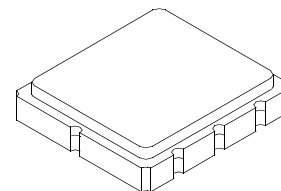




**SF1189C-1**

**280.00 MHz  
SAW Filter**



**SM5050-8**

- **Designed for WLAN IF Applications**
- **Low Insertion Loss**
- **5.0 x 5.0 x 1.7 mm Surface-Mount Case**
- **Single-ended Input**
- **Single-ended or Differential Output**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
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 Profile	265°C for 10 s	

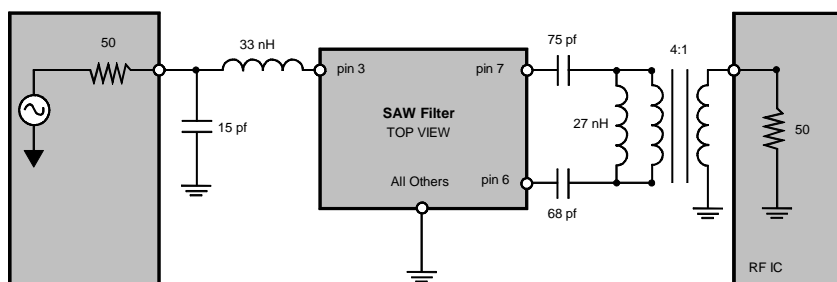
**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_c$	1	280.0			MHz
Passband	Insertion Loss at $f_c$	IL		8.3	10	dB
		3 dB Passband	$BW_3$	1, 2	18.5	19.3
	Amplitude Ripple over $f_c \pm 9.0$ MHz			2.0	3.0	dB <sub>P-P</sub>
	Group Delay Variation over $f_c \pm 9.0$ MHz	GDV			60	100
Rejection	$f_c - 60$ to $f_c - 40$ MHz		1, 2, 3	40	46	dB
		$f_c - 40$ to $f_c - 22$ MHz		37	39	
		$f_c - 22$ to $f_c - 16$ MHz		30	39	
		$f_c + 16$ to $f_c + 22$ MHz		25	33	
		$f_c + 22$ to $f_c + 40$ MHz		34	36	
		$f_c + 40$ to $f_c + 60$ MHz		40	45	
Operating Temperature Range	$T_A$	1	-10		+85	°C

Differential Input / Output Impedance Match	External L-C
Case Style	SM5050-8 5 X 5 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week, S=shift)	457, YYWWS

**Electrical Connections**

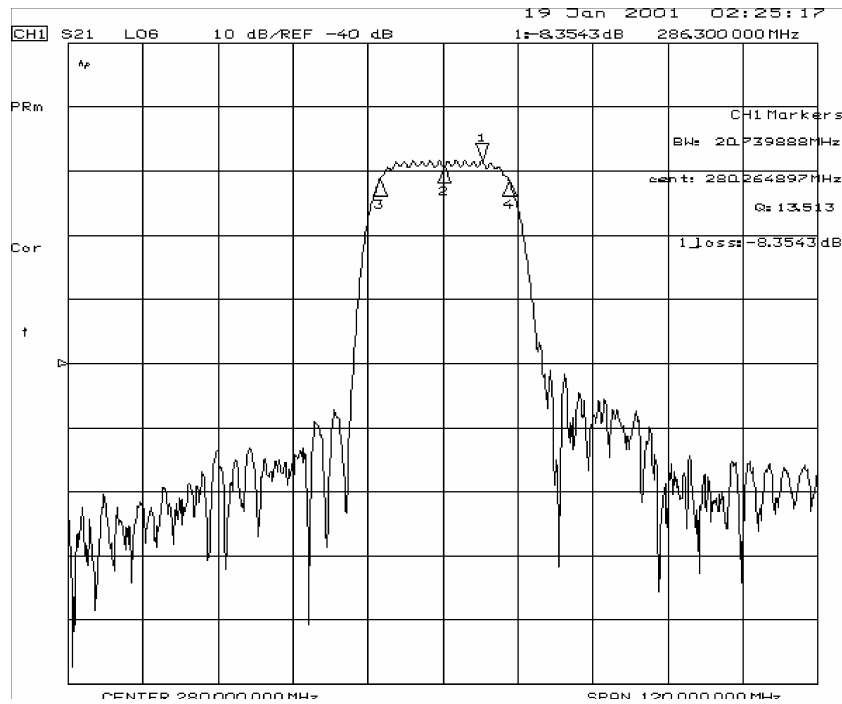
Connection	Terminals
Port 1 Input	3
Port 2 Hot	6
Port 2 Gnd or Return	7
Case Ground	All others



