



*Total Solution Provider in Saw Device*

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# SA38004AV

380.0MHz IF SAW Filter  
4.57MHz Bandwidth  
Revision 0: 10. June. 2008



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

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operating 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	V			
Length x Width	mm <sup>2</sup>	-	13.3 x 6.5	-
Height	mm	-	-	1.8

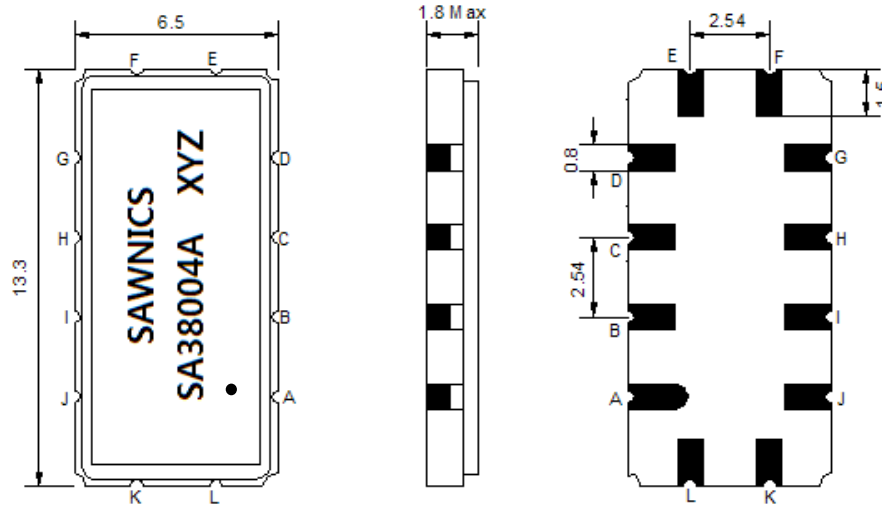
### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	379.80	380.0	380.20
Insertion Loss at Fo	dB	-	20.5	23.0
Amplitude Ripple Variation	dB <sub>p-p</sub>	-	0.55	1.0
Group Delay Variation	nsec	-	85	150
Phase Linearity Variation	deg	-	5.2	10.0
Absolute Delay at Fo	μsec	-	1.45	-
Temperature Coefficient	ppm/°C	-	-0.03	-
Bandwidth at -1.0 dB	MHz	4.0	4.10	-
Bandwidth at -3.0 dB	MHz	4.3	4.57	-
Bandwidth at -40.0 dB	MHz	-	6.20	6.50
<b>Relative Attenuation:</b>				
Lower Sidelobe	dB	45	50	-
Upper Sidelobe	dB	45	50	-

**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.

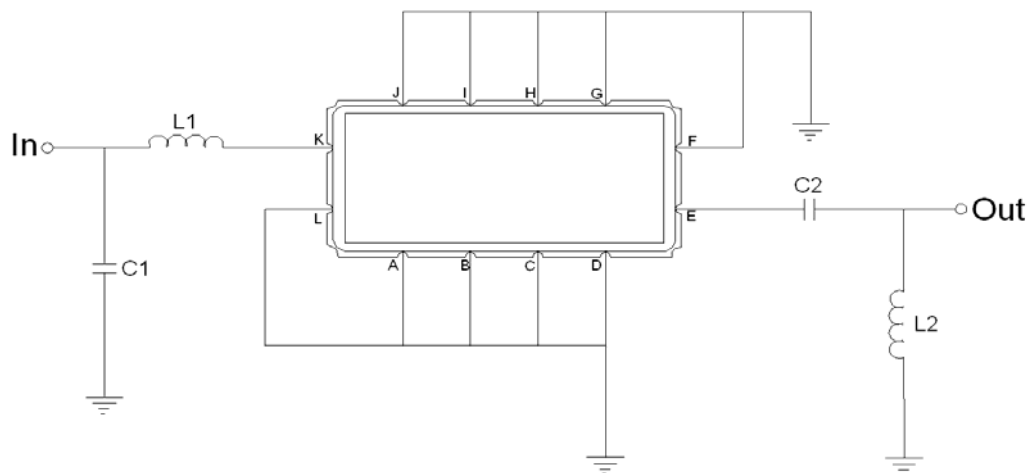
### Package Dimensions



- ① SAWNICS: Brand
- ② SA38004A: 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

