



*Total Solution Provider in Saw Device*

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# SA120ED1

120MHz IF SAW Filter

9.54MHz Bandwidth

Revision 0: 30. Oct. 2007.

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- Electrical Characteristics
  - Package Dimensions
  - Testing Environment
  - Frequency Characteristics
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## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-10	-	50
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	D1			
Length x Width	mm <sup>2</sup>	-	20.0 x 9.8	-
Height	mm	-	-	1.8

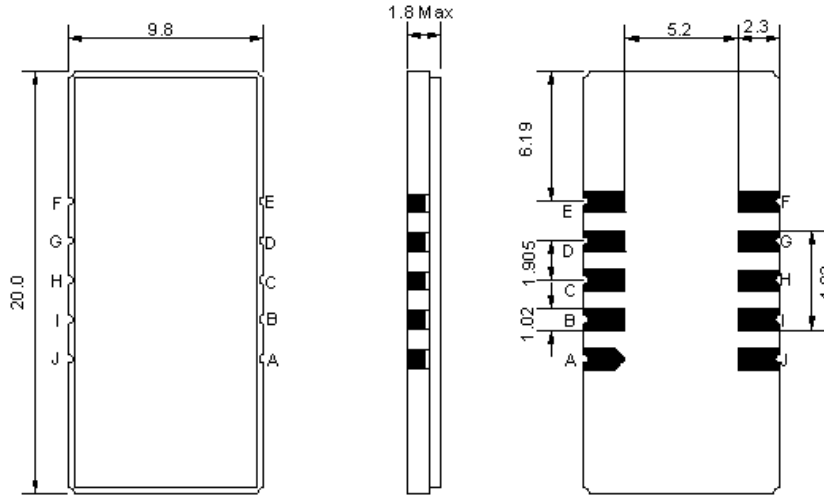
### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	120.0	-
Insertion Loss at Fo	dB	-	24.4	26.0
Amplitude Ripple within fo ±4.4MHz	dB <sub>p-p</sub>	-	0.6	1.0
Group Delay Variation within fo ±4.4 MHz	nsec	-	30	80
Absolute Delay at Fo	μsec	-	3.17	-
Temperature Coefficient	ppm/°C	-	-23	-
Bandwidth at -1.0 dB	MHz	9.0	9.24	-
Bandwidth at -3.0 dB	MHz	-	9.54	-
Bandwidth at -10.0 dB	MHz	-	10.01	10.1
Bandwidth at -25.0 dB	MHz	-	10.5	11.7
Bandwidth at -40.0 dB	MHz	-	10.75	-
Lower Sidelobe	dB	50	56	-
Upper Sidelobe	dB	50	56	-

**Notes :** (1) With Matching Network (Ref. Testing Environment Circuit as shown below).

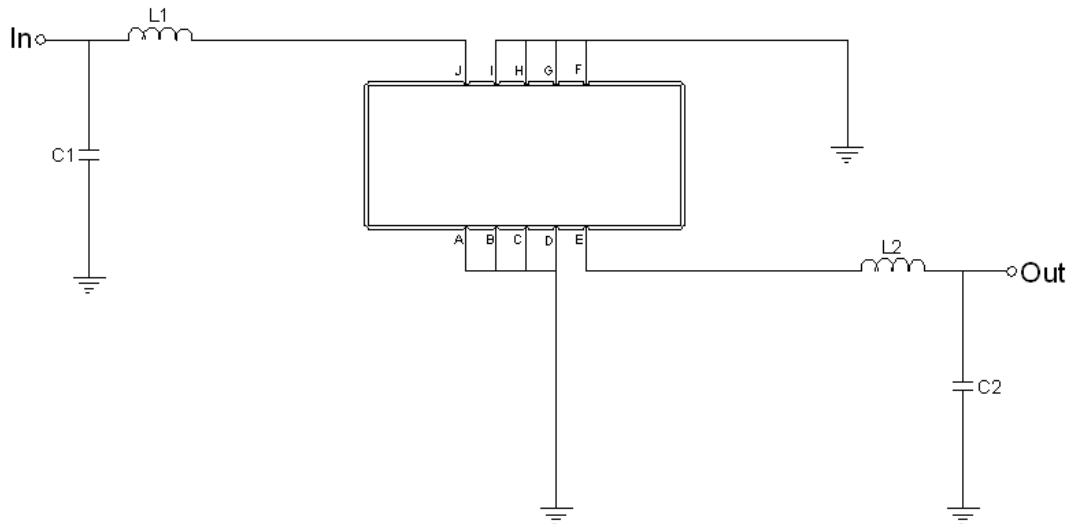
Those impedances could be modified with different impedance values and/or structures, if necessary.

