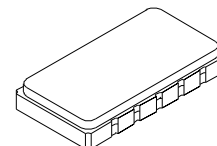


- **Low Insertion Loss**
- **Hermetic 13.3 x 6.5 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

SF2069A-2

**96.0 MHz
SAW Filter**



SMP53-S

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Operating Temperature Range	-40 to +85	°C
Max. Soldering Profile	265°C for 10 s	

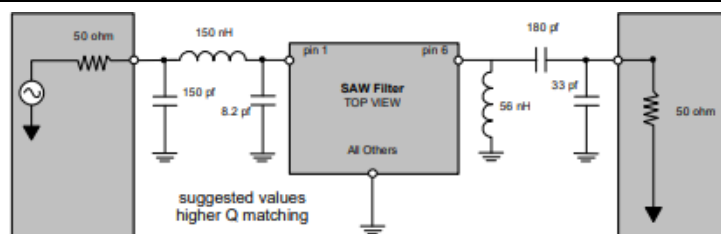
Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency (@ 25°C)	f_c		95.9	96.0	96.1	MHz
Minimum Insertion Loss				14	15	dB
1 dB Bandwidth			5.00	5.60		MHz
15 dB Bandwidth				7.50	8.00	MHz
Passband Variation (in 1dB Bandwidth)				0.5	1.0	dB p-p
Phase Linearity ($f_c \pm 1.92$ MHz)				5.2	8	deg p-p
Group Delay Variation (in 1 dB Bandwidth)				50	80	ns p-p
Absolute Delay				1.4	3	us
Change in Absolute Delay (from unit to unit)			-10	0	10	ns
Absolute Delay Variation (from -40°C to 55°C)				8	15	ns
Rejection (40 to 87 MHz)			43	48		dB
Rejection (111 to 150 MHz)			43	48		dB
Source and Load Impedance				50		Ω
Temperature Coefficient				-20		ppm/°C
Ambient Temperature				25		°C

Case Style	SMP-53-S 13.3 x 6.5 mm Nominal Footprint
Lid Symbolization (YY = year, WW = week, S = shift, ## = sequence code)	RFM ,SF2069A-2,YYWWS##

Electrical Connections

Connection	Terminals
Port 1 Input	1
Port 2 Output	6
Case Ground	2, 3, 4, 5, 7, 8, 9, 10



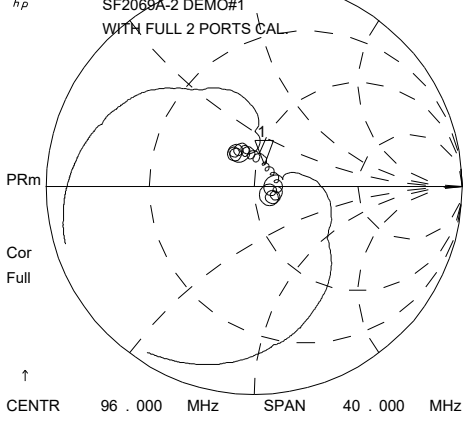
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

