



**SF1186B-4**

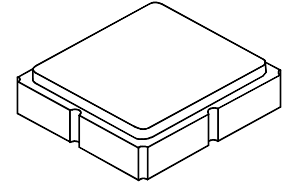
**1575 MHz  
SAW Filter**

- RF Filter for GPS Receiver
- Surface-mount 3.0 x 3.0 mm Package
- Complies with Directive 2002/95/EC (RoHS)



**Absolute Maximum Ratings**

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 cycles/ 10 seconds maximum	265	°C



**SM3030-8**

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			1575		MHz
Insertion Loss, 1565 - 1585 MHz	IL			2.7	4.5	dB
Amplitude Ripple, 1565 - 1585 MHz				0.4	1.5	dB
Attenuation, 0 dB Reference:						dB
0 to 1000 MHz			32	34		
1000 to 1435 MHz			32	34.5		
1435 to 1525 MHz			22	24		
1525 to 1540 MHz			7	21		
1610 to 1625 MHz			7	16		
1625 to 1715 MHz			22	25.5		
1715 to 1785 MHz			34	39		
1785 to 2100 MHz			30	34		
2100 to 2200 MHz			25	26.5		
2200 to 2500 MHz			27	34		
2500 to 4000 MHz			18	32		
Source Impedance, Unbalanced	$Z_S$			50		$\Omega$
Load Impedance, Balanced	$Z_L$			50		

Case Style	SM3030-8 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	905, YWWS					
Standard Reel Quantity	Reel Size 7 Inch					500 Pieces/Reel
	Reel Size 13 Inch					3000 Pieces/Reel

