



Total Solution Provider in Saw Device

SL020002AD1

20.0 MHz IF SAW Filter
241 kHz Bandwidth
Revision 0: 01. Dec. 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	-20	-	90
Storage Temperature Range	°C	-30	-	90
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

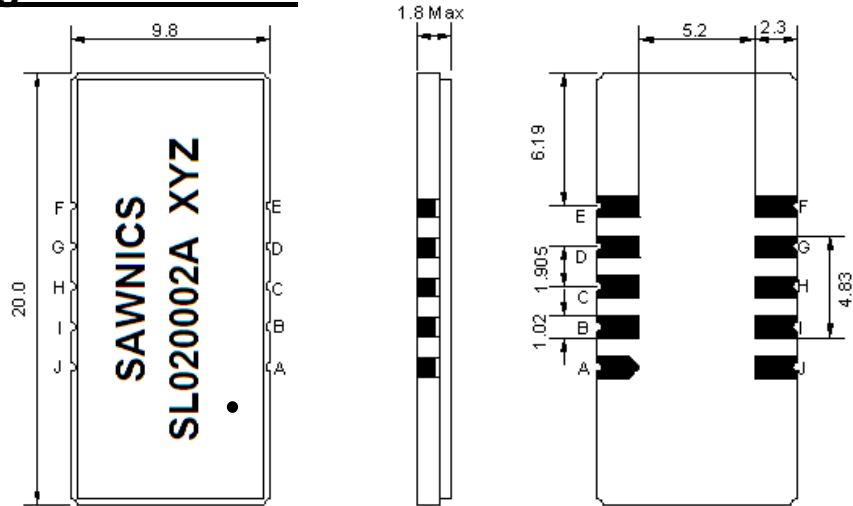
Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	20.0	-
Insertion Loss at Fo	dB	-	9.3	12.0
Group Delay Variation at Fo ± 0.05 MHz	nsec	-	258	350
Absolute Delay at Fo	usec	-	2.6	2.9
Passband Ripple Variation at Fo ± 0.05 MHz	dB	-	0.13	0.90
Bandwidth at -1dB	MHz	0.15	0.24	-
Bandwidth at -3dB	MHz	-	0.38	-
Bandwidth at -40dB	MHz	-	1.16	1.30
Rejection level	dB	-	35	-
Relative Attenuation				
DC ~ 15MHz	dB	40	48	-
@ 40MHz	dB	33	40	-
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.

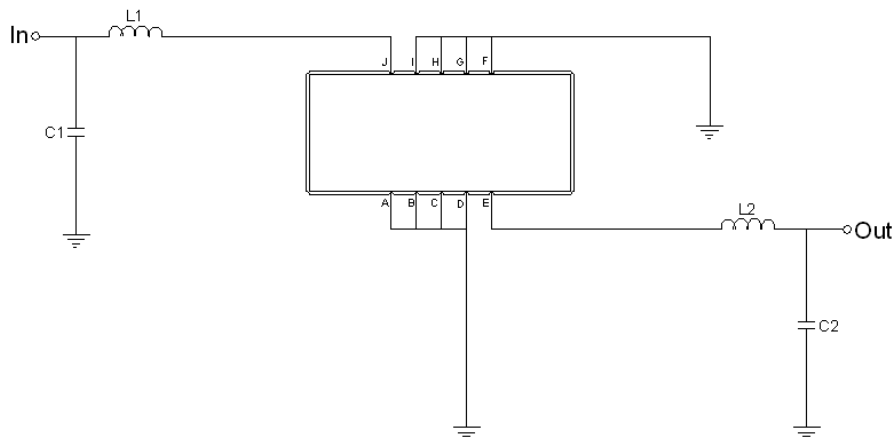
Package Dimensions



- ① SAWNICS: Brand
- ② SL020002A: 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



