

**SAW Filter 228.260MHz**  
**Part No: MP11330**

**Model: TB0722A**  
**Rev No: 1**

**A. MAXIMUM RATING:**

Electrostatic Sensitive Device

1. Operating Temperature: -20°C ~ +80°C
2. Storage Temperature: -40°C ~ +85°C
3. Input power: 10dBm
4. Moisture Sensitivity Level: Level1 (MSL1)

**B. CHARACTERISTICS:**

Ambient Temperature: 25°C

| Characteristics  | Min. | Typ.   | Max. | Note |
|--|------|--------|------|------|
| Center frequency FC MHz  | -    | 228.26 | -    | -    |
| Minimum Insertion loss IL dB   | -    | 11.0   | 15.0 | -    |
| 1dB BW MHz   | 27   | 30     | -    |      |
| 45dB BW MHz  | -    | 37     | 40.0 |      |
| Passband Ripple (FC ±13.0MHz) dB   | -    | 0.55   | 1.0  | -    |
| Attenuation (Reference to Minimum Insertion loss)  |      |        |      |      |
| 10 ~ 178MHz dB   | 50   | 57     | -    | -    |
| 178 ~ 208MHz dB  | 40   | 46     | -    | -    |
| 250 ~ 284MHz dB  | 40   | 42     | -    | -    |
| 284 ~ 520MHz dB  | 50   | 57     | -    | -    |
| Temp Coefficient ppm/K   | -    | -94    | -    | -    |
| Matching:<br>1. The input of the filter will be matched to 50ohm<br>2. The output of the filter will be matched to 50ohm |      |        |      |      |

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**C. FREQUENCY CHARACTERISTICS:**

