

**SAW Filter: 138.240MHz**  
**Part No: MP10576**

**Model: TB1186A**  
**Rev No: 1**

**A. MAXIMUM RATING:**

Electrostatic Sensitive Device

1. Operating temperature range: -40°C to 85°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 10dBm
4. Maximum DC Voltage: 10V

**B. CHARACTERISTICS:**

Ambient Temperature: 25°C

Item	Unit	Min.	Typ.	Max.
Center frequency Fc	MHz	-	138.24	-
Insertion Loss IL	dB	-	8.5	11.0
1dB Bandwidth	MHz	20.0	23.2	-
Passband Ripple Fc ±10MHz	dB	-	0.4	1.0
Absolute group Delay	us	-	0.78	-
Group Delay variation Fc ±10MHz	ns	-	32	-
Attenuation (Reference level from minimum Insertion loss )				
10MHz ~ 50MHz	dB	40	62	-
50MHz ~ 100MHz	dB	40	56	-
100MHz ~ 118MHz	dB	38	52	-
153.24MHz	dB	30	40	-
158.24MHz ~ 170MHz	dB	38	57	-
170MHz ~ 180MHz	dB	40	58	-
180MHz ~ 220MHz	dB	40	62	-
Temperature Coefficient	ppm/°C	-	-94	-
Source Impedance	Ohm	-	50	-
Load Impedance	Ohm	-	50	-

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### C. FREQUENCY CHARACTERISTICS:

#### 1. Wide band Response:

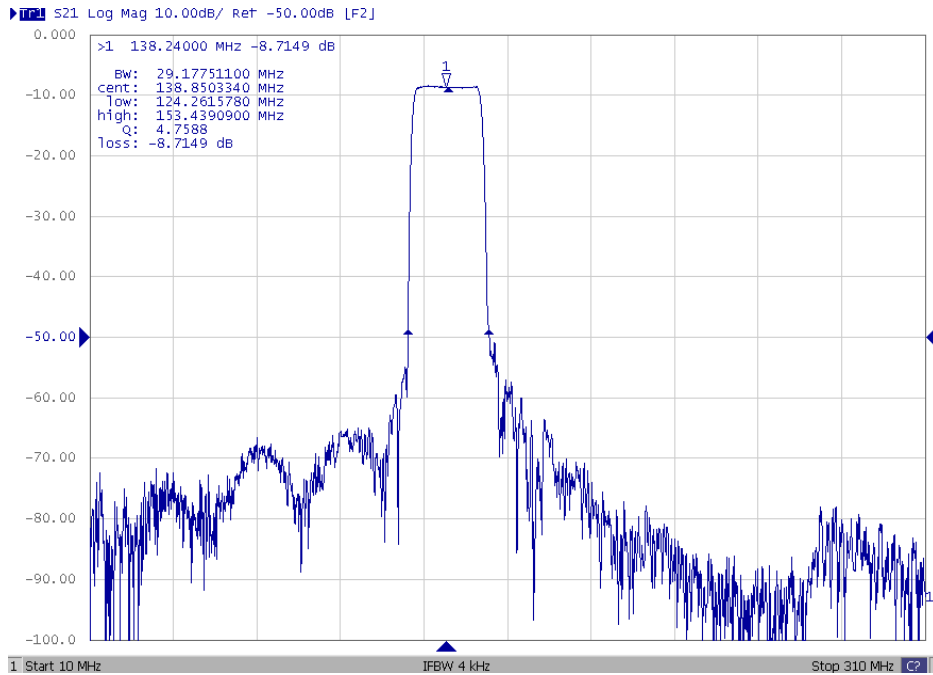


Fig 1: Horizontal: 30MHz / Div, Vertical: 10Db / Div

#### 2. Pass band Response and Group Delay Response:

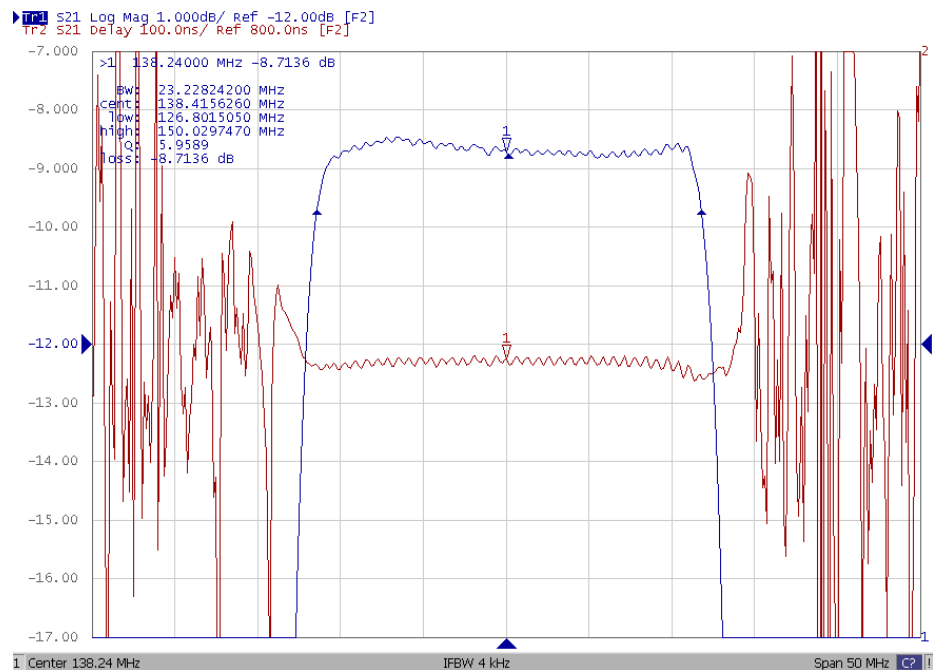
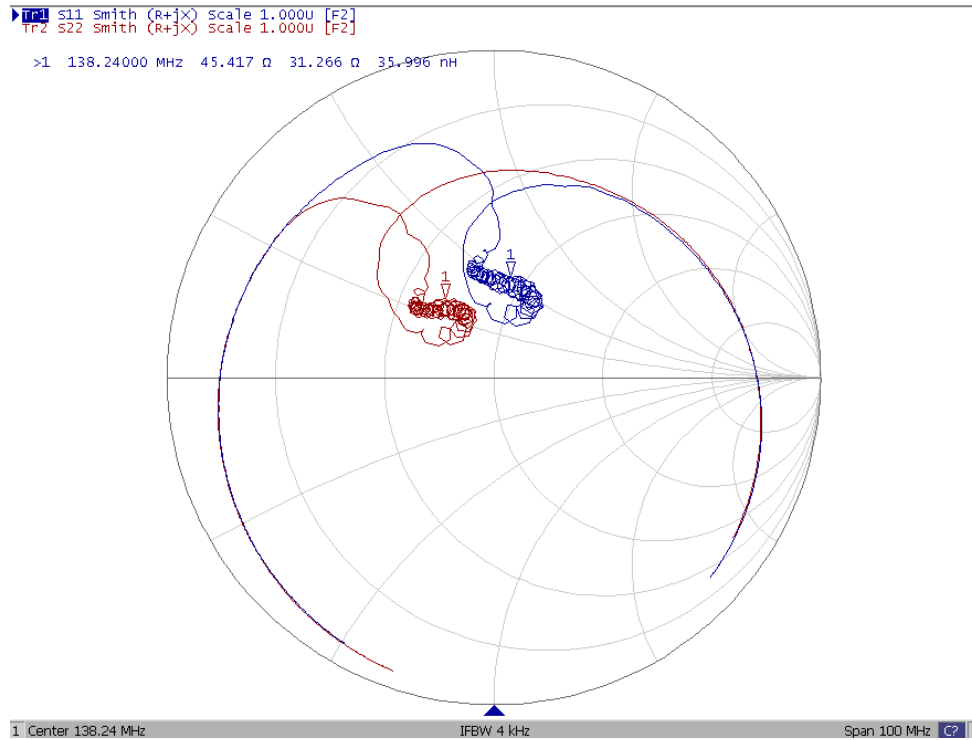


Fig 2: Horizontal: 5MHz / Div, Vertical: 1dB / Div, Vertical: 100ns / Div

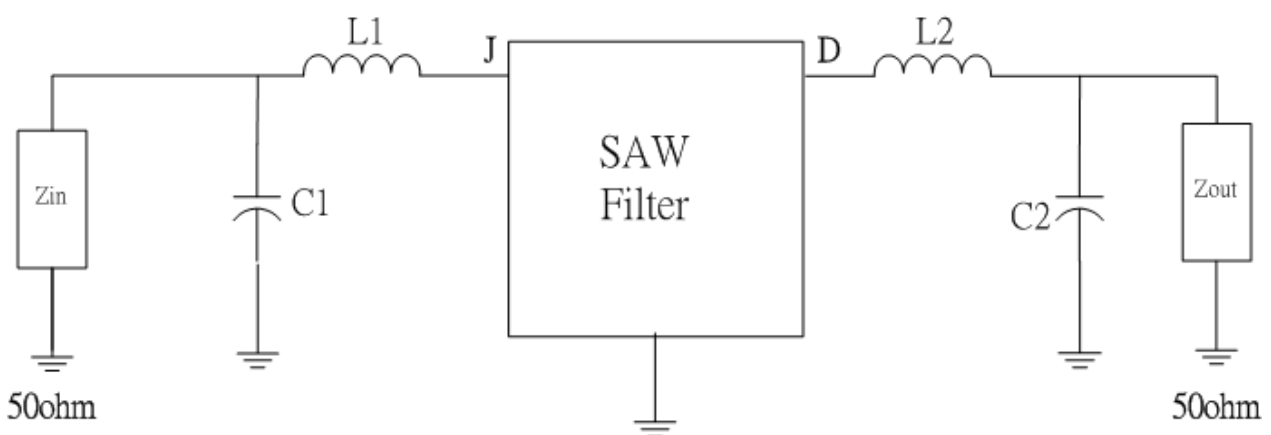
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3. Smith Chart:



**D. MATCHING CIRCUIT:**

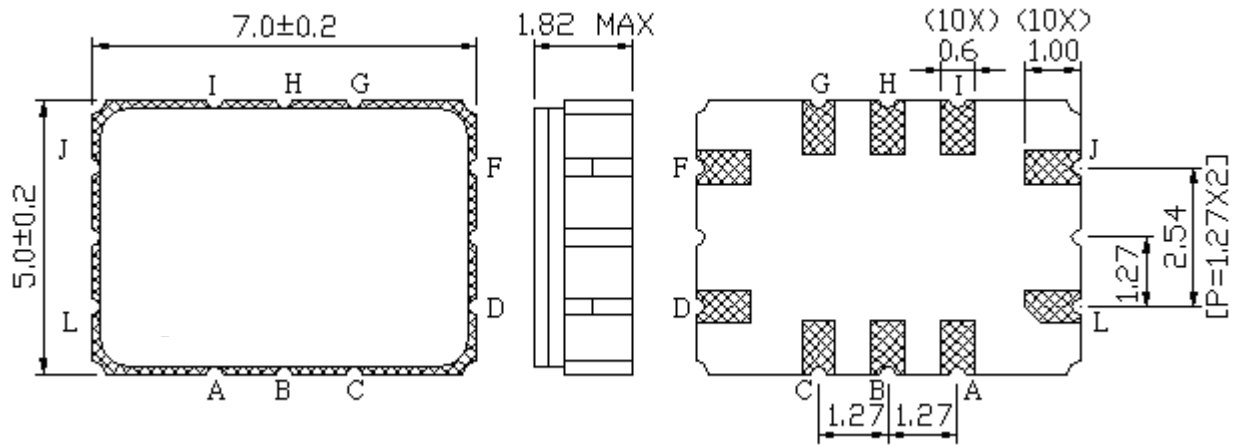


$L1 = 100\text{nH}$ ,  $L2 = 100\text{nH}$ ,  $C1 = 15\text{pF}$ ,  $C2 = 15\text{pF}$

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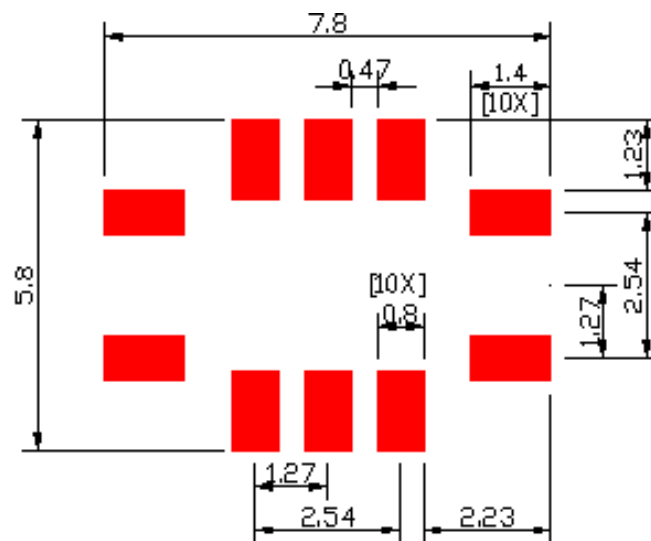
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**E. OUTLINE DRAWING:**



- J: RF Input
- L: RF Input Return
- D: RF Output
- F: RF Output Return
- A, B, C, G, H, I: Ground

