Acoustic Chip Technology
Shengxin

DATASHEET

of SAW Devices

SAW Filter

Part Number: SXF0040RANSD01

Center Frequency: 40.00MHz

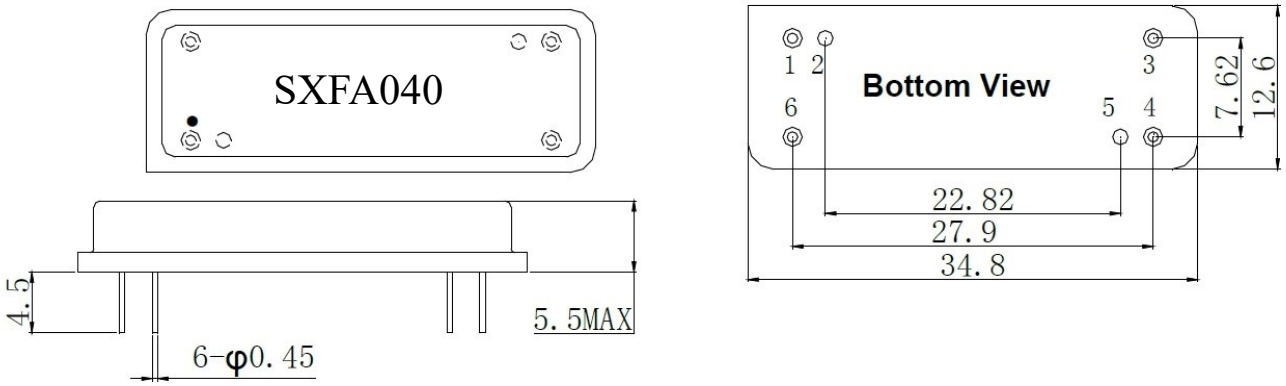
- Package Dimensions
- Testing Environment
- Electrical Characteristics
- Frequency Characteristics
- Remark

Revision Record

Revision Number	Date	Description
SXF0040RANSD01_RevA/0	2023-12-05	Preliminary Version

All rights reserved, Copyright © 2019-2023 Suzhou Shengxin Electronics Co., Ltd

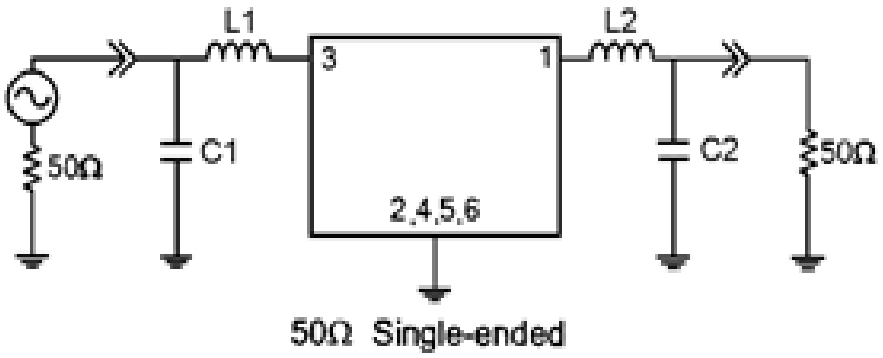
1.Package Dimension (Unit: mm)



Pin Configuration	
6	Input
4	Output
1,2,3,5	Ground

Attention: The mark SXFA040 is for reference.

2.MeasurementCircuit



L1 = L2 = C1 = C2 = T.B.D
Source / Load Impedance = 50Ω
Ambient Temperature = 25°C

All rights reserved, Copyright © 2019-2023 Suzhou Shengxin Electronics Co., Ltd

3.Maximum Ratings

Rating		Value	Unit
RF Input Power	P	10	dBm
DC Voltage	V_{DC}	3	V
Operating Temperature Range	T_A	-40~ +85	°C
Storage Temperature Range	T_{stg}	-55~ +125	°C
ESD Voltage(MM)	V_{MM}	50	V
ESD Voltage(HBM)	V_{HBM}	175	V

