



**SF2088C**

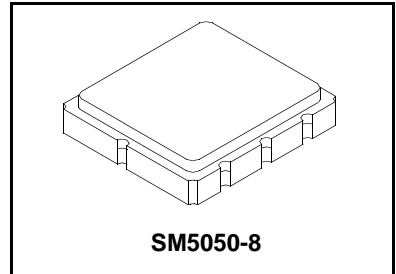
- 297.5 MHz SAW Filter
- 5.0 X 5.0 mm Surface-mount Case
- Single-ended Input and Output
- Complies with Directive 2002/95/EC (RoHS)



**297.50 MHz  
SAW Filter**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+13	dBm
Maximum DC Voltage on any Non-ground Terminal	30	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	



**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$	1		297.5		MHz
Insertion Loss		1			13	dB
1.5 dB Passband	$BW_{1.5}$	1	35			MHz
Amplitude Ripple, $f_C \pm 15$ MHz		1		1.5		dB <sub>p-p</sub>
Amplitude Ripple, $f_C \pm 17.5$ MHz, within adjacent 5 MHz windows		1		1.2		dB <sub>p-p</sub>
Group Delay Deviation, $f_C \pm 15$ MHz		1		100	180	ns <sub>p-p</sub>
Group Delay Deviation, $f_C \pm 17.5$ MHz within adjacent 5 MHz windows		1			55	ns <sub>p-p</sub>
VSWR at $f_C$		1		2.5:1		
40 dB Rejection Bandwidth		1, 2			65	MHz
Operating Temperature Range			-40		85	°C
Case Style	SM5050-8 5 x 5 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift)	RFM TBD YWWS					

**Electrical Connection**

Connection		Terminals
Port 1	Input	1
Port 2	Output	5
	Ground	All others

Dot indicates Pin 1



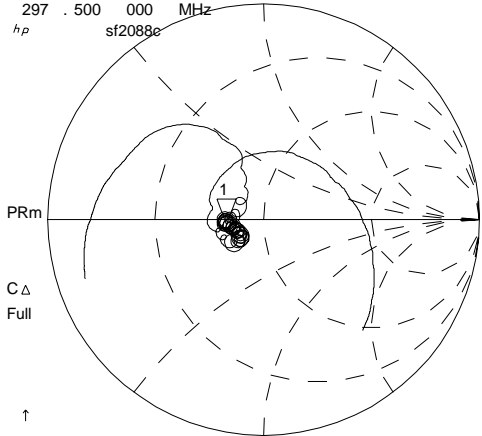
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**Notes:**

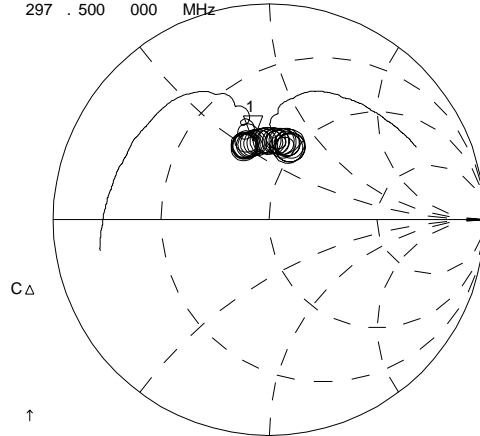
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Rejection is measured as attenuation below the minimum IL point 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.
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.

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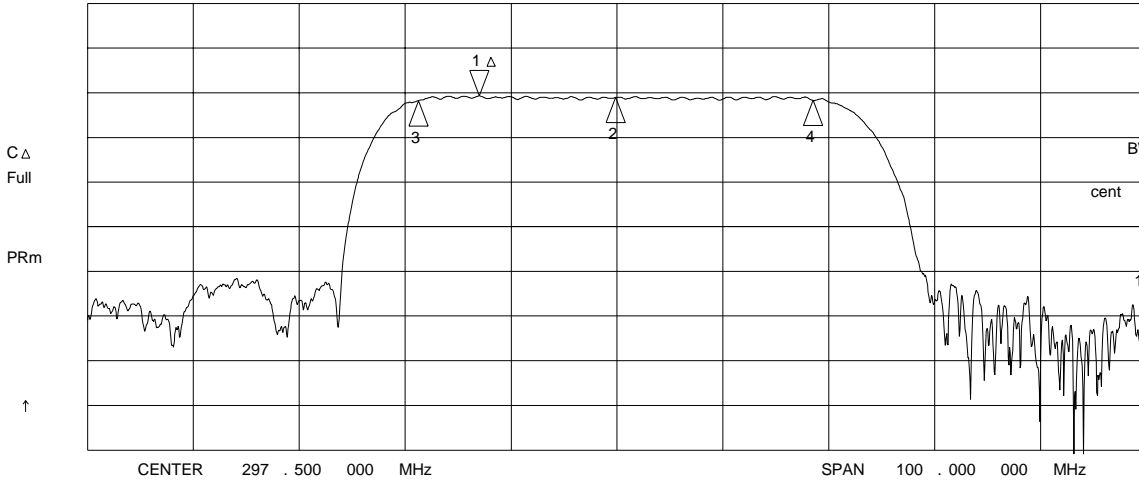
CH1 S11 1 UFS  
 1: 35.361 Ω -1.6836 Ω 317.76 pF  
 297.500 000 MHz  
 h<sub>p</sub> sf2088c



