SA12009AD1

120.0 MHz IF SAW Filter
9.70 MHz Bandwidth
Revision 0: 18. Nov. 2008

RoHS compliance
Pb free

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

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❒ Electrical Characteristics

Maximum Ratings

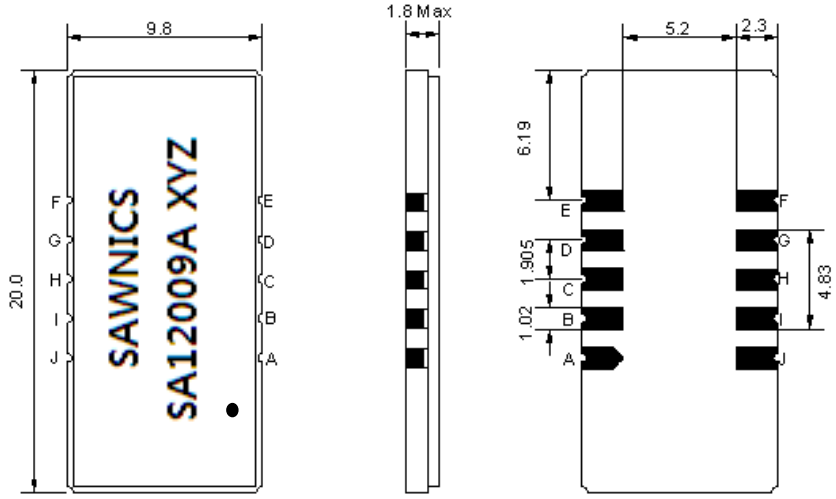
Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-	25	-
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended)(1)	Ω	-	50	-
Load Impedance (single ended)(1)	Ω	-	50	-
Package type & size	D1			
Length x Width	mm²	-	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	-	24.3	27.00
Passband Ripple (fo ±4.6 MHz)	dB_{p-p}	-	0.45	0.90
Group Delay Variation (fo ±4.6 MHz)	nsec	-	38	90
Absolute Delay at Fo	µsec	-	3.17	-
Bandwidth at –1.0 dB	MHz	-	9.70	-
Bandwidth at –55 dB	MHz	-	11.81	-
Ultimate Attenuation(110.1MHz~114MHz)	-	50	60	-
Ultimate Attenuation(126MHz~129.9MHz)	-	50	60	-
Temperature Coefficient	ppm/°C	-	-20	-

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.

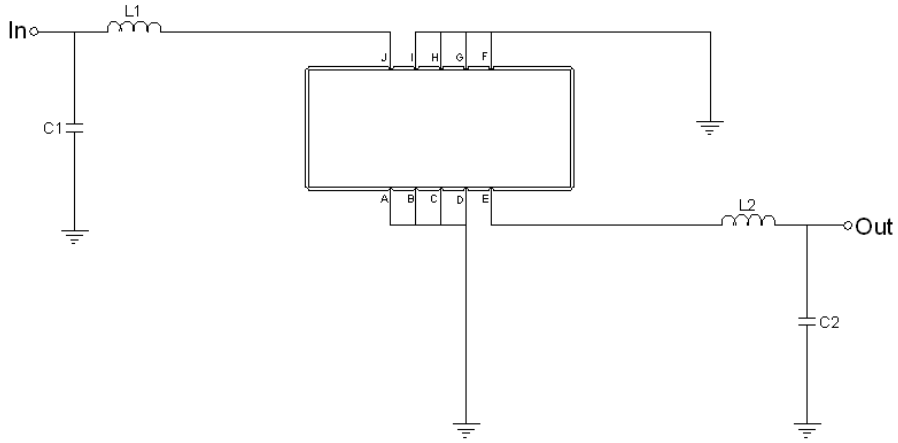
❒ Package Dimensions



① SAWNICS: Brand
② SA12009A: Model Name
③ X : Date Code (Year)
④ Y : Date Code (Month)
⑤ Z : Date Code (Date)
● : Index Dot

