



*Total Solution Provider in Saw Device*

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# SA10920AD1

109.5 MHz IF SAW Filter  
20.35 MHz Bandwidth  
Revision 0: 22. July. 2008

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

### Maximum Ratings

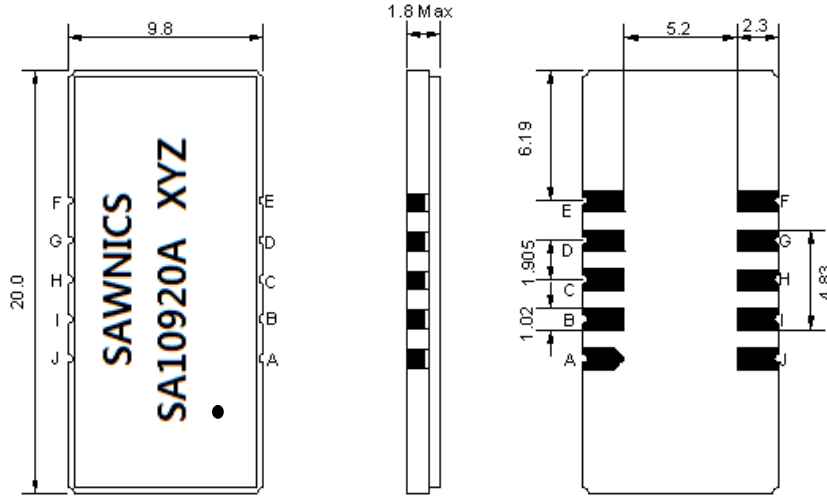
Parameters Description	Unit	Minimum	Typical	Maximum
Operation Temperature Range	°C	0		70
Storage Temperature Range	°C	-30	-	80
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	D1			
Length x Width	mm <sup>2</sup>	-	20.0x 9.8	-
Height	mm	-	-	1.8

### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	109.5	-
Insertion Loss at Fo	dB	-	21.37	25.0
Group Delay Variation (Fo±9.22MHz)	ns	-	40	80
Absolute Delay	us	-	1.89	-
Passband Ripple (Fo±9.22MHz)	dB	-	0.45	1.0
Bandwidth at -1dB	MHz	20.00	20.35	-
Bandwidth at -10dB	MHz	-	21.40	21.80
Bandwidth at -20dB	MHz	-	21.90	22.20
Bandwidth at -30dB	MHz	-	22.20	22.50
Bandwidth at -45B	MHz	-	22.50	-
Ultimate Rejection	dB	-	50	-
Temperature Coefficient of Frequency	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.

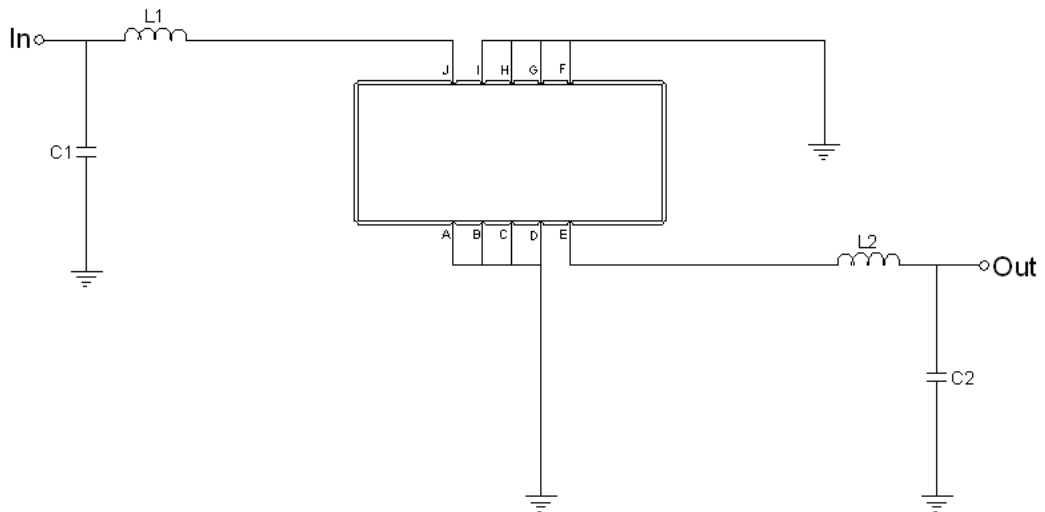
### Package Dimensions



- ① SAWNICS: Brand
- ② SA10920A: 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

