



- **Low Insertion Loss**
- **5.0 x 7.0 mm Surface-Mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**

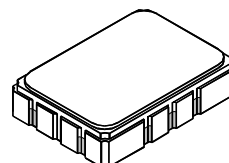


Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any 2 Terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Maximum Soldering Temperature	265°C for 10 s	

SF2059B-1

**137.50 MHz
SAW Filter**



SMP-03

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_c	1	137.50			MHz
Minimum Insertion Loss	IL			8.3	9.1	dB
1 dB Bandwidth	BW_1	1, 2	0.80	0.86		MHz
3 dB Bandwidth	BW_3	1		1.0		
Amplitude Ripple, 137.1 to 137.9 MHz		1, 2		0.85	1.3	dB _{P-P}
40 dB Bandwidth					7.0	MHz
Operating Temperature Range	T_A	1	-40		+85	°C
Input and Output Impedance			L-C Match to 50 ohms			
Case Style		5	SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift) See note 4			RFM SF2059B-1 YYWWS##			

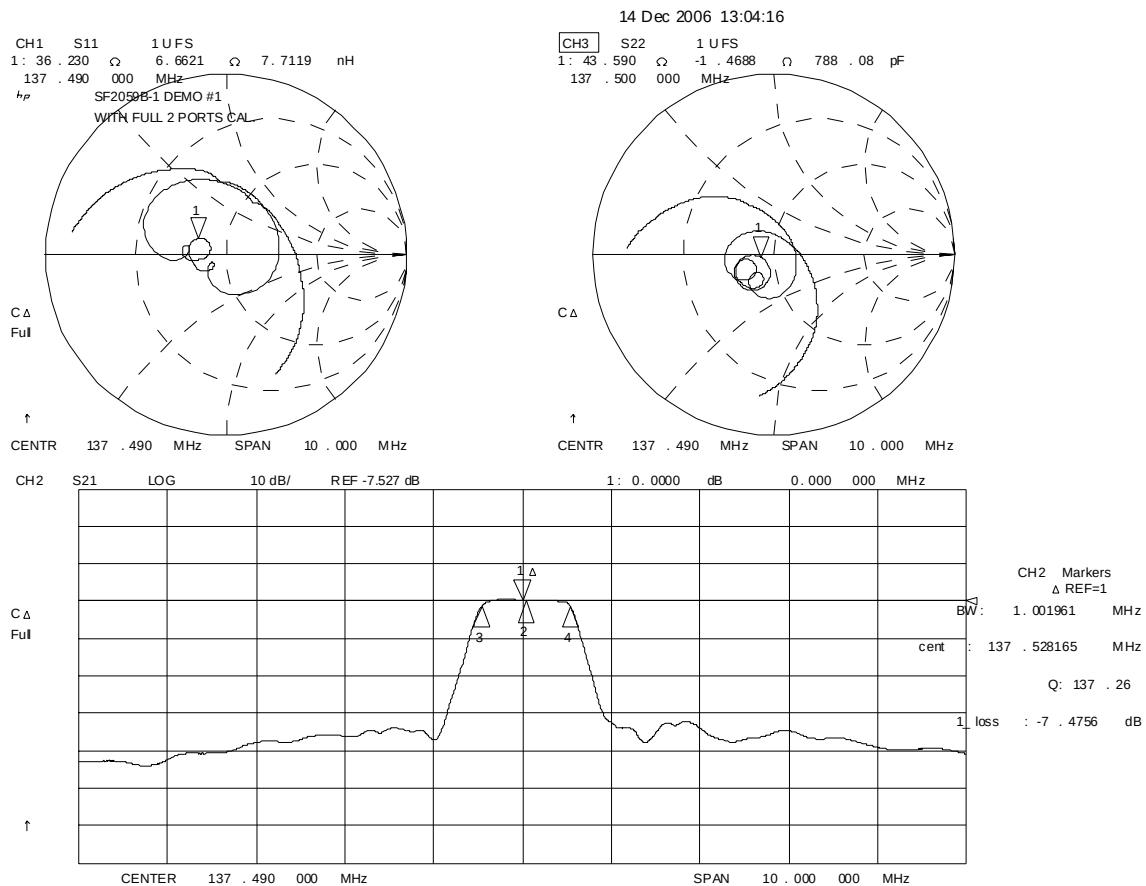


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

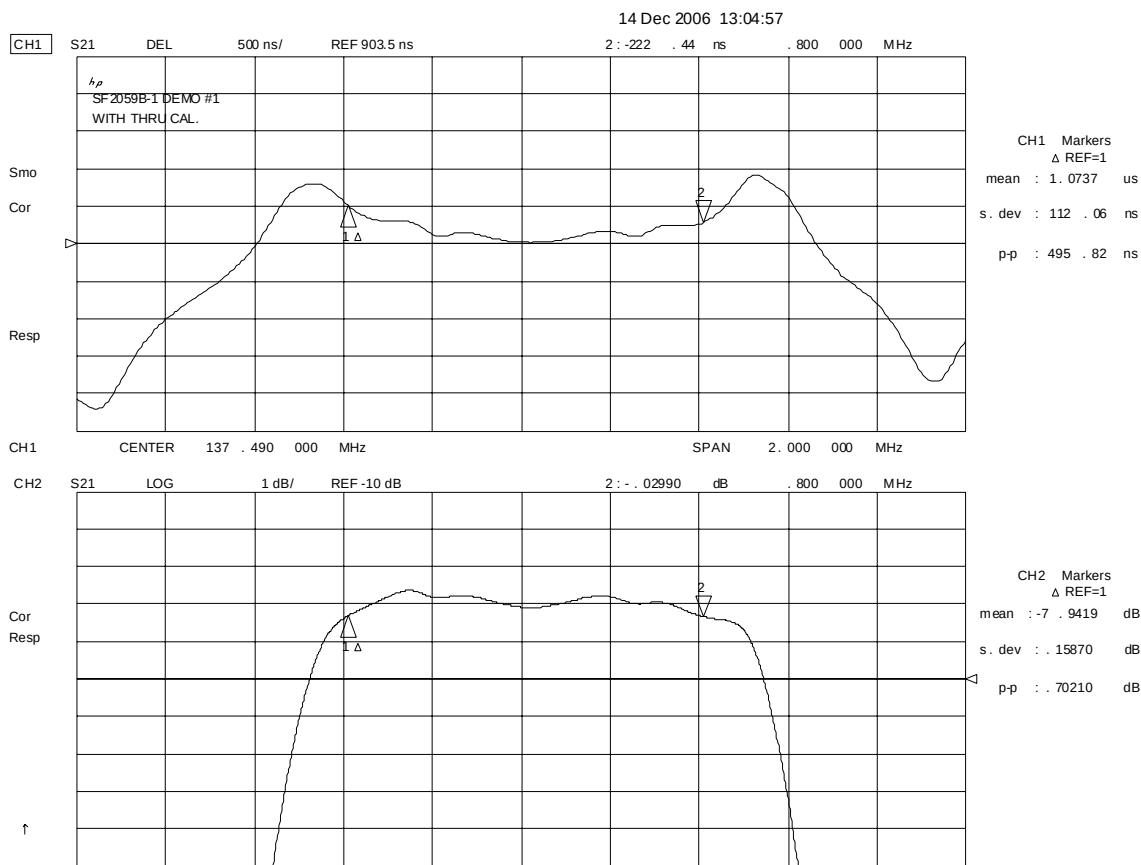
Notes:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_c .
3. The design, manufacturing process, and specifications of this filter are subject to change.
4. Tape and Reel Standard Per ANSI / EIA 481.
5. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
6. US and international patents may apply.
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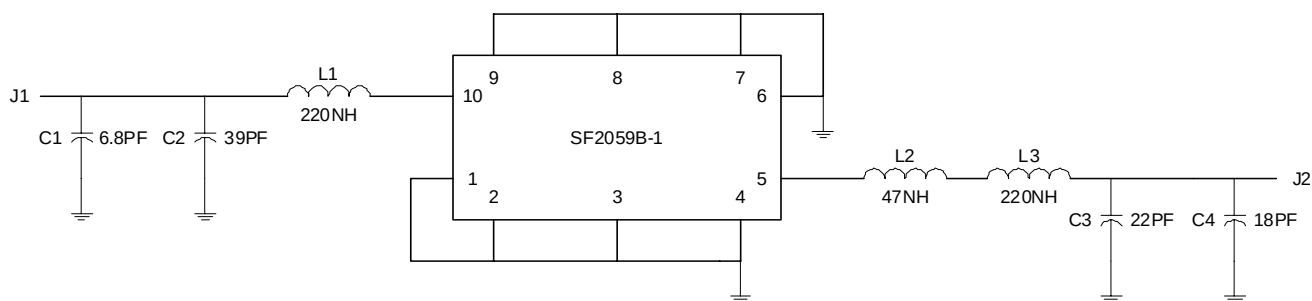
SF2059B-1 Amplitude Response and Input/Output Impedance Plots



