Acoustic Chip Technology
Shengxin

DATASHEET

of SAW Devices

SAW Filter

Part Number: SXF0070RBNSS10

Center Frequency: 70.00MHz

Package: SMD1365

- Package Dimensions
- Testing Environment
- Electrical Characteristics
- Frequency Characteristics
- Remark and Packing

Revision Record

Revision Number	Date	Description
SXF0070RBNSS10_RevA/0	2024-01-26	Preliminary Version

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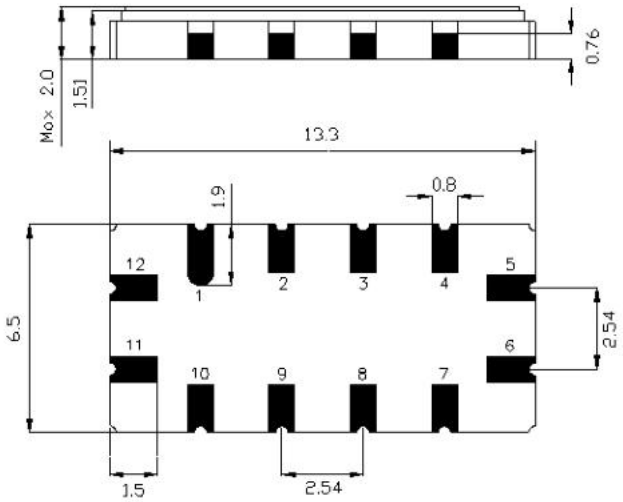
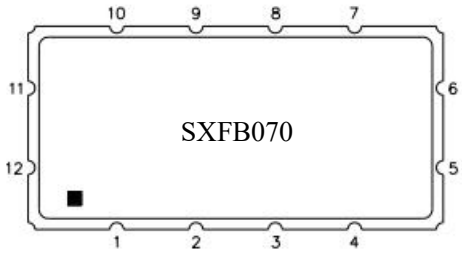
1.Features

■ Single Ended Operation

■ Ceramic Surface Mount Device (SMD) Package

2.Package Dimension (Unit: mm)





Input : 11 , Input Gnd : 12
Output : 5 , Output Gnd : 6
Other Pins : Ground

Attention: The mark SXFB070 is for reference.

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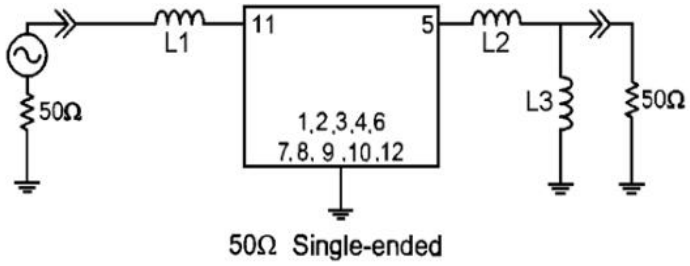
3.MeasurementCircuit



L1=56nH, L2=22nH, L3=220nH
Source / Load Impedance = 50Ω
Ambient Temperature = 25°C

4.Maximum Ratings

Rating		Value	Unit
RF Input Power	P	10	dBm
DC Voltage	V_{DC}	3	V
Operating Temperature Range	T_A	-20 ~ +70	°C
Storage Temperature Range	T_{stg}	-40 ~ +85	°C
ESD Voltage (MM)	V_{MM}	50	V
ESD Voltage (HBM)	V_{HBM}	175	V

5.Electrical Specification

Source and Load Impedance = 50Ω

Item	Frequency Range [MHz]	Characteristics			
		min.	typ.[1]	max.	Unit
Center Frequency	-	69.80	70.00	70.20	MHz
Insertion Loss	-	-	12.50	14.00	dB
1dB Bandwidth	-	11.50	12.04	-	MHz
3dB Bandwidth	-	-	12.80	-	MHz
40dB Bandwidth	-	-	16.30	18.00	MHz
Passband Ripple (Fc±5.0MHz)	-	-	0.40	1.00	dB
Group Delay Variation (Fc±5.0MHz)	-	-	30	50	nsec
Absolute Delay Time	-	-	0.91	-	μsec
Ultimate Attenuation	-	40	48	-	dB
Temperature Coefficient of Frequency	-	-	-86	-	ppm/℃
Terminating Impedance	50				Ω

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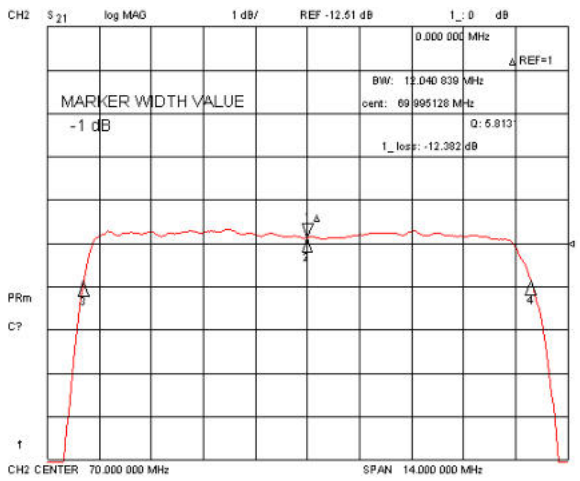
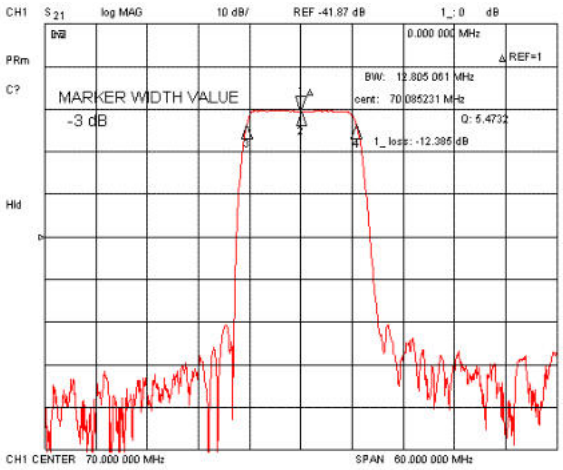
6.Frequency Characteristics

