



Total Solution Provider in Saw Device

SA12009CD1

120.00 MHz IF SAW Filter
9.30 MHz Bandwidth
Revision 0: 04. April. 2012



- 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	mm ²	-	20.0 x 9.8	-
Height	mm	-	-	1.8

Electrical Specification

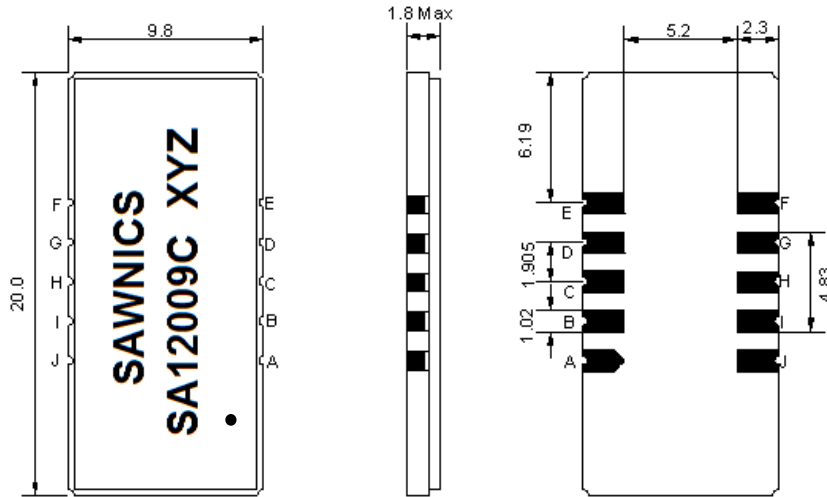
***Operating Temperature : +25°C**

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	120.00	-
Insertion Loss at Fo	dB	-	26.00	28.00
Amplitude Ripple (Fo ±4.50 MHz)	dB _{p-p}	-	0.65	1.2
Group Delay Variation (Fo ±4.50 MHz)	nsec	-	100	200
Absolute Delay at Fo	µsec	-	2.46	-
Bandwidth at -1.0 dB	MHz	9.20	9.30	-
Bandwidth at -3.0 dB	MHz	-	9.50	-
Bandwidth at -35.0 dB	MHz	-	10.30	10.40
Relative Attenuation: (Out of Band Gain)				
Fc ± 5.2MHz	dB	25	38	-
Fc ± 6.0MHz	dB	40	45	-
Fc ± 10.0MHz	dB	40	45	-
Fc ± 15.0MHz	dB	40	45	-
Temperature coefficient	ppm/°C	-	-18	-

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.

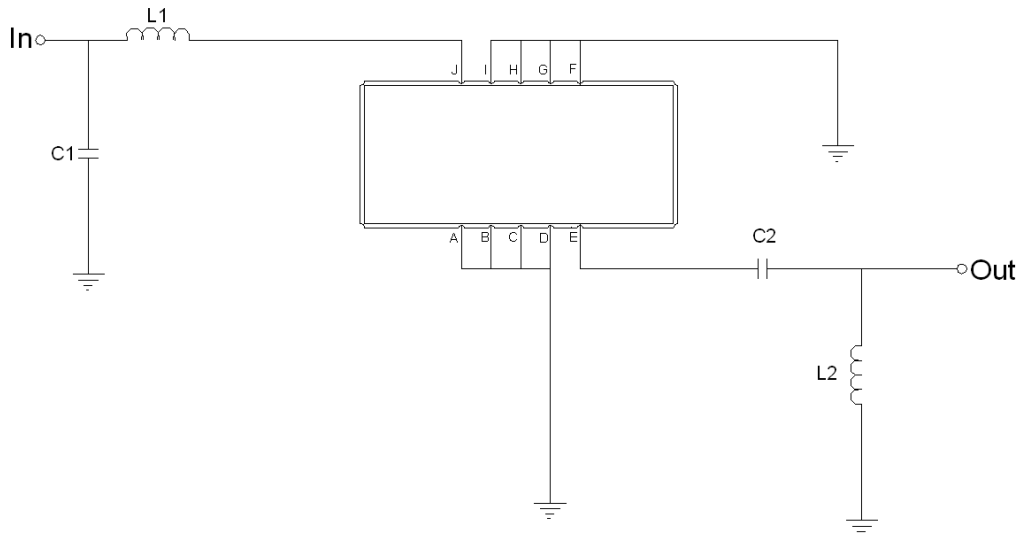
Package Dimensions



- ① SAWNICS: Brand
- ② SA12009C: 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



