

SAW Filter 246.0MHz
Part No: MP09361

Model: TB1320A
Rev No: 1

A. MAXIMUM RATING:

Electrostatic Sensitive Device (ESD)

1. Input Power Level: 10dBm
2. DC voltage: 5 V
3. Operating Temperature: -25°C to +85°C
4. Storage Temperature: -55°C to +85°C
5. Moisture Sensitivity Level: Level 1 (MSL1)

B. ELECTRICAL CHARACTERISTICS:

Ambient Temperature: 25°C

Item	Unit	Min.	Typ.	Max.	
Center frequency Fc	MHz	-	246	-	
Insertion loss IL min.	dB	-	3.8	6.0	
Pass band Ripple Fc -85kHz ~ Fc +93kHz	kHz	-	0.6	1.5	
Group Delay Variation Fc ±50kHz	us	-	0.4	1.2	
Group Delay Variation Fc ±70kHz	us	-	0.75	1.5	
Group Delay Variation Fc ±100kHz	us	-	1.2	2.5	
Attenuation (reference level from IL)					
Fc -120kHz to Fc +120kHz	dB	-	2.3	5	
Fc ±330kHz to Fc ±400kHz	dB	18	23	-	
Fc ±400kHz to Fc ±600kHz	dB	25	33	-	
Fc ±600kHz to Fc ±800kHz	dB	40	66	-	
Fc ±800kHz to Fc ±1.6MHz	dB	38	42	-	
Fc ±1.6MHz to Fc ±3.0MHz	dB	45	51	-	
Fc ±3MHz to Fc ±20MHz	dB	38	43	-	
Fc ±20MHz to Fc ±100MHz	dB	45	53	-	
Temperature coefficient of frequency TCf	-0.033ppm/C ²				

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C. FREQUENCY CHARACTERISTICS:

1. Narrow band Response: (span 10MHz)

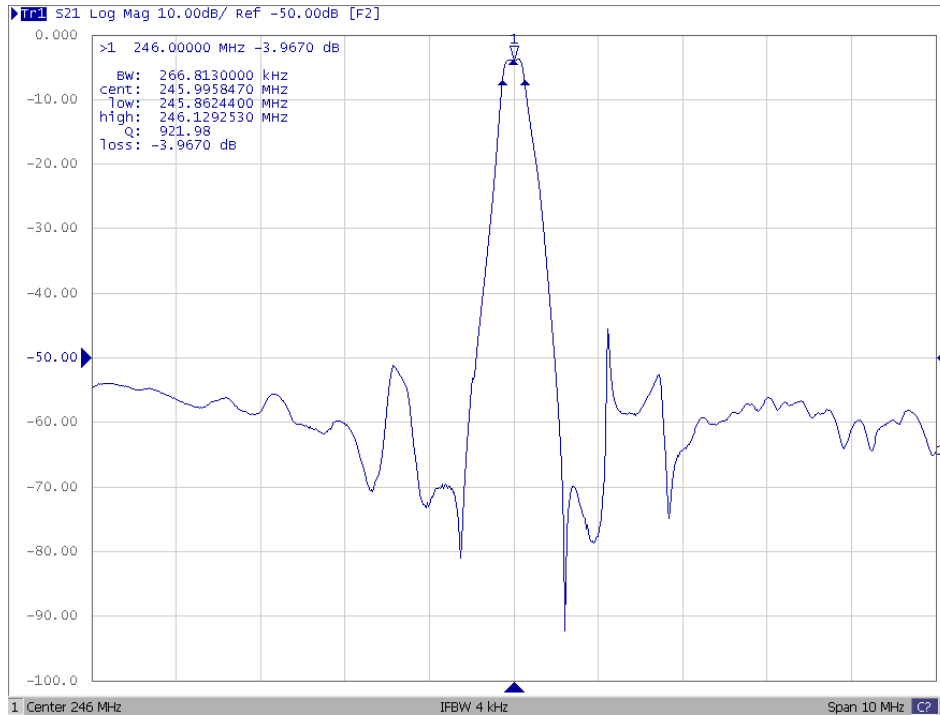


Fig. 1: Horizontal: 10MHz / Div, Vertical: 10dB / Div

2. Pass band Response and Group Time Delay Response:

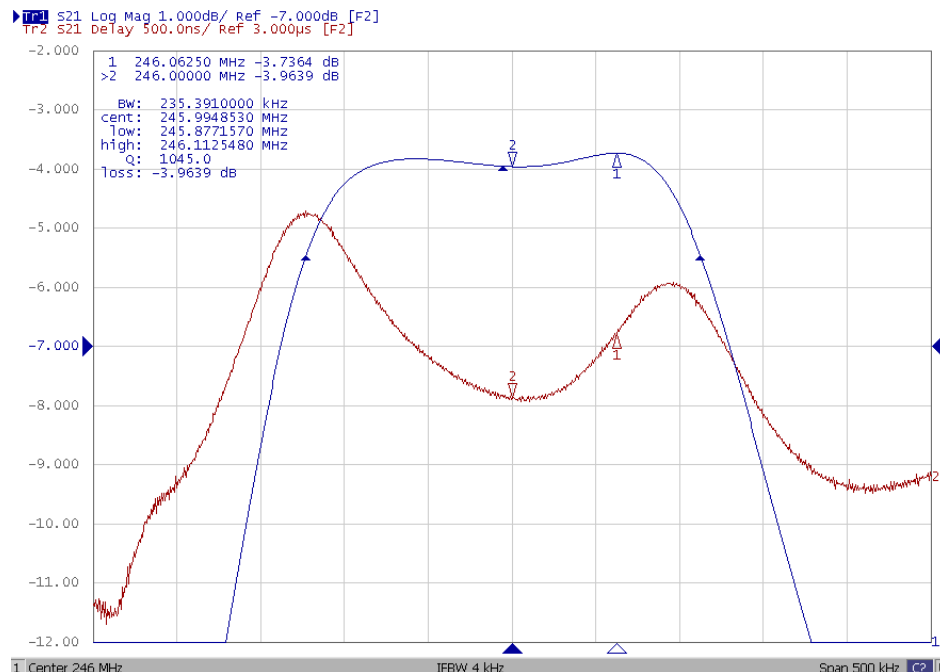
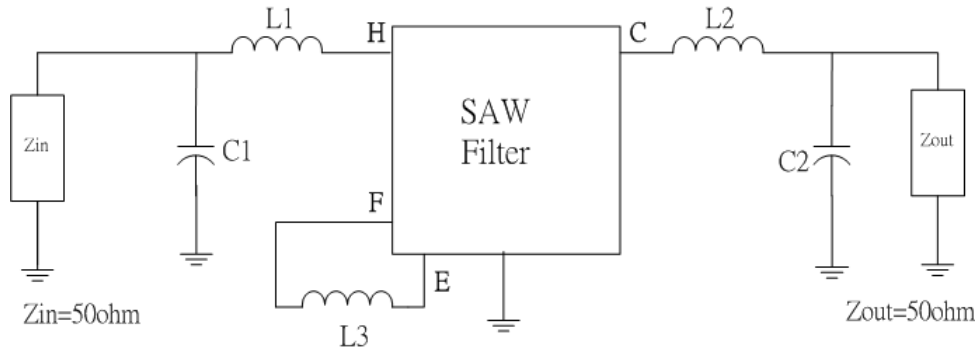