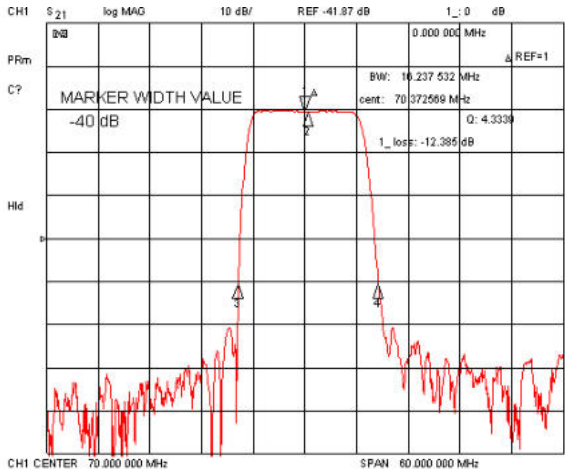
1dB Bandwidth



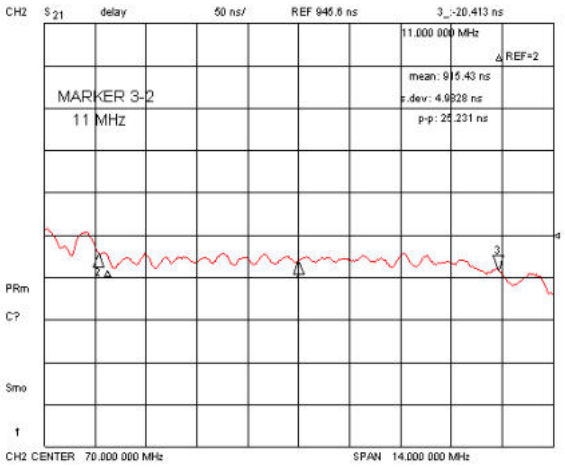
3dB Bandwidth



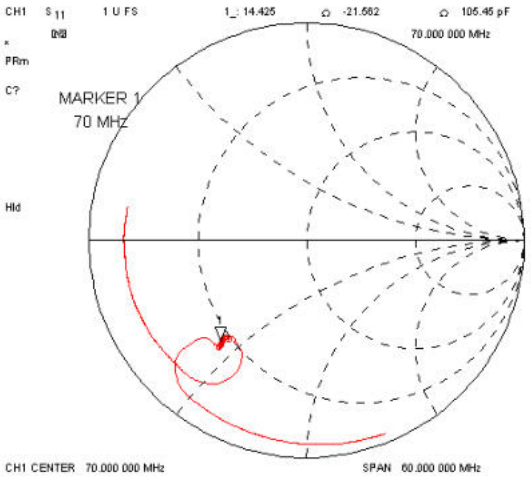
40dB Bandwidth



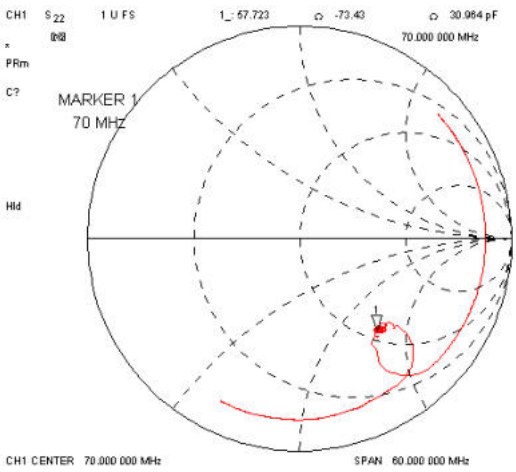
DELAY



S11 Smith Chart



S22 Smith Chart



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7.Reliability Characteristics

No.	Item	Condition to be satisfied
1	High Temp. Storage	①Test temperature: +85℃±3℃ ②Duration time：500 hours ③Restore time: 2 hours at the room temperature (25℃)
2	Low Temp. Storage	①Test temperature: -40℃±3℃ ②Duration Time: 500 hours ③Restore time: 2 hours at the room temperature (25℃)
3	High Temp. High Humidity Storage	①Test temperature: +85℃±3℃ ②Test Humidity：85%±3% ③Duration Hours：240 hours ④Restore time: 2 hours at the room temperature (25℃)
4	Temperature Cycling	①Test Temperature: -40^{0}_{-10}℃~$+85^{+10}_{0}$℃ ②Time for each step: ≥30min ③Conversion time: ≤1min ④Cycle times: 100 times ⑤Restore time: 24 hours at the room temperature (25℃)
5	Soldering heat resistance	①Reflow with 260±5℃, 10±1s (Solder Pot) ②Restore time: 2 hours at the room temperature (25℃)
6	Solderability test	Soldering method and temperature: lead-free reflow soldering, $+255^{+5}_{0}$℃

8.Remarks

1. Please be certain not to apply voltage above the rated voltage of SAW components.
2. Please be sure that the components are operated within the specified operating temperature range.
3. Abrupt temperature change shall be avoided because deterioration of the component characteristics can occur under that situation.
4. Please be careful of soldering temperature when soldering.
5. Please do not place soldering iron on the body of components.
6. Please be careful not to subject the terminals or leads of components to excessive force.

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