



*Total Solution Provider in Saw Device*

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# SA12011AD1

120.0 MHz IF SAW Filter  
11.0MHz Bandwidth  
Revision 0: 29. December. 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	-30	-	80
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

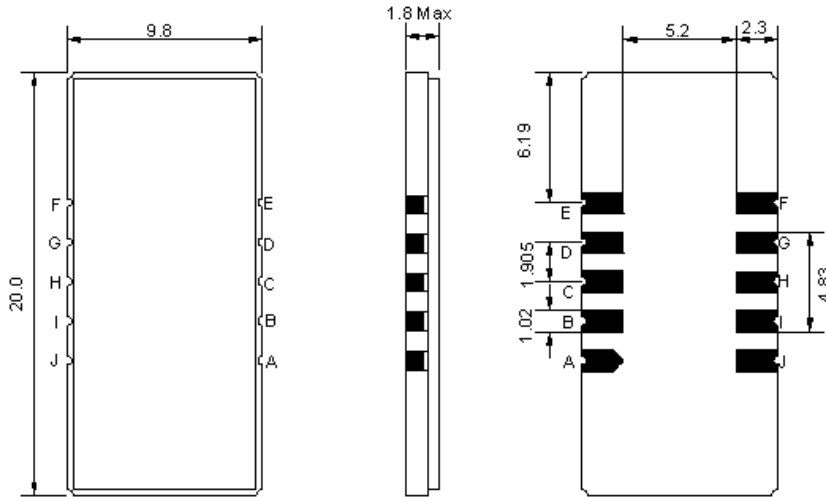
### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	119.9	120.0	120.1
Insertion Loss at Fo	dB	-	25.7	27.0
Amplitude Ripple Variation at Fo ±5.5 MHz	dB <sub>p-p</sub>	-	0.5	1.0
Group Delay Variation at Fo ±5.5 MHz	nsec	-	45	100
Absolute Delay at Fo	μsec	-	2.34	-
Temperature Coefficient	ppm/°C	-	-72	-
Bandwidth at -1.0 dB	MHz	-	11.55	-
Bandwidth at -3.0 dB	MHz	11.70	11.93	-
Bandwidth at -30.0 dB	MHz	-	13.10	-
Bandwidth at -45.0 dB	MHz	-	13.40	14.00
Lower Sidelobe	dB	50	55	-
Upper Sidelobe	dB	50	55	-

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

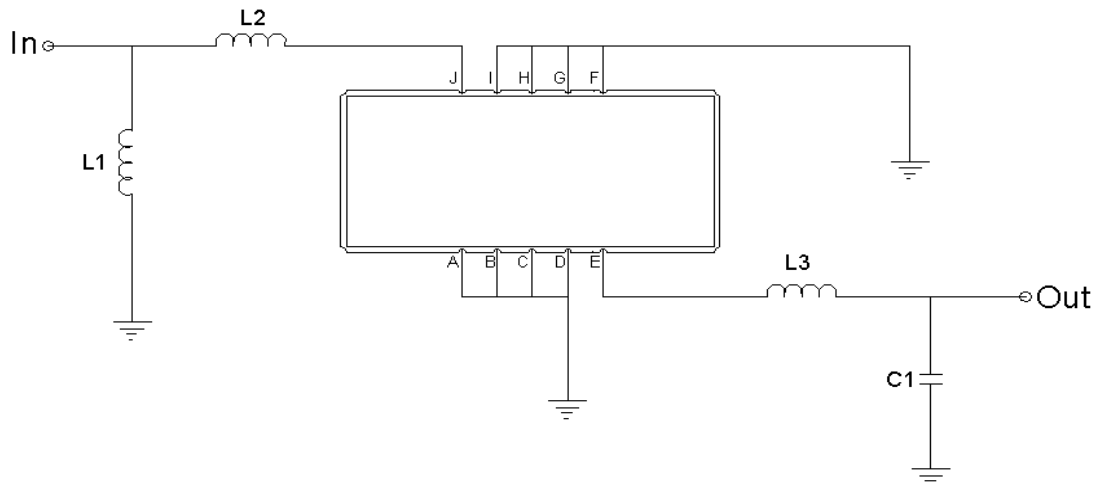
Those impedances could be modified with different impedance values and/or structures, if necessary.