1. S21 Response: (span: 200MHz)

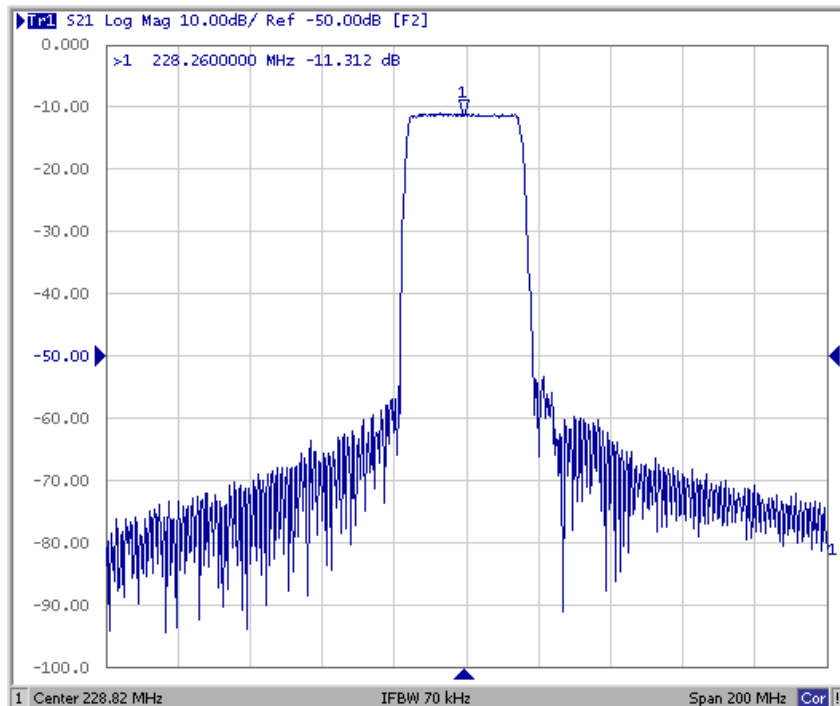


Fig. 1. Horizontal: 20MHz/Div, Vertical: 10dB/Div

2. Group-Delay Ripple: (span: 40MHz)

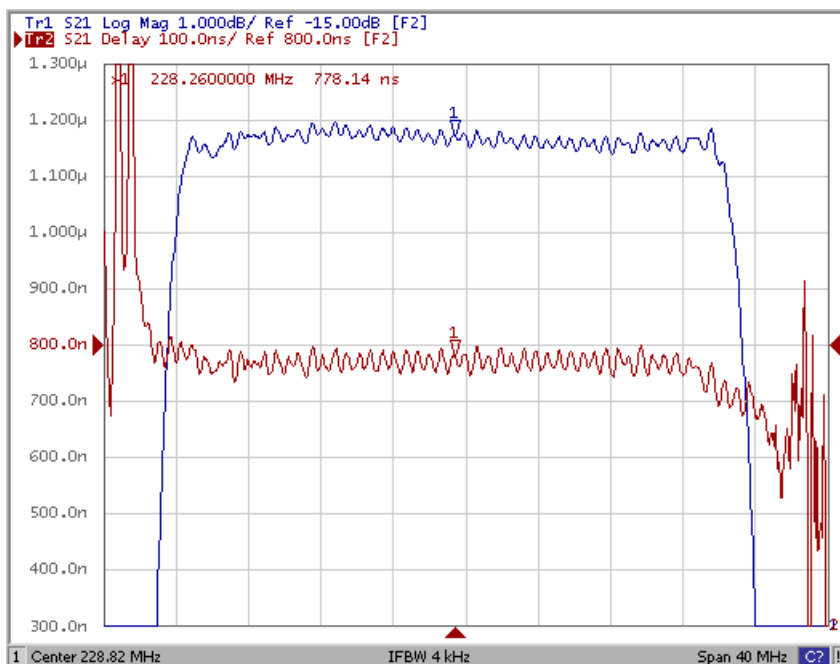
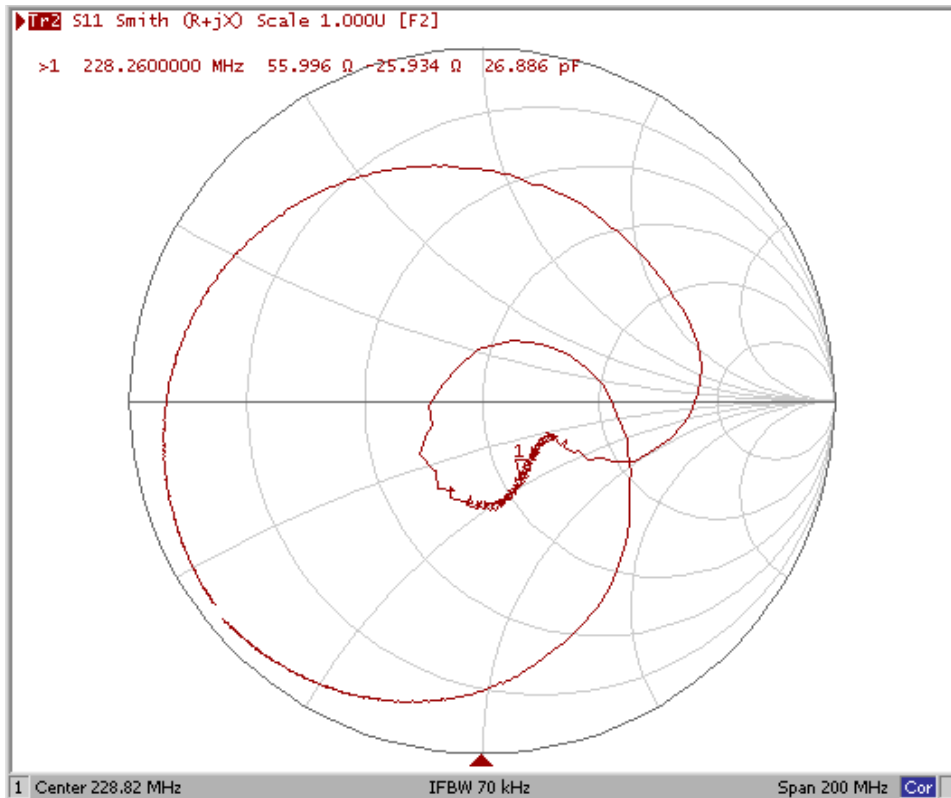