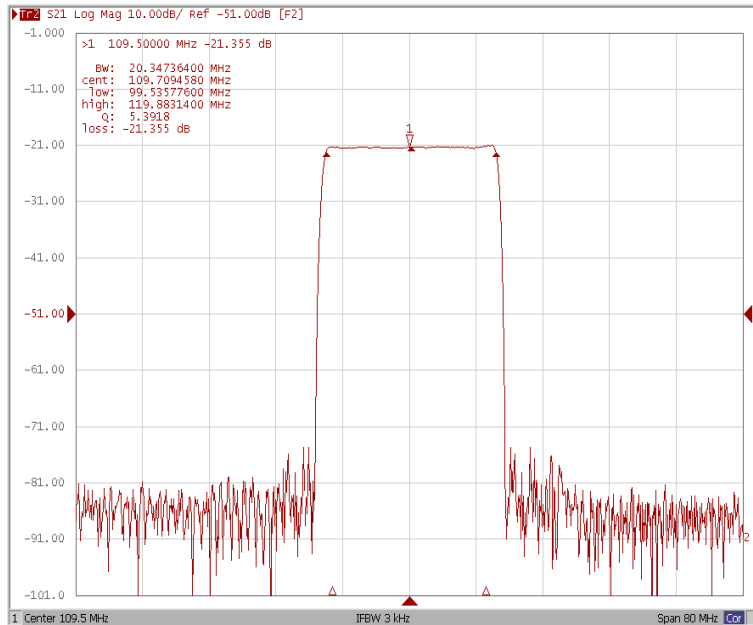


Test Fixture & Values	
Input	L1=68 nH, C1=16 pF
Output	L2=68 nH, C2=16 pF
Source/Load Impedance	50 Ω