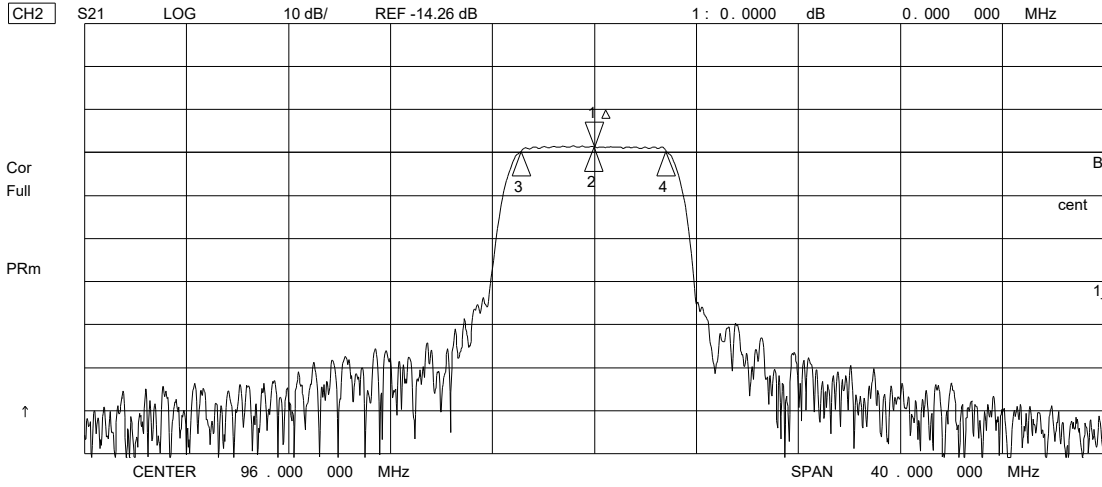
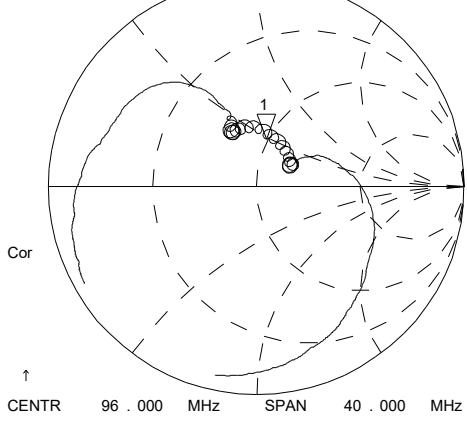
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

12 Oct 2006 09:54:49

CH1 S11 1 UFS
1: 53.875 Ω 11.512 Ω 19.085 nH
96.000 000 MHz

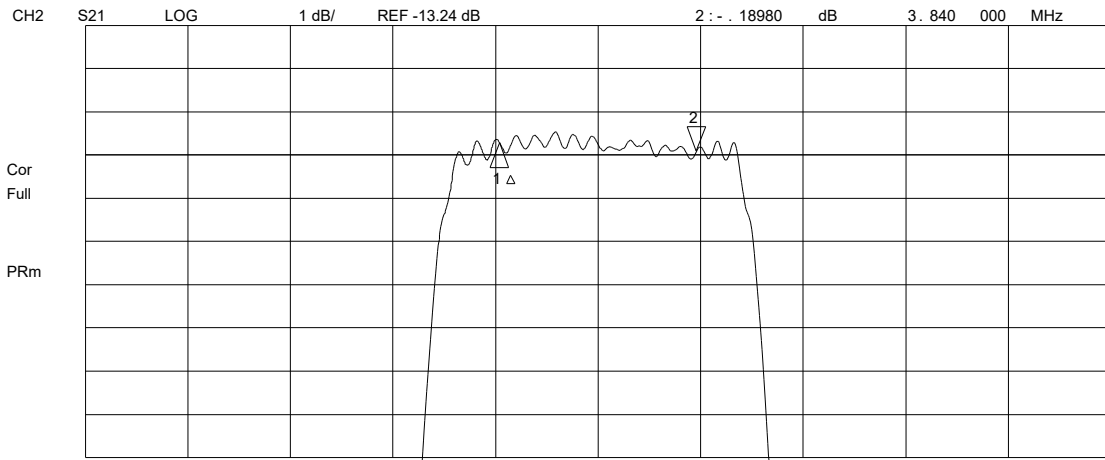
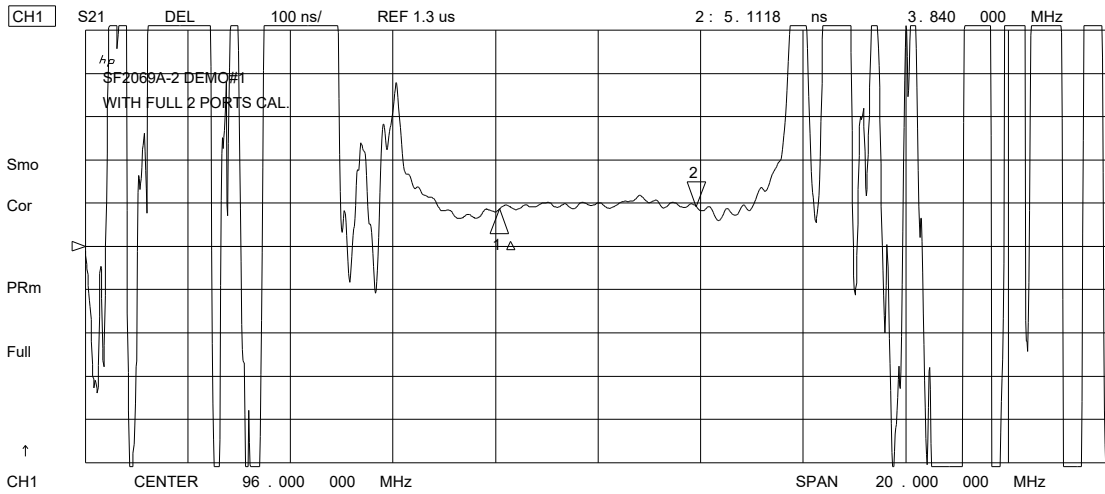