**Package Dimensions**



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

**Testing Environment**



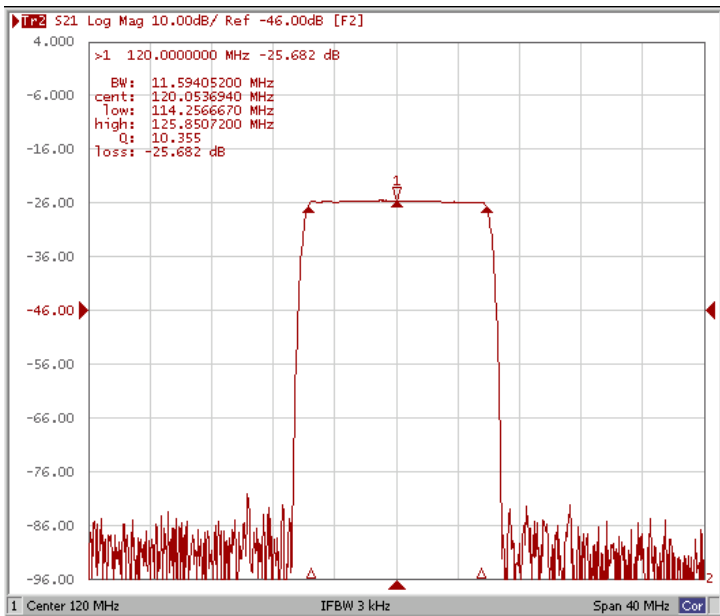
Test Fixture & Values	
Input	L1=39nH, L2=12nH
Output	L3=47nH, C1=33pF
Source/Load Impedance	50 Ω