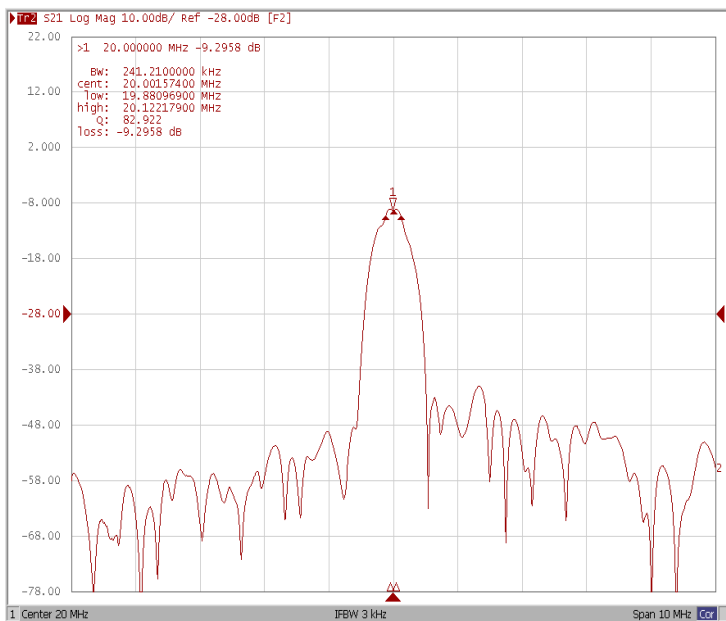
Test Fixture & Values	
Input	L1 = 820 nH, C1 = 160 pF
Output	L2 = 1000 nH, C2 = 270 pF
Source/Load Impedance	50 Ω