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

❒ Testing Environment

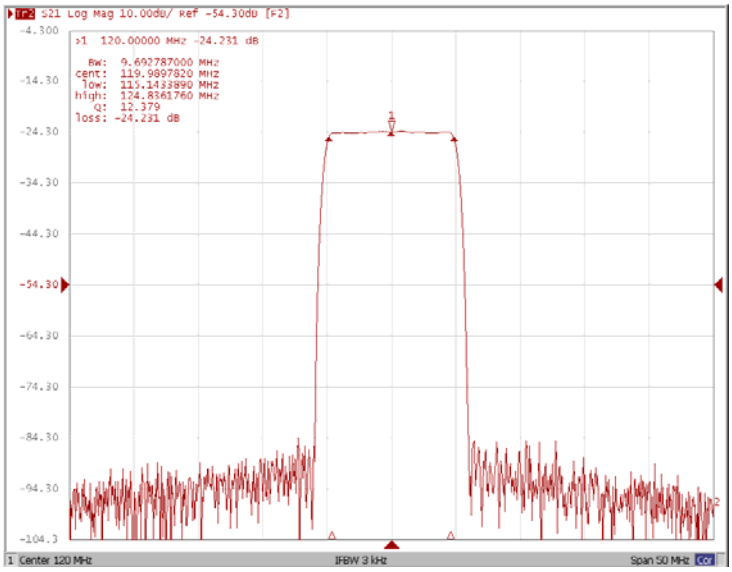


Test Fixture & Values	
Input	L1=56nH, C1=47pF
Output	L2=68nH, C1=36pF
Source/Load Impedance	50 Ω