CH3 S22 1 UFS  
 1: 33.566 Ω 28.217 Ω 15.095 nH  
 297.500 000 MHz



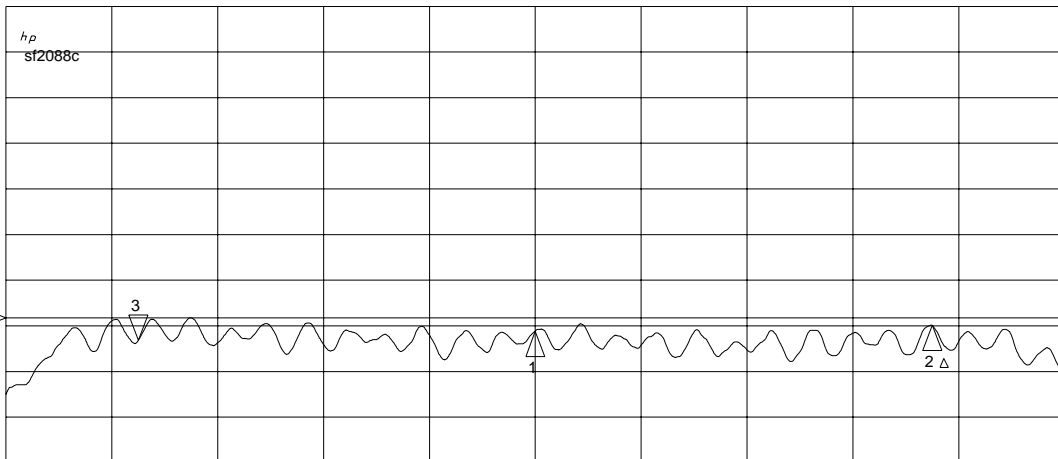
CH2 S21 LOG 10 dB/ REF -40 dB 1: 0.0000 dB 0.000 000 MHz



CH2 Markers  
 Max Δ REF=1  
 BW: 37.194454 MHz  
 cent: 297.390722 MHz  
 Q: 7.9956  
 1. loss: -10.720 dB

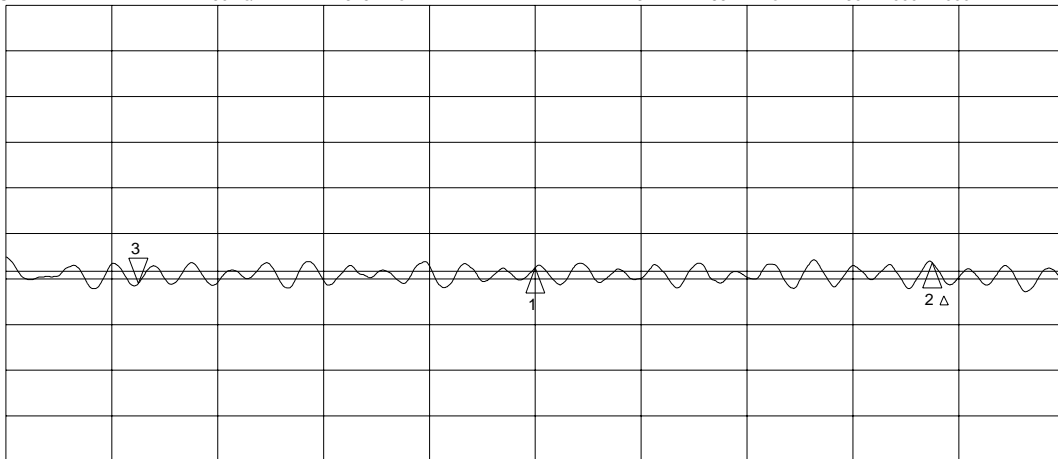
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CH1 S21 LOG 1 dB/ REF -10.72 dB 3 : - . 33040 dB -30 . 000 000 MHz