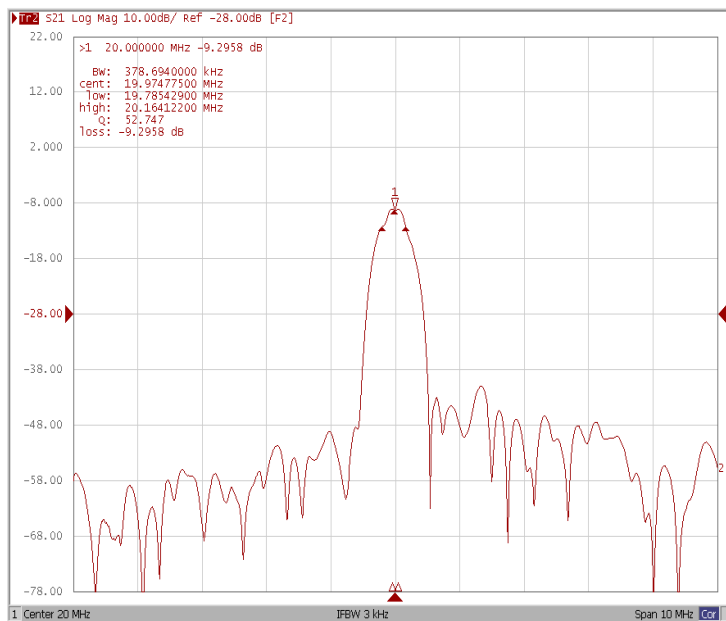
Frequency Characteristics

Frequency Response

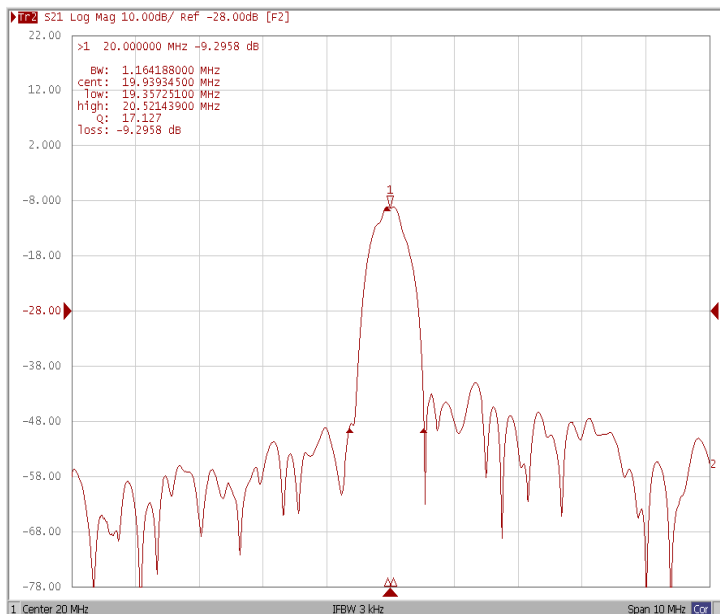
Bandwidth at -1.0 dB



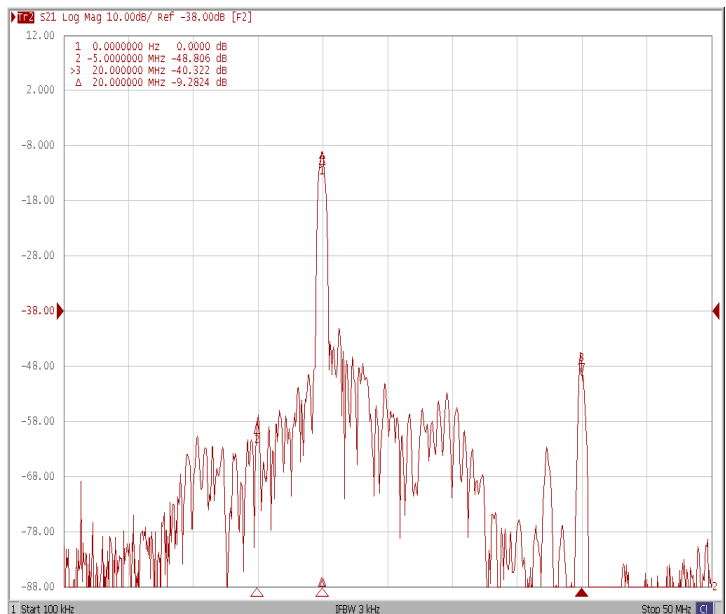
Bandwidth at -3.0 dB



Bandwidth at -40.0 dB



Wide-Band (DC~15MHz, @40MHz)