SF2059B-1 Passband Amplitude and Group Delay Plots



SF2059B-1 Test Circuit

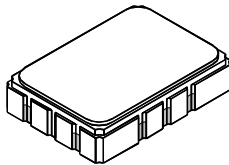


INDUCTOR, 1008CS
CAP, 0805

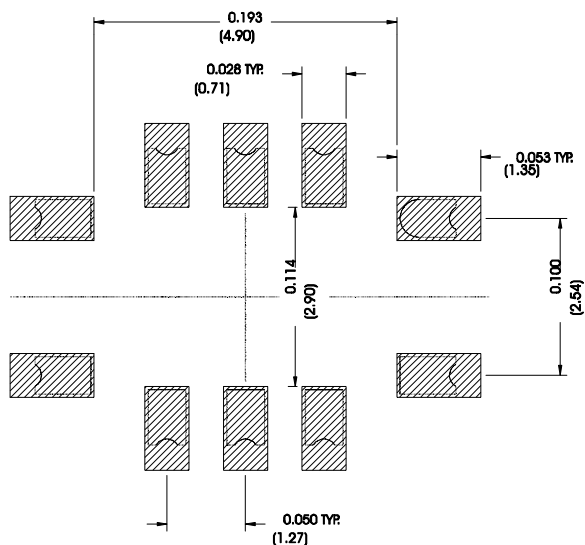
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



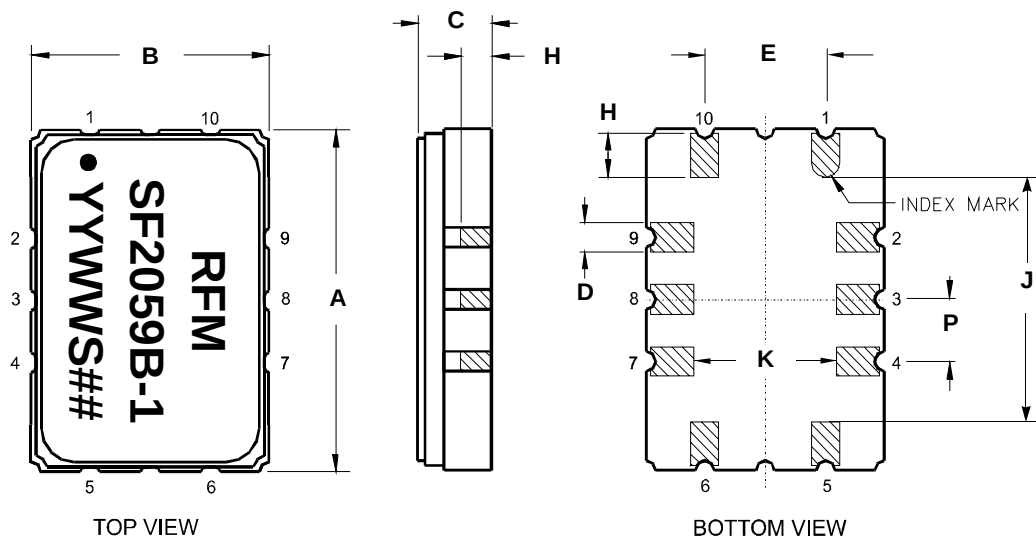
Recommended PCB Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C	1.50	1.65	2.00	0.059	0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

Materials	
Solder Pad Termination	Au plating 30 - 60 μinches (76.2-152 μm) over 80-200 μinches (203-508 μm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μinches Thick
Body	Al ₂ O ₃ Ceramic
Pb Free	

Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot



Technical drawing of a circular component, likely a flange or end plate, showing three views: a top view, a side view, and a detail view.

Top View: A large circle with a smaller concentric circle in the center. A crosshair indicates the center. A dimension line points from the center to the text "See Detail 'A'".

Side View: A vertical cross-section showing the thickness of the component. The total thickness is dimensioned as 16.0. The inner hole has a diameter of 100 REF. The outer diameter is dimensioned as "B" REF.

Detail View: A cross-section of the central hole, showing a circular profile with a central hole. The inner hole has a diameter of 13.0. The outer hole has a diameter of 20.2. The thickness of the detail is dimensioned as 2.0.

“B “		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000

Carrier Tape Dimensions	
Ao	5.5 mm
Bo	7.5 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm

