

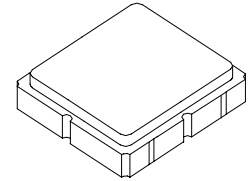


- Low-loss SAW Filter
- 3.8 x 3.8 x 1.4 mm Surface-mount Package
- Complies with Directive 2002/95/EC (RoHS)



SF2180D

700 MHz SAW Filter



SM3838-8

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any Two Active Terminals	30	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 30 s	

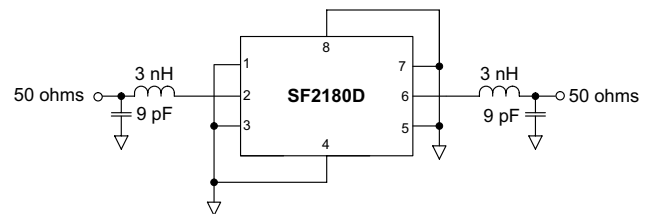
Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C	1		700		MHz
Passband Insertion Loss	IL				6.0	dB
3 dB Bandwidth			3.8		6.0	MHz
Phase, 698.25 to 701.75 MHz				linear		deg _{P-P}
VSWR, 698.10 to 701.90 MHz					2:1	
40 dB Bandwidth		1, 2, 3			12	MHz
Operating Temperature Range	T_A	1	-40		+85	°C
Impedance at f_C :						
Source, Single-ended				50 ohm		
Load, Single-ended				50 ohm		

Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint	
Lid Symbolization, Y=year, WW=week, S=shift, Dot=pin 1 indicator	899, YWWS	
Standard Reel Quantity	Reel Size 7 Inch	1000 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

Electrical Connections

Connection	Terminals
Input	1 or 2
Output	5 or 6
Case Ground	All but selected in/out

