



Total Solution Provider in Saw Device

SF-020004-S90

200.00 MHz IF SAW Filter

18.91 MHz Bandwidth

Revision 0: November 2013



- 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	-5	-	+70
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	S90			
Length x Width	mm ²	-	13.3 x 6.5	-
Height	mm	-	-	1.8

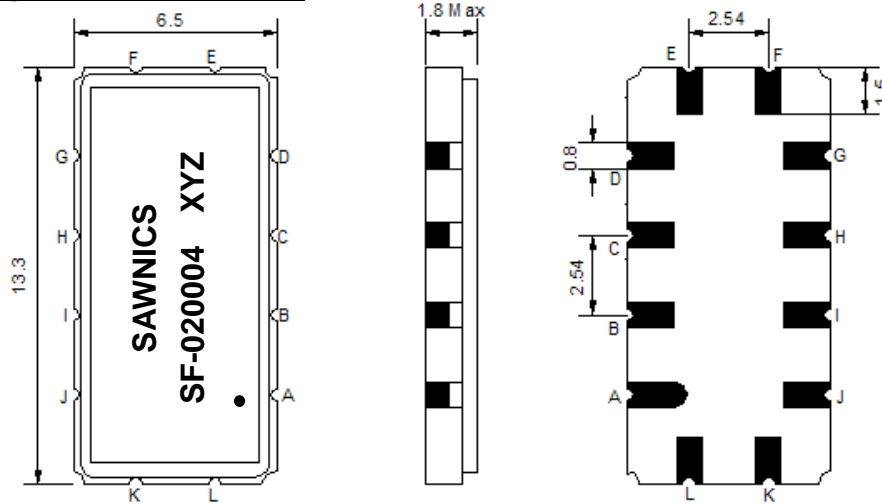
Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	200.0	-
Insertion Loss at Fo	dB	-	25.0	27.0
Group Delay Variation at Fo ± 9.0 MHz	nsec	-	25	70
Absolute Delay at Fo	usec	-	2.06	-
Passband Ripple Variation at Fo ± 9.0 MHz	dB	-	0.50	1.2
Bandwidth at -1dB	MHz	18.80	18.91	-
Bandwidth at -3dB	MHz	-	19.35	-
Bandwidth at -30dB	MHz	-	20.92	21.0
Bandwidth at -40dB	MHz	-	21.15	-
Ultimate Rejection	dB	50	55	-
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.

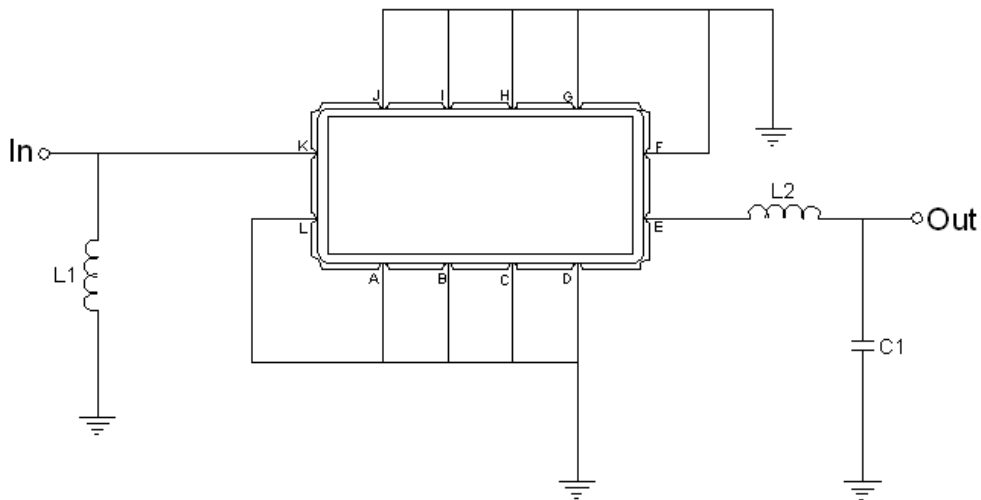
Package Dimensions



- ① SAWNICS: Brand
- ② SF-020004: 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, J, L	Ground
K	Input
E	Output