Fig. 2. Horizontal: 0.05MHz / Div, Vertical: 1dB / Div, Vertical: 0.5us / Div

SAW Filter 246.0MHz
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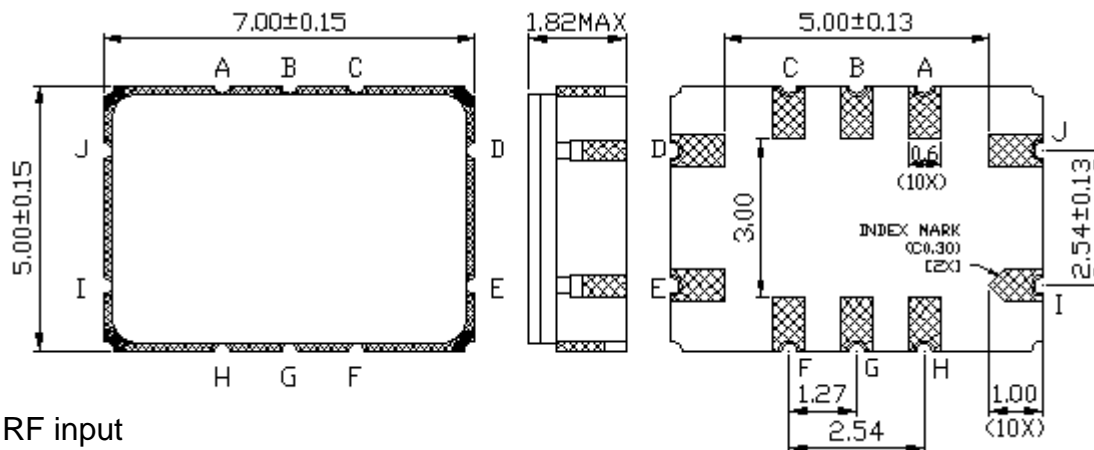
Model: TB1320A
Rev No: 1

D. MATCHING CIRCUIT:



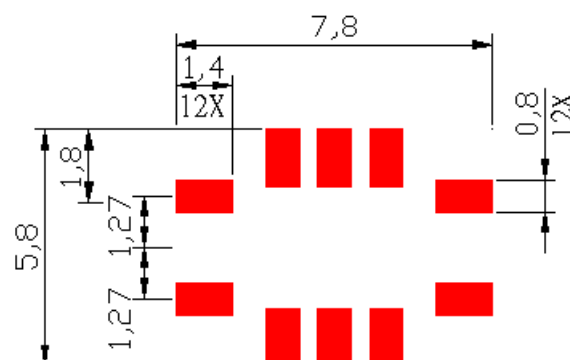
$L1 = 120\text{nH}$, $L2 = 120\text{nH}$, $L3 = 270 + 47\text{nH}$, $C1 = 5\text{pF}$, $C2 = 7\text{pF}$

E. OUTLINE DRAWING:



- H: RF input
 - C: RF output
 - E, F: External Coil
 - A, B, C, D, G, I, J: Ground
- Unit: mm