Fig 2. Horizontal: 4MHz/Div, Vertical: 100nec/Div

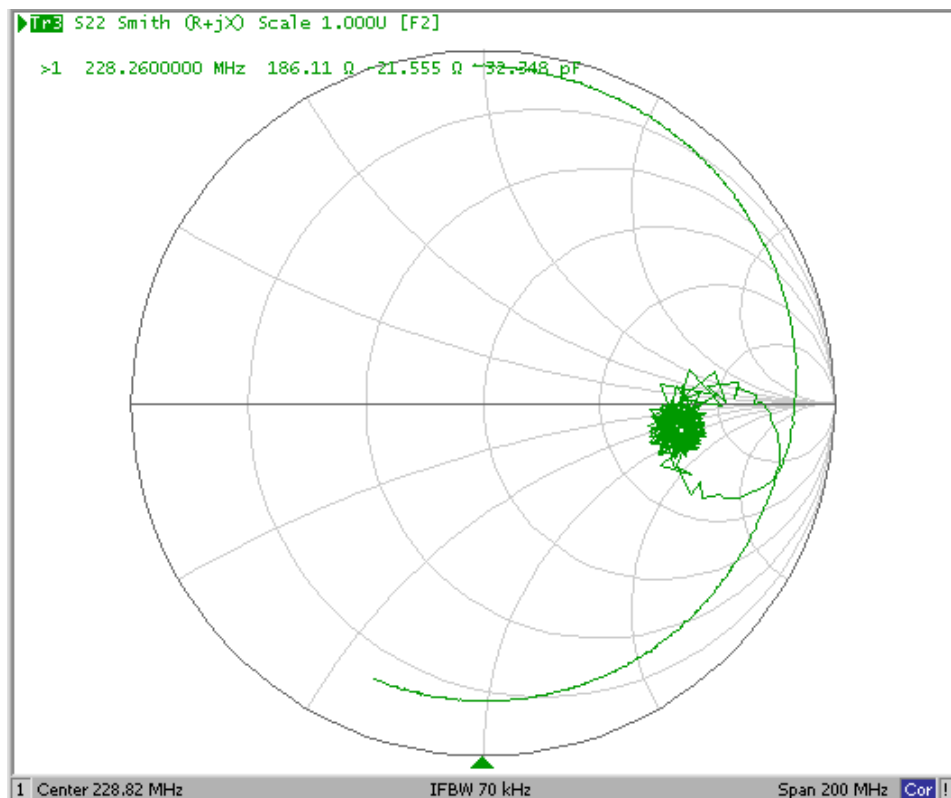
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3. S11 Smith Chart: (span: 200MHz)



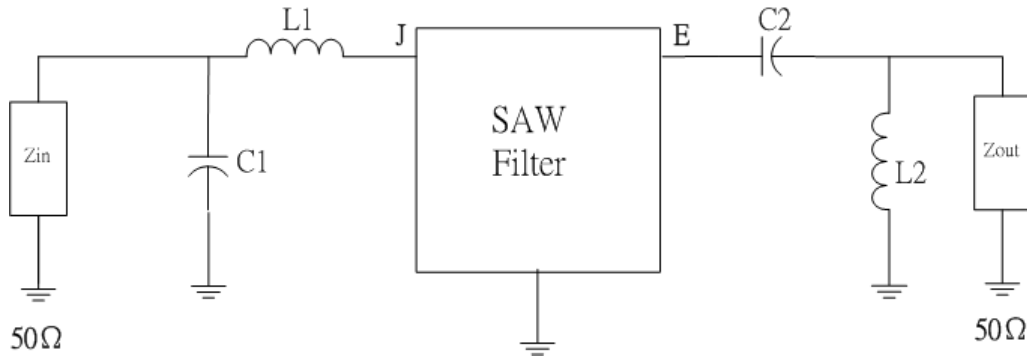
4. S22 Smith Chart (span: 200MHz)



