

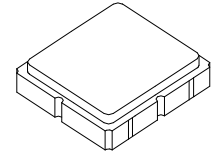


- Designed for Front End GPS Applications
- Low Insertion Loss
- 3.0 x 3.0 x 1.3 mm Surface-Mount Case
- No Matching Circuit Required
- Complies with Directive 2002/95/EC (RoHS)



**SF1186B-2**

**1575.42 MHz  
SAW Filter**



**SM3030-6**

**Maximum Ratings at +25°C unless stated otherwise**

Rating	Symbol	Value	Units
Maximum Input Signal Level		+10	dBm
Withstanding DC Voltage	WVdc	4	Volts
Operating Temperature Range	T <sub>A</sub>	-40 to +85	°C
Storage Temperature Range	T <sub>STG</sub>	-40 to +105	°C
Lead Soldering Temperature for 10 Seconds	T <sub>WAVE</sub>	260	°C
Peak Reflow Solder Temp for 40 Seconds	T <sub>Reflow</sub>	235	°C
Suitable for lead-free soldering - Max Soldering Temperature		260°C for 30 s	

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f <sub>O</sub>	1	1575.42			MHz
1dB Passband width		1	2.046	15.3		MHz
Pass Band Variation Fc ±2.0 MHz				0.1	1.0	dB
Pass Band VSWR				1.4	2.0	
Insertion Loss		1		2.68	3.5	dB
Absolute Attenuation @	850 MHz	1	45	51.2		dB
	1500 MHz	1	40	52.7		
	1535.42 MHz	1	20	38.9		
	1615.42 MHz	1	20	58.8		
	1640 MHz	1	45	59.1		
	1700 MHz	1	50	56.7		
Temperature Coefficient			-30			ppm/°C
Operating Temperature	T <sub>A</sub>	1	-40		+85	°C
Single Ended Input / Output, Impedance match	No matching network required for operation at 50 ohms					
Case Style	SM3030-6 3 x 3 mm Nominal Footprint					
Lid Symbolization	y=year, ww=week, s=shift	468 YWWS				
Standard Reel Quantity	Reel Size 7 Inch	6	500 Pieces/Reel			
	Reel Size 13 Inch		3000 Pieces/Reel			

**Electrical Connections**

Pin #	Description	Pin #	Description
1	Ground	4	Ground
2	Input	5	Output
3	Ground	6	Ground



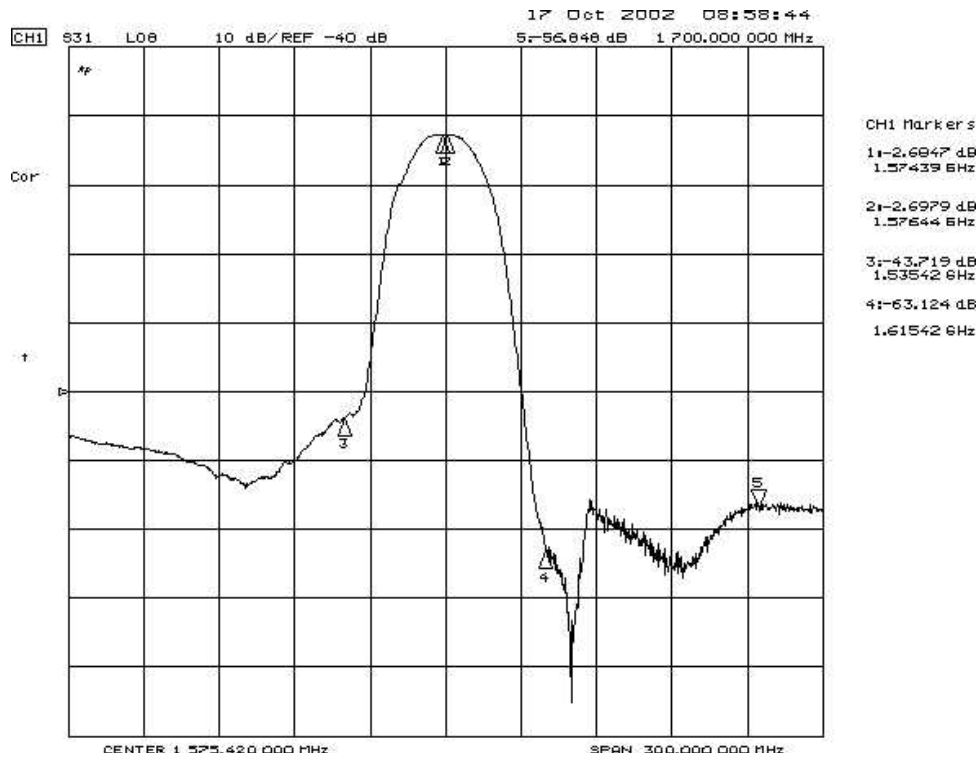
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**Notes:**