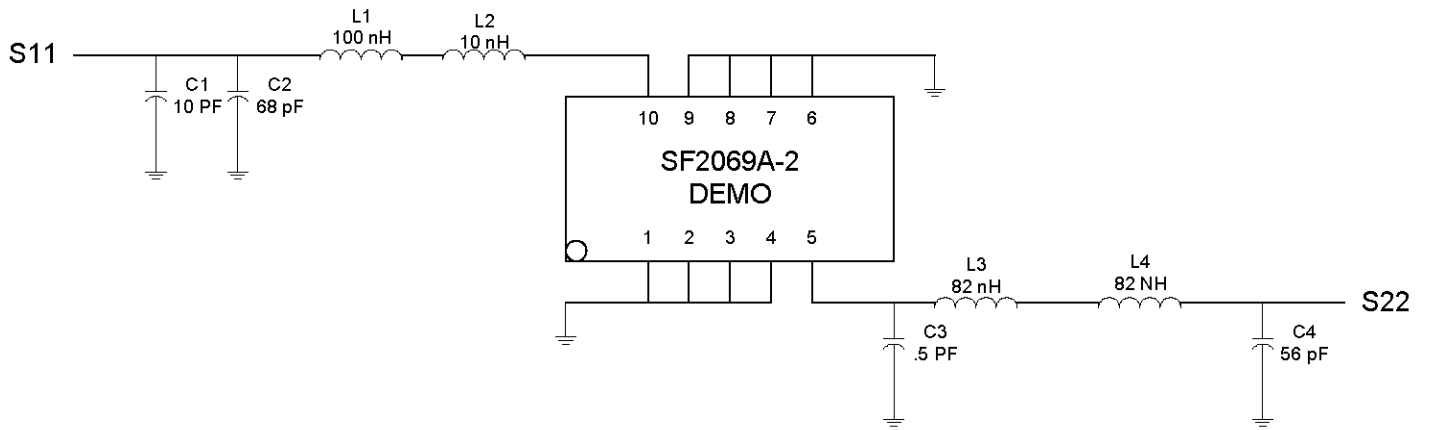
CH3 S22 1 UFS
1: 49.262 Ω 24.018 Ω 39.818 nH
96.000 000 MHz



CH2 Markers
Δ REF=1
BW: 5.688346 MHz
cent : 95.971530 MHz
Q: 16.872
1_loss : -12.997 dB

