

# Preliminary



**SF2218D**

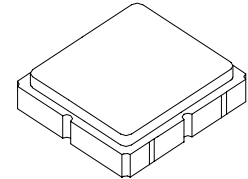
**425 MHz  
SAW Filter**

- Low Insertion Loss
- 3.8 X 3.8 mm Surface-mount Case
- Single-ended Input and Differential Output
- Complies with Directive 2002/95/EC (RoHS)



## Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage on any Non-ground Terminal	3	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Temperature	260°C for 30 s	



**SM3838-8**

## Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_C$	1		425		MHz
Insertion Loss, 425 MHz	IL	1			5.0	dB
3 dB Bandwidth	$BW_{3dB}$		10	19		MHz
Passband Amplitude Ripple, 420 to 430 MHz		1		1.0	2.1	dB <sub>p-p</sub>
Attenuation Referenced to 0 dB:						
275 to 300 MHz		2	45			dB
299 to 335 MHz		2	40			
334 to 360 MHz		2	45			
359 to 385 MHz		2	35			
386 to 400 MHz		2	20			
400 to 410 MHz		2	40			
455 to 484 MHz		2	20			
485 to 494 MHz		2	35			
495 to 575 MHz		2	40			
Single-ended Source Impedance				50		ohm
Balanced Load Impedance				100		ohm
Operating Temperature Range			-20		+70	°C
Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift)	RFM 956 YWWS					



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

### Notes:

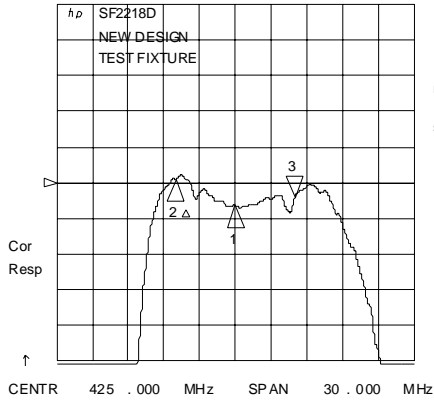
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Rejection is measured as attenuation referenced to 0 dB. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
3. The design, manufacturing process, and specifications of this filter are subject to change.
4. Tape and Reel Standard 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.
7. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

# SF2218D Frequency Response

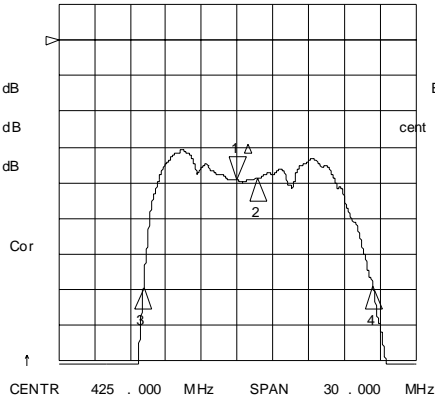
22 Jul 2010 10:06:01

CH1 LOG 1 dB/ REF -3.283 dB  
S21 3 : - . 53720 dB 10 . 000 000 MHz

CH3 LOG 1 dB/ REF 0 dB  
S21 1 : 0. 0000 dB 0. 000 000 MHz

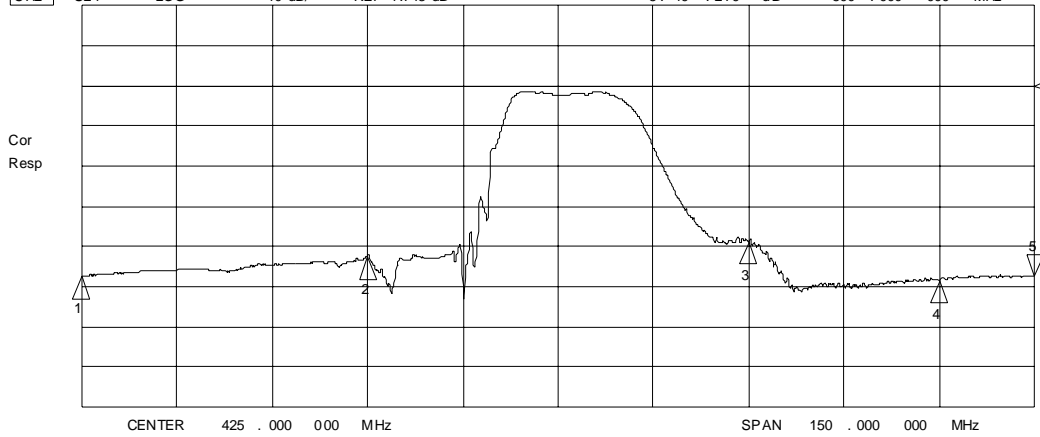


CH1 Markers  
Δ REF=2  
mean : -3 . 7104 dB  
s . dev : . 25930 dB  
p-p : 1 . 0907 dB



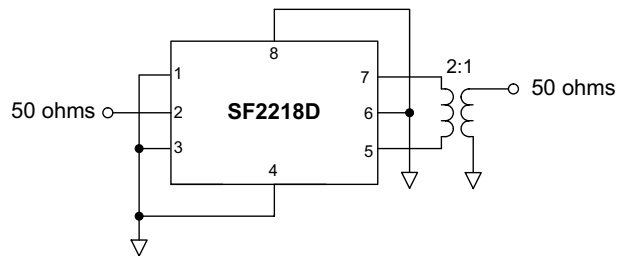
CH3 Markers  
Δ REF=1  
BW : 19 . 308118 MHz  
cent : 426 . 764962 MHz  
Q : 22 . 103  
1\_loss : -3 . 9080 dB