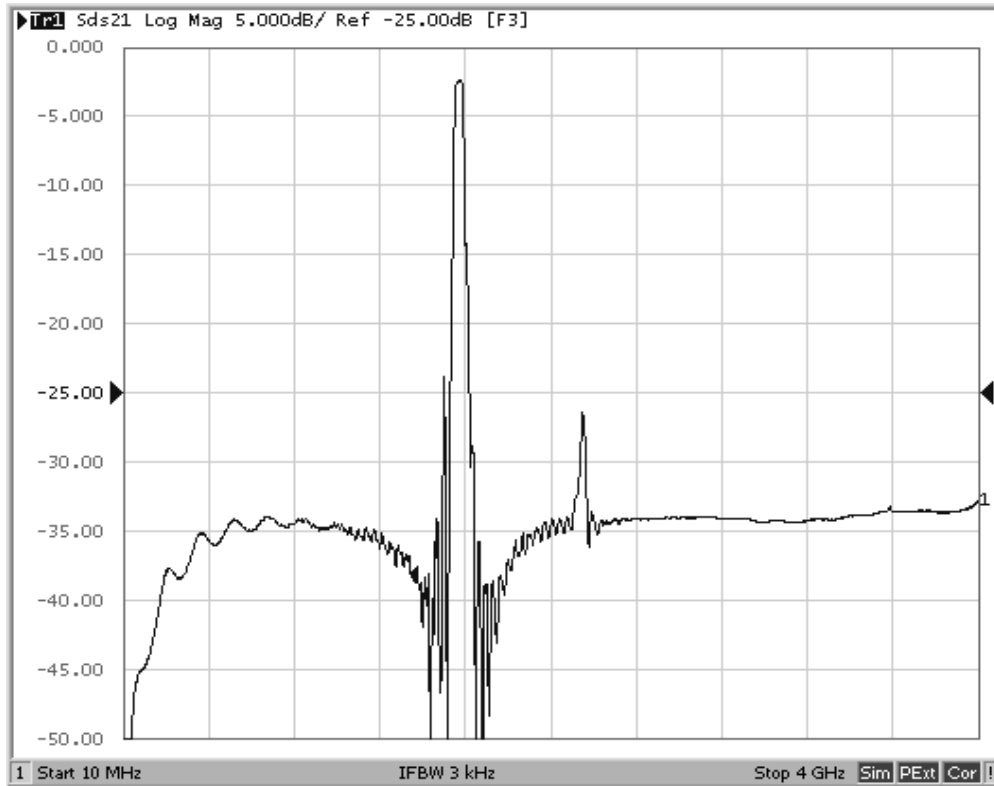


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

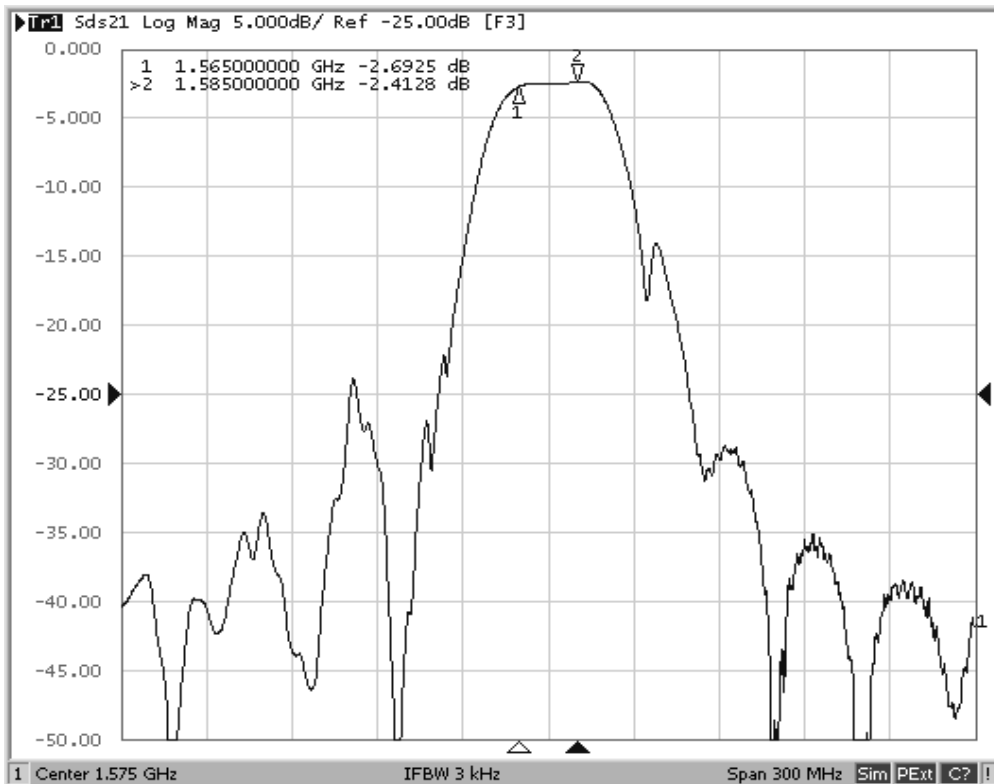
**Notes:**

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  $\Omega$  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.

# Filter Wideband Response



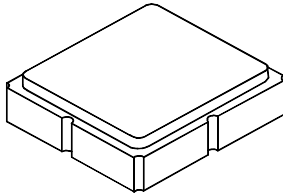
# Filter Passband Response



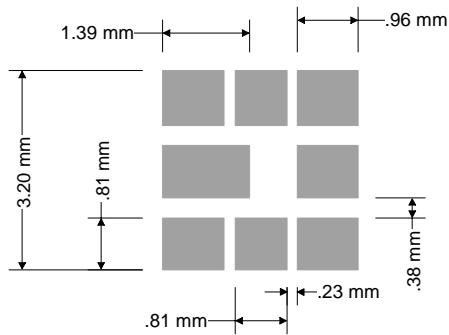
# SM3030-8 Case

## 8-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint

### Case Dimensions



Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	1.14	1.27	1.40	0.045	0.050	0.055
D	0.79	0.92	1.05	0.031	0.036	0.041
E	0.62	0.75	0.88	0.024	0.029	0.034
F	0.47	0.60	0.73	0.018	0.024	0.029
G	0.47	0.60	0.73	0.018	0.024	0.029
H	1.07	1.20	1.33	0.042	0.047	0.052



Foot Print Dimensions

### Electrical Connections

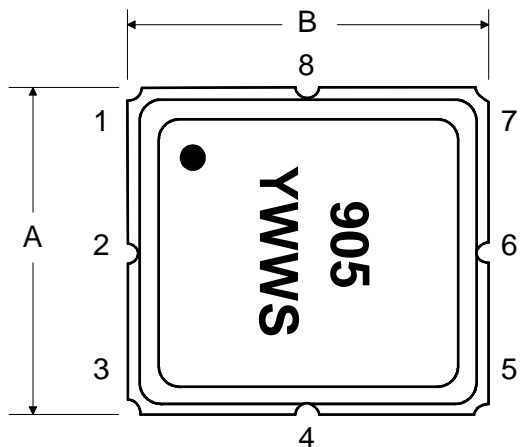
	Connection	Terminals
	Unbalanced Input	2
	Balanced Output	5, 7
	Ground	All Others

Dot Indicates Pin 1

### 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