**□ Package Dimensions**



Pin Description	
A, B, C, D, F, G, H, I	Ground
J	Input
E	Output

**□ Testing Environment**



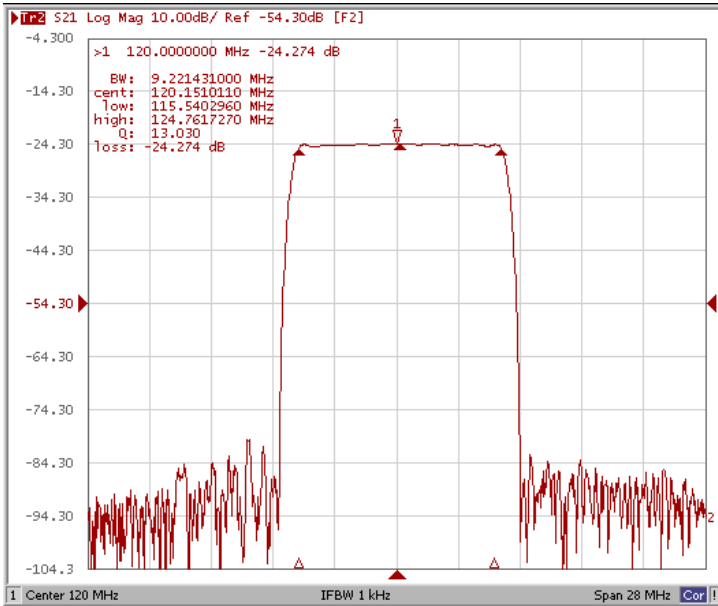
Test Fixture & Values	
Input	L1= 56 nH, C1= 43 pF
Output	L2= 56 nH, C2= 43 pF
Source/Load Impedance	50 Ω



