

**SAW Filter 181.0MHz**  
**Part No: MP05312**

**Model: TB1093A**  
**Rev No: 1**

**A. MAXIMUM RATING:**

Electrostatic Sensitive Device

1. Operating temperature range: -30°C to 85°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 10 dBm
4. Maximum DC Voltage: 10V

**B. CHARACTERISTICS:**

Item	Unit	Min.	Typ.	Max.
Center frequency Fc	MHz	-	181	-
Insertion Loss IL	dB	-	23.0	24.0
1dB Band Width	MHz	50	57	-
40dB Band Width	MHz	-	64	75
Passband Ripple Fc ± 25MHz	dB	-	0.8	1.2
Absolute group Delay	us	-	0.8	-
Group Delay variation Fc ± 25MHz	ns	-	50	-
Attenuation (Reference level from minimum Insertion loss)				
DC ~ 141MHz	dB	35	47	-
221MHz ~ 435MHz	dB	35	47	-
435MHz ~ 645MHz	dB	25	60	-
645MHz ~ 1000MHz	dB	45	58	-
Temperature Coefficient	ppm/°C	-	-72	-
Source Impedance	Ohm	-	50	-
Load Impedance	Ohm	-	50	-

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**C. FREQUENCY CHARACTERISTICS:**

**1. Narrow band Response:**

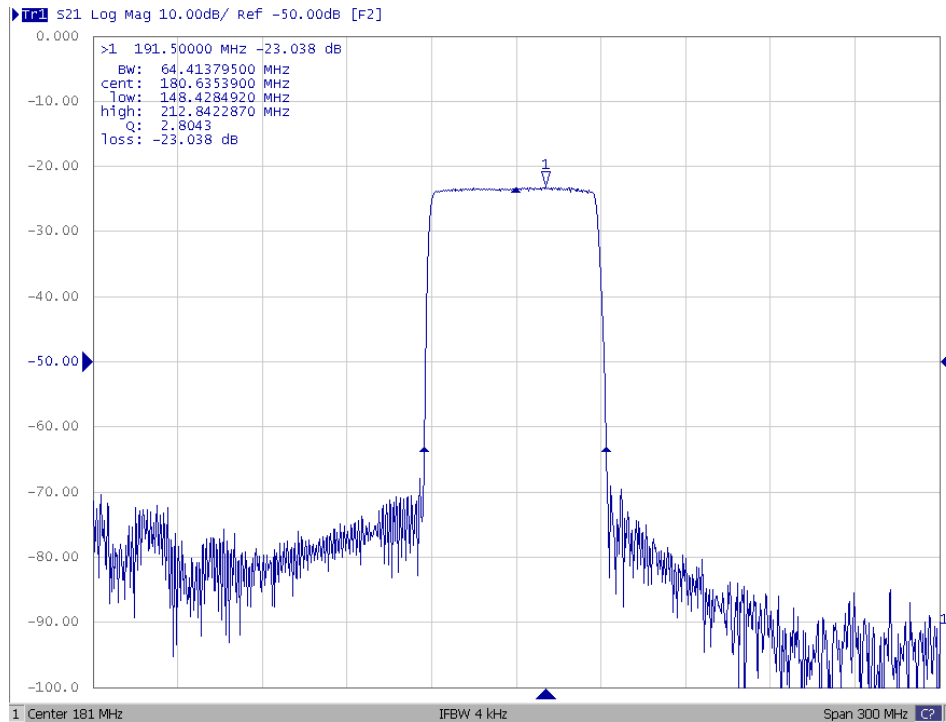


Fig. 1: Horizontal: 30MHz / Div, Vertical: 10dB / Div

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

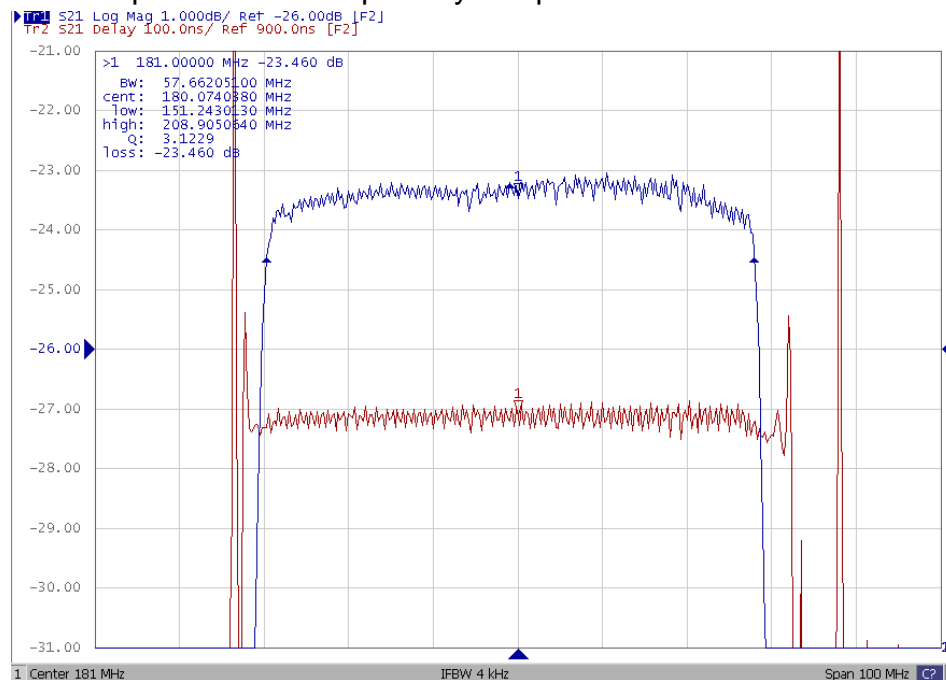


Fig. 2: Horizontal: 10MHz / Div, Vertical: 1dB / Div, Vertical: 100ns / Div

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### 3. Wide band Response:

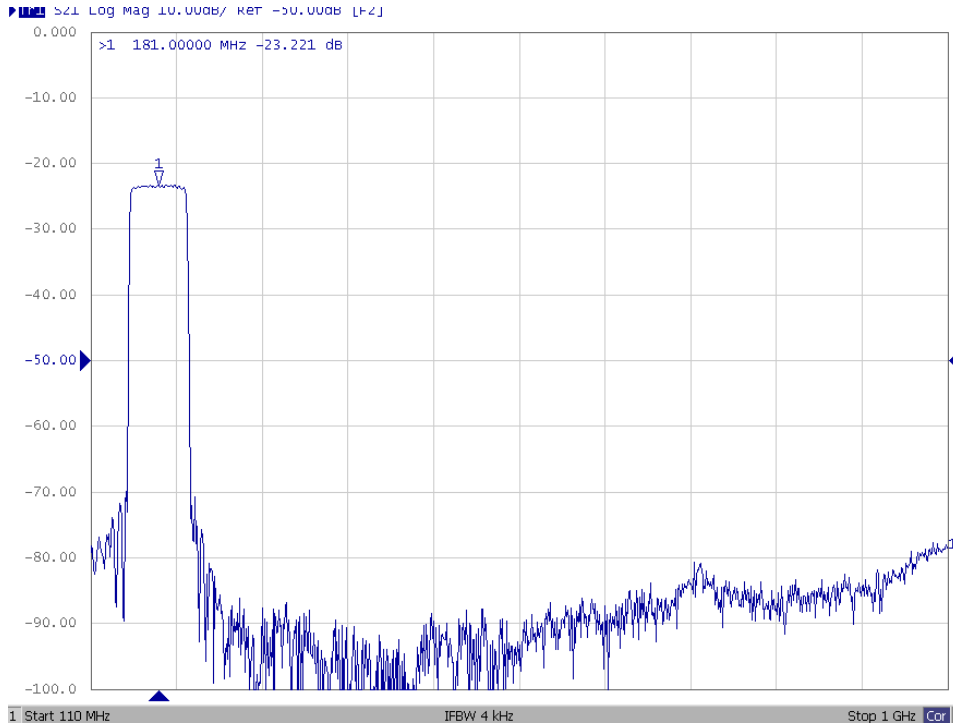
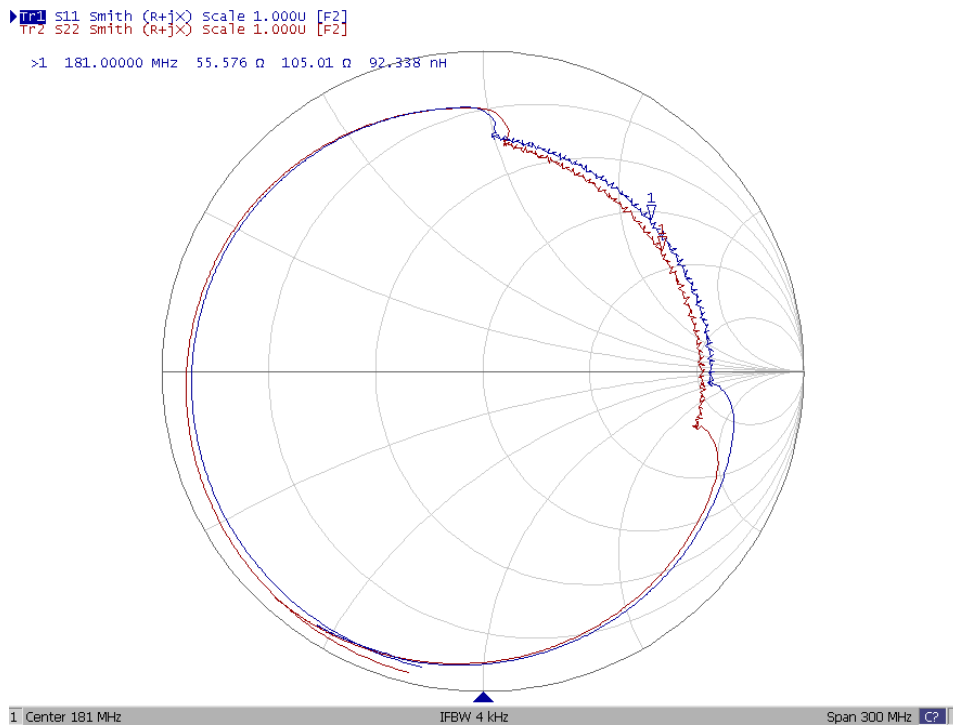


