



Total Solution Provider in Saw Device

SL13820AV

138.24 MHz IF SAW Filter
21.95 MHz Bandwidth
Revision 0: 28. Nov. 2008



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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	-40	-	85
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	V			
Length x Width	mm ²	-	13.3 x 6.5	-
Height	mm	-	-	1.8

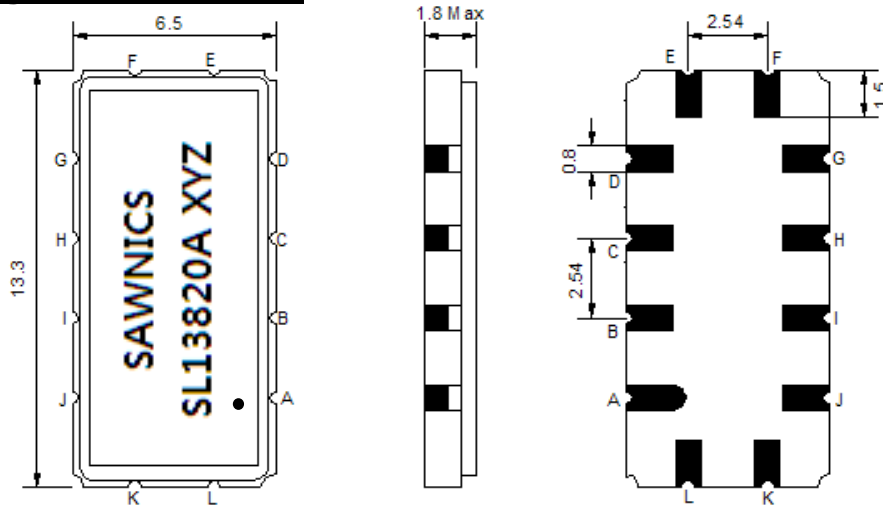
Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	138.24	-
Insertion Loss at Fo	dB	-	10.2	12.00
Group Delay Variation (128.24MHz ~ 148.24MHz)	nsec	-	26.8	50
Absolute Delay at Fo	usec	-	0.85	-
Passband Ripple Variation(128.24MHz~148.24MHz)	dB	-	0.5	1.0
Bandwidth at -1dB	MHz	-	21.95	-
Bandwidth at -3dB	MHz	-	23.23	-
Bandwidth at -40dB	MHz	-	28.25	30
Relative Attenuation				
@ 0 MHz ~ 108.24 MHz	dBc	58	60	
@108.24MHz ~ 117.52MHz	dBc	52	56	
@122.88MHz	dBc	45	60	
@220.4MHz ~ 271.12MHz	dBc	58	80	
@271.12MHz ~ 1000MHz	dBc	40	60	
Temperature Coefficient	ppm/°C	-	-86	-

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.

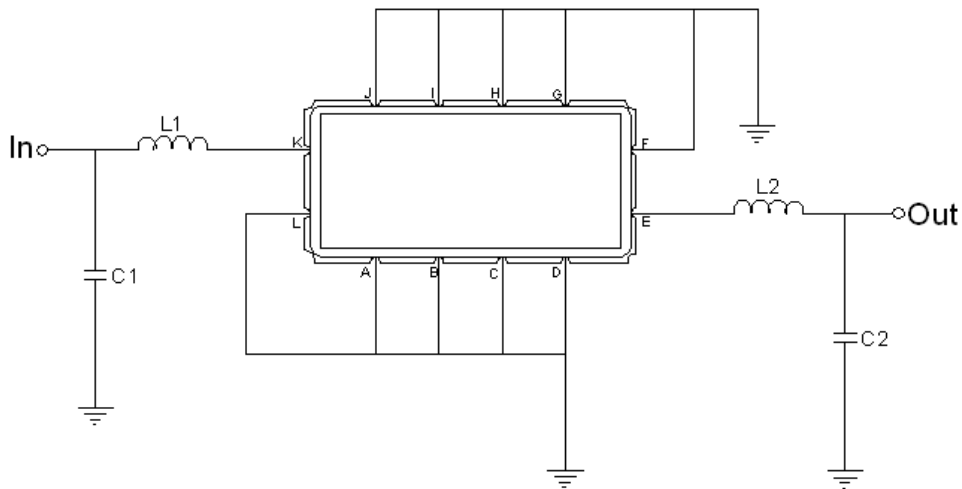
Package Dimensions



- ① SAWNICS: Brand
- ② SL13820A: 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



