

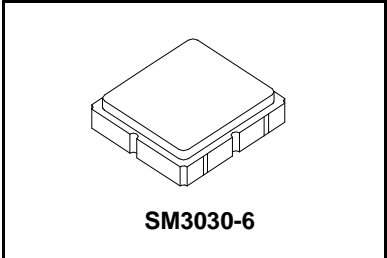


- Designed for Front End GPS Applications
- Low Insertion Loss
- 3.0 x 3.0 x 1.3 mm Surface-Mount Case
- No Matching Circuit Required
- Complies with Directive 2002/95/EC (RoHS)



**SF1186B-2**

**1575.42 MHz  
SAW Filter**



**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



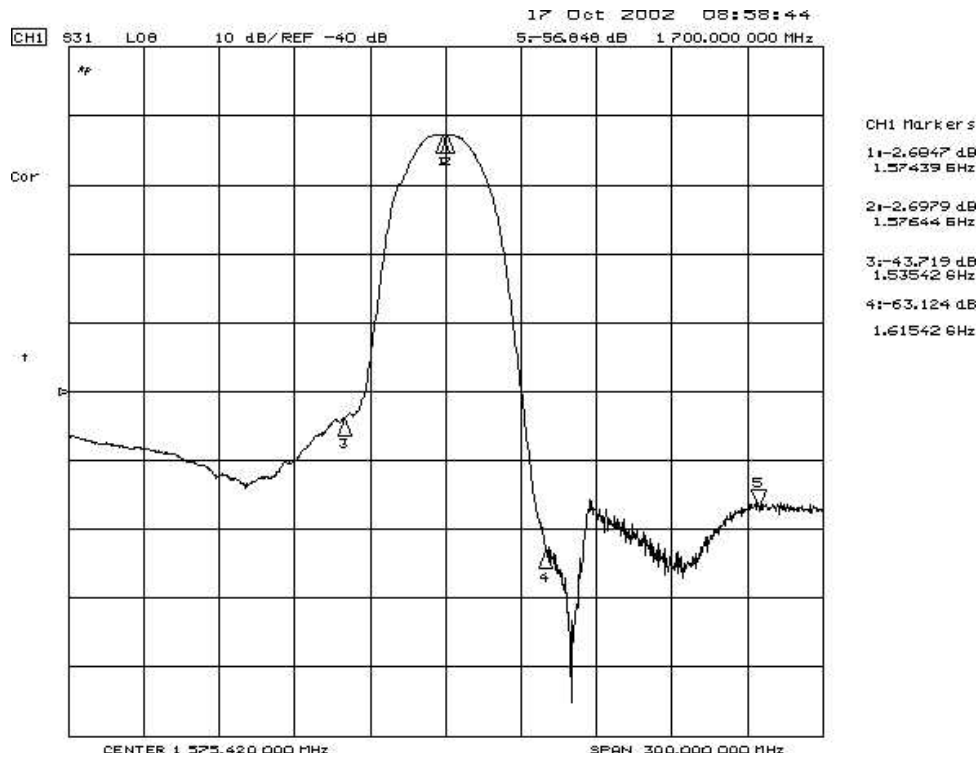
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**Notes:**