Fig. 1: Horizontal: 100MHz / Div, Vertical: 10dB / Div

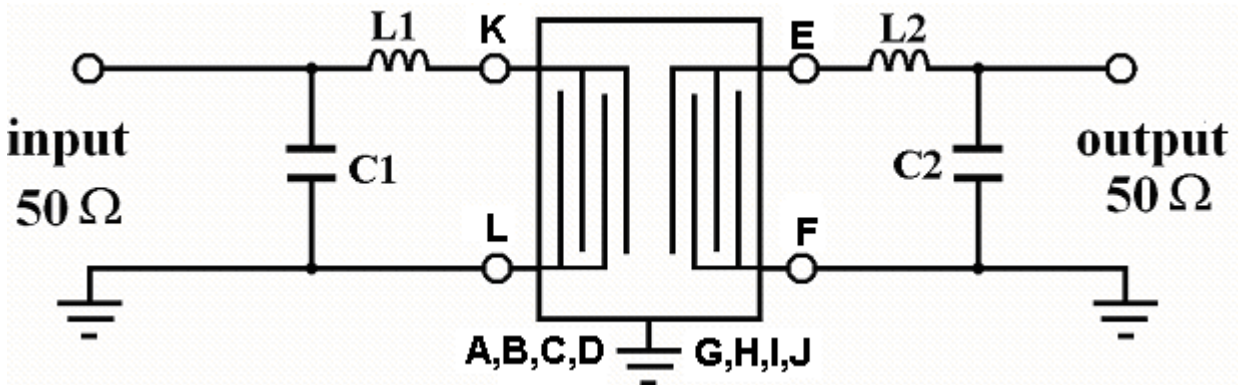
### 4. Smith Chart



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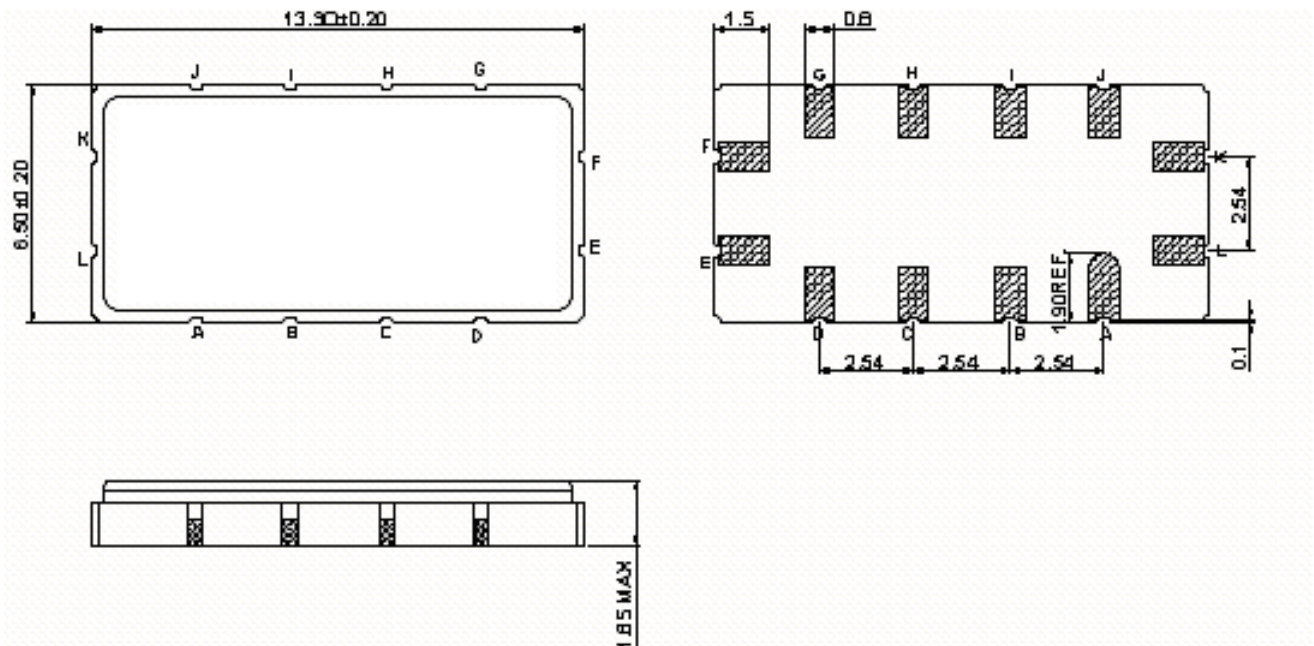
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**D. MATCHING CIRCUIT:**



