



- 3.8 X 3.8 X 1.0 mm Surface Mount Case
- Complies with Directive 2002/95/EC (RoHS)

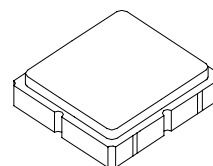


Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+15	dBm
Maximum DC Voltage on any Non-ground Terminal	TBD	VDC
Storage Temperature Range in Tape and Reel	-45 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 30 s	

SF2146D

**415.0 MHz
SAW Filter**



SM3838-8

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_O	1		415		MHz
3 dB Bandwidth	BW ₃		25	32		MHz
Maximum Insertion loss at 415 MHz	IL _{MAX}			4.0	4.5	dB
Amplitude Ripple, 403 to 427 MHz				1.5	2.0	dB _{P-P}
Attenuation:						
90 to 290 MHz			41	50		dB
290 to 328 MHz			32	40		
328 to 350 MHz			42	50		
350 to 375 MHz			30	40		
375 to 390 MHz			17	20		
445 to 475 MHz			13	20		
475 to 485 MHz			35	40		
485 to 900 MHz			30	36		
Input/Output Impedance			50 / 100			Ω
Operating Temperature			-30		+85	°C

Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint	
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	777, YWWS	
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

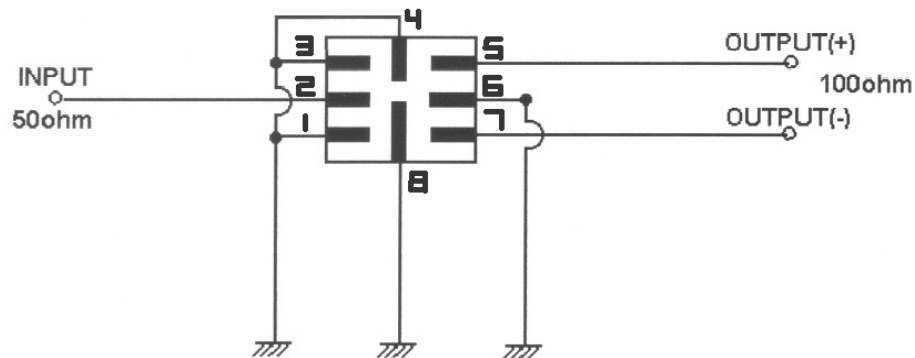


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

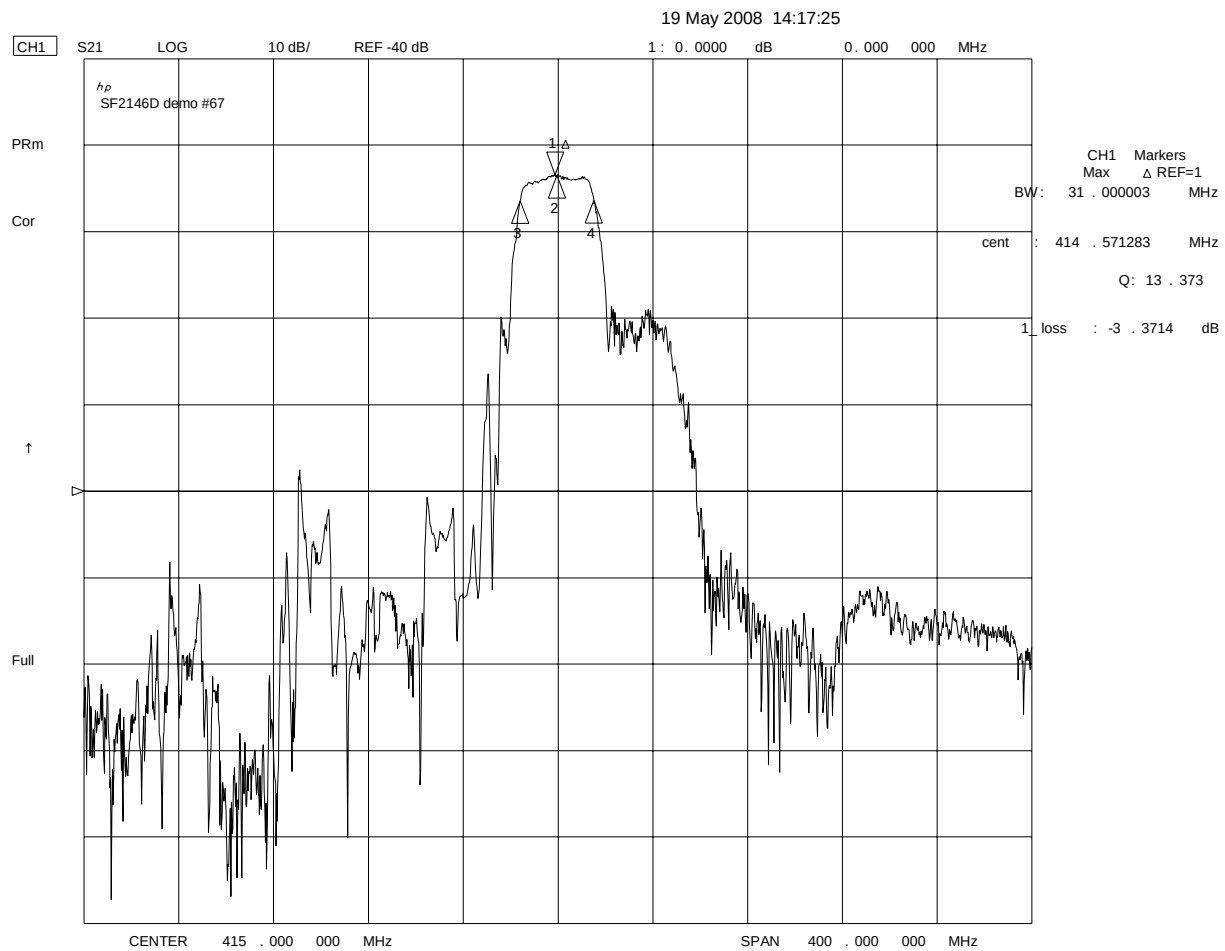
Notes:

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. The design, manufacturing process, and specifications of this filter are subject to change.
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.
7. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

Test Circuit



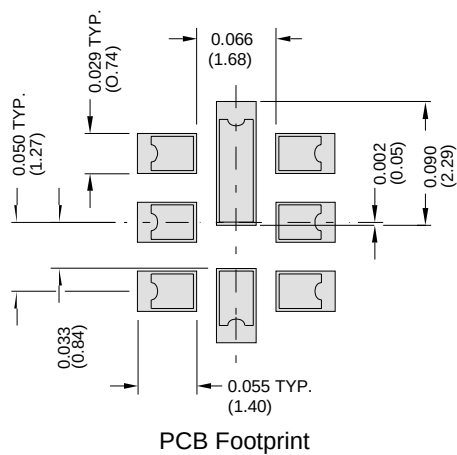
Frequency Response



SM3838-8 Case

8-Terminal Ceramic Surface-Mount Case

3.8 X 3.8 mm Nominal Footprint

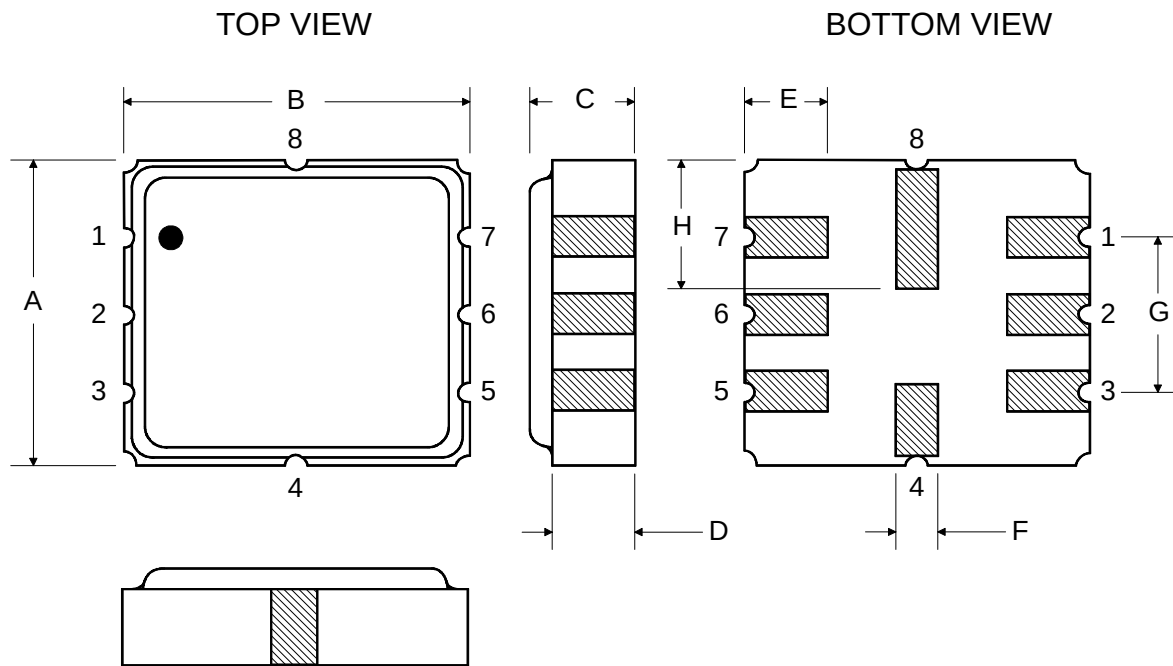


Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	1.05	1.20	1.35	0.041	0.047	0.053
D	0.95	1.10	1.25	0.037	0.043	0.049
E	0.90	1.00	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	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	Differential Output	5, 7
	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	



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 horizontal dashed line and a vertical dashed line intersect at the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle.

Side View: Two vertical lines representing the thickness of the component. The total thickness is dimensioned as 12.0. The distance from the centerline to the outer edge is dimensioned as 100 REF. The distance from the centerline to the inner edge is dimensioned as "B" REF.

Detail View (Detail A): A cross-sectional view of the central hole. It shows a circular hole with a diameter of 13.0. The hole is surrounded by a flange with a thickness of 2.0. The distance from the center of the hole to the outer edge of the flange is dimensioned as 20.2.

“B”		Quantity Per Reel
Inches	millimeters	
7	178	500
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

