



Total Solution Provider in Saw Device

SA12004AD

120.0MHz IF SAW Filter
4.20MHz Bandwidth
Revision 0: 25. June. 2009.



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

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□ Electrical Characteristics

Maximum Ratings

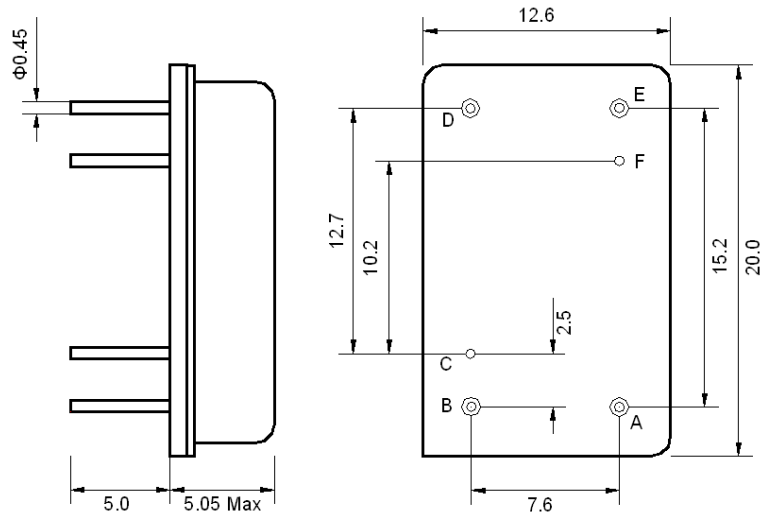
Parameters Description	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	-30	-	80
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Load Impedance (single ended) ⁽¹⁾	Ω	-	50	-
Package type & size	D			
Length x Width	mm ²	-	20.0x12.6	-
Height	mm	-	-	5.05

Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	120.0	-
Insertion Loss at Fo	dB	-	21.20	23.00
Amplitude Ripple Variation within Fo ±1.92 MHz	dB _{p-p}	-	0.35	1.00
Group Delay Variation within Fo ±1.92 MHz	nsec	-	70	150
Absolute Delay at Fo	µsec	-	2.47	-
Temperature Coefficient	ppm/°C	-	-0.03	-
Bandwidth at -1.0 dB	MHz	4.00	4.20	-
Bandwidth at -3.0 dB	MHz	-	4.50	-
Bandwidth at -25.0 dB	MHz	-	5.33	5.50
Bandwidth at -40.0 dB	MHz	-	5.58	5.70
Attenuation Rejection				
Lower Sidelobe	dB	47	52	
Upper Sidelobe	dB	47	52	

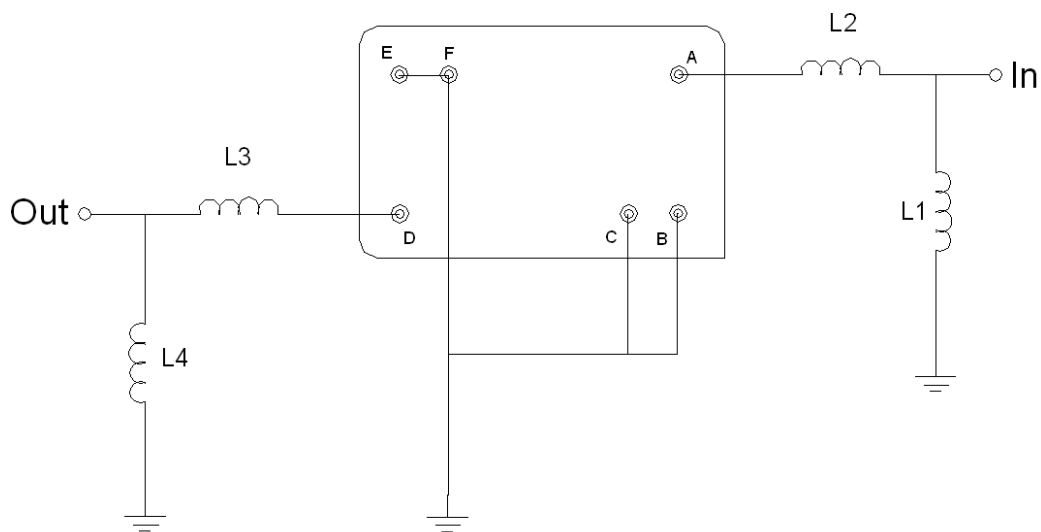
Notes : (1) With Matching Network (Ref. Testing Environment Circuit as shown below).
Those impedances could be modified with different impedance values and/or structures, if necessary.