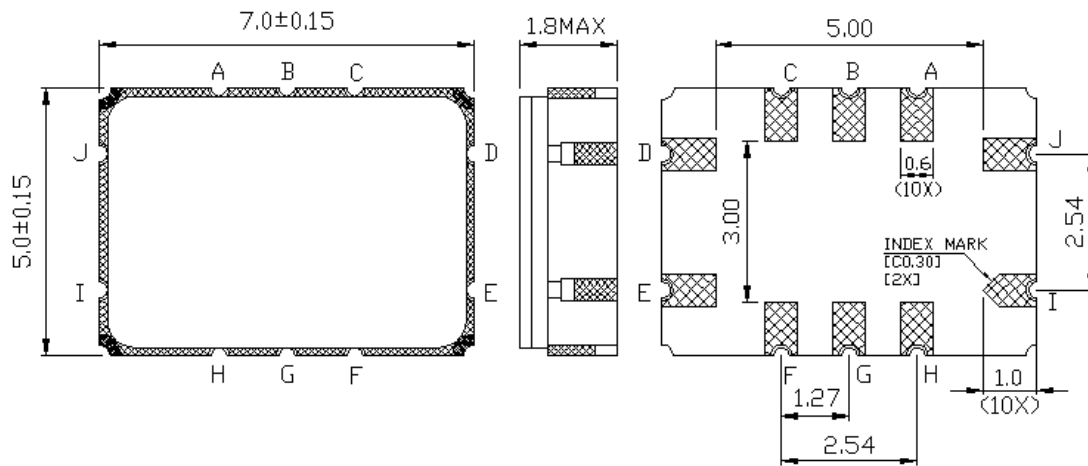
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**D. MEASUREMENT CIRCUIT:**