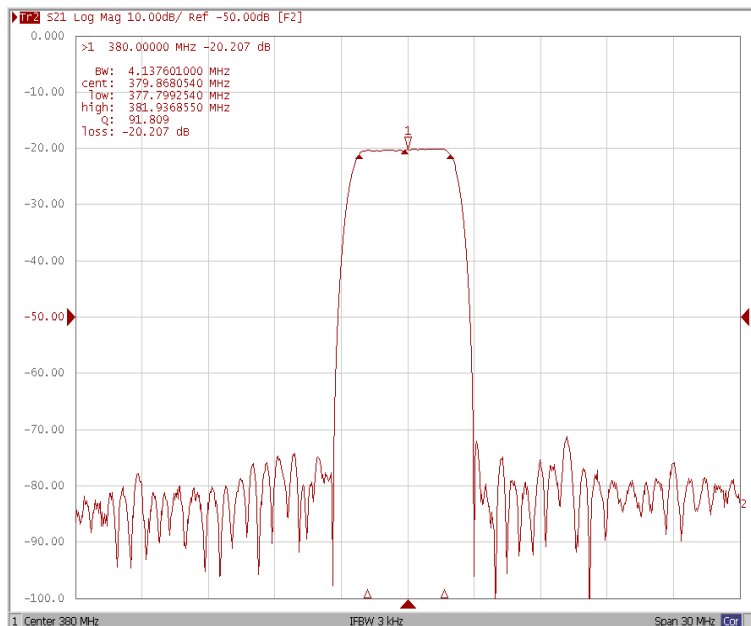


Test Fixture & Values	
Input	L1=5.6nH , C1=22pF
Output	L2=22nH , C2=5.6pF
Source/Load Impedance	50 Ω