Package Dimensions



Pin Description	
B, C, E, F	Ground
A	Input
D	Output

Testing Environment



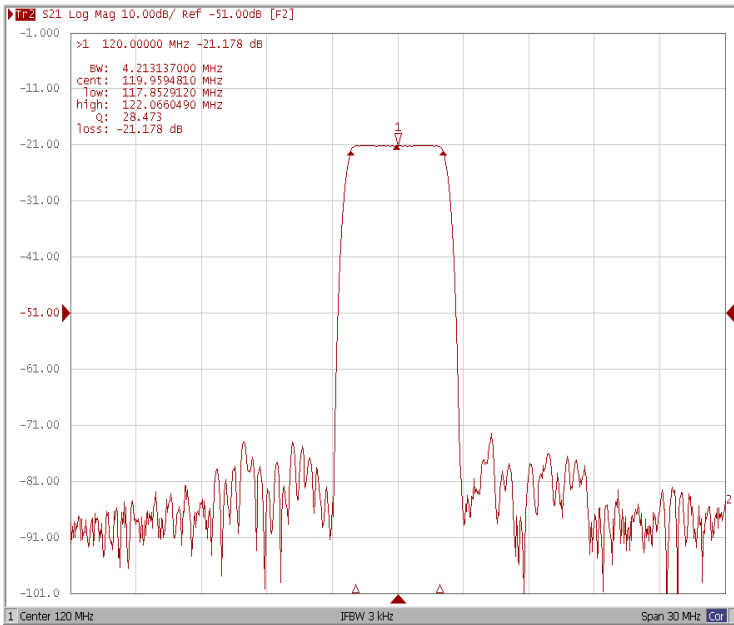
Test Fixture & Values	
Input	L1 = 27 nH, L2 = 68 nH
Output	L3 = 47 nH, L4 = 27 nH
Source/Load Impedance	50 Ω