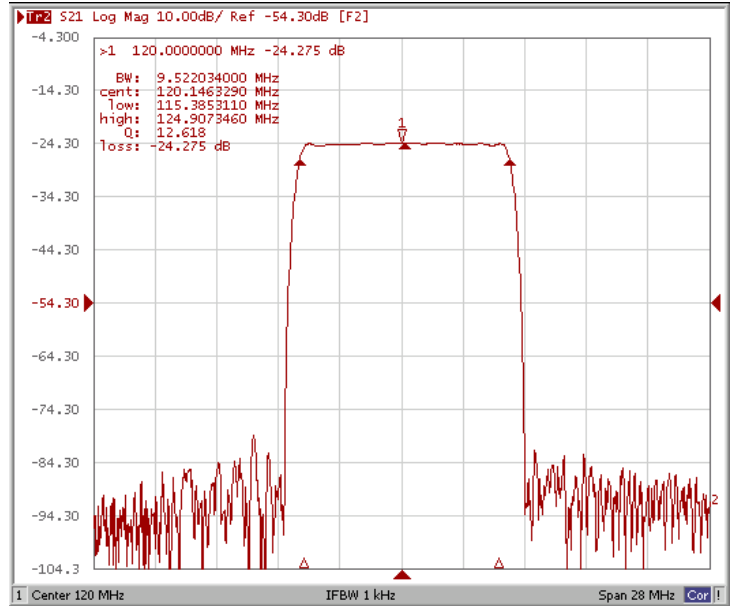
# Frequency Characteristics

## Frequency Response

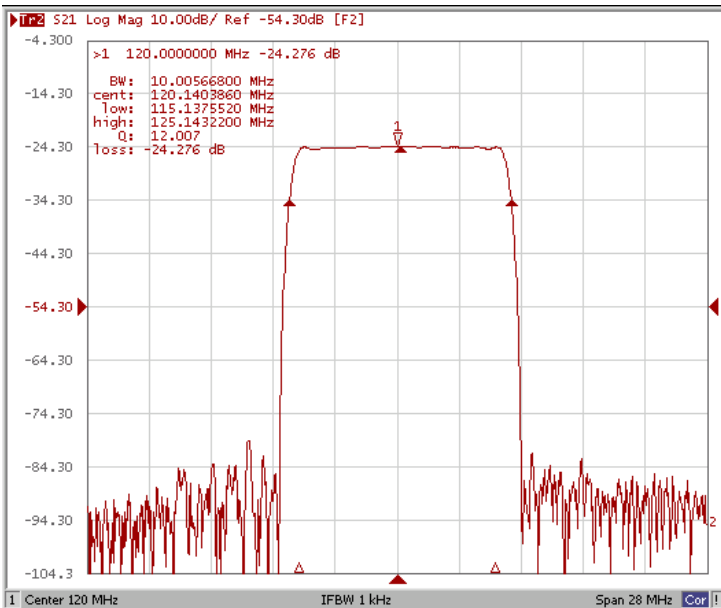
Bandwidth at -1.0 dB



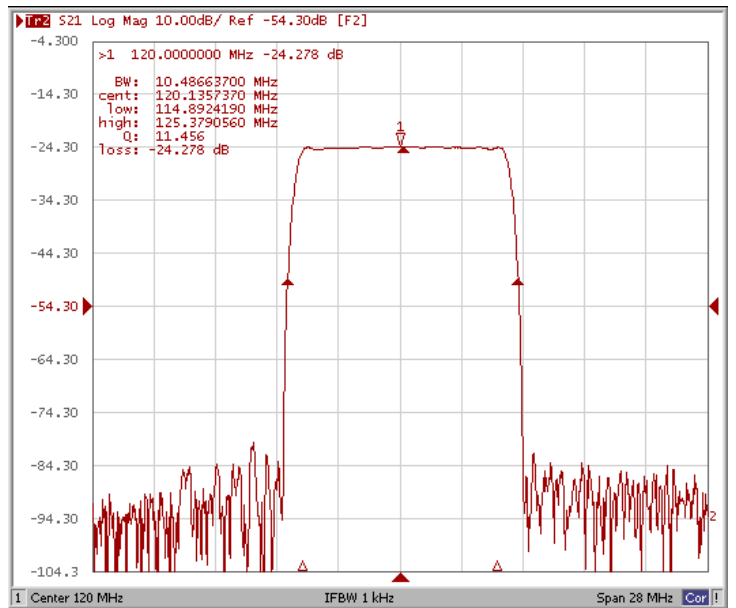
Bandwidth at -3.0 dB



Bandwidth at -10.0 dB



Bandwidth at -25.0 dB