CH1 Markers  
Δ REF=2  
mean : -11 . 202 dB  
s . dev : . 20400 dB  
p-p : . 96070 dB

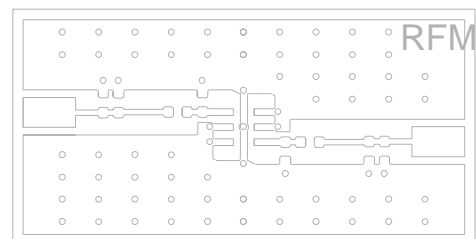
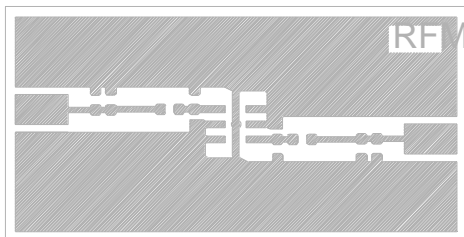
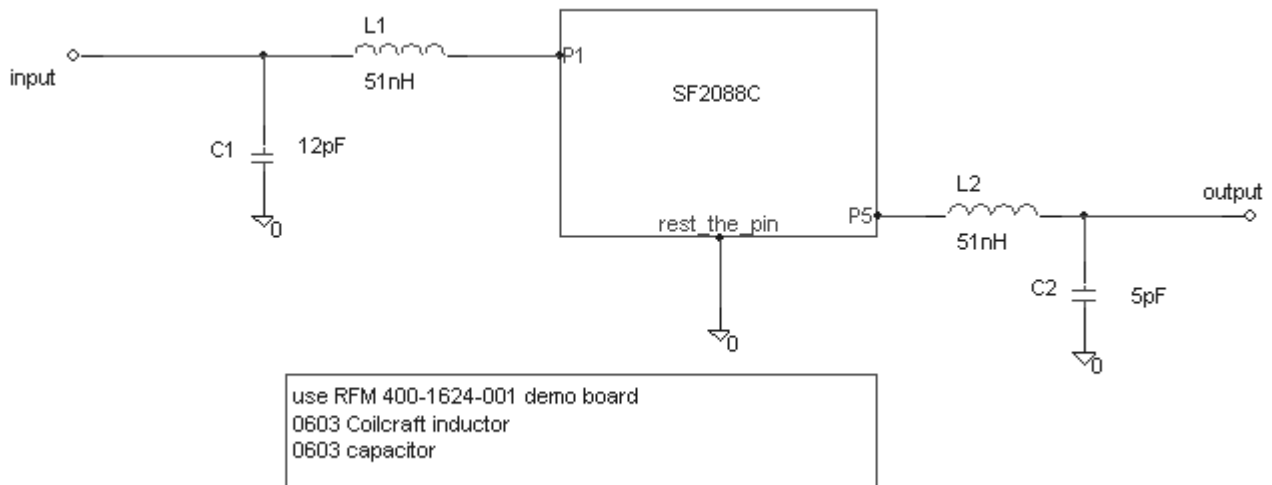
CH2 S21 DEL 50 ns/ REF 345.2 ns 3 : -22 . 831 ns -30 . 000 000 MHz



CH2 Markers  
Δ REF=2  
mean : 341 . 92 ns  
s . dev : 7 . 7870 ns  
p-p : 31 . 700 ns

CENTER 297 . 500 000 MHz

SPAN 40 . 000 000 MHz



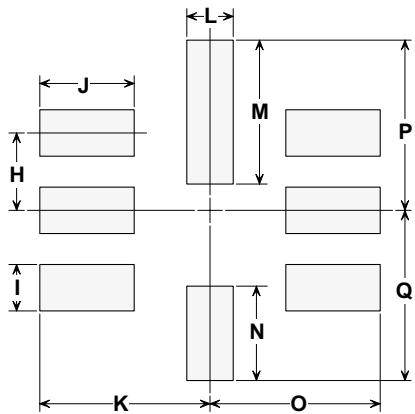
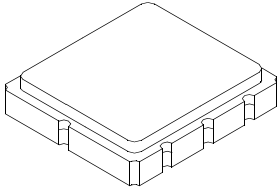
DRILL ALL HOLES #76 DRILL (0.020)  
ALL HOLES ARE PLATED THRU.