Testing Environment



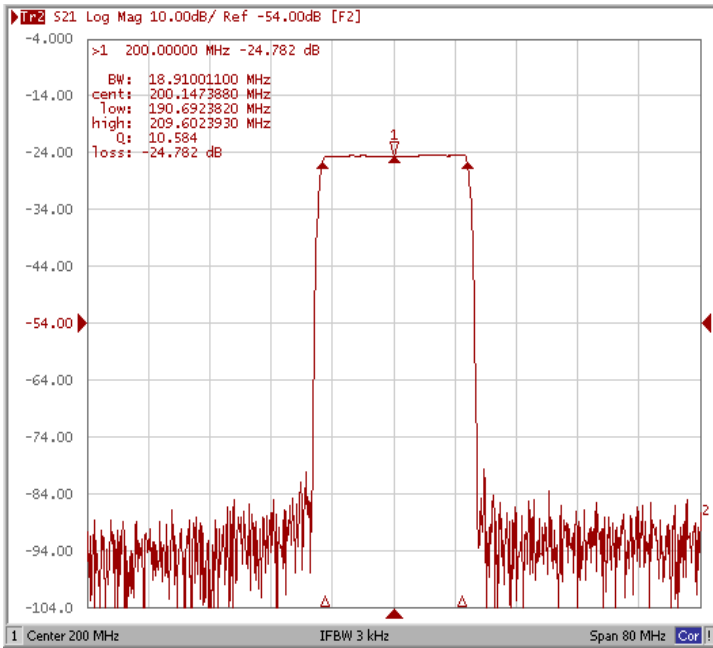
Test Fixture & Values	
Input	L1 = 22nH,
Output	L2 = 33nH, C1= 30pF
Source/Load Impedance	50 Ω