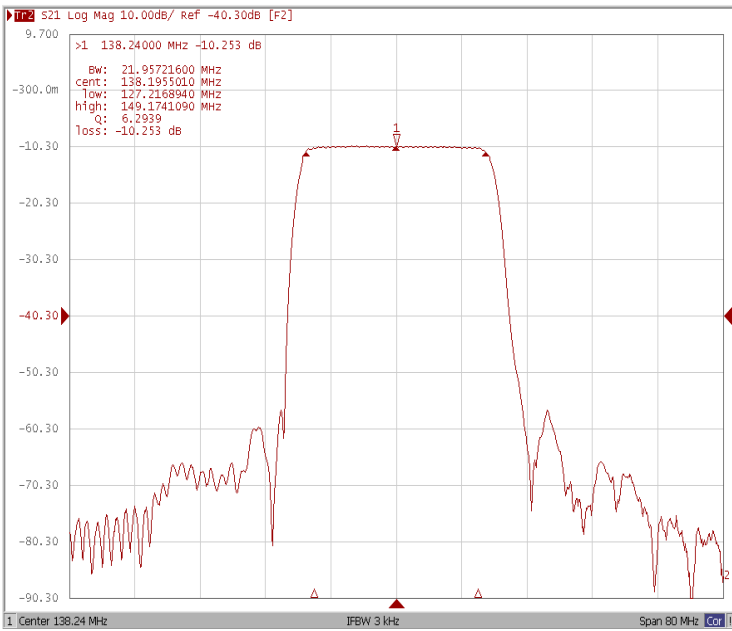
Test Fixture & Values	
Input	L1 = 47 nH , C1 = 27 pF
Output	L2 = 56 nH , C2 = 27 pF
Source/Load Impedance	50 Ω