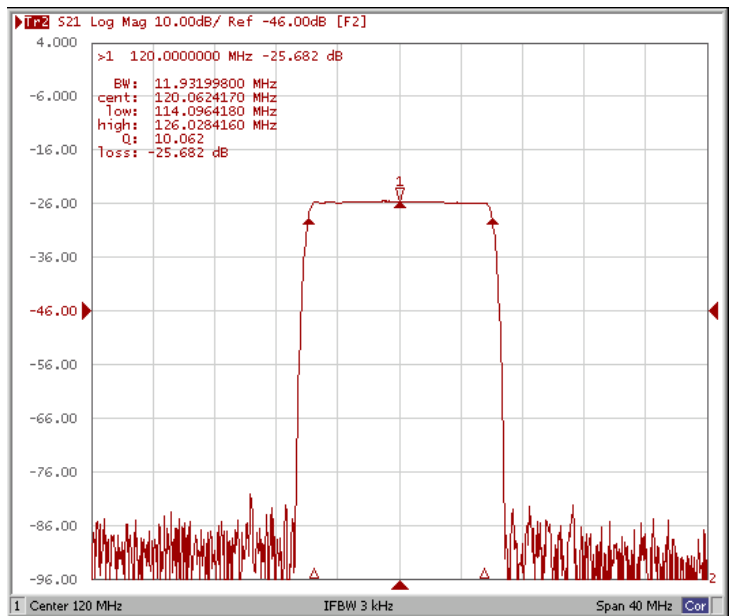
### □ Frequency Characteristics

#### Frequency Response

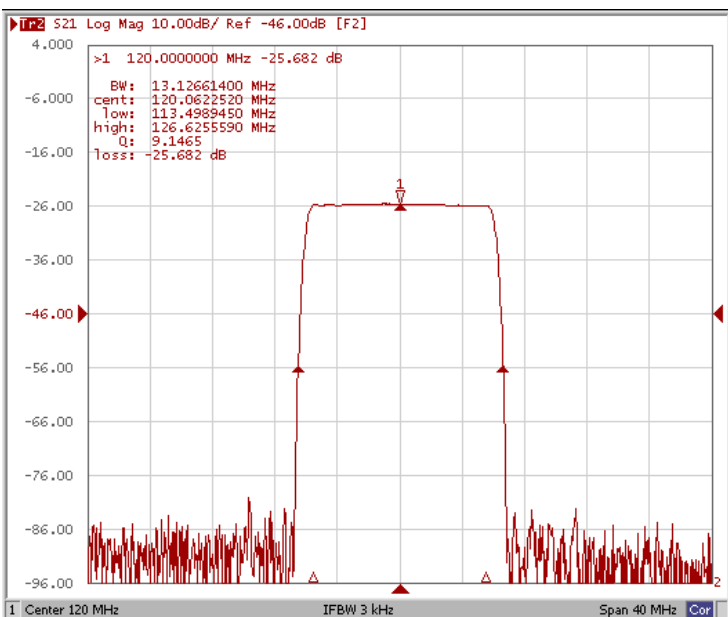
Bandwidth at -1.0 dB



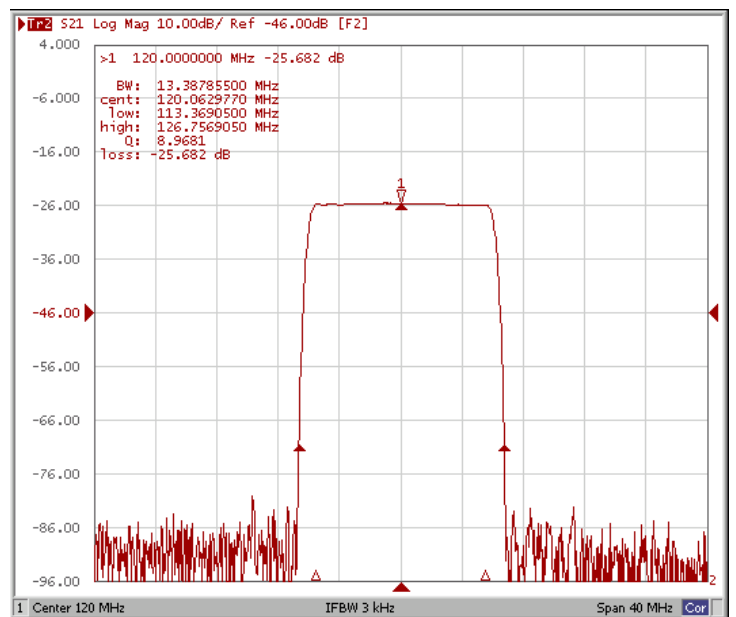
Bandwidth at -3.0 dB



Bandwidth at -30.0 dB



Bandwidth at -45.0 dB

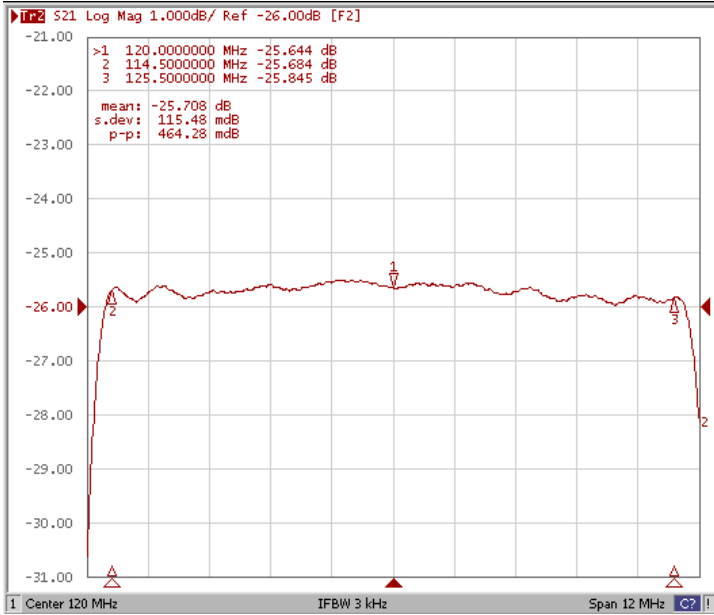




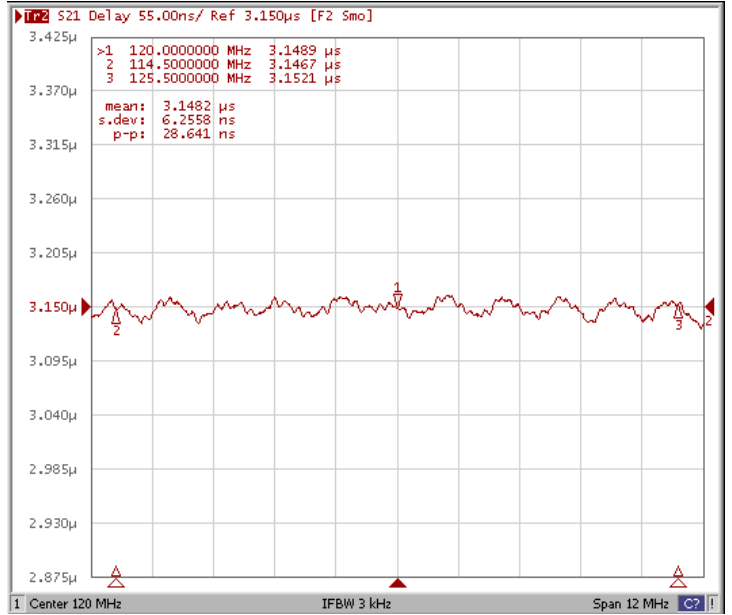
### Frequency Characteristics

#### Frequency Response

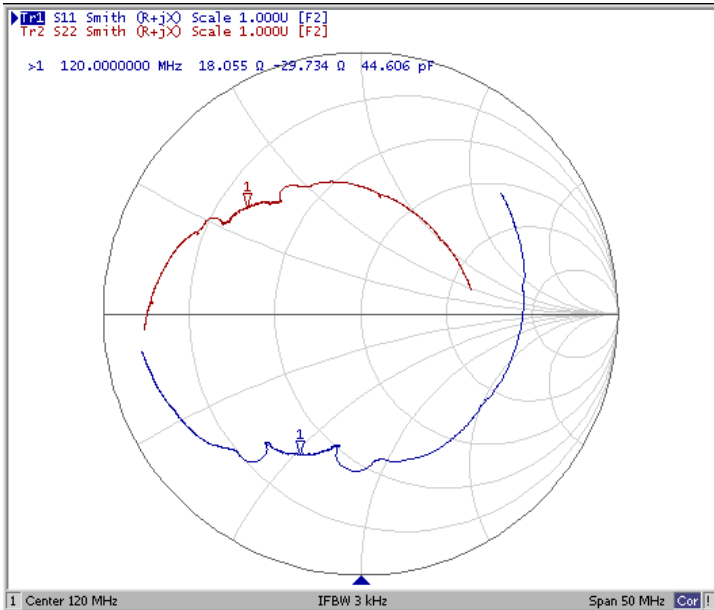
Ripple Variation



Group Delay Variation



Smith Chart



Attenuation

