



Total Solution Provider in Saw Device

SA05509BD1

55.0 MHz IF SAW Filter
9.90 MHz Bandwidth
Revision 0: 09. Feb. 2009



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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	-30	-	80
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

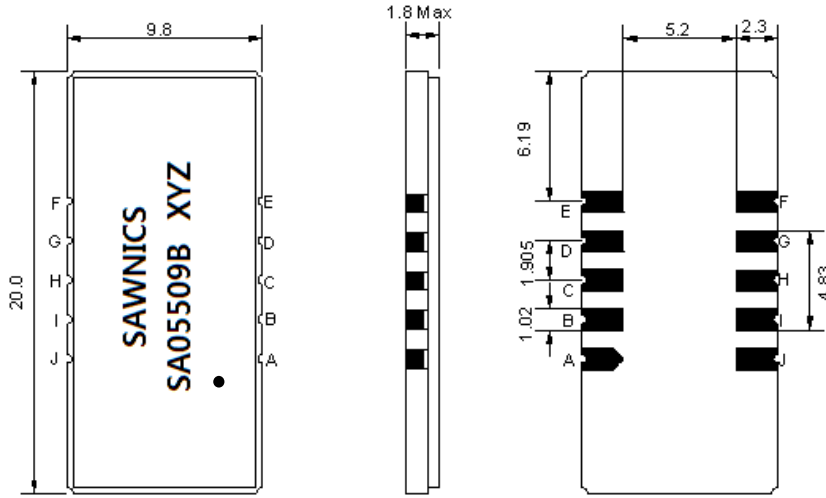
Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	54.9	55.0	55.1
Insertion Loss at Fo	dB	-	21.0	23.0
Group Delay Variation (Fo±4.52MHz)	ns	-	45	70
Absolute Delay	us	-	2.35	-
Passband Ripple (Fo±4.52MHz)	dB	-	0.5	1.0
Bandwidth at -1dB	MHz	9.40	9.90	-
Bandwidth at -3dB	MHz	-	10.30	-
Bandwidth at -20dB	MHz	-	11.37	11.76
Bandwidth at -40dB	MHz	-	11.85	-
Ultimate Rejection	dB	50	52	-
Temperature coefficient	ppm/°C	-	-72	-

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.

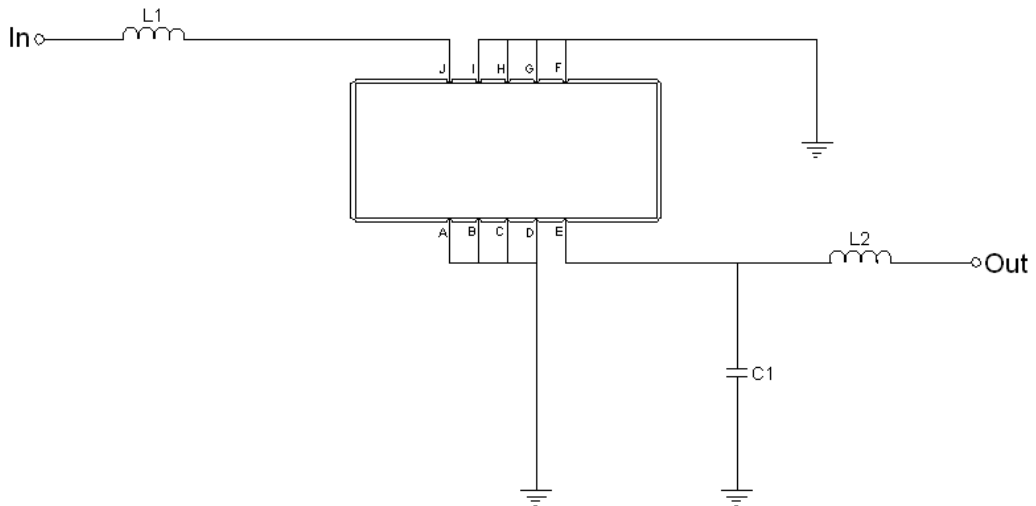
Package Dimensions



- ① SAWNICS: Brand
- ② SA05509B: 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

