



Total Solution Provider in Saw Device

SA14516AD1

145.0 MHz IF SAW Filter
16.25 MHz Bandwidth
Revision 0: 09. Feb. 2009



-
- Electrical Characteristics
 - Package Dimensions
 - Testing Environment
 - Frequency Characteristics
-

SAWNICS Inc.

460 Cheonheung-ri, Seonggeo-eup, Cheonan-si, Chungcheongnam-do, 330-836 / Korea.
Tel: +82 41 550 9372 / Fax: +82 41 550 9399 / www.sawnics.com

□ 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

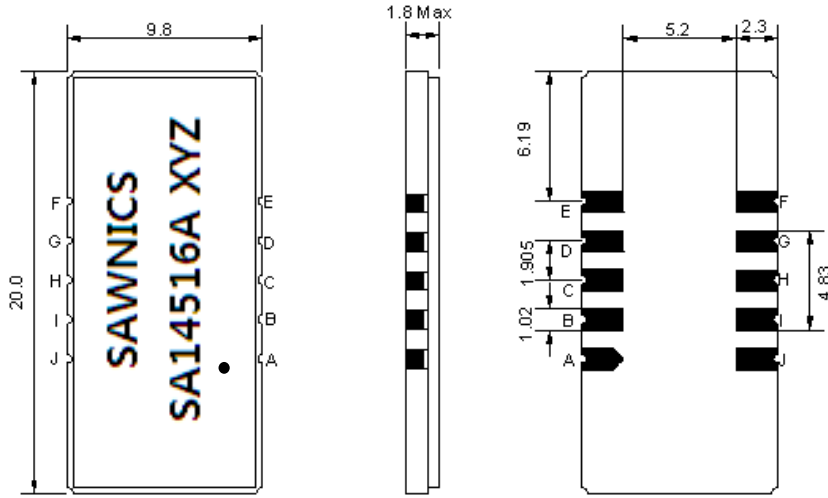
Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	145.0	-
Insertion Loss at Fo	dB	-	20.6	23.0
Group Delay Variation (Fo±7.56MHz)	ns	-	58	80
Absolute Delay	us	-	2.3	-
Passband Ripple (Fo±7.56MHz)	dB	-	0.7	1.0
Bandwidth at -1dB	MHz	15.80	16.25	-
Bandwidth at -10dB	MHz	-	17.12	-
Bandwidth at -20dB	MHz	-	17.50	-
Bandwidth at -40dB	MHz	-	17.90	-
Ultimate Rejection	dB	45	50	-
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.

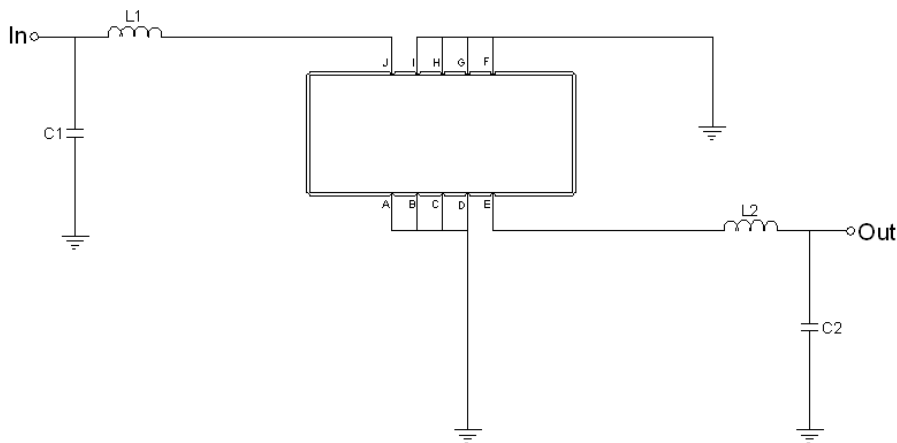
□ Package Dimensions



- ① SAWNICS: Brand
- ② SA14516A: 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

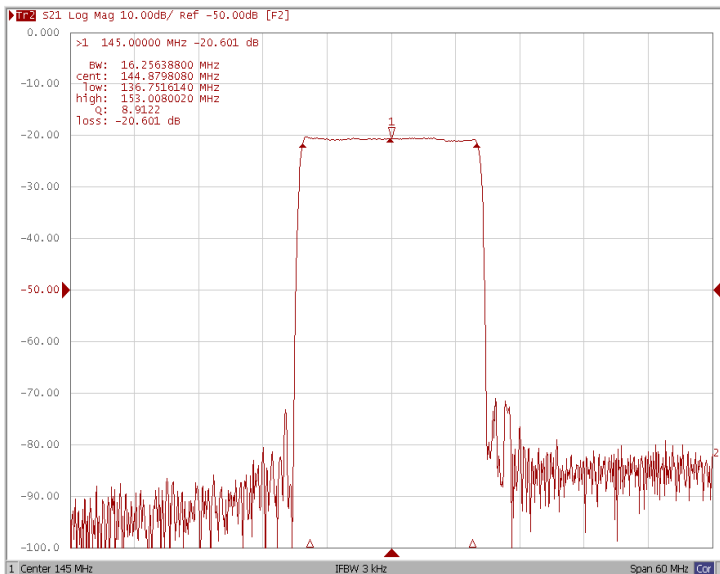


Test Fixture & Values	
Input	L1=33nH, C1=14pF
Output	L2=39nH, C2=22pF
Source/Load Impedance	50 Ω