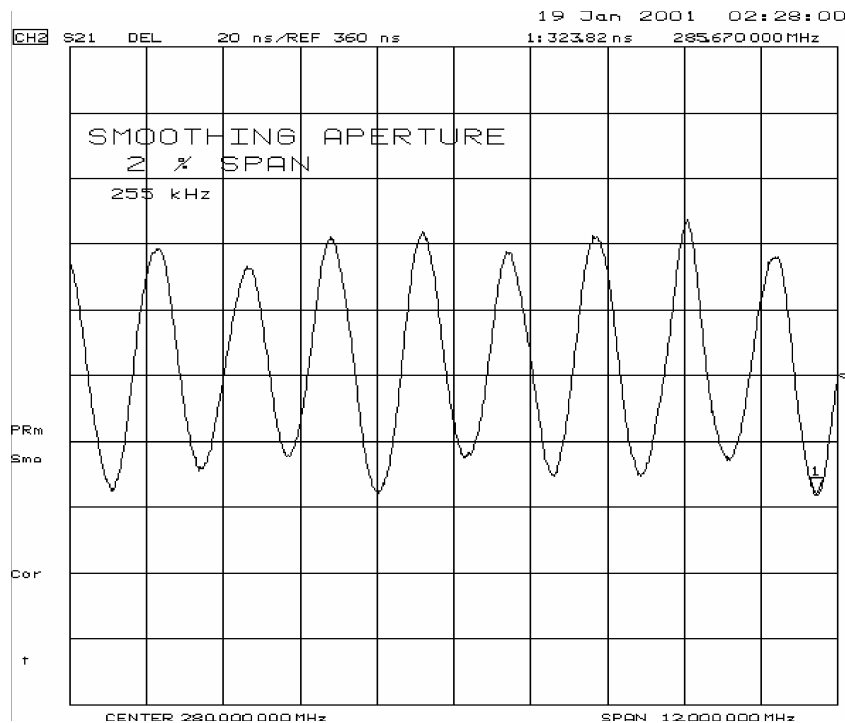
**Notes:**

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. 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.
9. Electrostatic Sensitive Device. Observe precautions for handling.

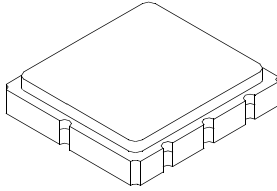
# Filter Amplitude Plot



# Filter Group Delay Plot

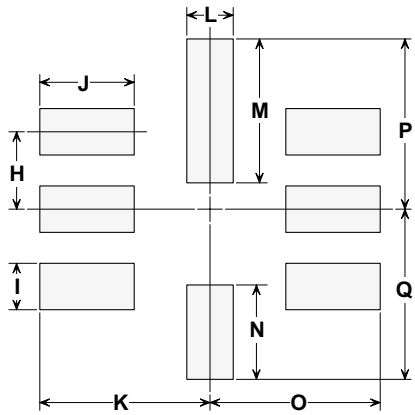


# SM5050-8 Surface-Mount 8-Terminal Ceramic Case 5.0 X 5.0 mm Nominal Footprint



### 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	

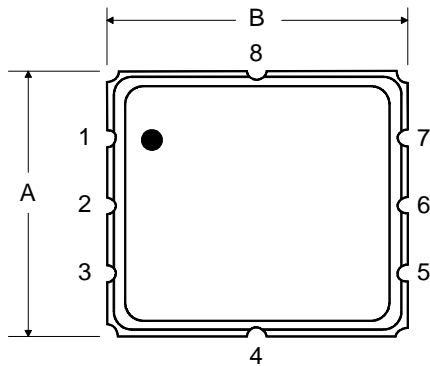


PCB Footprint

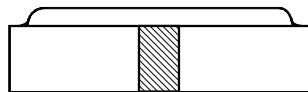
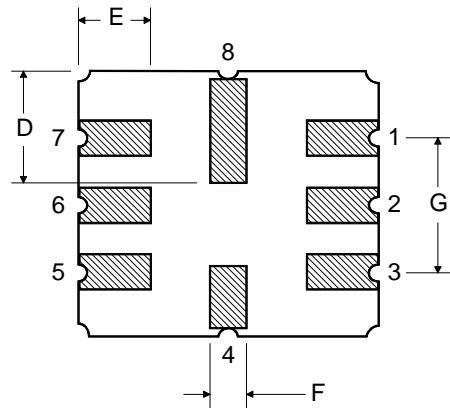
### Case Materials

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

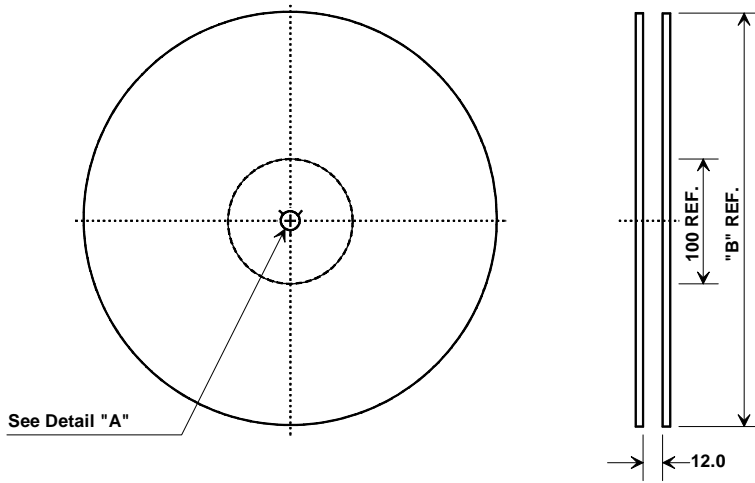
TOP VIEW



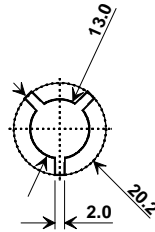
BOTTOM VIEW



# 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