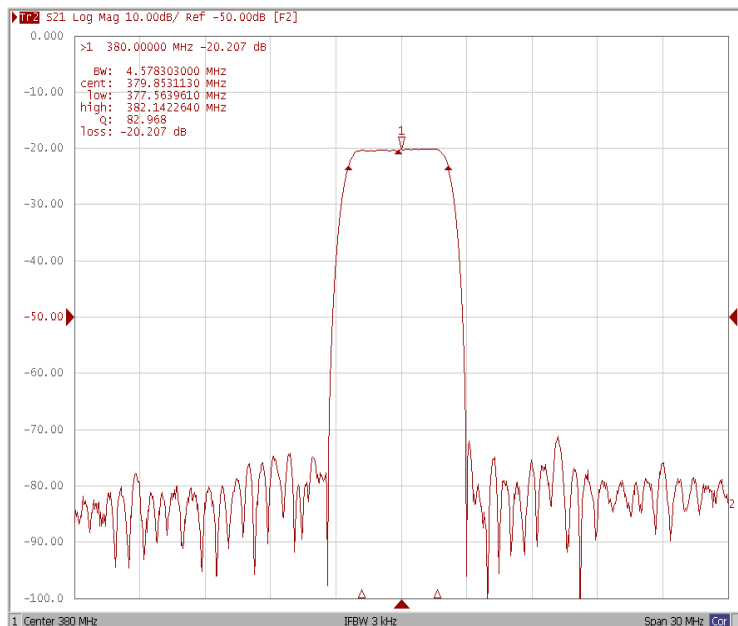
### Frequency Characteristics

#### Frequency Response

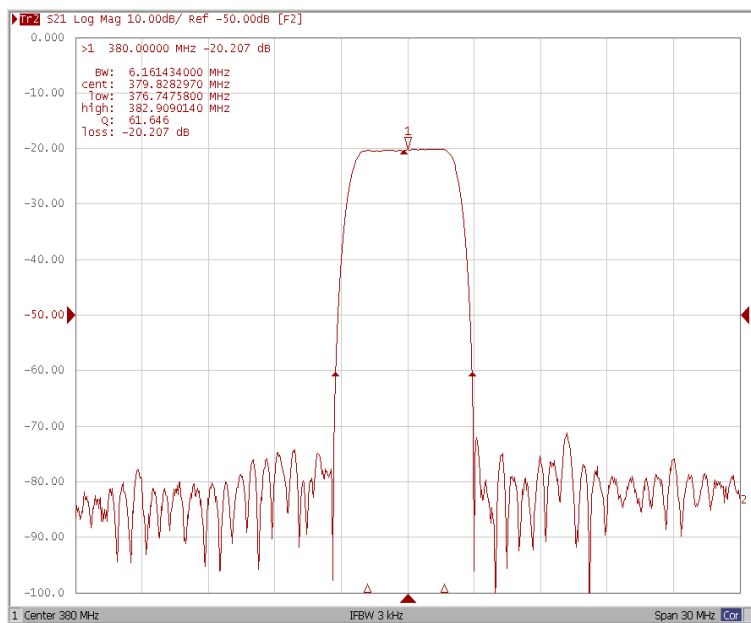
**Bandwidth at -1.0 dB**



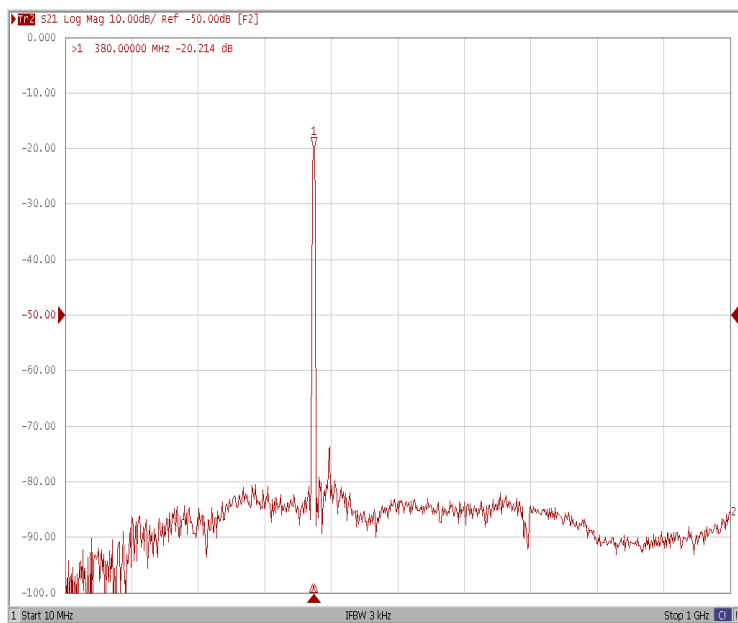
**Bandwidth at -3.0 dB**



**Bandwidth at -40.0 dB**



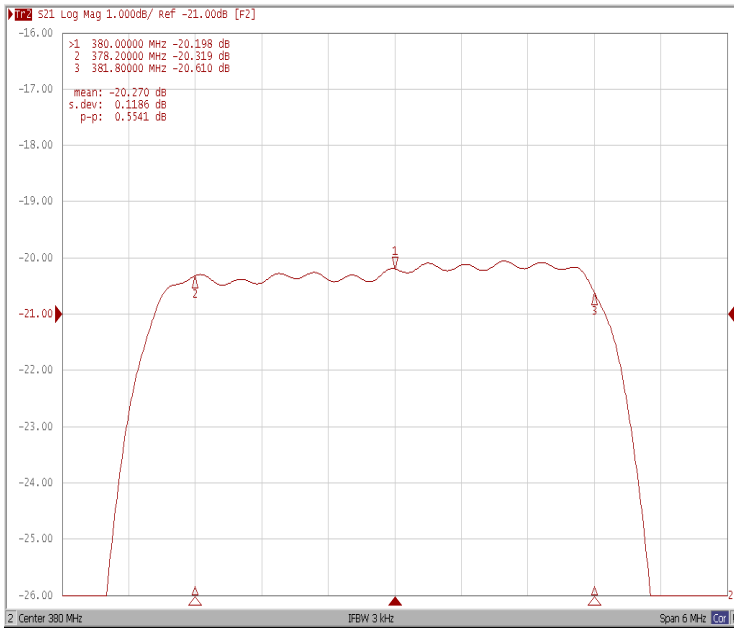
