



*Total Solution Provider in Saw Device*

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# SA04510AD1

45.0 MHz IF SAW Filter  
10.0 MHz Bandwidth  
Revision 0: 19. May. 2008



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

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## □ Electrical Characteristics

### Maximum Ratings

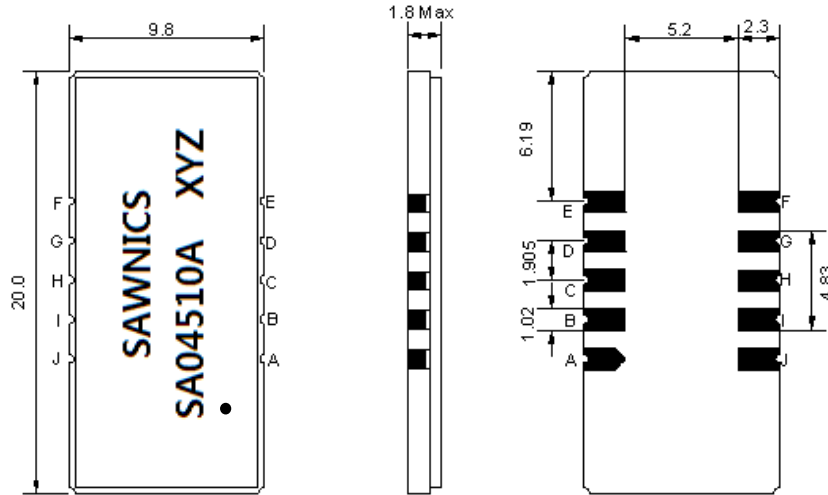
Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	-30	-	80
Storage Temperature Range	°C	-40	-	85
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	D1			
Length x Width	mm <sup>2</sup>	-	20.0 x 9.8	-
Height	mm	-	-	1.8

### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	44.9	45.0	45.1
Insertion Loss at Fo	dB	-	24.0	26.0
Group Delay Variation at Fo ±4.42 MHz	nsec	-	45	100
Absolute Delay at Fo	usec	-	2.48	-
Passband Ripple Variation at Fo ±4.42 MHz	dB	-	0.4	0.8
Bandwidth at -1dB	MHz	9.70	10.00	-
Bandwidth at -3dB	MHz	-	10.40	-
Bandwidth at -40dB	MHz	-	11.90	-
Ultimate Rejection	dB	48	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.

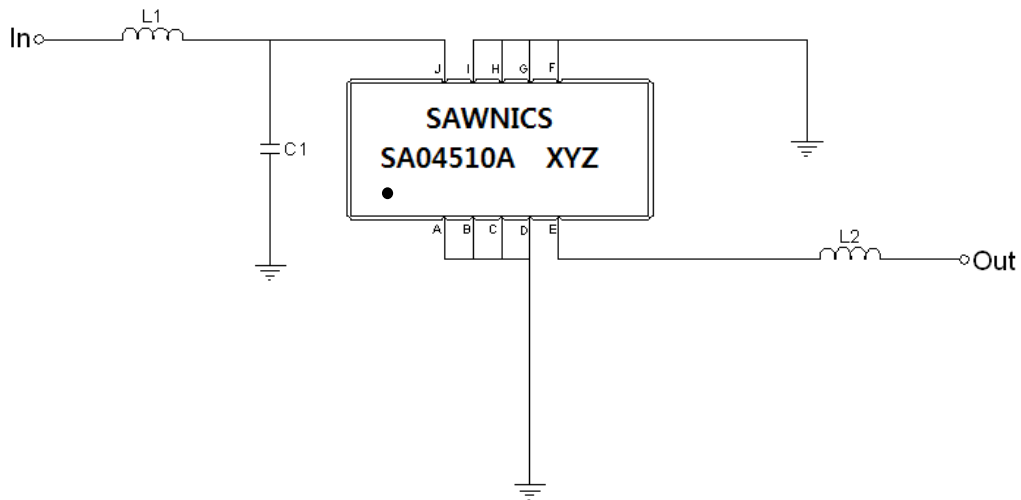
### Package Dimensions



- ① SAWNICS: Brand
- ② SA04510A: 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 = 220 nH , C1 = 30 pF
Output	L2 = 220 nH
Source/Load Impedance	50 Ω