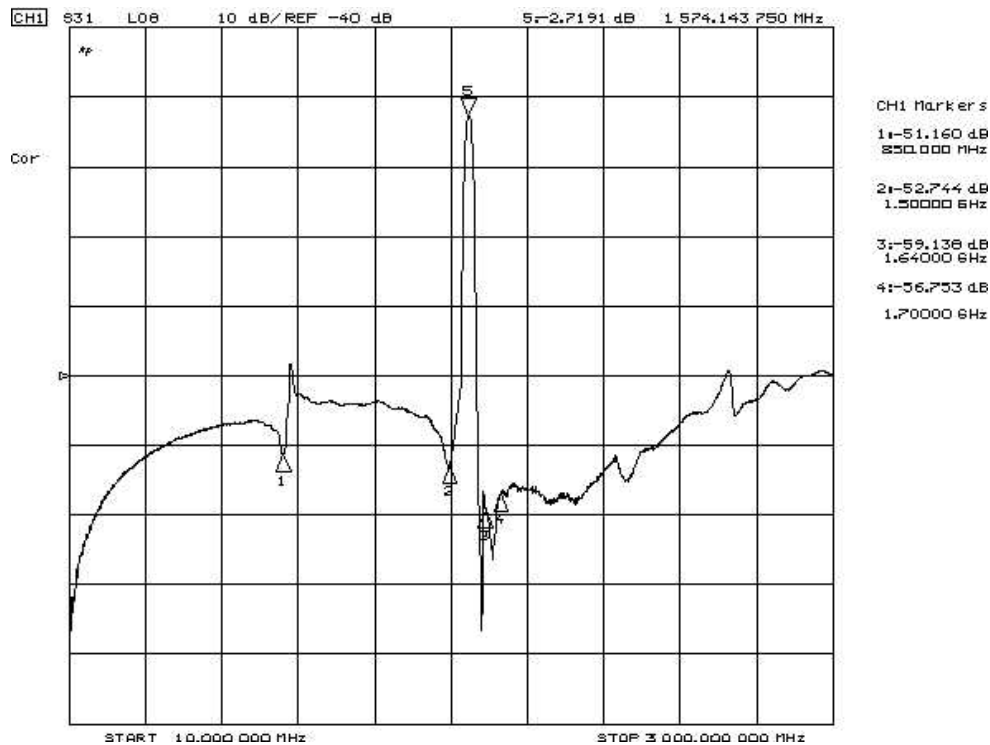
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board without impedance matching and measured with 50 Ω network analyzer.
2. The design, manufacturing process, and specifications of this filter are subject to change.
3. 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.
4. US and international patents may apply.
5. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
6. Tape and Reel Standard Per ANSI / EIA 481.
7. ©Copyright 1999, RF Monolithics Inc.

## Transfer function :

(1) S21 response (span : 300 MHz)