Frequency Characteristics

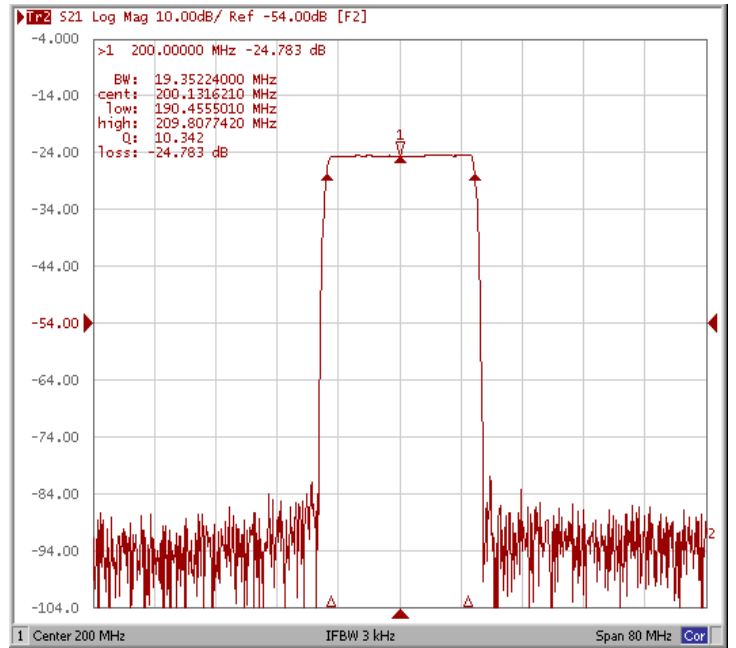
Frequency Response

Operating Temperature : +25 °C

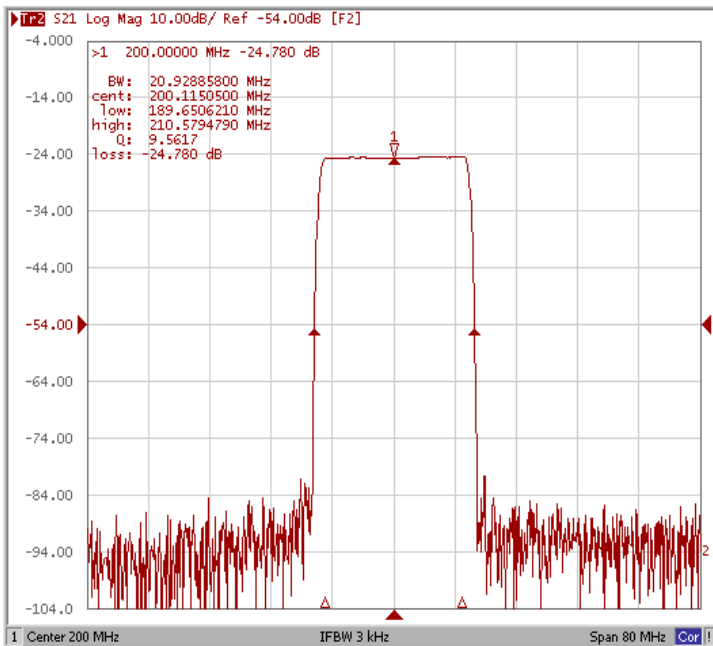
Bandwidth at -1 dB



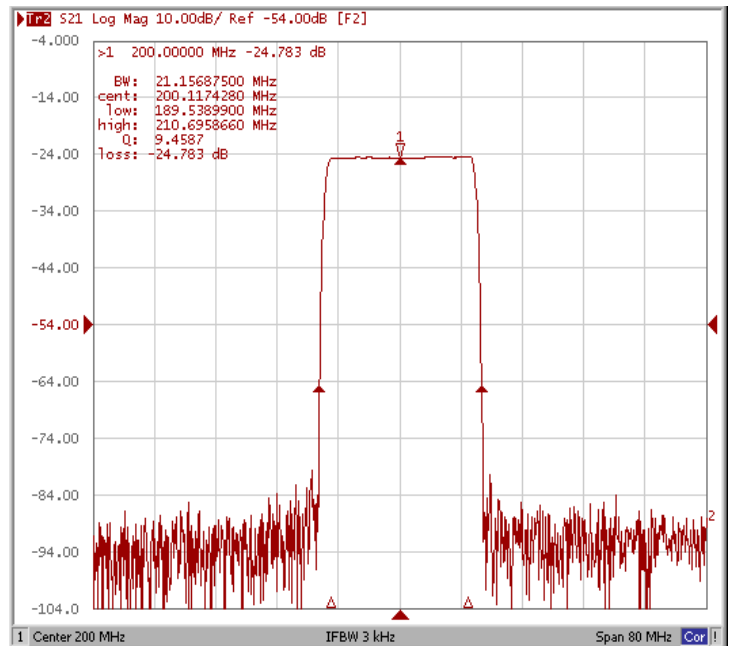
Bandwidth at -3 dB



Bandwidth at -30 dB



Bandwidth at -40 dB