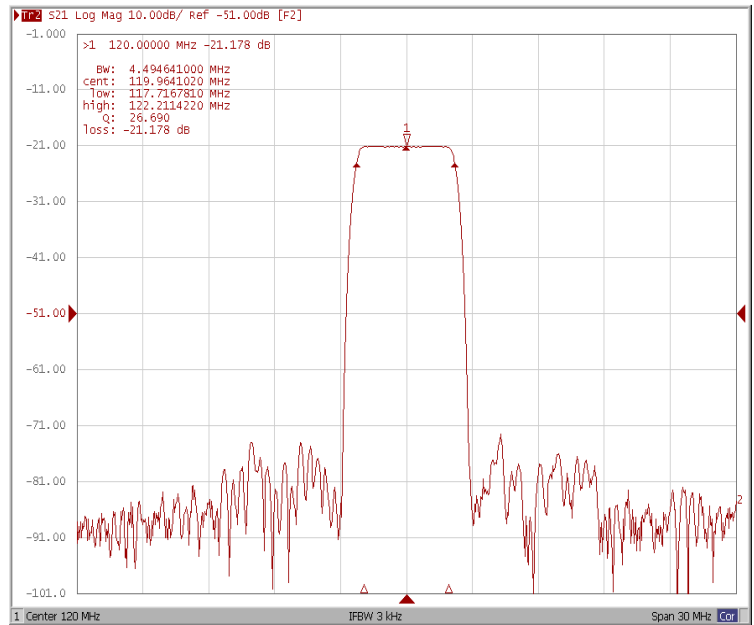
Frequency Characteristics

Frequency Response

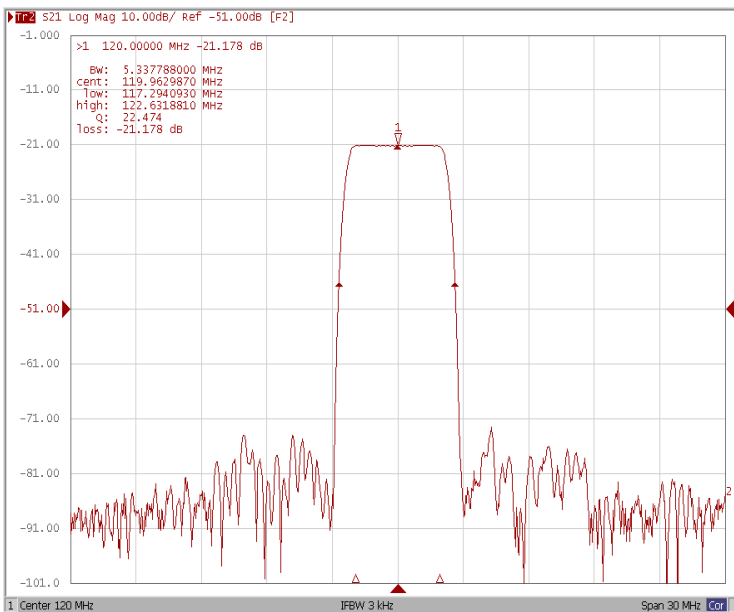
Bandwidth at -1.0 dB



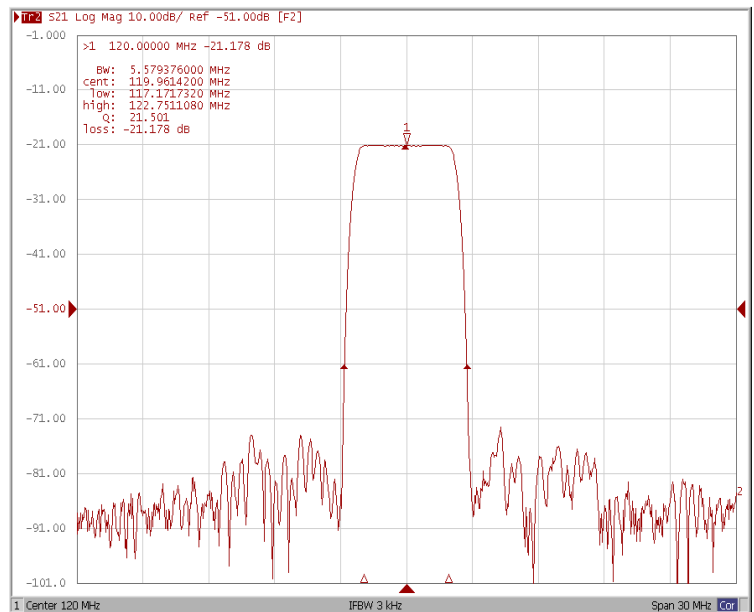
Bandwidth at -3.0 dB



Bandwidth at -25.0 dB



Bandwidth at -40.0 dB