4.Electrical Specification

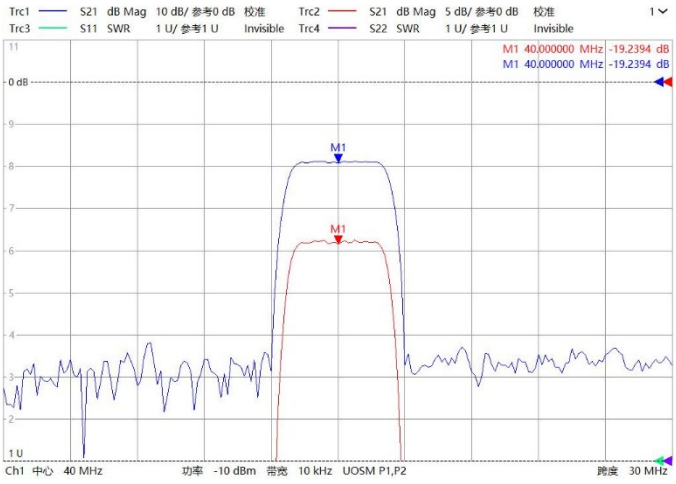
Item	Frequency Range [MHz]	Characteristics			
		min.	typ.[1]	max.	Unit
Center Frequency	-	-	40	-	MHz
Insertion Loss（min）	-	-	22.0	25	dB
Amplitude Ripple (p-p)	-	-	0.5	1.0	dB
1dB Bandwidth	-	-	4.0	-	MHz
3dB Bandwidth	-	-	4.4	-	MHz
6dB Bandwidth	-	4.4	4.7	4.8	MHz
40dB Bandwidth	-	-	6.1	6.5	MHz
Attenuation	-	50	55	-	dB
Group Delay Variation	-	-	80	150	nsec
Absolute Delay	-	-	2.4	-	μsec
Substrate Material	-	-	128-LN	-	-
Package	35X12 (DIP)				mm

1.Typical value at 25±2deg.C

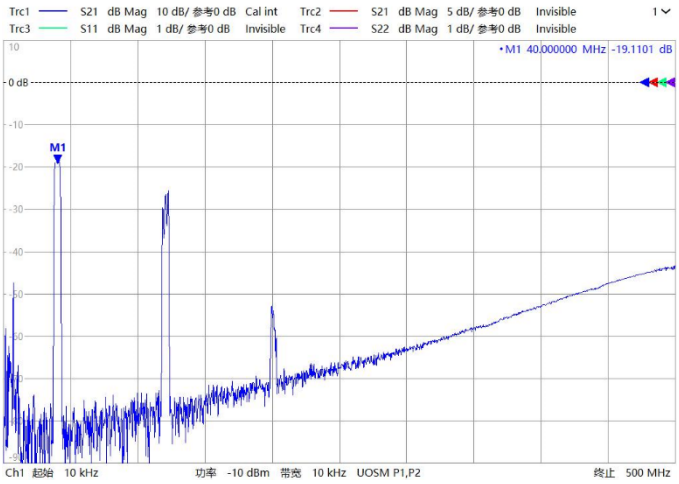
All rights reserved, Copyright © 2019-2023 Suzhou Shengxin Electronics Co., Ltd