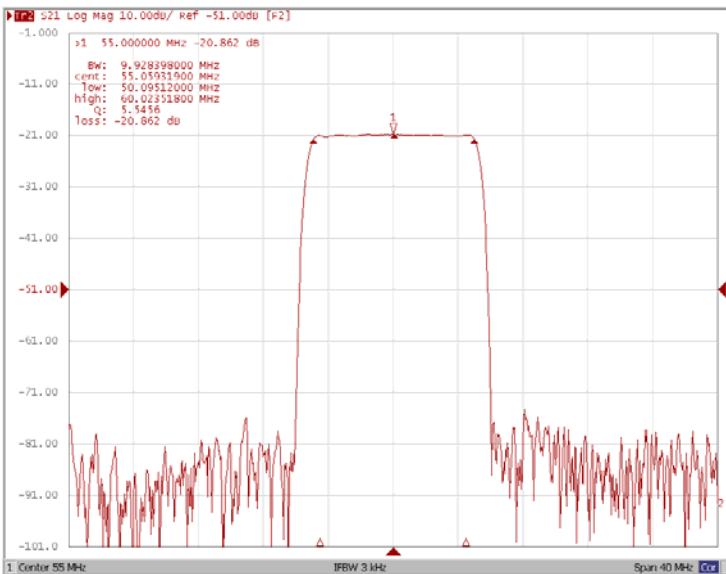


Test Fixture & Values	
Input	L1=150nH
Output	L2=120nH ,C2=22pF
Source/Load Impedance	50 Ω