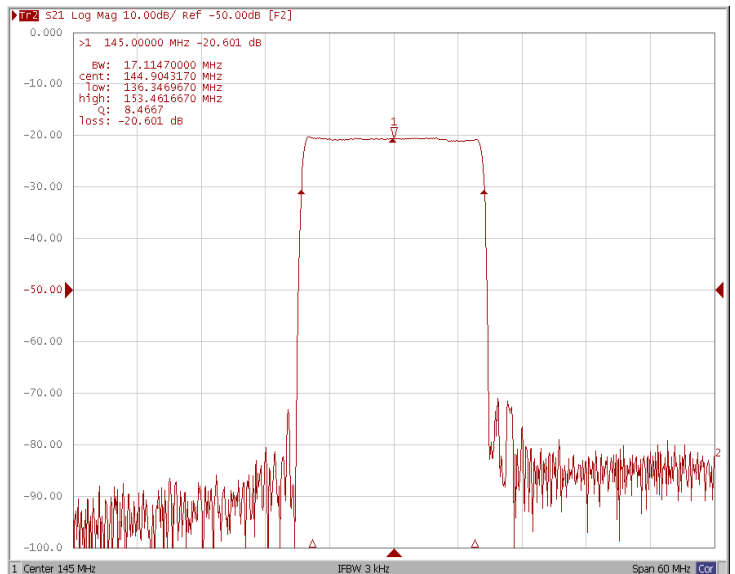
□ Frequency Characteristics

Frequency Response

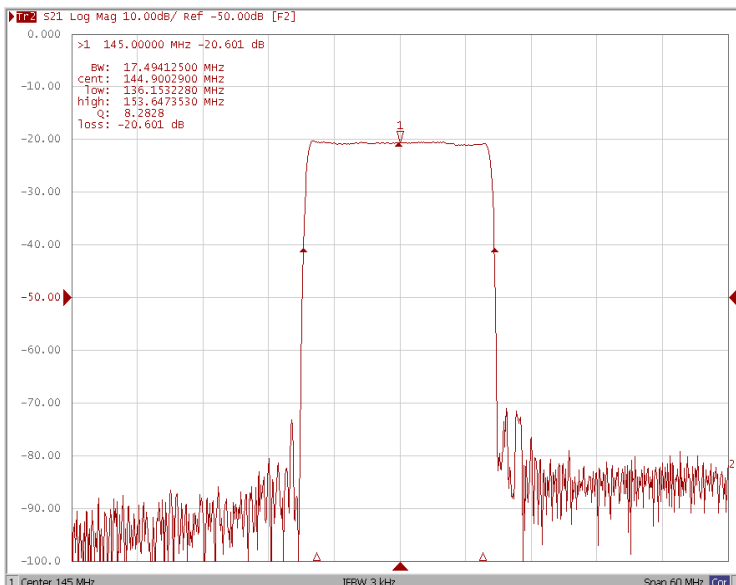
Bandwidth at -1.0 dB



Bandwidth at -10.0 dB



Bandwidth at -20.0 dB



Bandwidth at -40.0 dB



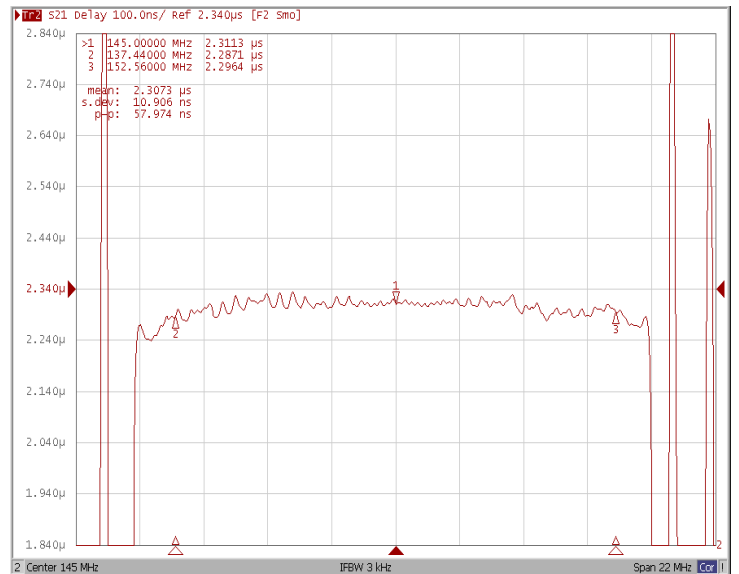
□ Frequency Characteristics

Frequency Response

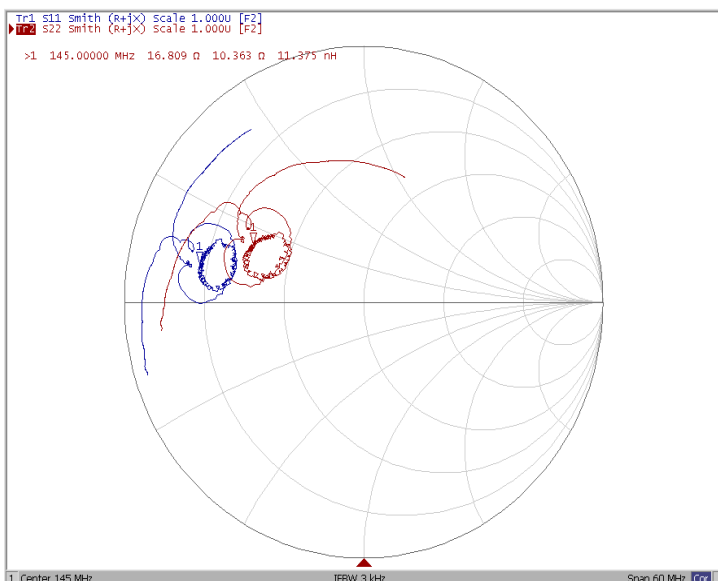
Ripple Variation $Fo \pm 7.56\text{MHz}$



Group Delay Variation $Fo \pm 7.56\text{MHz}$



Smith Chart



VSWR