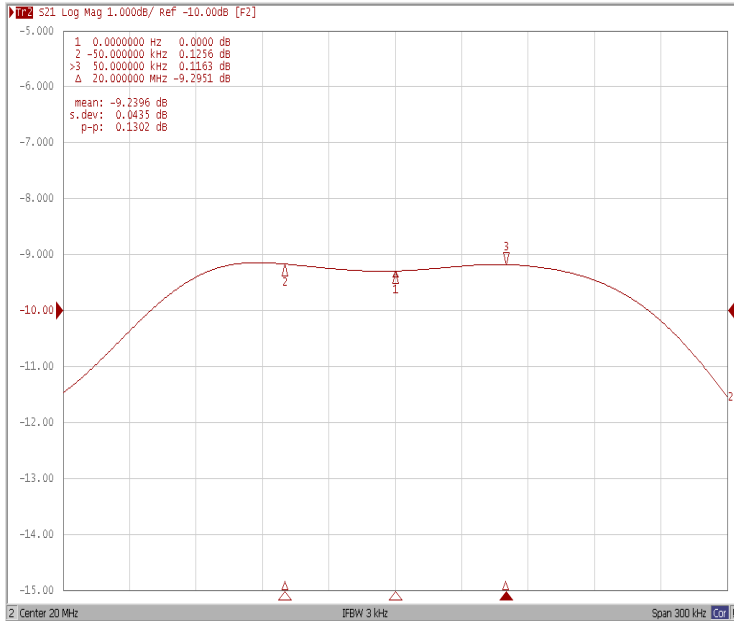




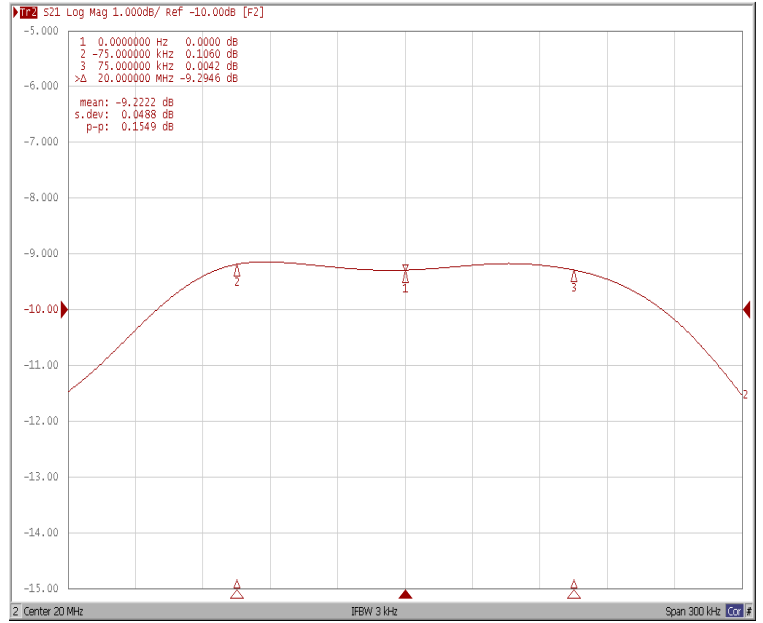
Frequency Characteristics

Frequency Response

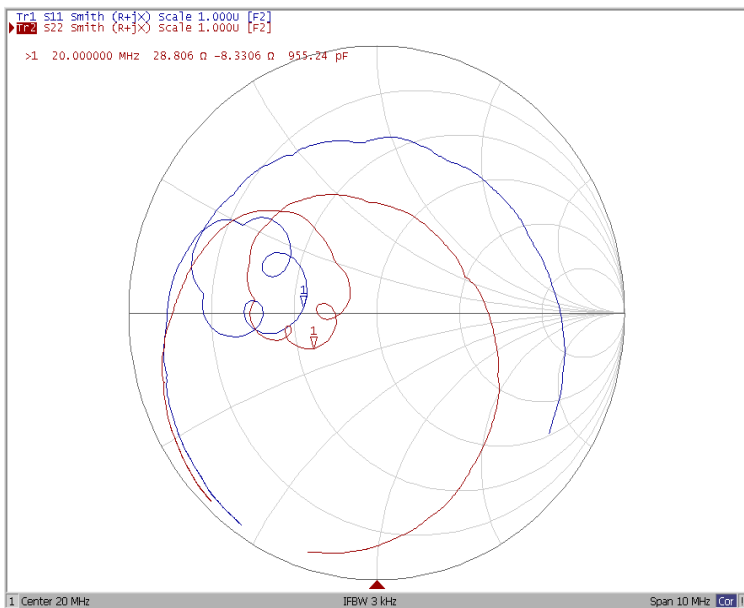
Ripple Variation $F_o \pm 0.05\text{MHz}$



Ripple Variation $F_o \pm 0.075\text{MHz}$



Smith Chart



VSWR

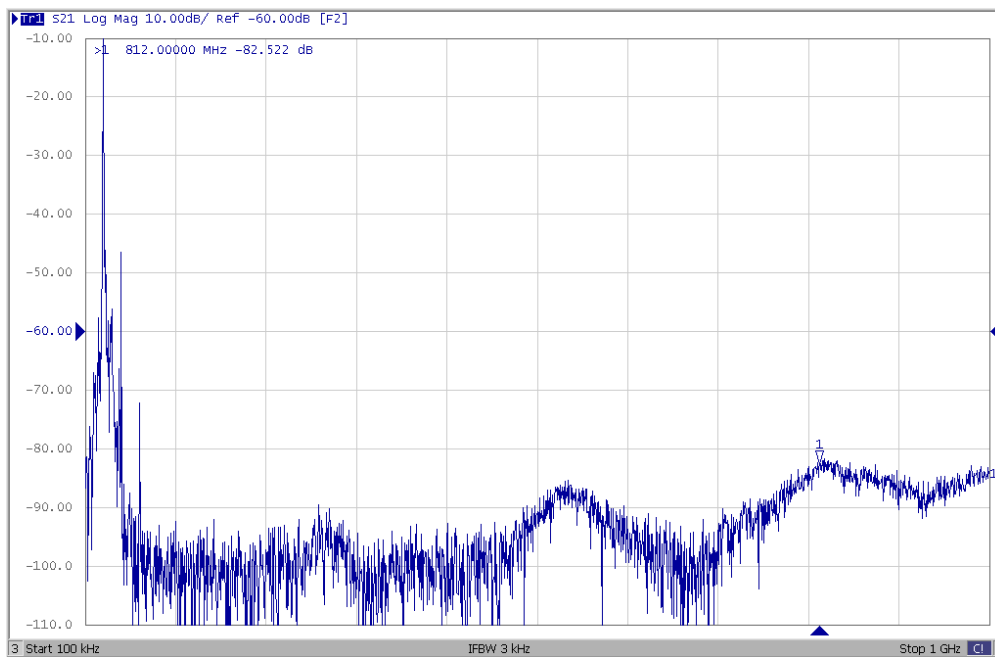




Frequency Characteristics

Frequency Response

WIDE_812MHz



WIDE_1.6GHz

