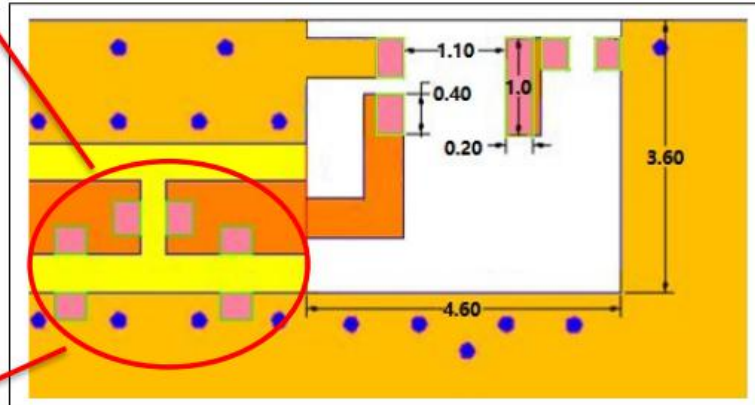
匹配元件建议使用村田  $\pm 1\%$  以下的电感、电容

|                                                                                                    |                 |                                                                                                                                                                                                       |      |                 |
|----------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------------|
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净空区域 (Size=4.6\*3.6mm)

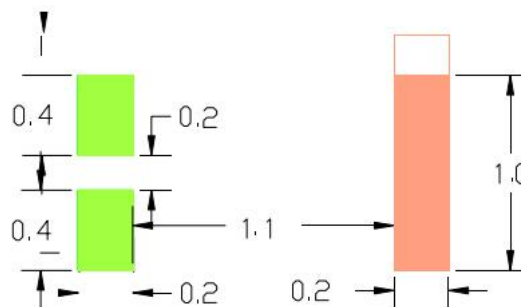


50 ohm transmission Line

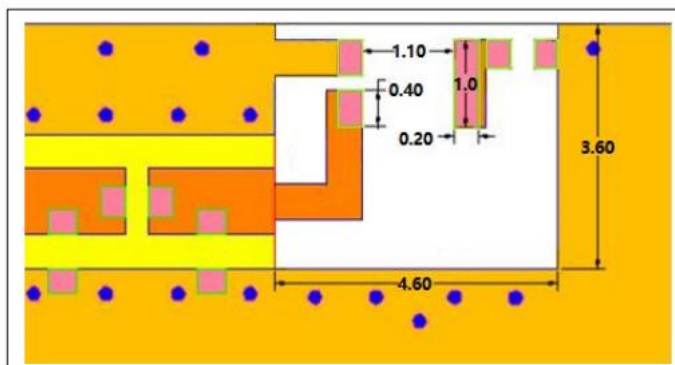


Matching Circuit

FootPrint (Unit : mm)



2 Layout Dimensions in Clearance area (Size=8.0\*3.0mm)



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ANGLES = ± HOLEDIA = ±

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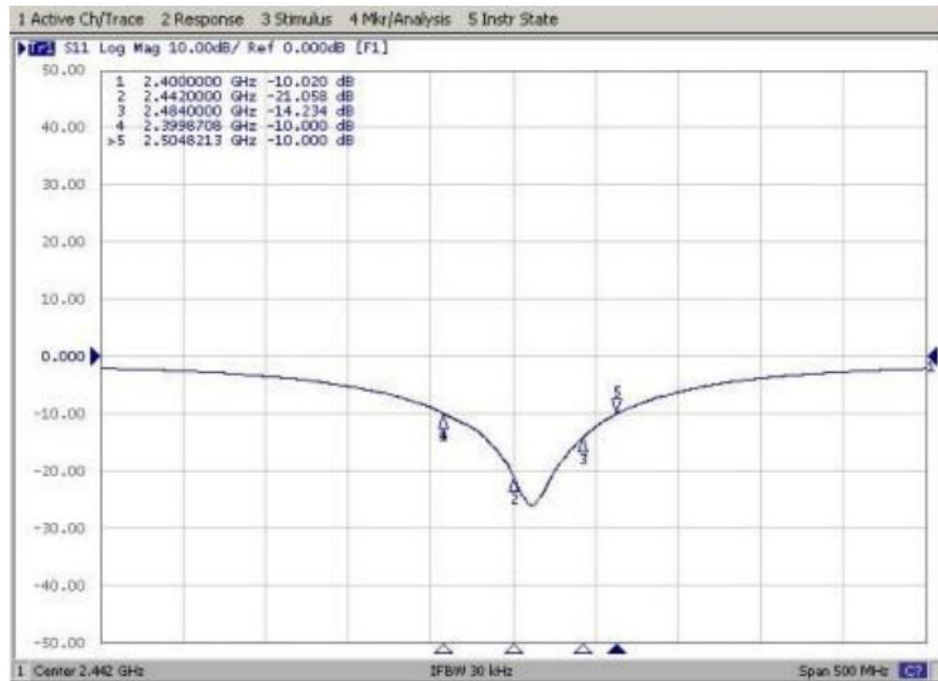
1608