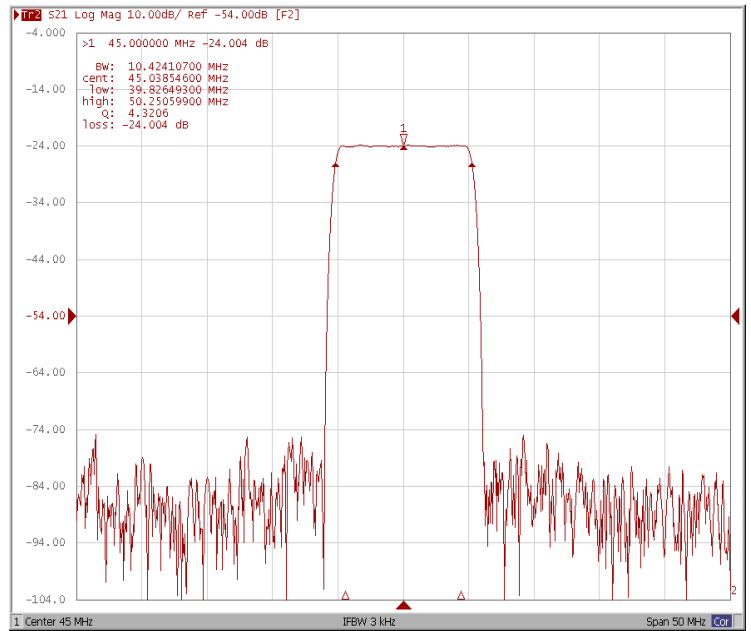
**Frequency Characteristics**

**Frequency Response**

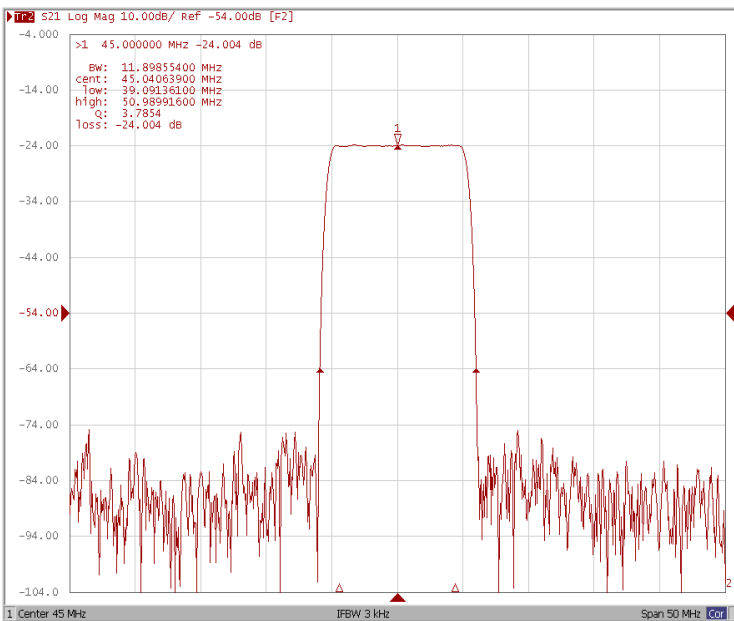
**Bandwidth at -1.0 dB**



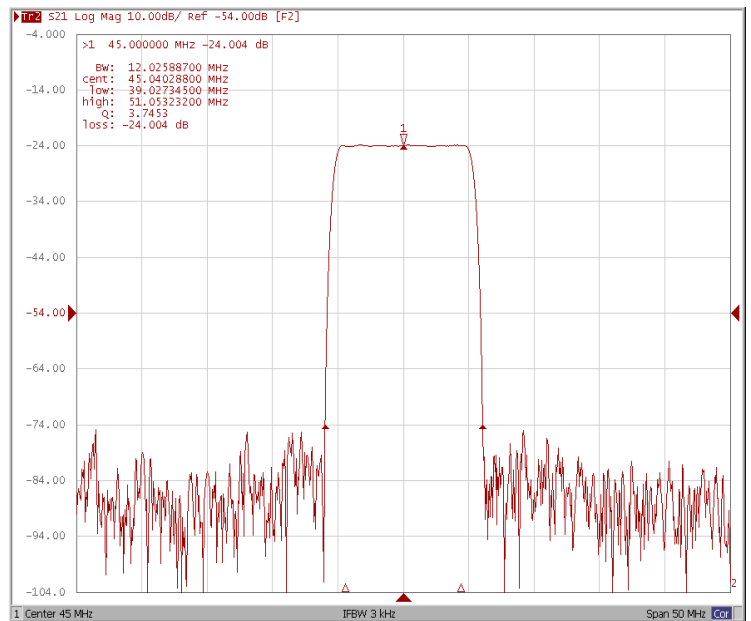
**Bandwidth at -3.0 dB**



**Bandwidth at -40.0 dB**



**Bandwidth at -50.0 dB**

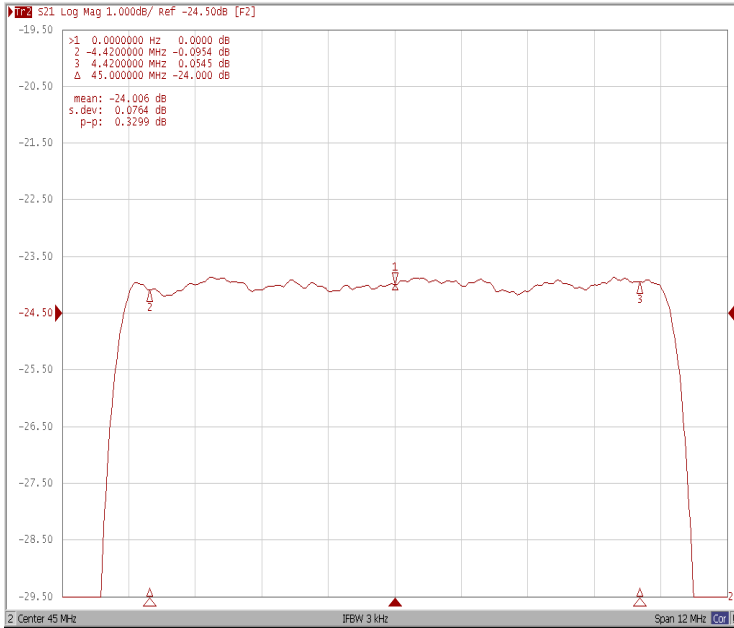




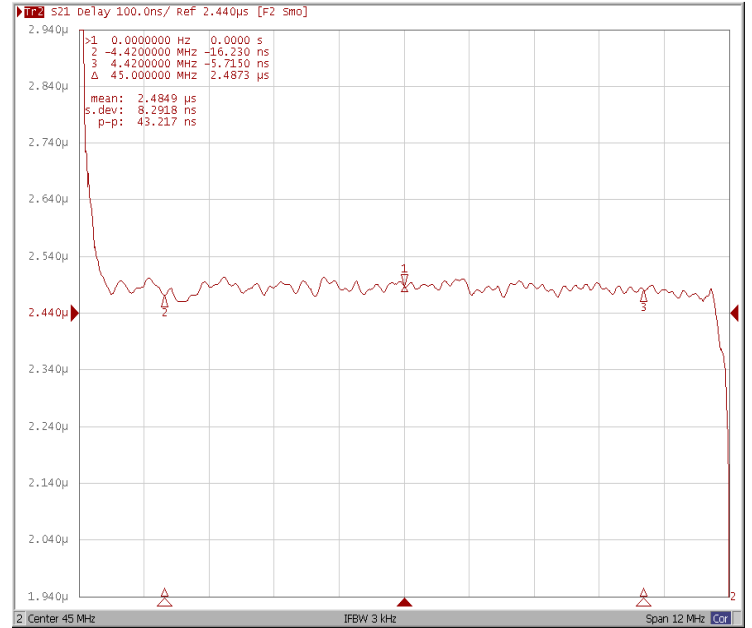
# Frequency Characteristics

## Frequency Response

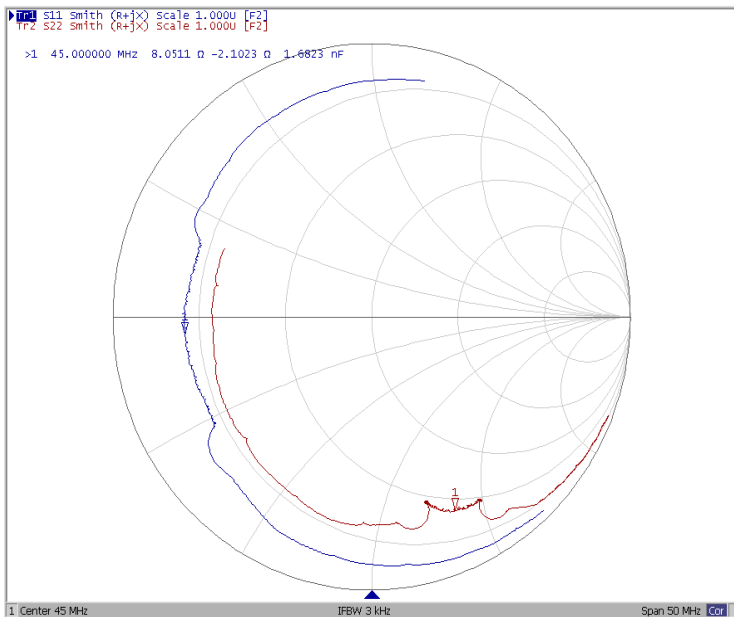
Ripple Variation Fo±4.42MHz



Group Delay Variation Fo±4.42MHz



Smith Chart



SWR