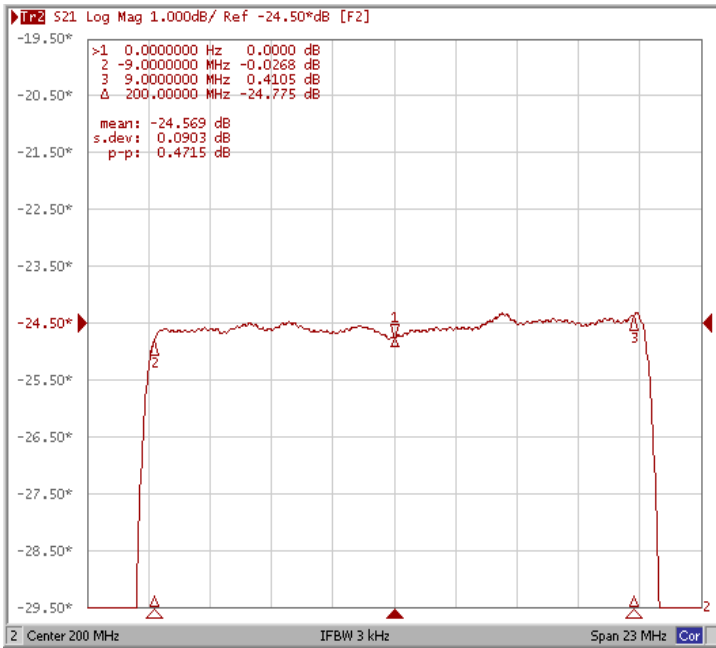




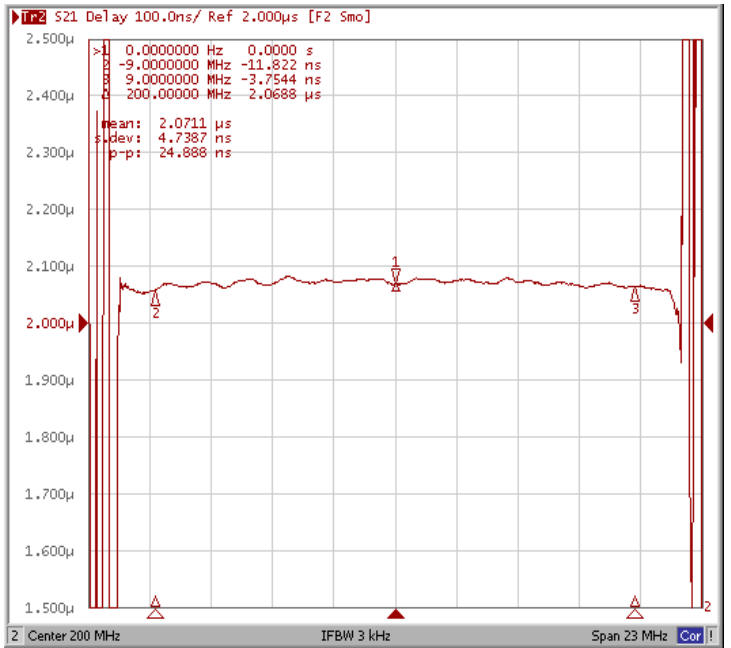
Frequency Characteristics

Frequency Response

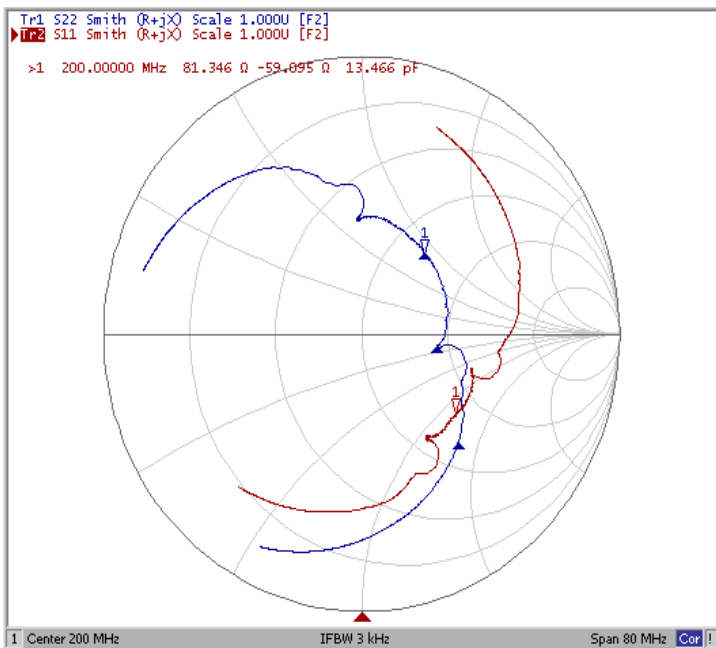
Ripple Variation $Fo \pm 9.0$ MHz



Group Delay Variation $Fo \pm 9.0$ MHz



Smith Chart



VSWR