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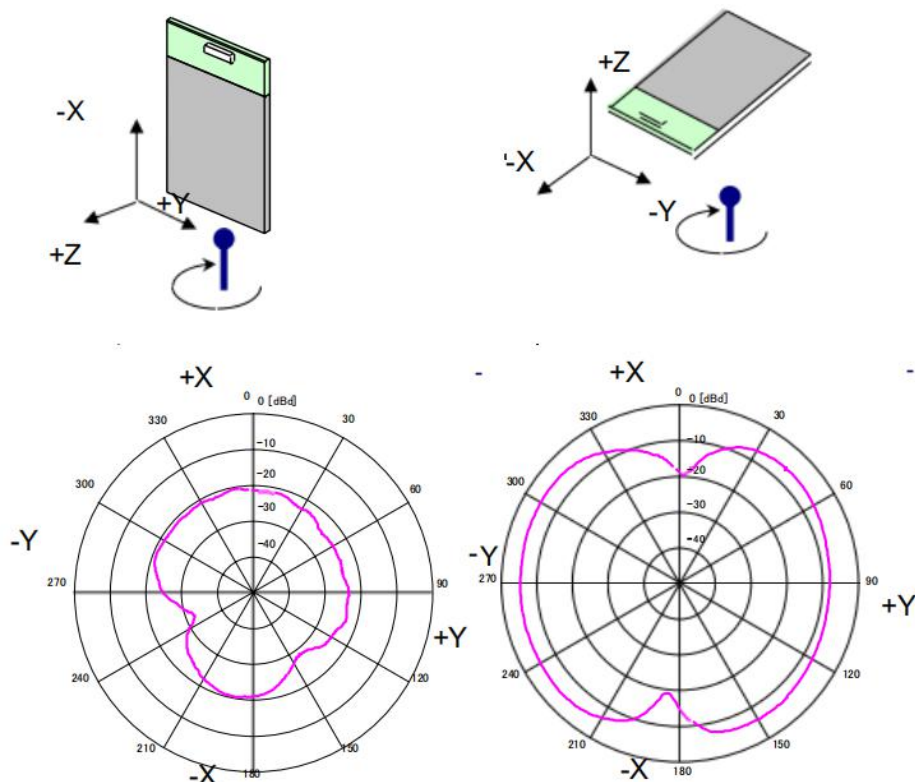
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## 7. Measurement Results

### Return Loss



### 7.2 Radiation Pattern



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X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

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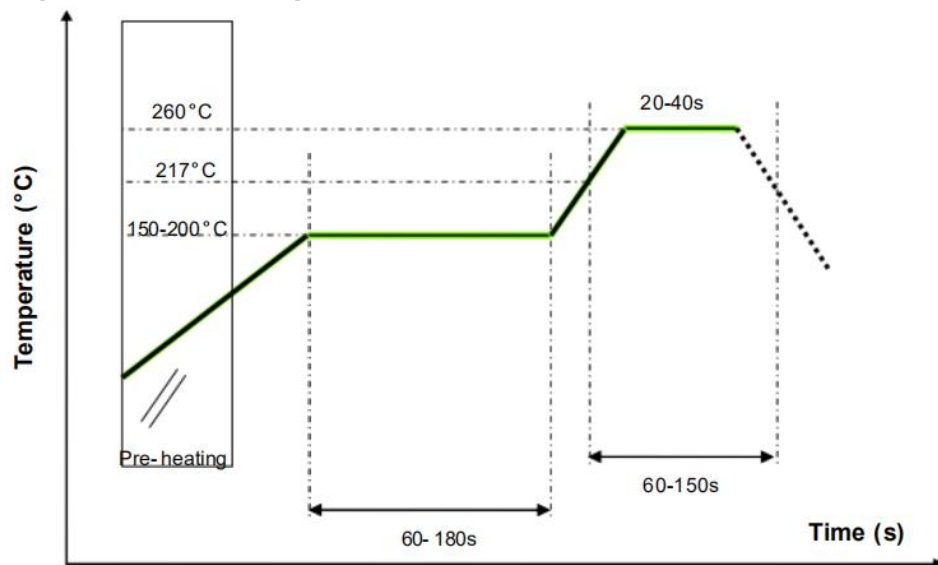
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## 8. Reliability and Test Conditions