5.Frequency Characteristics

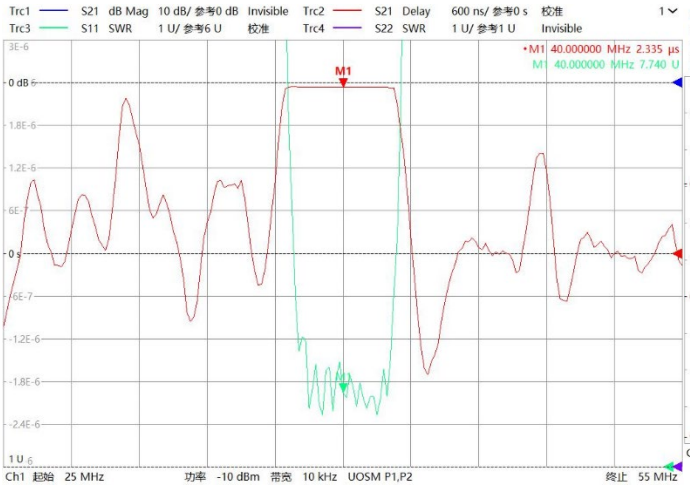
Frequency Response



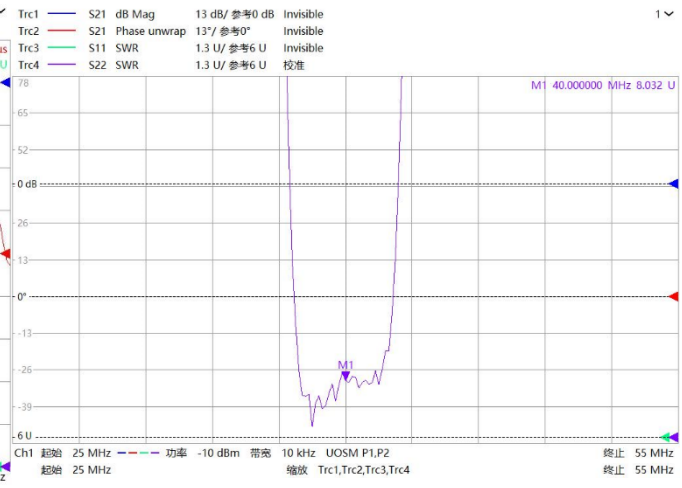
Frequency Response（wideband）



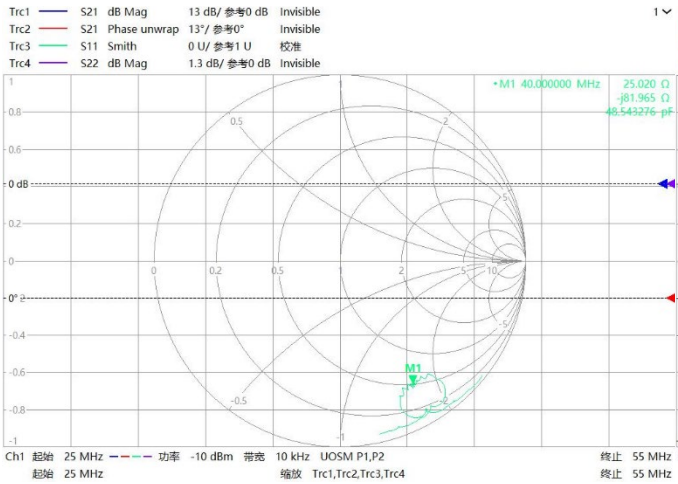
S11 VSWR



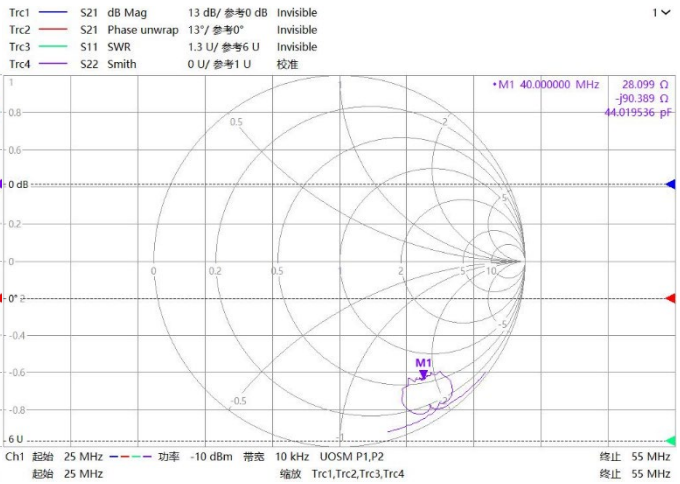
S22 VSWR



S11 Smith Chart



S22 Smith Chart



All rights reserved, Copyright © 2019-2023 Suzhou Shengxin Electronics Co., Ltd

6.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+0/-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, 245±5 ℃ for 5±0.5s

7.Remarks

1. Please be certain not to apply voltage above the rated voltage of SAW components.
2. Please be sure that the component operate 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.

All rights reserved, Copyright © 2019-2023 Suzhou Shengxin Electronics Co., Ltd

All rights reserved, Copyright © 2019-2023 Suzhou Shengxin Electronics Co., Ltd