



**SF2037C**

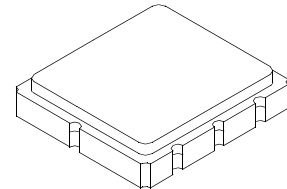
**76.500 MHz  
SAW Filter**

- *Designed for SDARS IF Receiver*
- *Low Insertion Loss*
- *5.0 X 5.0 mm Surface-Mount Case*
- *Differential or Single Ended Input and Output*
- *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 Profile	265°C for 10 s	



**SM5050-8**

### Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_c$	1		76.500		MHz
Passband	Insertion Loss	IL		10.0	12.0	dB
	1 dB Passband	$BW_1$	3.8	4.1		MHz
	15 dB Bandwidth	$BW_{15}$		6.7	6.8	MHz
	30 dB Bandwidth	$BW_{30}$		7.7	7.8	MHz
	Amplitude Ripple over $f_c \pm 1.9$ MHz			0.5	1.10	dB <sub>p-p</sub>
	Group Delay Variation over $f_c \pm 1.9$ MHz	GDV		65	150	ns <sub>p-p</sub>
Rejection	50 to 70.44 MHz	1, 3	40	43		dB
	70.44 to 72.04 MHz		38	43		
	81.26 to 82.56 MHz		38	49		
	82.56 to 86.50 MHz		40	48		
	86.5 to 91.50 MHz		45	48		
	91.50 to 100.000 MHz		45	58		
Operating Temperature Range	$T_A$	1	-40		+85	°C
Frequency Temperature Coefficient	FTC			-18		ppm/°C
Differential Input			175 ohms			
Differential Output			1000 ohms			
Case Style		6	SM5050-8 5 x 5 mm Nominal Footprint			
Lid Symbolization (Y=year, WW=week, S=shift) See note 4			RFM 912 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. 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. Tape and Reel Standard ANSI / EIA 481.
7. 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.
8. US and international patents may apply.
9. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

# SM5050-8 Case

## 8-Terminal Ceramic Surface-Mount Case 5.0 X 5.0 mm Nominal Footprint

### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.8	5.0	5.2	0.189	0.197	0.205
B	4.8	5.0	5.2	0.189	0.197	0.205
C	1.30	1.50	1.7	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	0.05
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

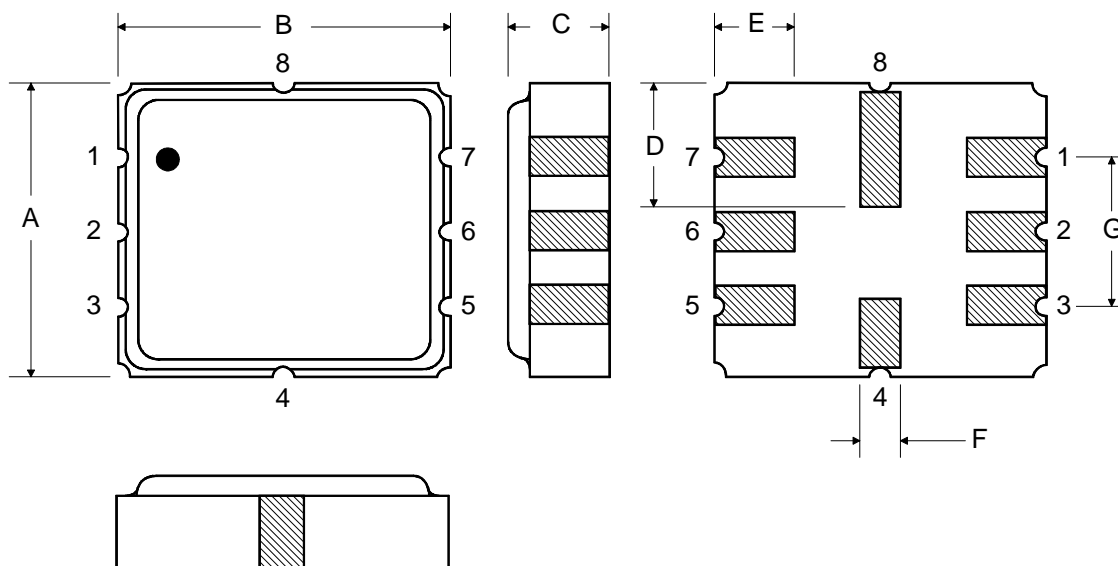
### Electrical Connections

Connection		Terminals
Port 1	Differential Input	1, 2
Port 2	Differential Output	5, 6
	Ground	All others
<b>Single Ended Operation</b>		<b>Return is ground</b>
<b>Differential Operation</b>		<b>Return is hot</b>
Dot indicates Pin 1		

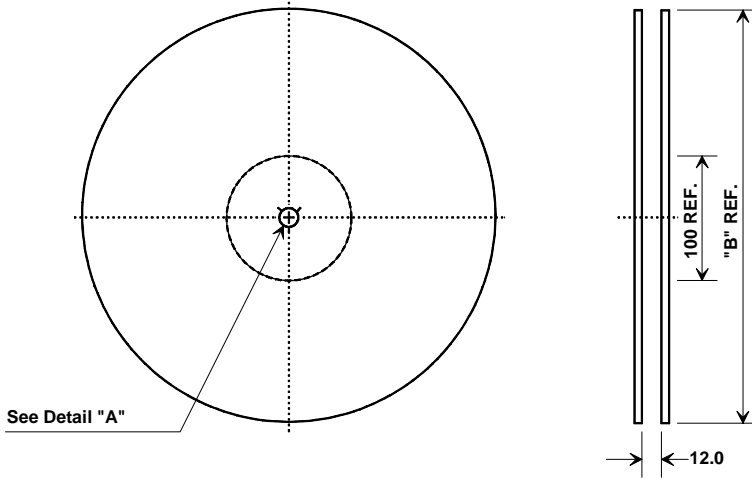
Materials	
Solder Pad Termination	Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches Thick
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

TOP VIEW

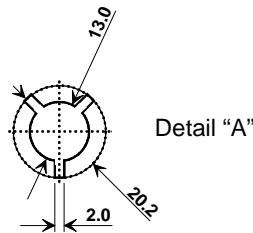
BOTTOM VIEW



# Tape and Reel Specifications



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



## COMPONENT ORIENTATION