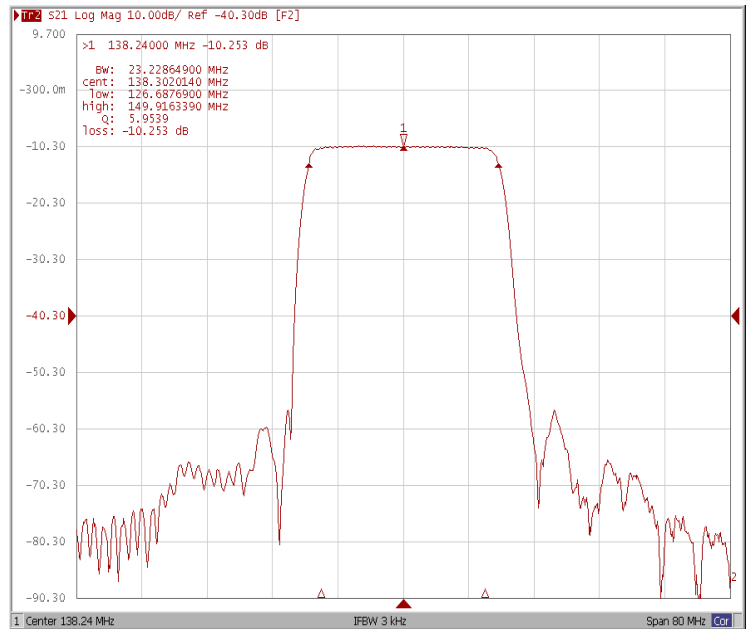
Frequency Characteristics

Frequency Response

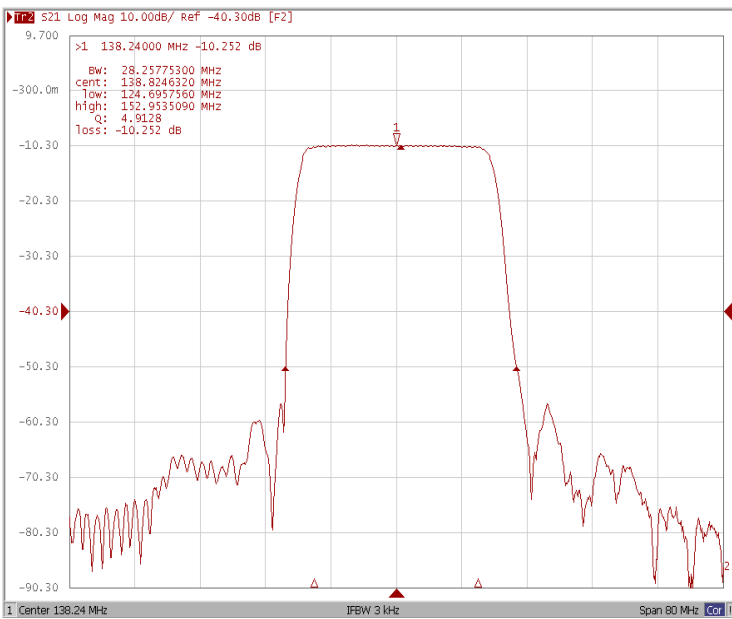
Bandwidth at -1.0 dB



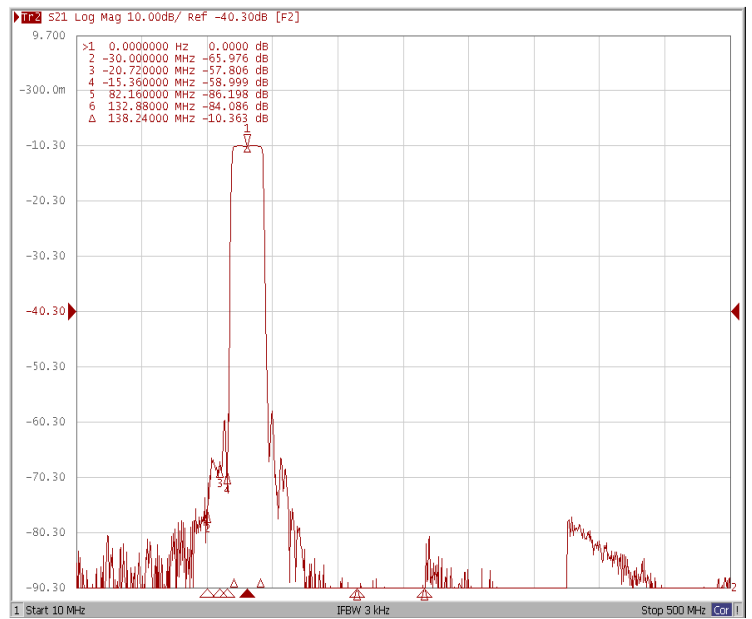
Bandwidth at -3.0 dB



Bandwidth at -40.0 dB



Relative Attenuation