**Wide-Band**



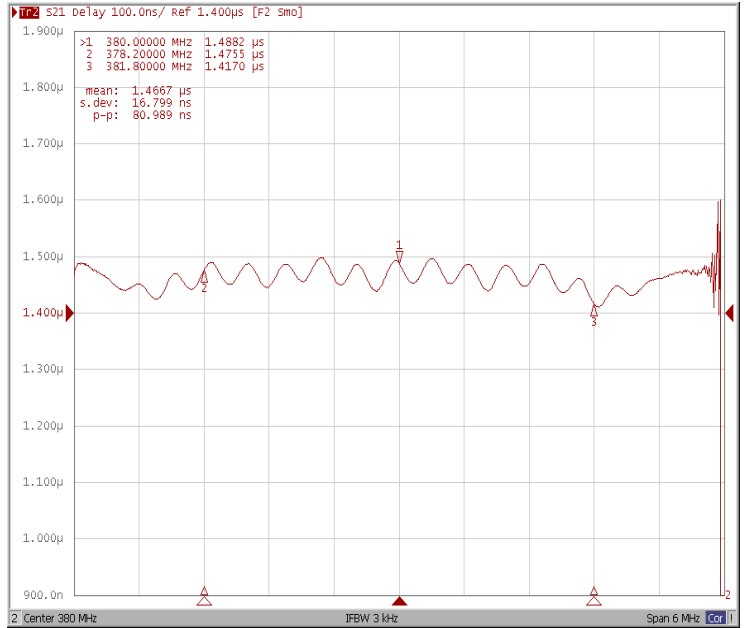
### Frequency Characteristics

#### Frequency Response

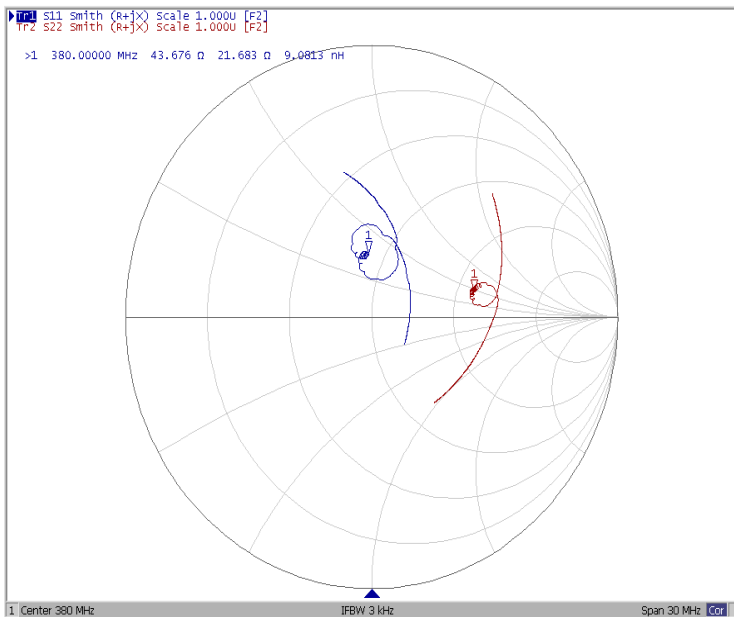
Ripple Variation Fo±1.8MHz



Group Delay Variation Fo±1.8MHz



Smith Chart



Phase Linearity Variation Fo±1.8MHz