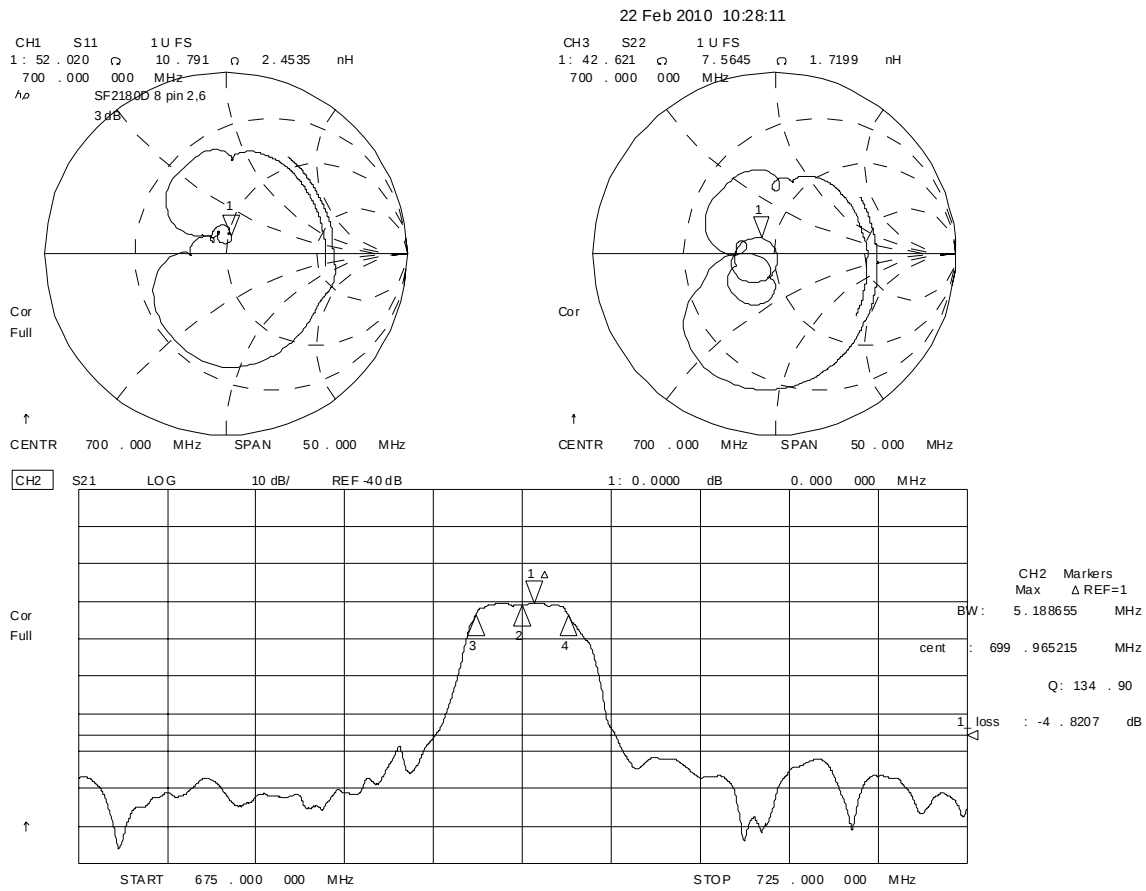


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

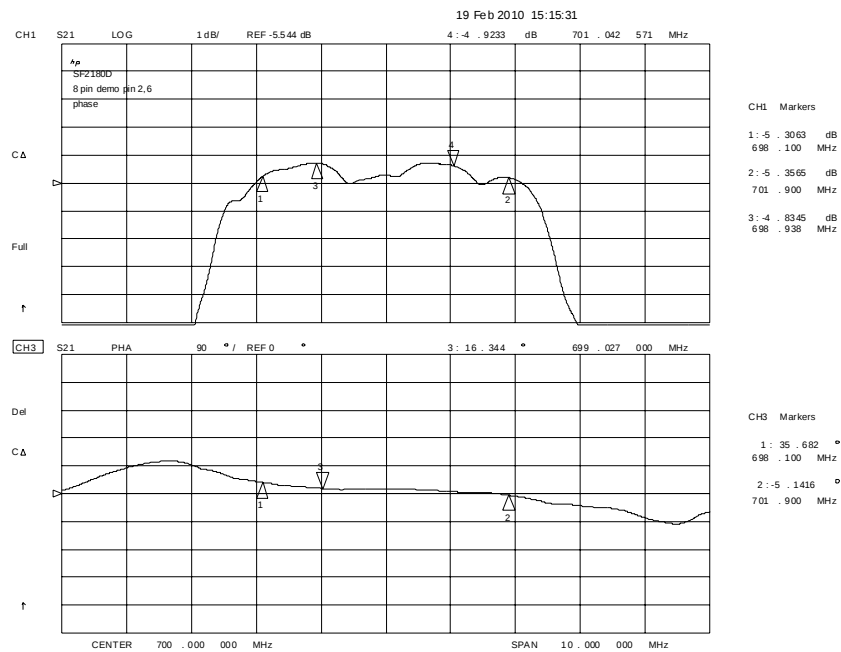
Notes:

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. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. 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.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

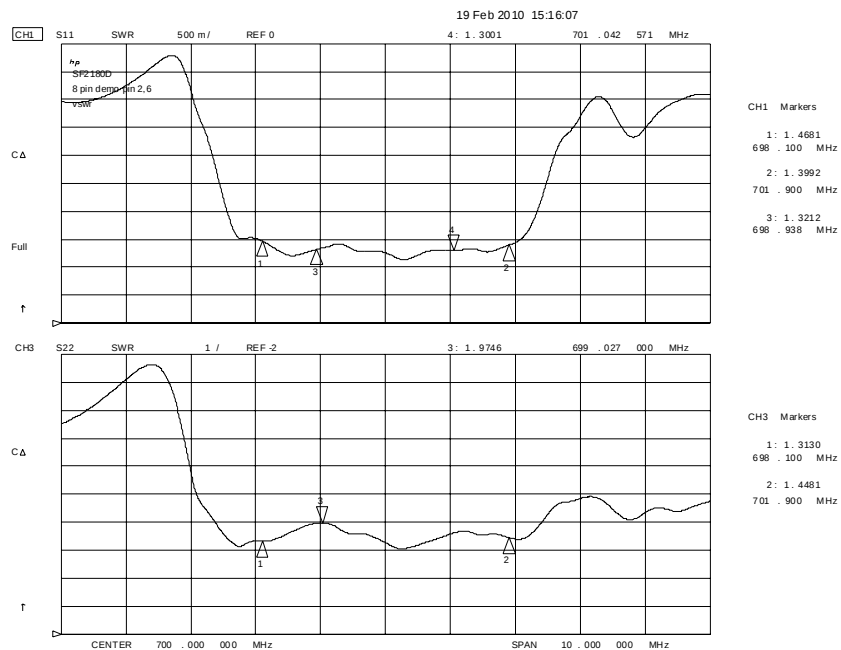
Filter Input/Output Impedance and Amplitude Plots