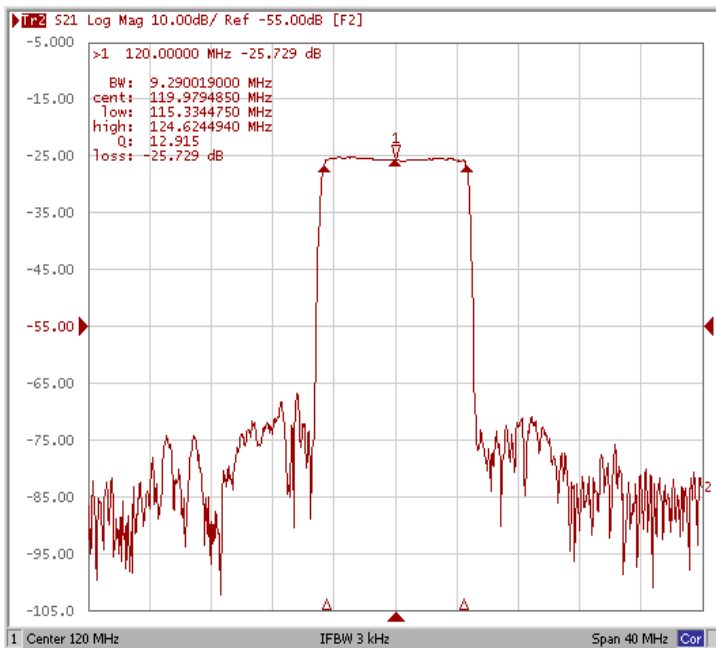
Test Fixture & Values	
Input	L1=56 nH, C1=27 pF
Output	L2=47 nH, C2=100 pF
Source/Load Impedance	50 Ω

Frequency Characteristics

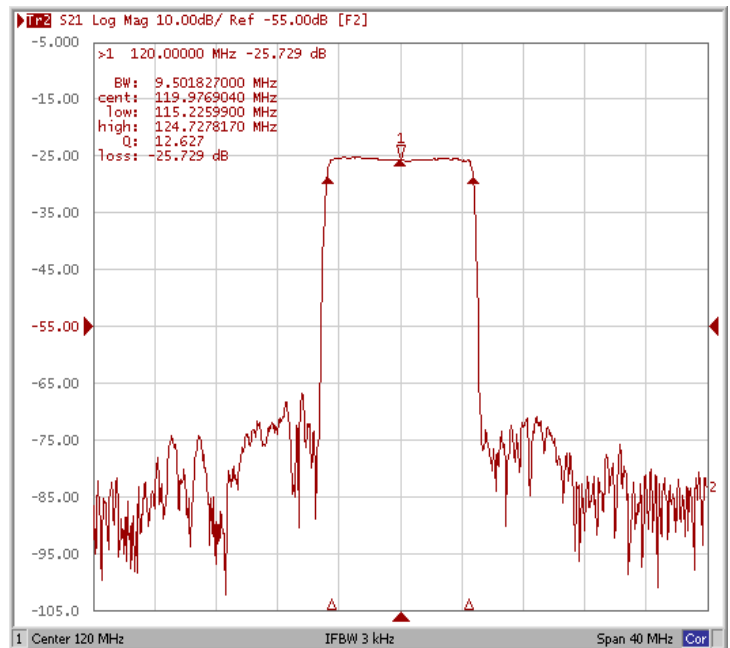
Frequency Response

***Operating Temperature : +25°C**

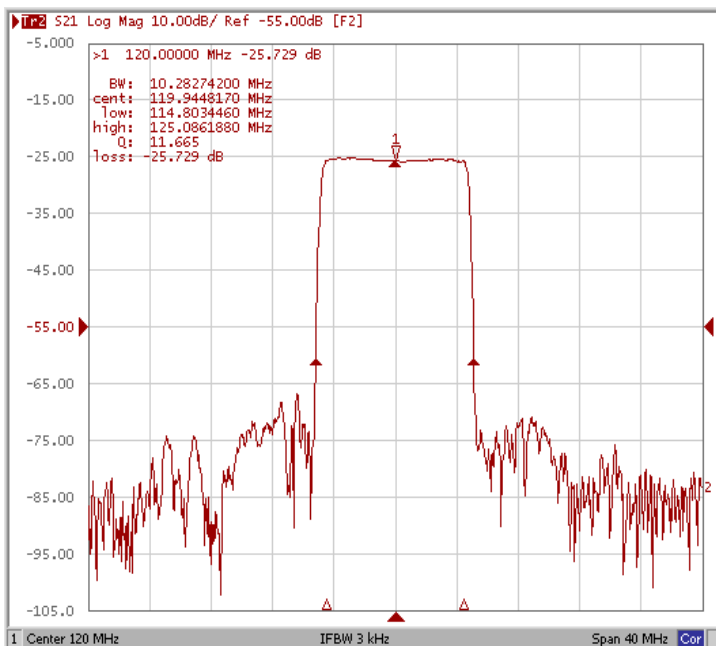
Bandwidth at -1.0 dB



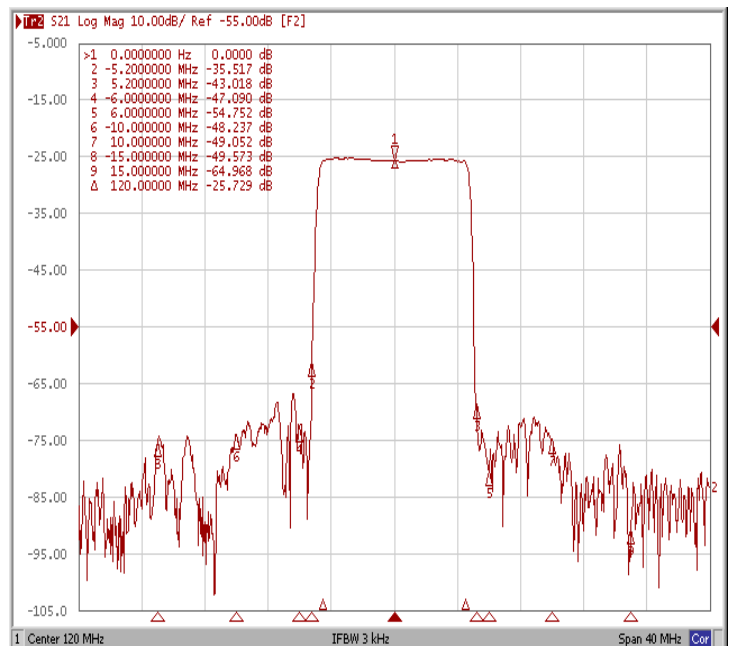
Bandwidth at -3.0 dB



Bandwidth at -35.0 dB