F. PCB FOOTPRINT:

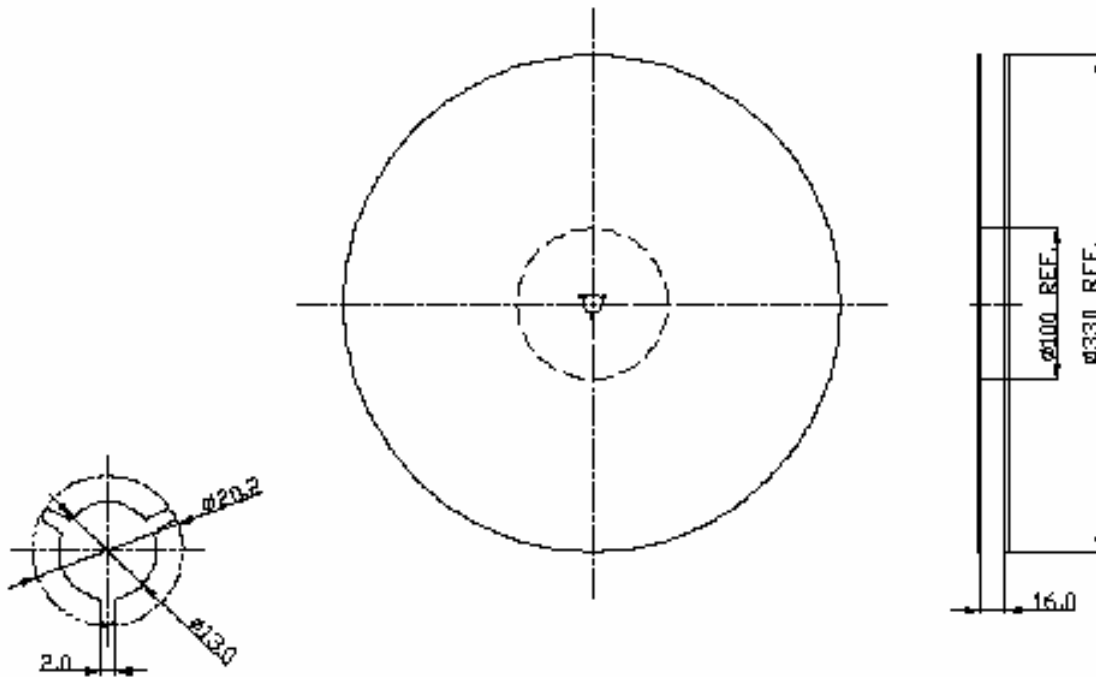


SAW Filter 246.0MHz
Part No: MP09361

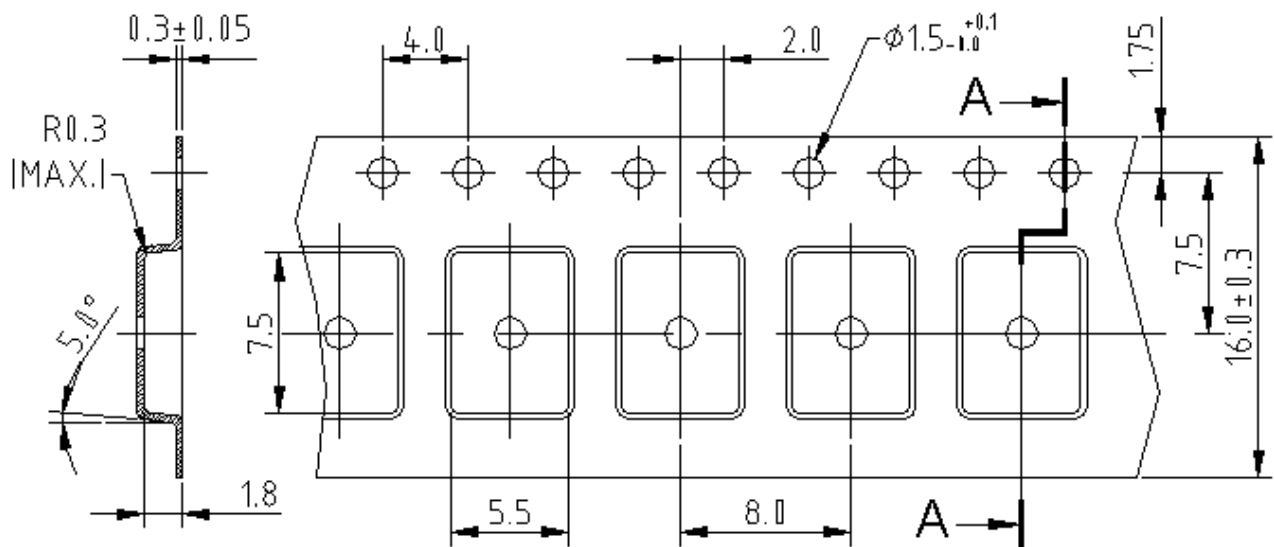
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G. PACKING:

1. Reel Dimension



2. Tape Dimension



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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.