Filter Passband Amplitude and Phase Plots

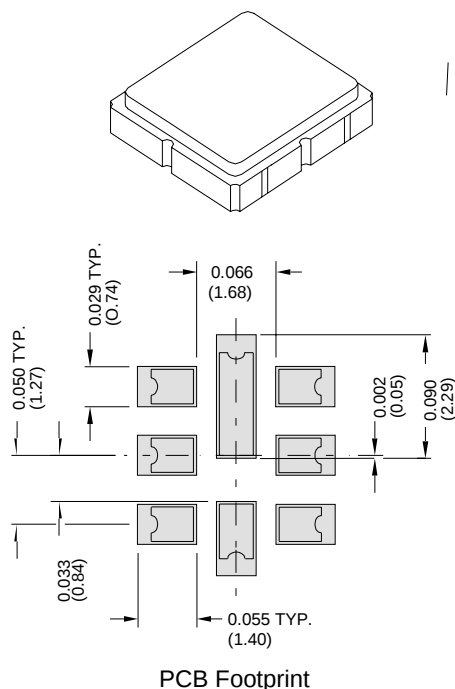


Filter Input and Output SWR Plots



SM3838-8 Case

8-Terminal Ceramic Surface-Mount Case 3.8 X 3.8 mm Nominal Footprint



Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	1.05	1.20	1.35	0.041	0.047	0.053
D	0.95	1.10	1.25	0.037	0.043	0.049
E	0.90	1.00	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080

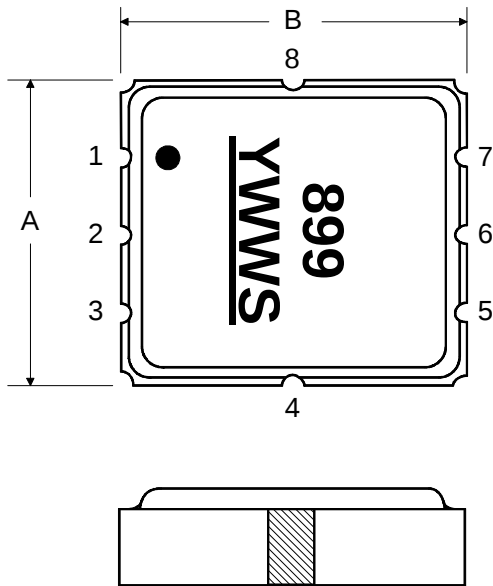
Electrical Connections

	Connection	Terminals
Port 1	Input	2
Port 2	Output	6
	Ground	All Others

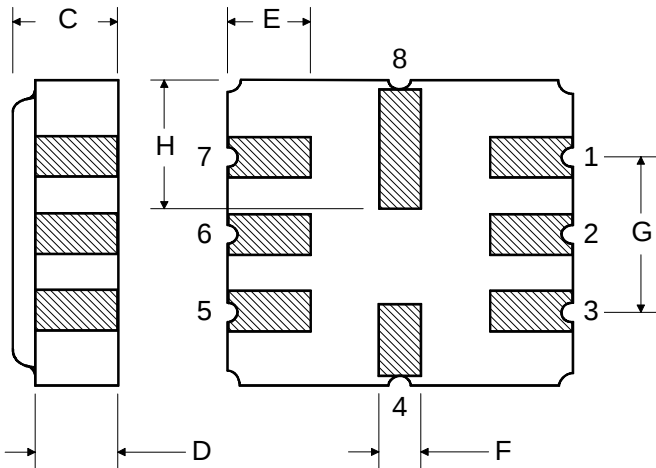
Dot Indicates Pin 1

Materials	
Solder Pad Plating	0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel
Lid Plating	2.0 to 3.0 μ m Nickel
Body	Al ₂ O ₃ Ceramic
Pb Free	

TOP VIEW



BOTTOM VIEW



Technical drawing of a circular component, likely a flange or a base 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. The center is marked with a crosshair. A dashed line indicates the center of the component. A leader line points from the text "See Detail 'A'" to the center of the component.

Side View: A vertical cross-section showing the thickness of the component. The total thickness is labeled as 12.0. The inner hole has a diameter of 100 REF. The outer diameter is labeled as "B" REF.

Detail View (A): A cross-section of the central hole, showing a circular feature with a diameter of 13.0. The hole is surrounded by a flange with a thickness of 2.0. The outer diameter of the flange is labeled as 20.2.

"B "		Quantity Per Reel
Nominal Size		
Inches	millimeters	
7	178	1000
13	330	3000

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm