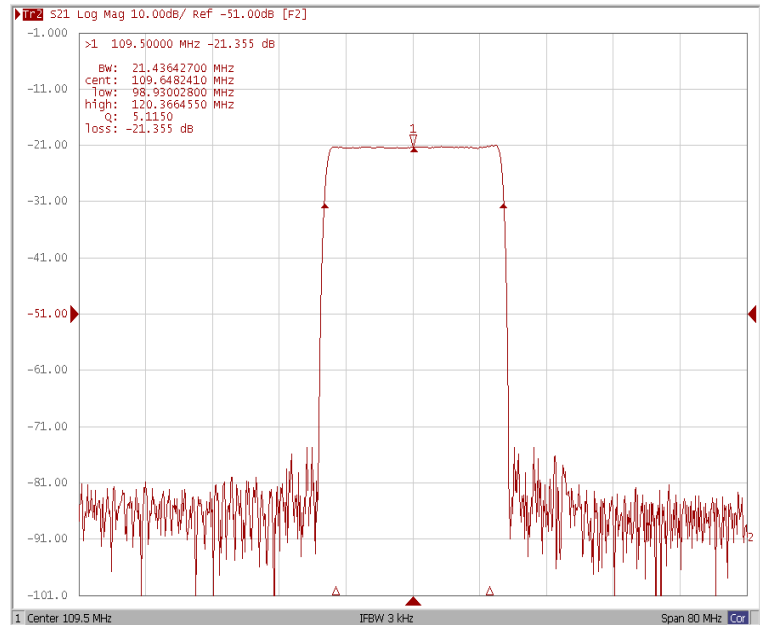
### Frequency Characteristics

#### Frequency Response

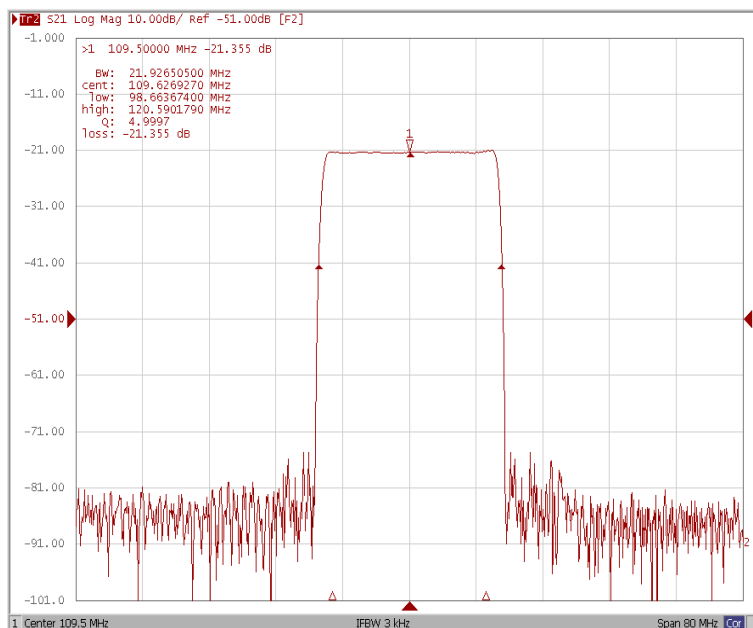
**Bandwidth at -1.0 dB**



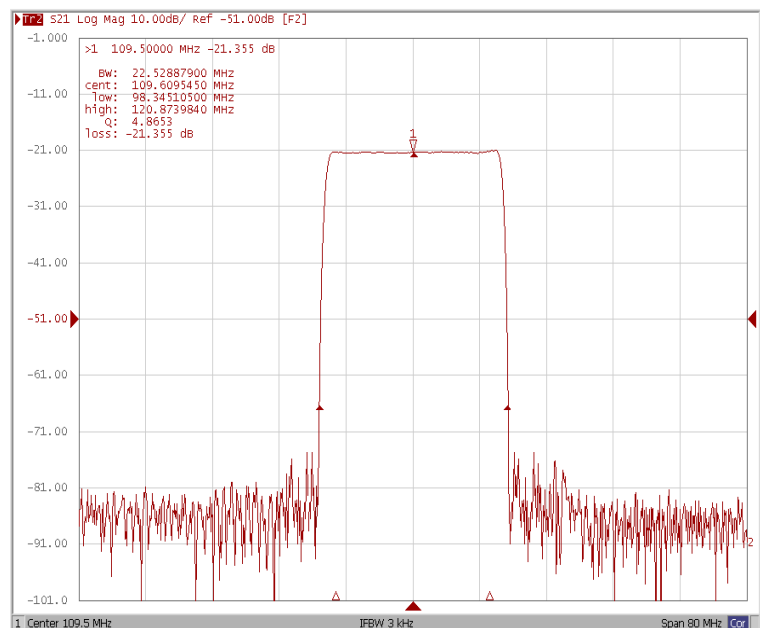
**Bandwidth at -10.0 dB**



**Bandwidth at -20.0 dB**



**Bandwidth at -45.0 dB**

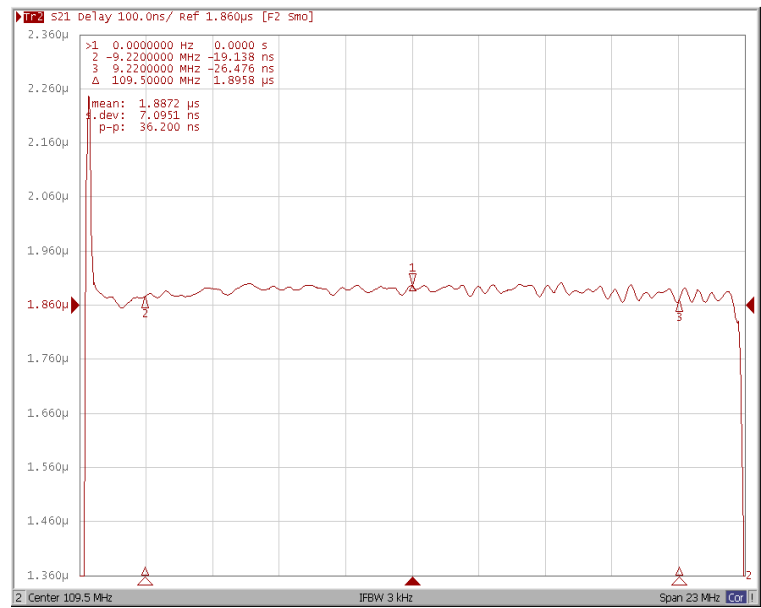
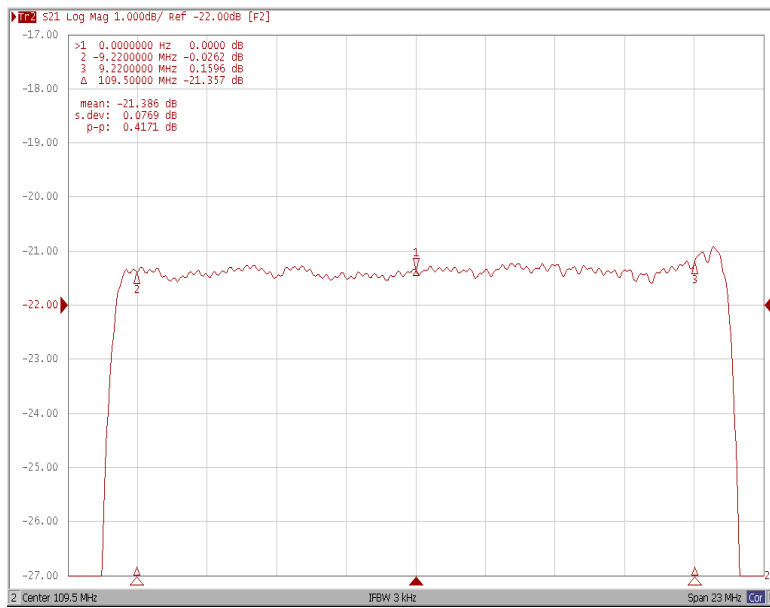


### Frequency Characteristics

#### Frequency Response

Ripple Variation Fo±9.22MHz

Group Delay Variation Fo±9.22MHz



Smith Chart

VSWR