# SM5050-8 Surface-Mount 8-Terminal Ceramic Case

## 5.0 X 5.0 mm Nominal Footprint

### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.80	5.00	5.20	0.189	0.197	0.205
B	4.80	5.00	5.20	0.189	0.197	0.205
C	1.30	1.50	1.70	0.050	0.060	0.067
D	1.98	2.08	2.18	0.078	0.082	0.086
E	1.07	1.17	1.27	0.042	0.046	0.050
F	0.50	0.64	0.70	0.020	0.025	0.028
G	2.39	2.54	2.69	0.094	0.100	0.106
H		1.27			0.050	
I		0.76			0.030	
J		1.55			0.061	
K		2.79			0.110	
L		0.76			0.030	
M		2.36			0.093	
N		1.55			0.061	
O		2.79			0.110	
P		2.79			0.110	
Q		2.79			0.110	

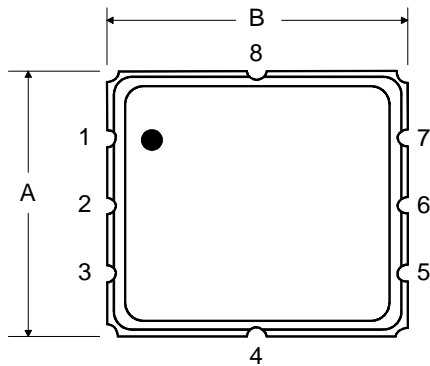


PCB Footprint

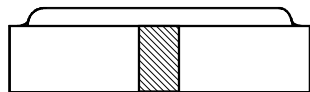
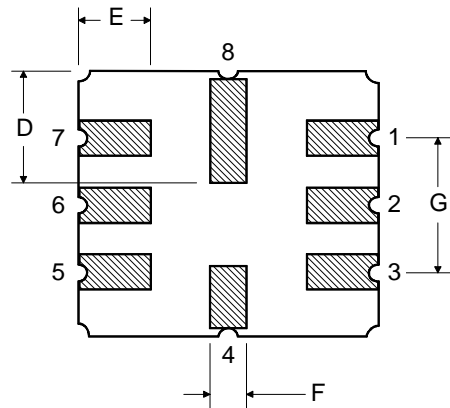
### Case Materials

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

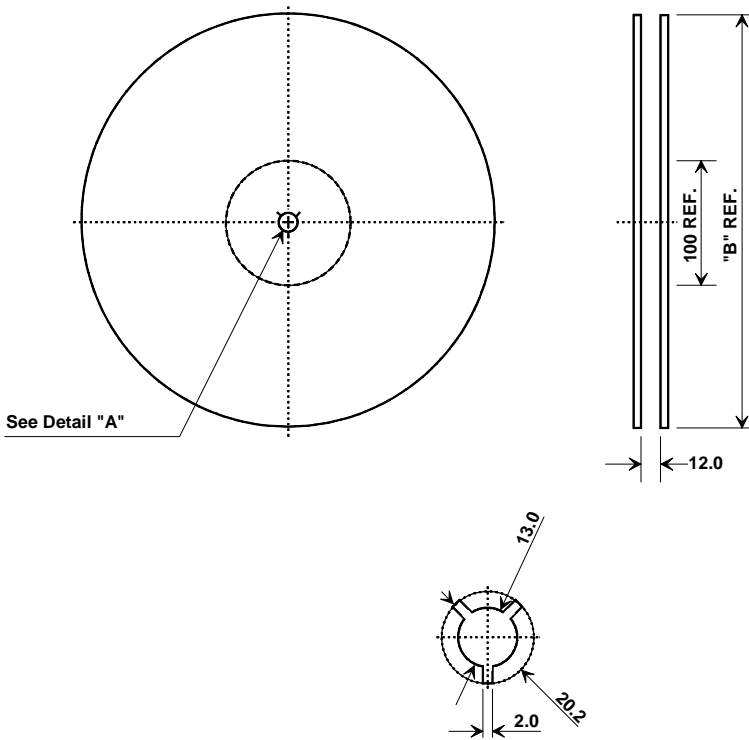
TOP VIEW



BOTTOM VIEW



# Tape and Reel Specifications



"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

## COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.3 mm
Bo	5.3 mm
Ko	2.0 mm
Pitch	8.0 mm
W	12.0 mm