| Test item                                                                  | Test condition / Test method                                                                                                                                                                                                                                                                         | Specification                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solderability<br>JIS C 0050-4.6<br>JESD22-B102D                            | *Solder bath temperature : $235 \pm 5^{\circ}\text{C}$<br>*Immersion time : $2 \pm 0.5$ sec<br>Solder : Sn3Ag0.5Cu for lead-free                                                                                                                                                                     | At least 95% of a surface of each terminal electrode must be covered by fresh solder.                                                                                                                                                                                       |
| Leaching<br>(Resistance to dissolution of metallization)<br>IEC 60068-2-58 | *Solder bath temperature : $260 \pm 5^{\circ}\text{C}$<br>*Leaching immersion time : $30 \pm 0.5$ sec<br>Solder : SN63A                                                                                                                                                                              | Loss of metallization on the edges of each electrode shall not exceed 25%.                                                                                                                                                                                                  |
| Bending test<br>JIS C 0051- 7.4.1                                          | The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm/s per second until the deflection becomes 1mm/s and then pressure shall be maintained for $5 \pm 1$ sec.<br>Measurement to be made after keeping at room temperature for $24 \pm 2$ hours | No mechanical damage.<br>Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within $-40 \sim 85^{\circ}\text{C}$ .                                                                               |
| Resistance to soldering heat<br>JIS C 0050-5.4                             | *Preheating temperature : $120 \sim 150^{\circ}\text{C}$ , 1 minute.<br>*Solder temperature : $270 \pm 5^{\circ}\text{C}$<br>*Immersion time : $10 \pm 1$ sec<br>Solder : Sn3Ag0.5Cu for lead-free<br>Measurement to be made after keeping at room temperature for $24 \pm 2$ hrs                    | No mechanical damage.<br>Electrical specification shall satisfy the descriptions in electrical characteristics under the operational temperature range within $-40 \sim 85^{\circ}\text{C}$ .<br>Loss of metallization on the edges of each electrode shall not exceed 25%. |

## 9. Soldering and Mounting



UNLESS OTHER SPECIFIED TOLERANCES ON:

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

ANGLES =  $\pm$       HOLES DIA =  $\pm$

SCALE: N/A

UNIT: mm

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## 10. 天线应用注意事项

- ☐ 如果空间允许, 最好不要选择太小尺寸的天线。
- ☐ 最好天线与附近物体之间有一定的净空区; 否则匹配调节将会变得困难, 辐射模式会受到严重扭曲。
- ☐ 天线的下方不应出现线路布局、接地层。
- ☐ 天线不应和金属物体放置太近, 比如电池、芯片等, 不应与电池等金属物有重叠。
- ☐ 注意内部缆线(如电池电源线)最好不要太靠近天线。
- ☐ 双极天线需要有合理的接地面才能发挥最好效果。
- ☐ 在最终产品方案上进行天线匹配, 可以减小调节周期; 而在光板上往往需要反复调节。
- ☐ 如果没有经过匹配, 相同的天线放置完全不一样的布局板上可能无法正常工作。
- ☐ 不要使用金属外壳或带金属的塑料外壳盖在天线周围。
- ☐ 不要使用很细的天线馈电线, 馈线应有一定的宽度, 不应小于 0.1mm。
- ☐ 根据 PCB 的厚度和介电常数计算馈线阻抗, 50 欧姆会使天线调节较为容易
- ☐ 片式天线装配应尽可能远离电池、EMI 防护材料、折叠扬声器、金属铆钉、LCD 显示屏等。

## 11. Storage and Transportation Information

### Storage Conditions

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: - 10~ 40C and 30~70% RH.
2. Recommended products should be used within 6 months from the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

### Transportation Conditions

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.