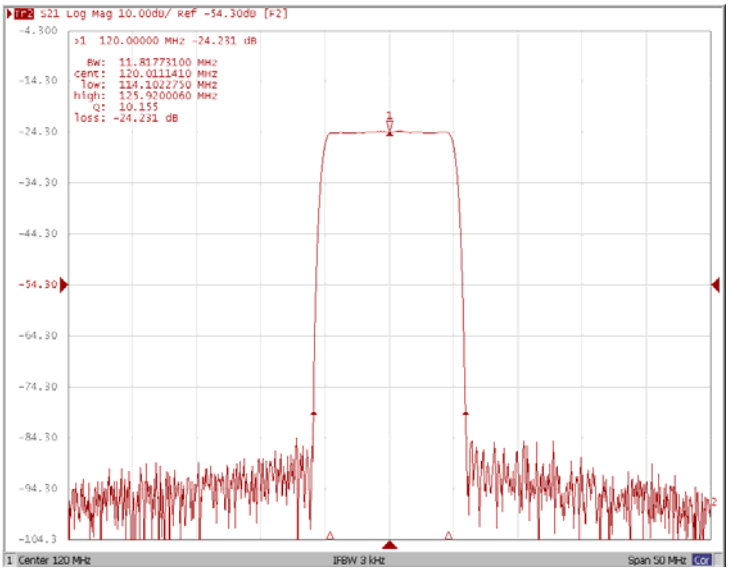
❒ Frequency Characteristics

Frequency Response

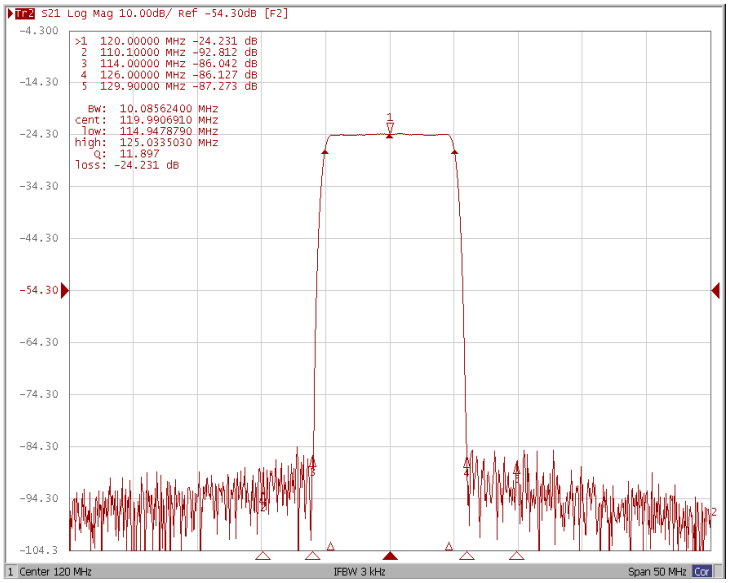
Bandwidth at –1.0 dB



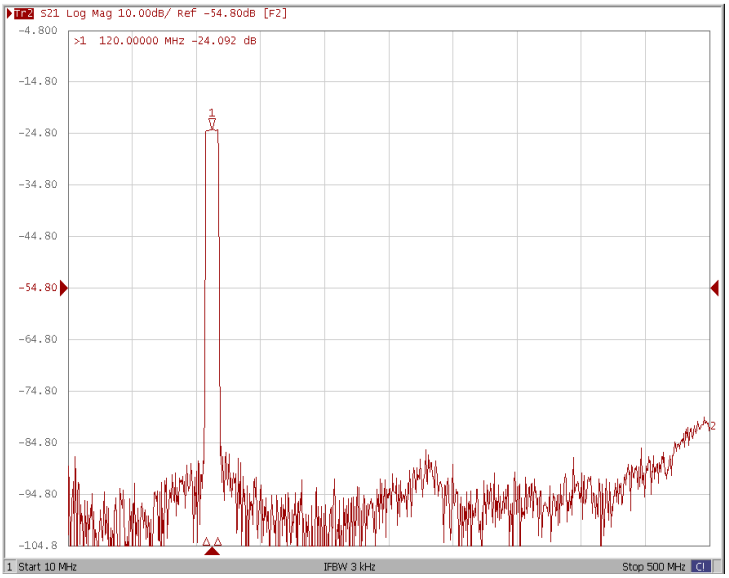
Bandwidth at –55 dB



Ultimate Attenuation



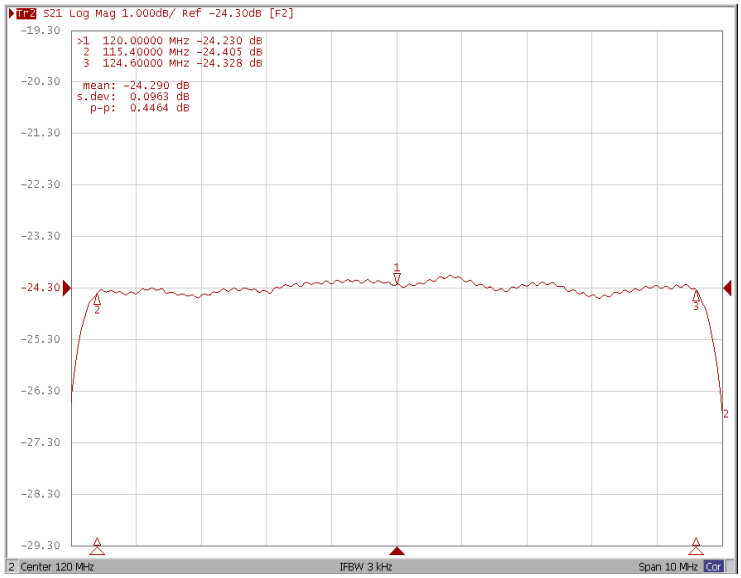
Wide Band



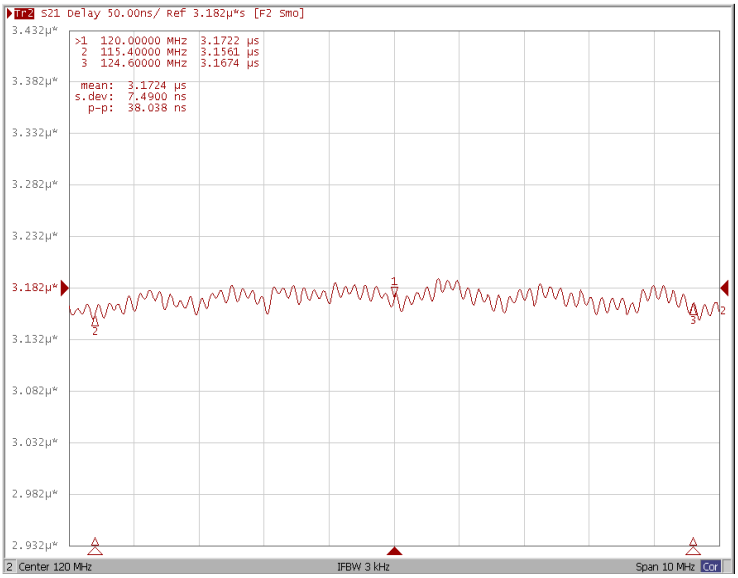
❒ Frequency Characteristics

Frequency Response

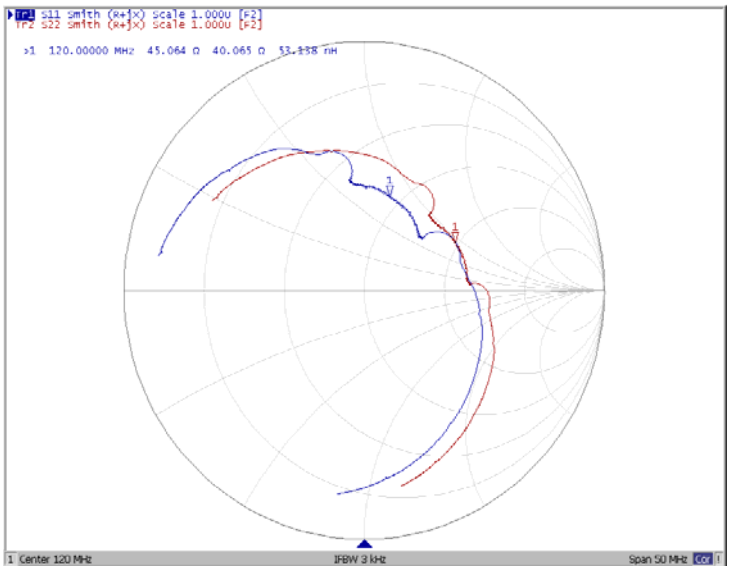
Ripple Variation(fo ±4.6 MHz)



Group Delay Variation(fo ±4.6 MHz)



Smith Chart



VSWR