$L1 = 24\text{nH}$   $C1 = 18\text{pF}$   $L2 = 24\text{nH}$   $C2 = 20\text{pF}$

**E. OUTLINE DRAWING:**

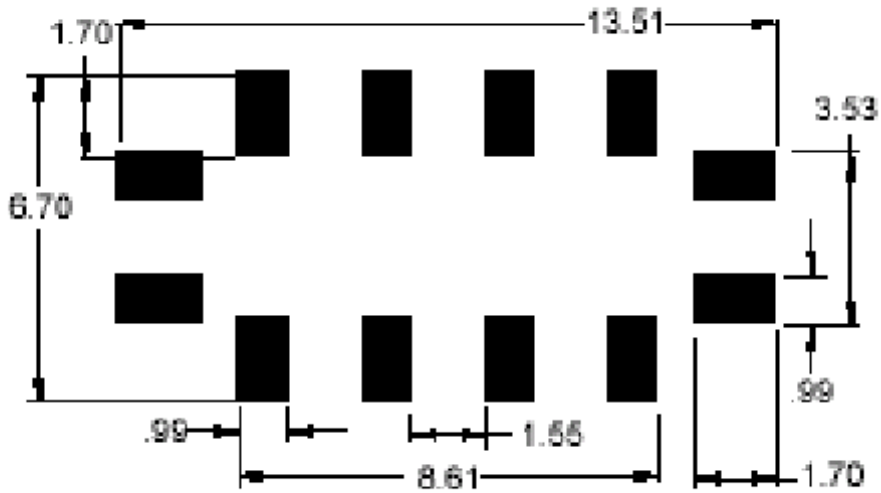


- K: Input
  - L: Input Ground
  - E: Output
  - F: Output Ground
  - A, B, C, D, G, H, I, J: Ground
- Unit: mm