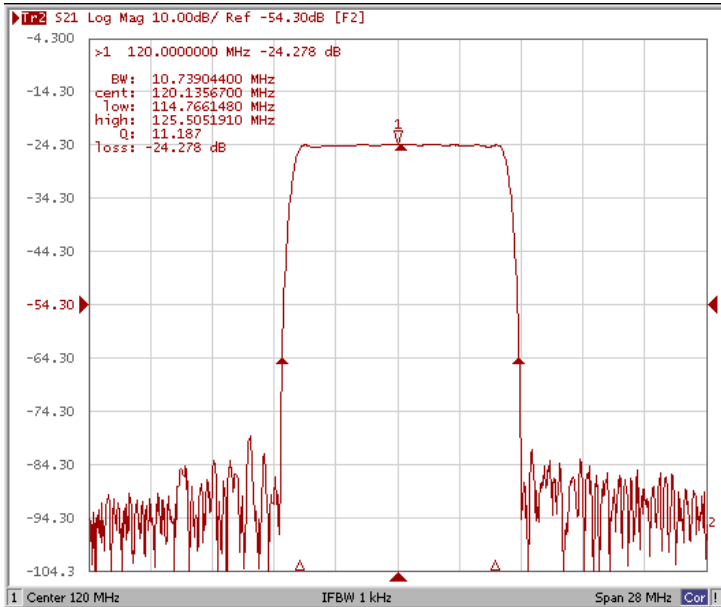




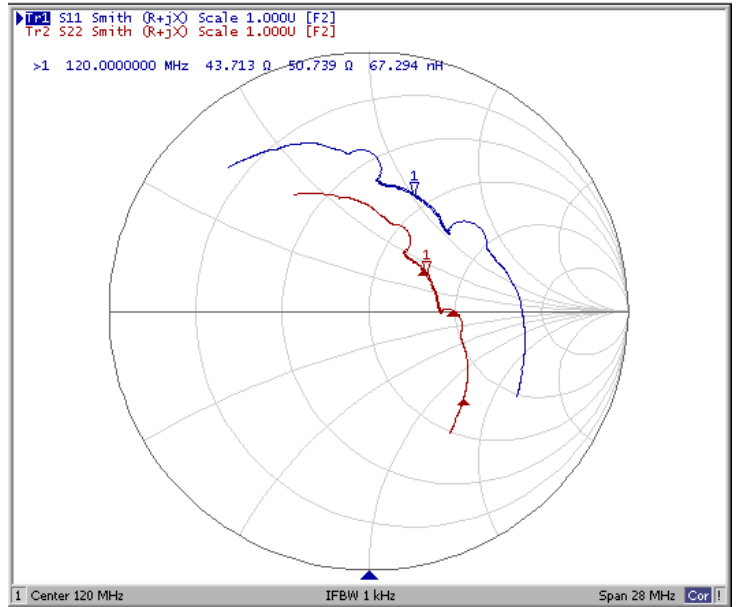
# Frequency Characteristics

## Frequency Response

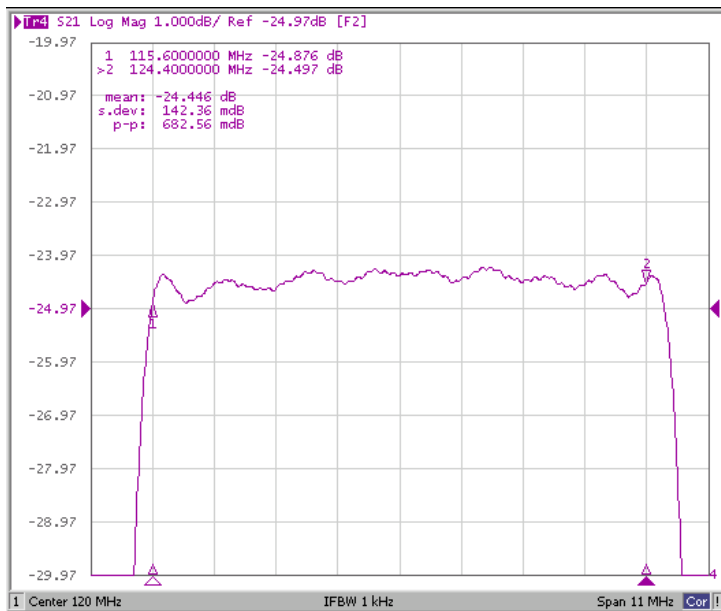
Bandwidth at -40.0 dB



Smith Chart



Ripple



Group Delay Variation