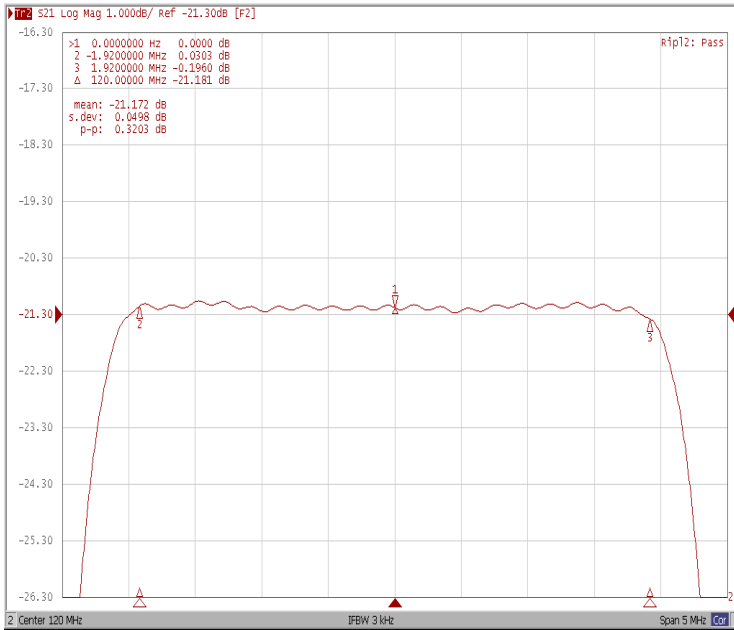




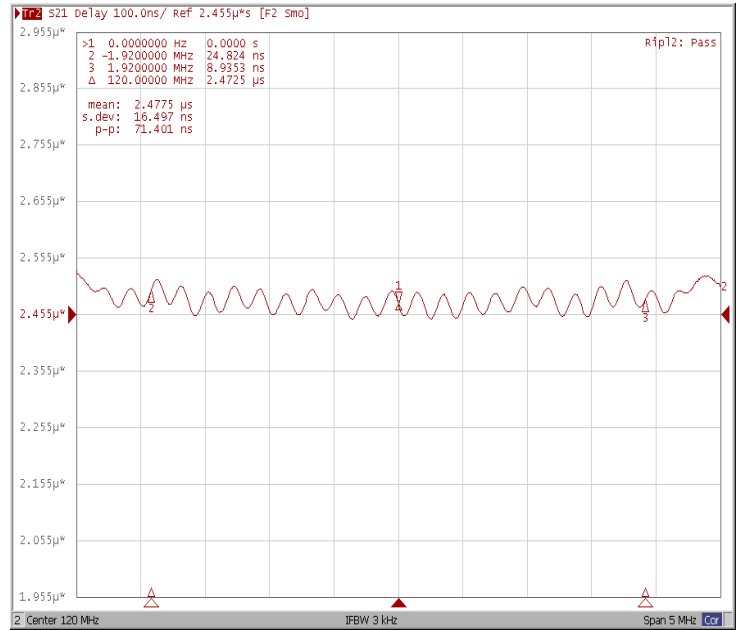
Frequency Characteristics

Frequency Response

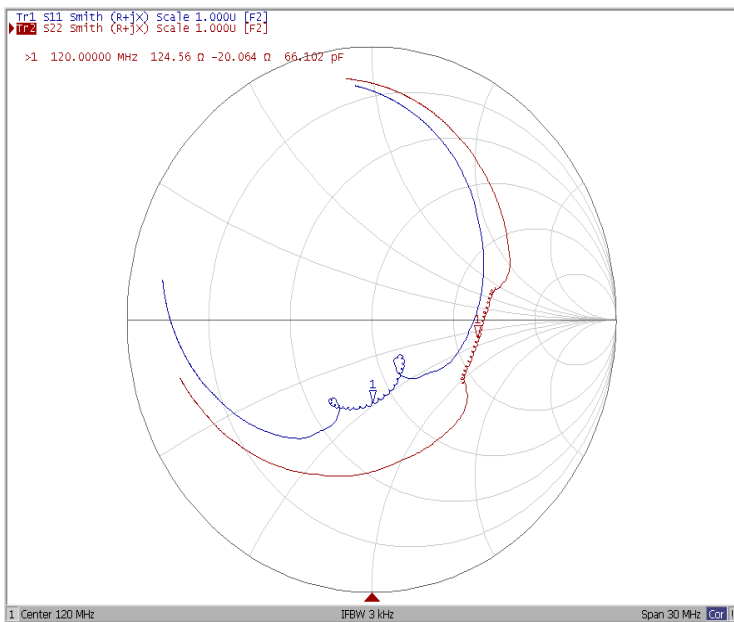
Ripple Variation Fo±1.92MHz



Group Delay Variation Fo±1.92MHz



Smith Chart



SWR