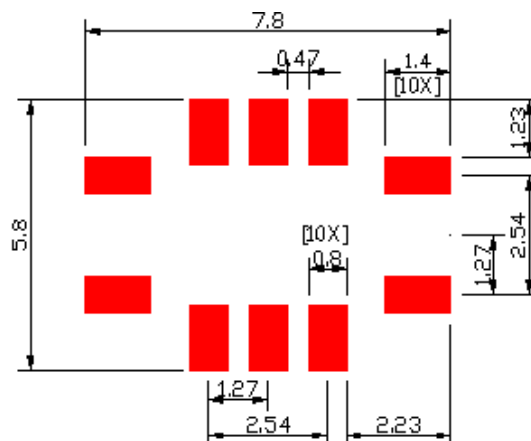


**E. OUTLINE DRAWING:**



J: RF Input  
 E: RF Output  
 Others: Ground  
 Unit: mm

**F. PCB FOOTPRINT:**

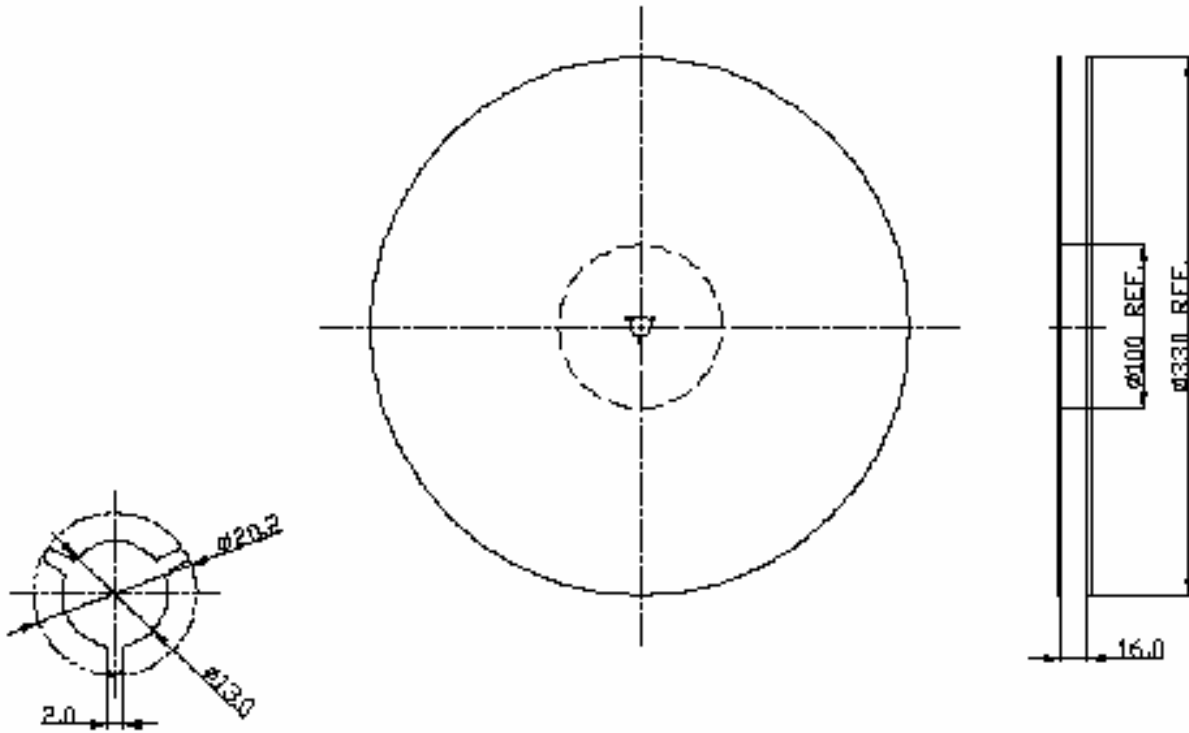


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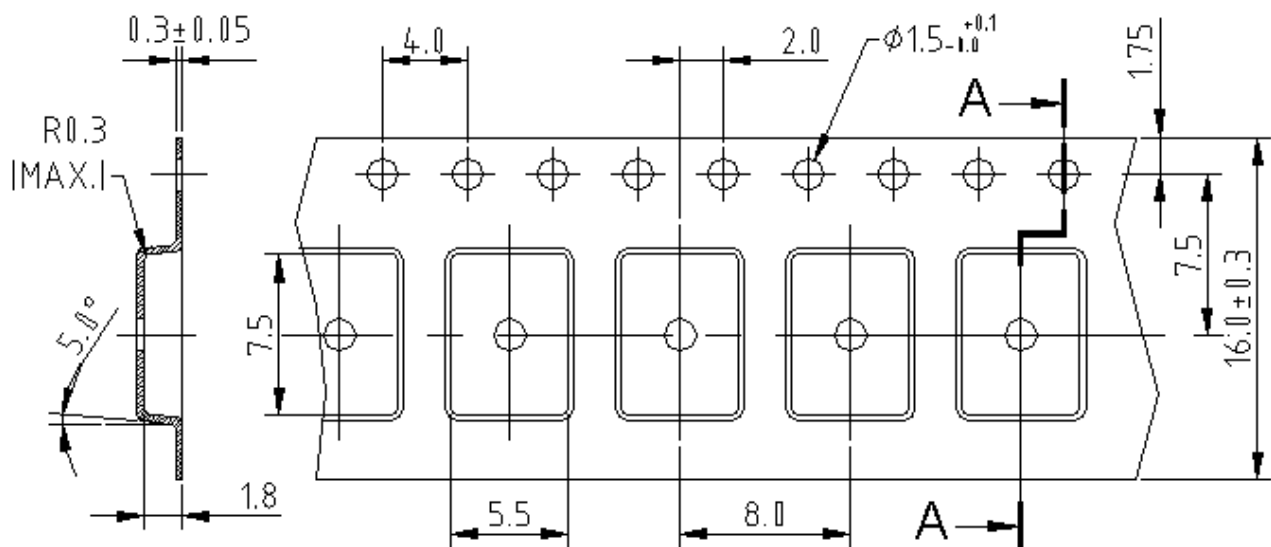
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**G. PACKING:**

1. Reel Dimensions



2. Tape Dimensions



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**H. RECOMMENDED REFLOW PROFILE:**

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (20~40 sec).
4. Time: 2 times.