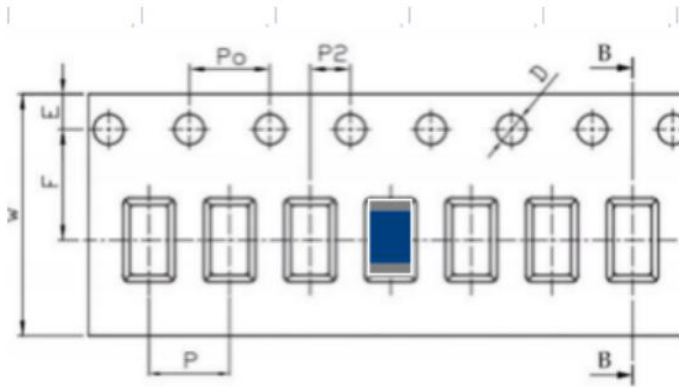
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## 12. Packing

(1) Quantity/Reel: 5000 pcs/Reel

(2) Plastic tape:

a. Tape Drawing

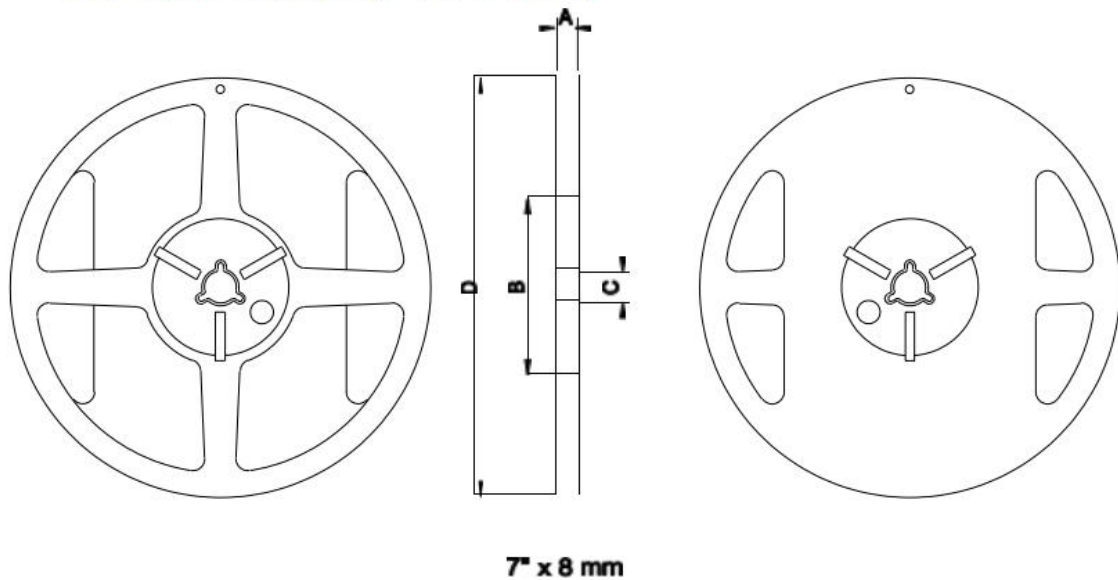


b. Tape Dimensions (unit: mm)

| Feature | Specifications | Tolerances         |
|---------|----------------|--------------------|
| W       | 8.00           | $\pm 0.30$         |
| P       | 4.00           | $\pm 0.10$         |
| E       | 1.75           | $\pm 0.10$         |
| F       | 3.50           | $\pm 0.10$         |
| P2      | 2.00           | $\pm 0.10$         |
| D       | 1.50           | $+0.10$<br>$-0.00$ |
| P0      | 4.00           | $\pm 0.10$         |
| 10P0    | 40.00          | $\pm 0.20$         |

c. Reel Drawing

Reel Specification: (7",  $\Phi 180$  mm)



7" x 8 mm

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