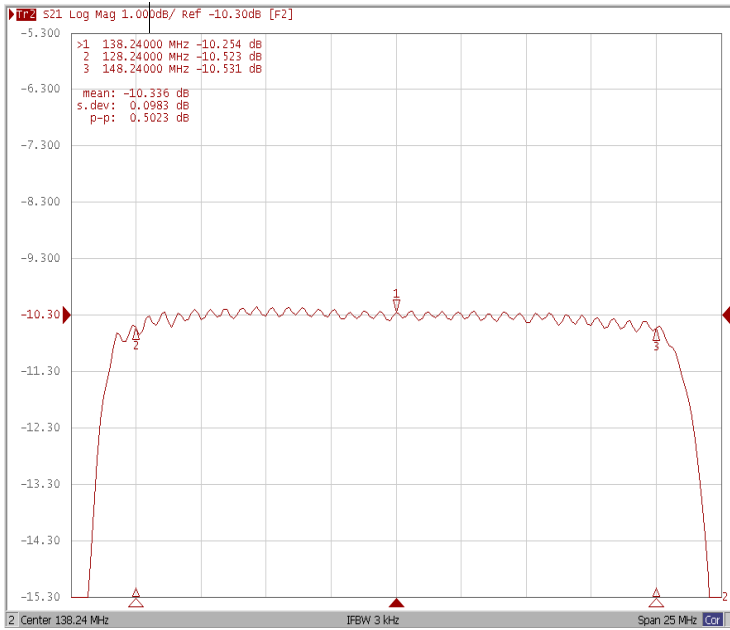




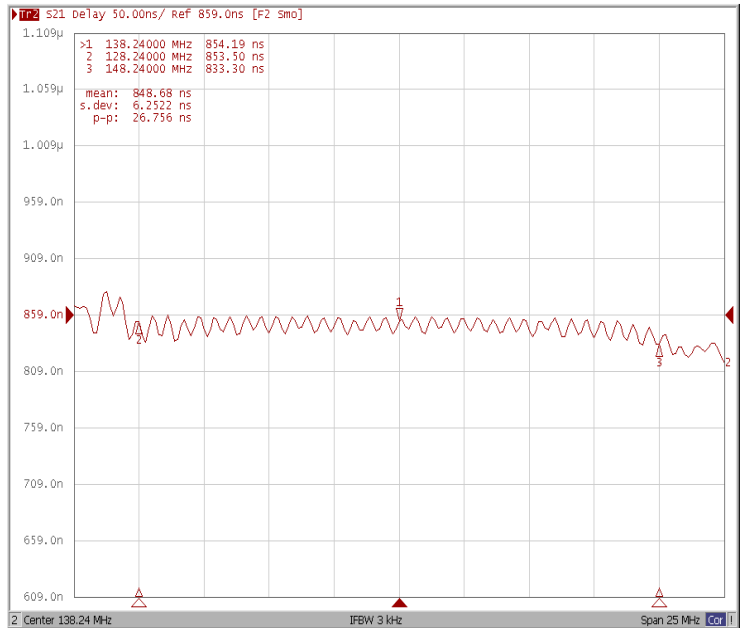
Frequency Characteristics

Frequency Response

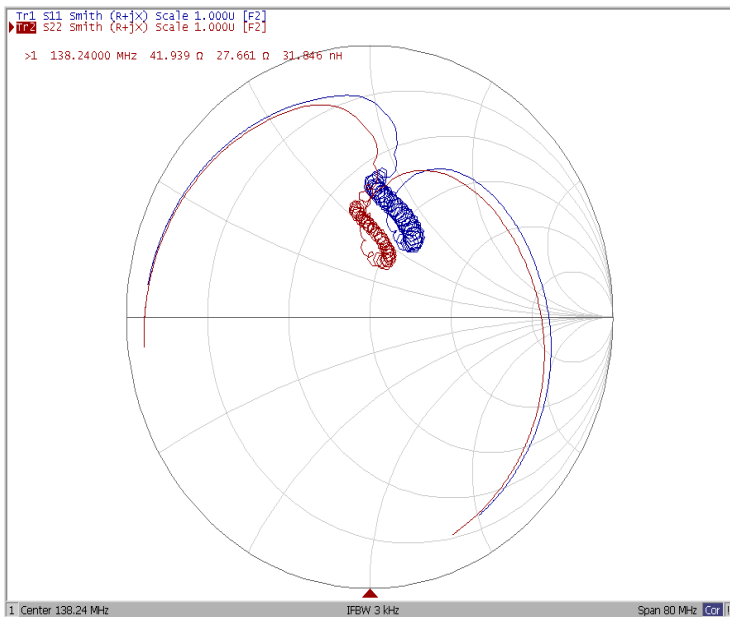
Ripple Variation (128.24MHz ~ 148.24MHz)



Group Delay Variation F(128.24MHz ~ 148.24MHz)



Smith Chart



VSWR