Out of Band Gain

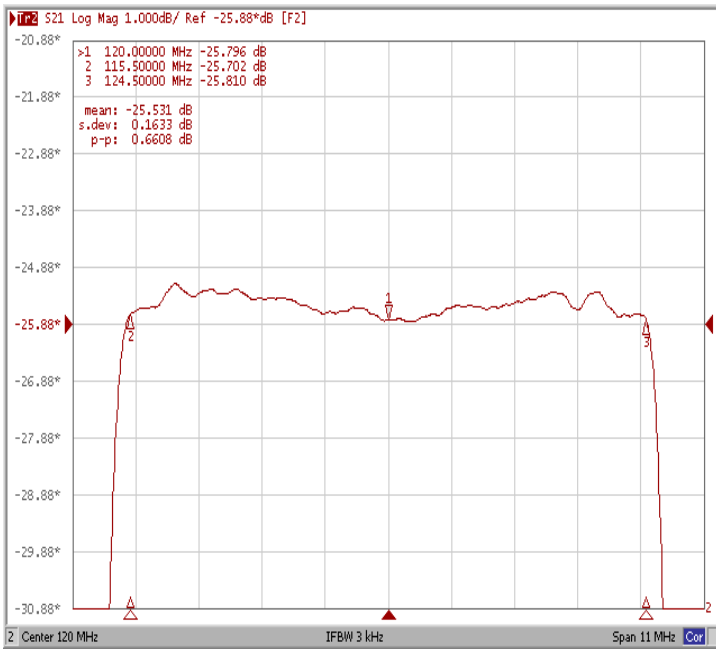




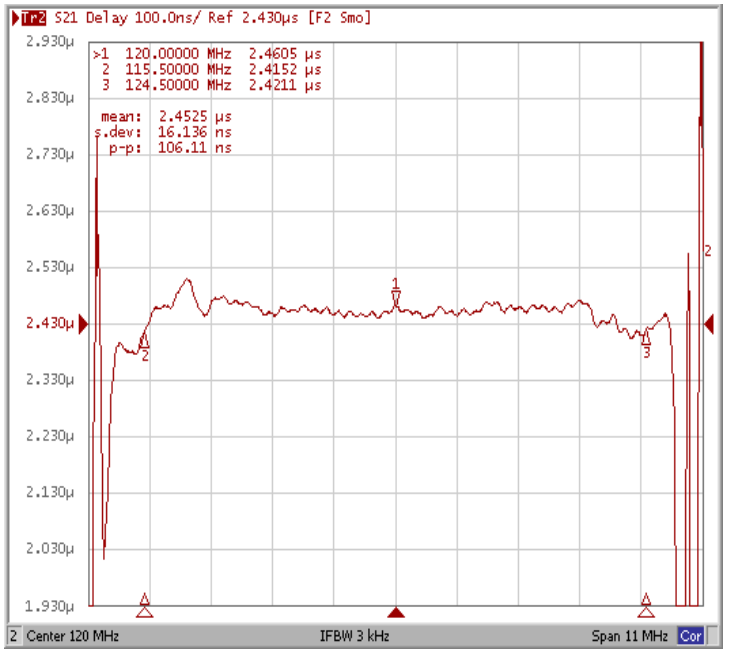
Frequency Characteristics

Frequency Response

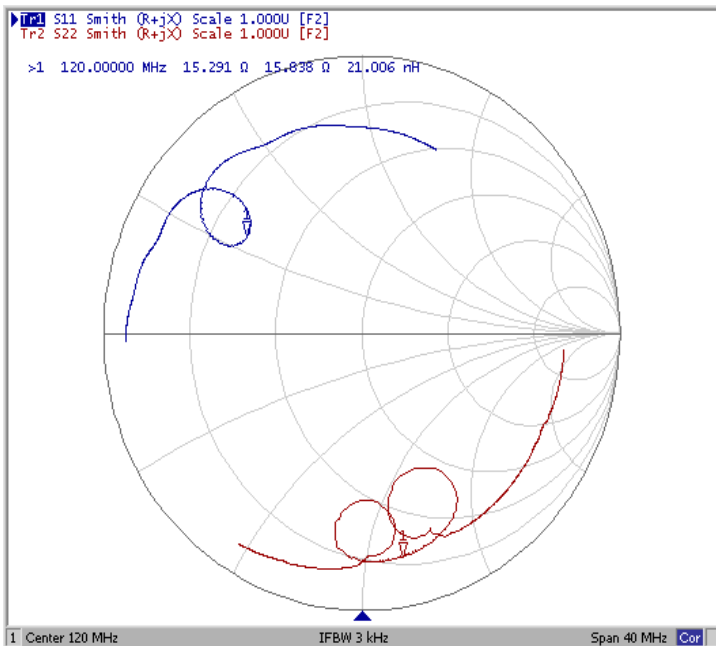
Ripple Variation Fo±4.5MHz



Group Delay Variation Fo±4.5MHz



Smith Chart



VSWR