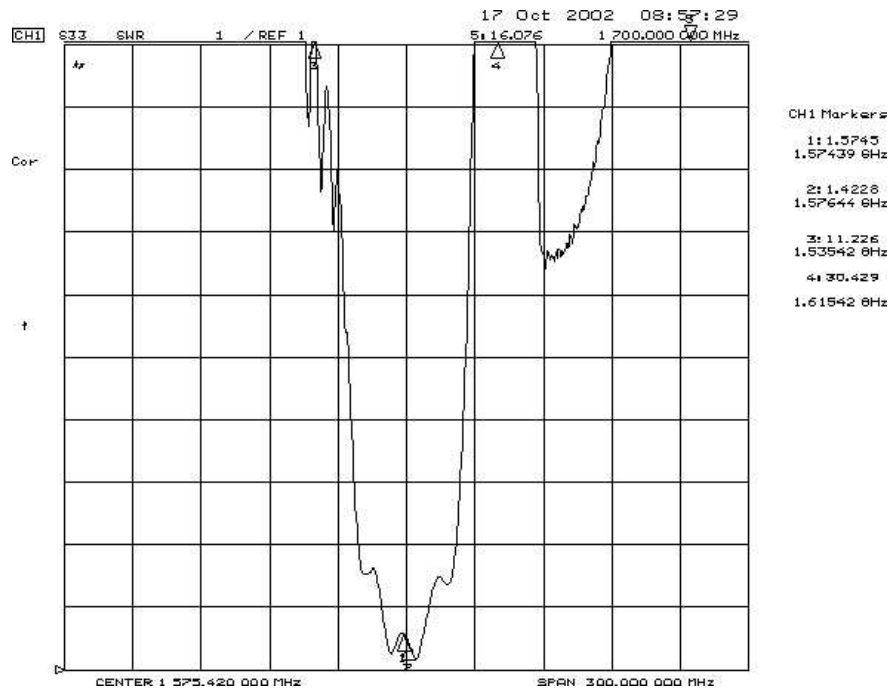


(2) S21 response (span : 3 GHz)