**F. PCB FOOTPRINT:**

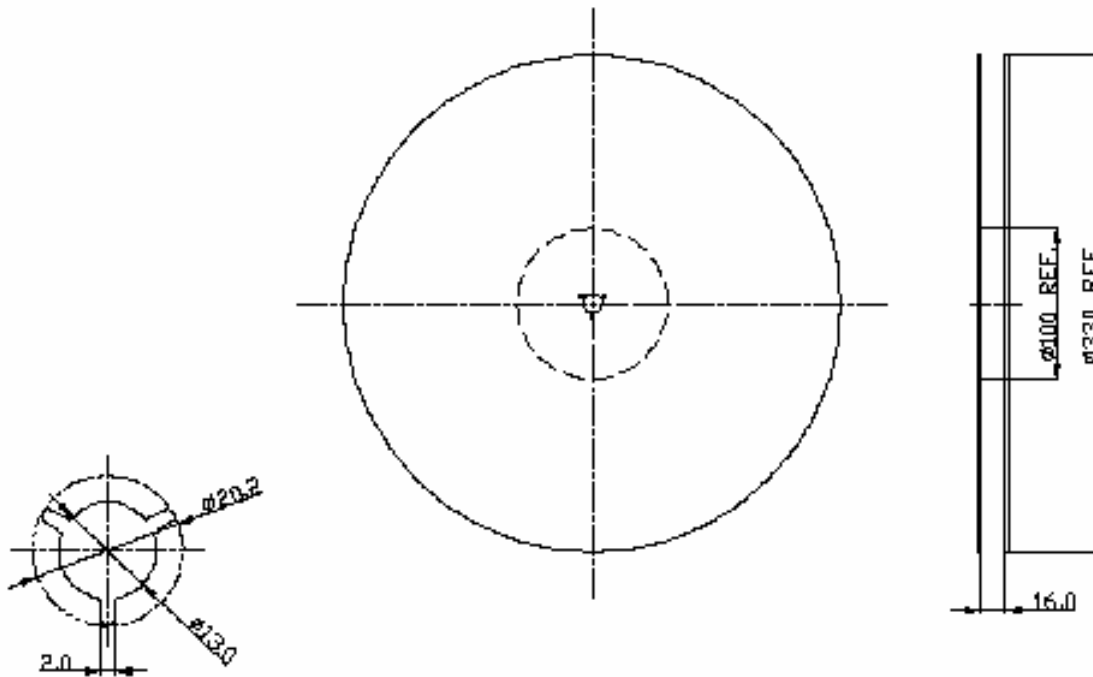


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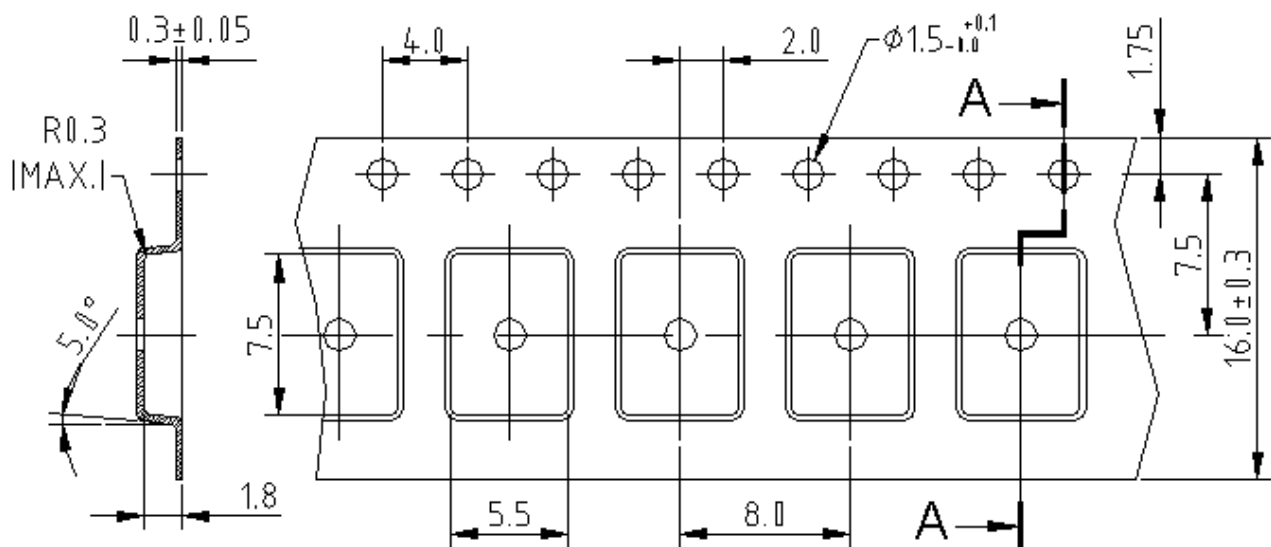
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**G. PACKING:**

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 245 ~ 260°C peak (min. 10 sec).
4. Time: 2 times.