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**F. PCB FOOTPRINT:**



Unit: mm

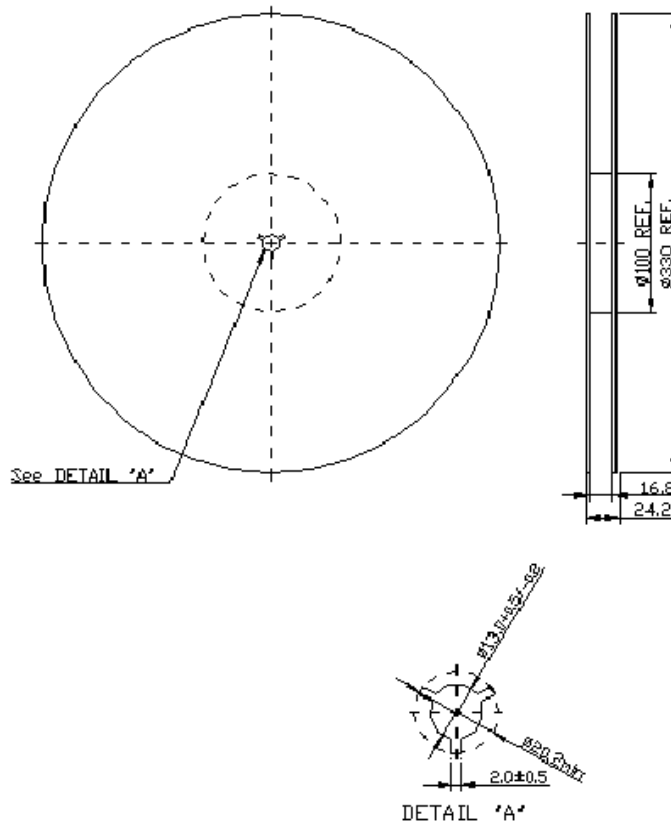
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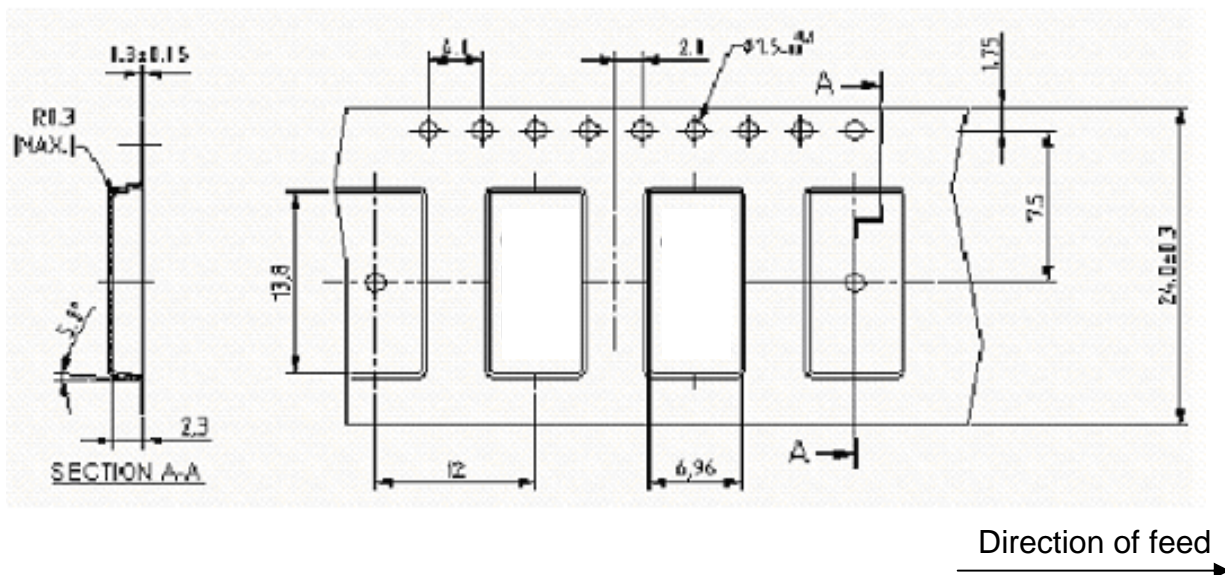
**G. PACKING:**

1. Reel Dimension

(Please refer to FR-75D10 for packing quantity)



2. Tape Dimension



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**H. RECOMMENDED REFLOW PROFILE:**