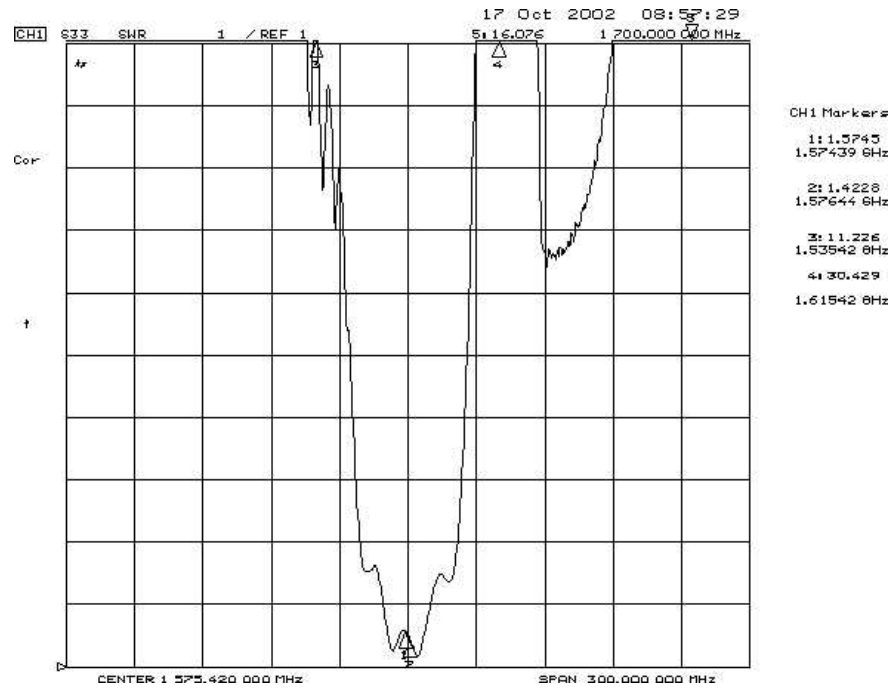


# Reflection Functions:

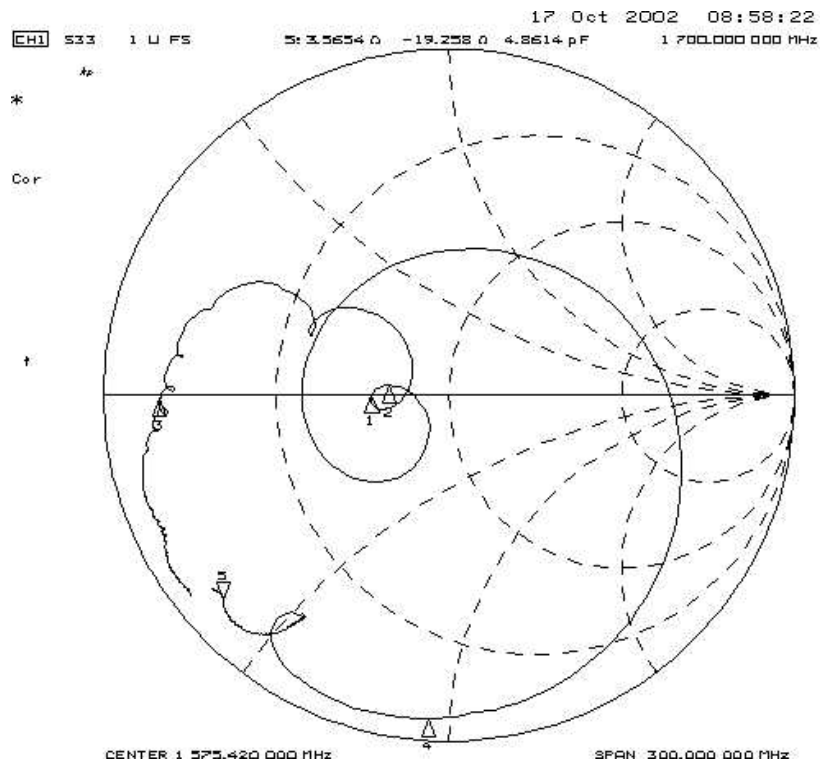
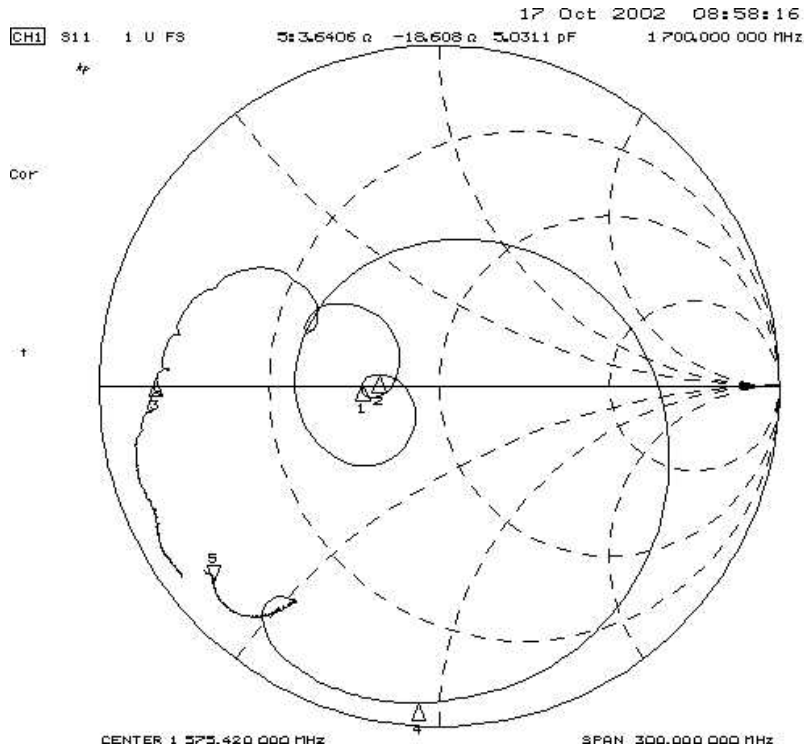
S11



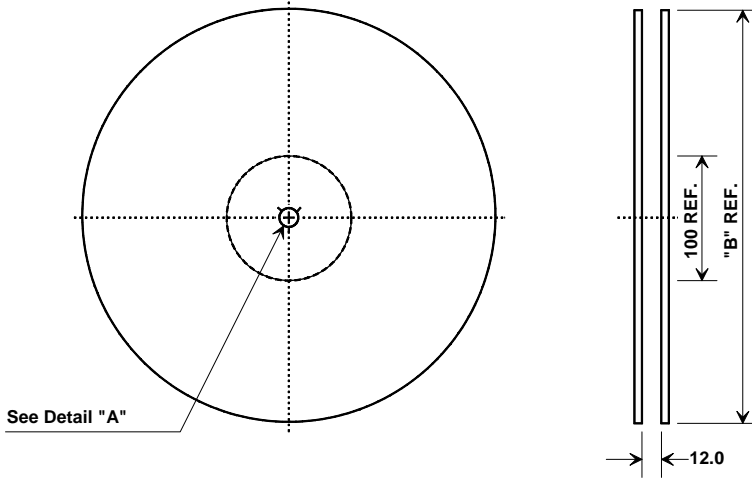
S22



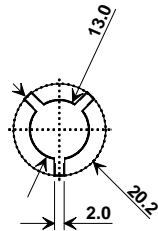
# Reflection Functions:



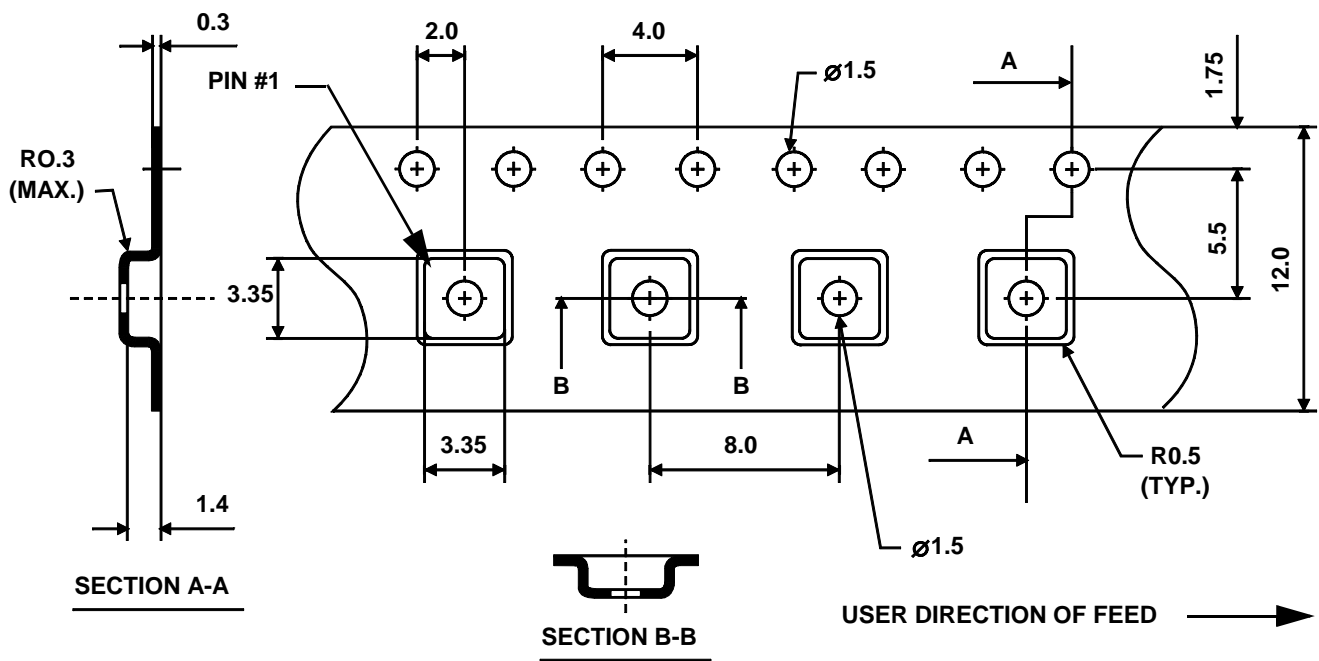
# Tape and Reel Specifications



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



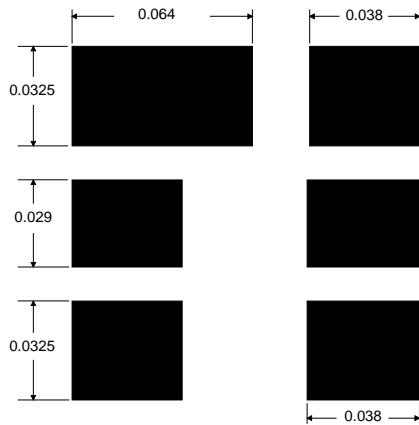
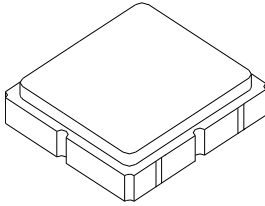
## COMPONENT ORIENTATION



# SM3030-6 Case

## 6-Terminal Ceramic Surface-Mount Case

### 3.0 X 3.0 mm Nominal Footprint



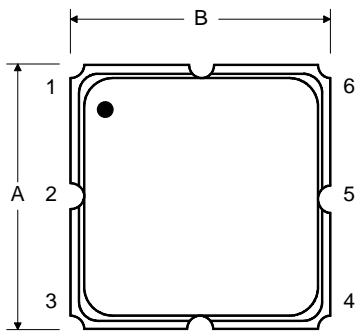
Foot Print Dimensions in Nominal Inches

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	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.9	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.6	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.5	1.63	0.054	0.059	0.064
I	0.47	0.6	0.73	0.019	0.024	0.029
J	1.17	1.3	1.43	0.046	0.051	0.056

Electrical Connections		
Connection	Terminals	
Port 1	Single Ended Input	2
Port 2	Single Ended Output	5
	Ground	All others
<b>Single Ended Operation Only</b>		
Dot indicates Pin 1		

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

TOP VIEW



BOTTOM VIEW