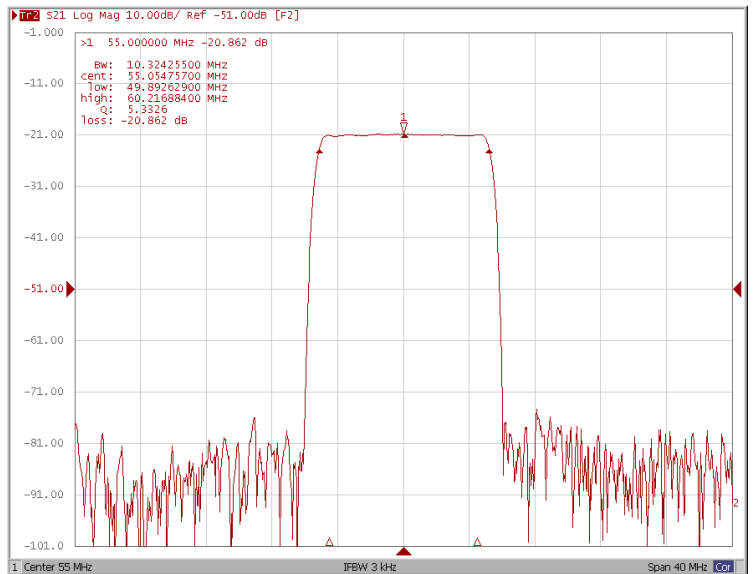
□ Frequency Characteristics

Frequency Response

Bandwidth at -1.0 dB



Bandwidth at -3.0 dB



Bandwidth at -20.0 dB



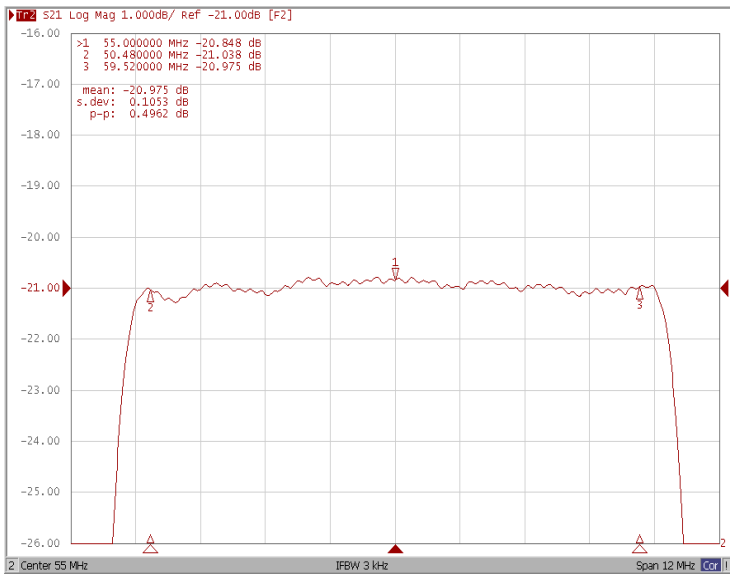
Bandwidth at -40.0 dB



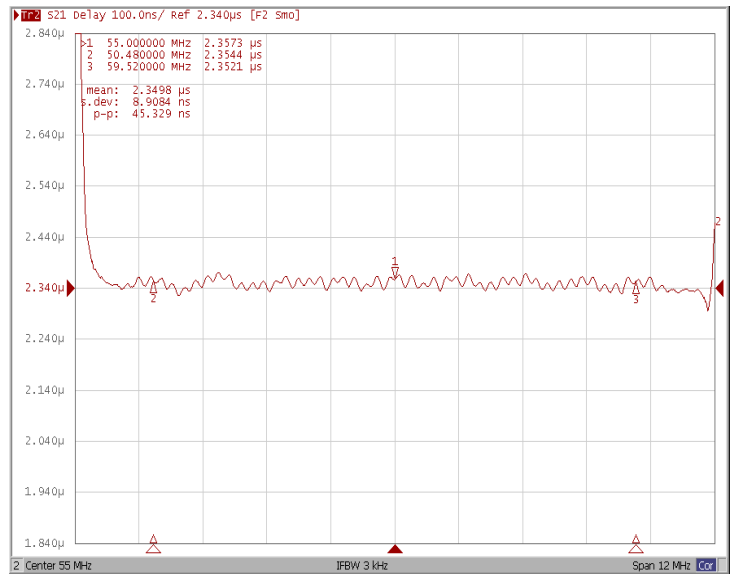
□ Frequency Characteristics

Frequency Response

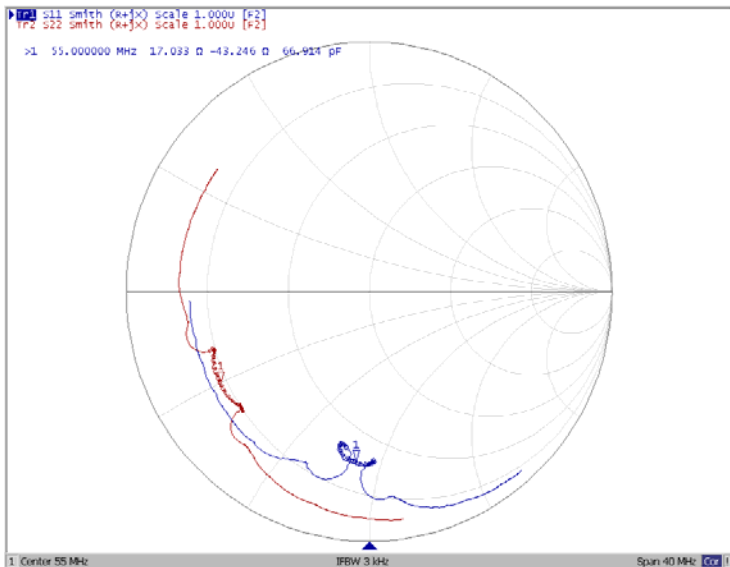
Ripple Variation $F_o \pm 4.52\text{MHz}$



Group Delay Variation $F_o \pm 4.52\text{MHz}$



Smith Chart



VSWR