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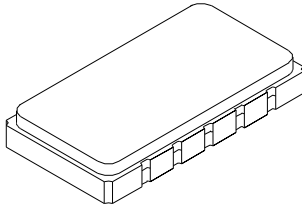




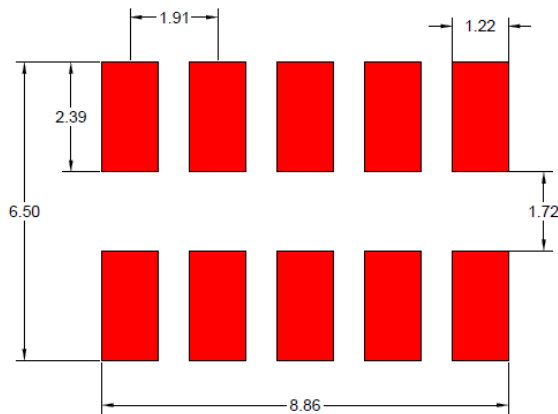
SMP-53-S Case

10-Terminal Ceramic Surface-Mount Case

13.3 x 6.5 mm Nominal Footprint



Typical PCB Land Pattern

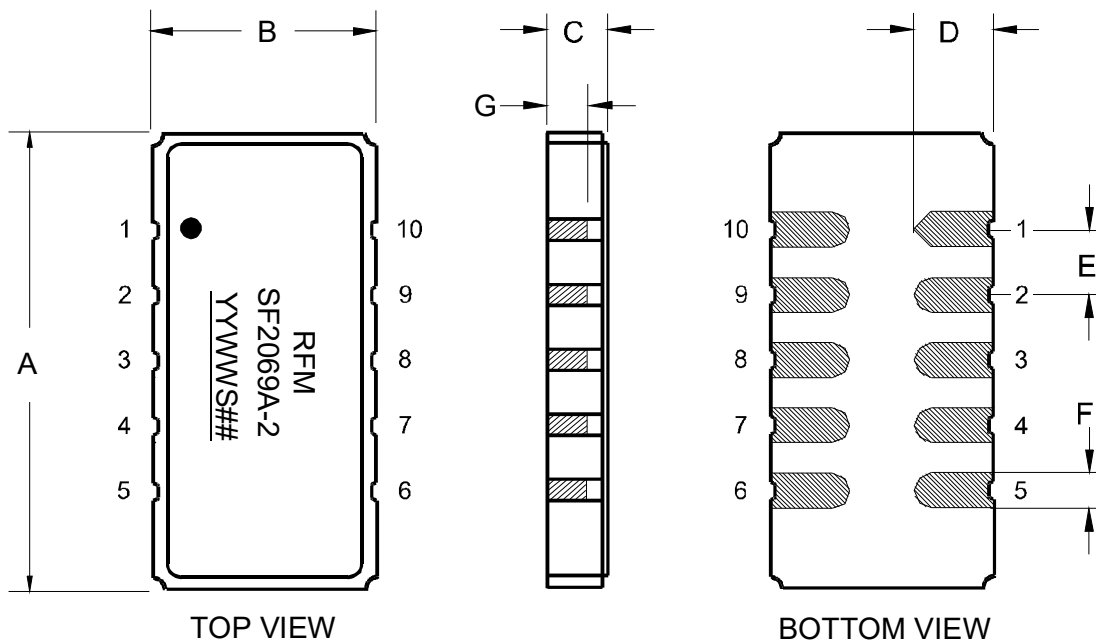


Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A		13.3			.524	
B		6.5			.256	
C			2.00			.078
D		2.3			.091	
E		1.91			.075	
F		1.02			.040	
G		1.0			0.039	

Electrical Connections

Connection	Terminals
Port 1 Hot or Return/Gnd	1
Port 1 Return/Gnd or Hot	10
Port 2 Hot or Return/Gnd	6
Port 2 Return/Gnd or Hot	5
Case Ground	All others
Single Ended Operation	Return is ground
Differential Operation	Return is hot



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C+0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