CH2 S21 LOG 10 dB/ REF -1.743 dB 5 : -49 . 279 dB 500 . 000 000 MHz



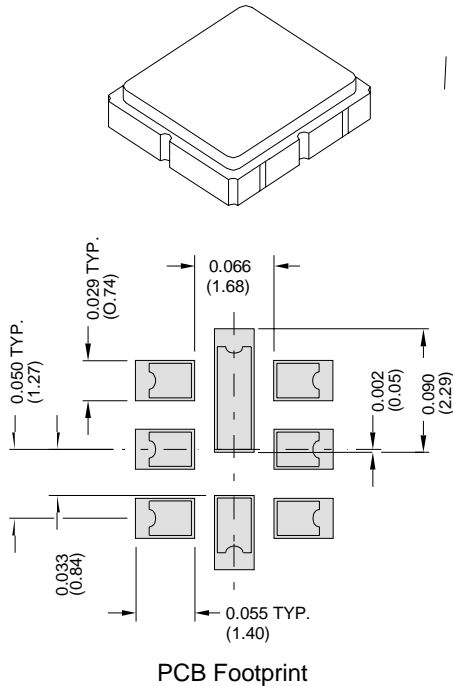
CH2 Markers  
1 : -49 . 021 dB  
350 . 000 MHz  
2 : -44 . 140 dB  
395 . 005 MHz  
3 : -40 . 533 dB  
455 . 000 MHz  
4 : -50 . 169 dB  
485 . 000 MHz

# SF2218D Measurement Circuit



# 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

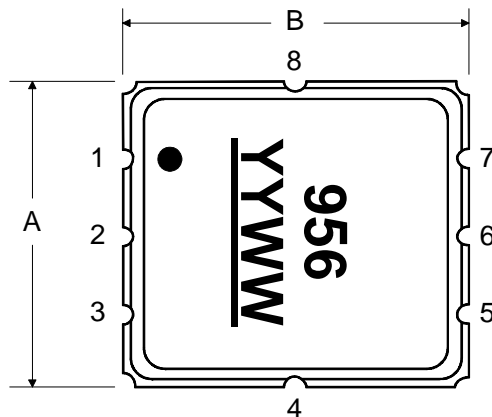
	Connection	Terminals
Port 1	Single-ended Input	2
Port 2	Balanced Output	5, 7
	Ground	All Others

Dot Indicates Pin 1

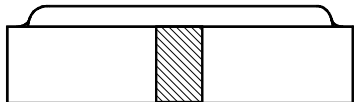
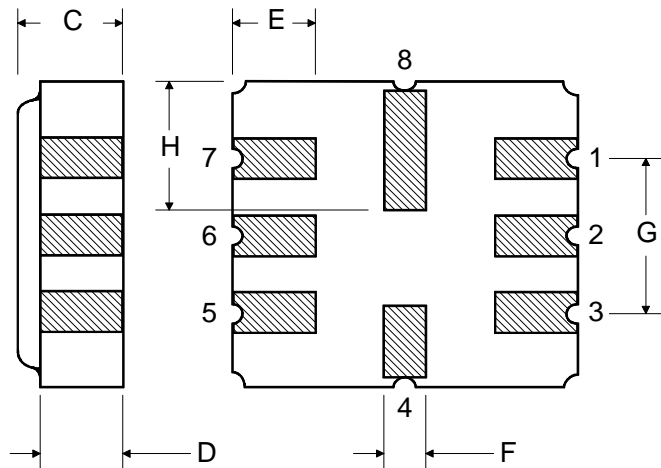
### Materials

Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

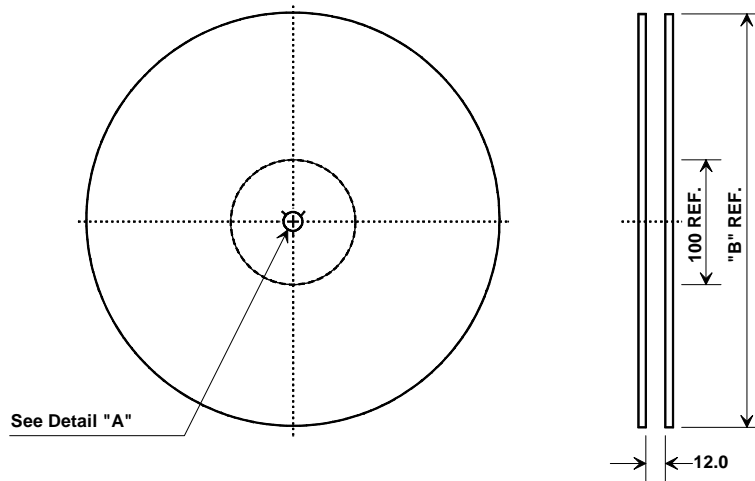
### TOP VIEW



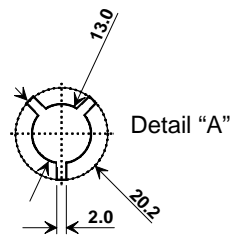
### BOTTOM VIEW



## Tape and Reel Specifications



"B" Nominal Size		Quantity Per Reel
Inches	Millimeters	
7	178	500 pcs
13	330	3,000 pcs



### COMPONENT ORIENTATION