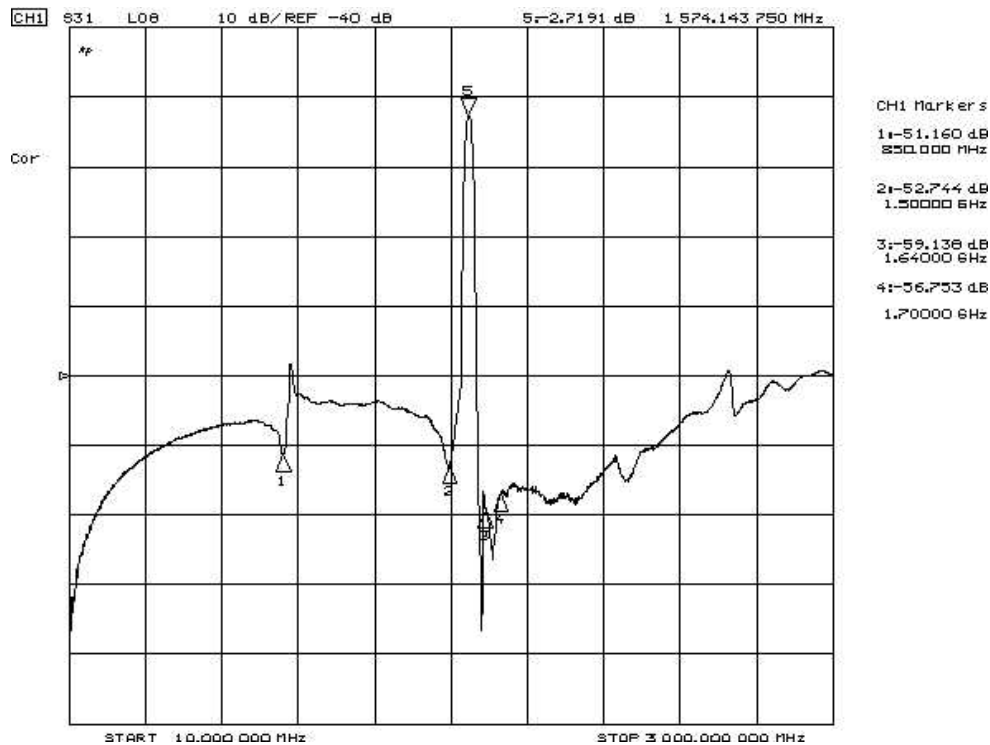
- Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board without impedance matching and measured with 50 Ω network analyzer.
- The design, manufacturing process, and specifications of this filter are subject to change.
- 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.
- US and international patents may apply.
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## Transfer function :

(1) S21 response (span : 300 MHz)

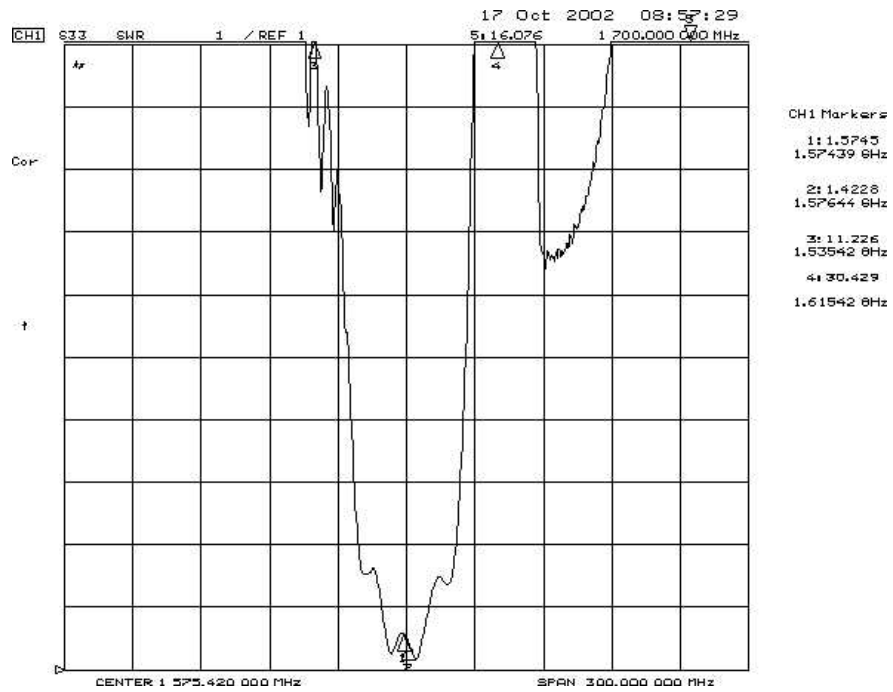


(2) S21 response (span : 3 GHz)

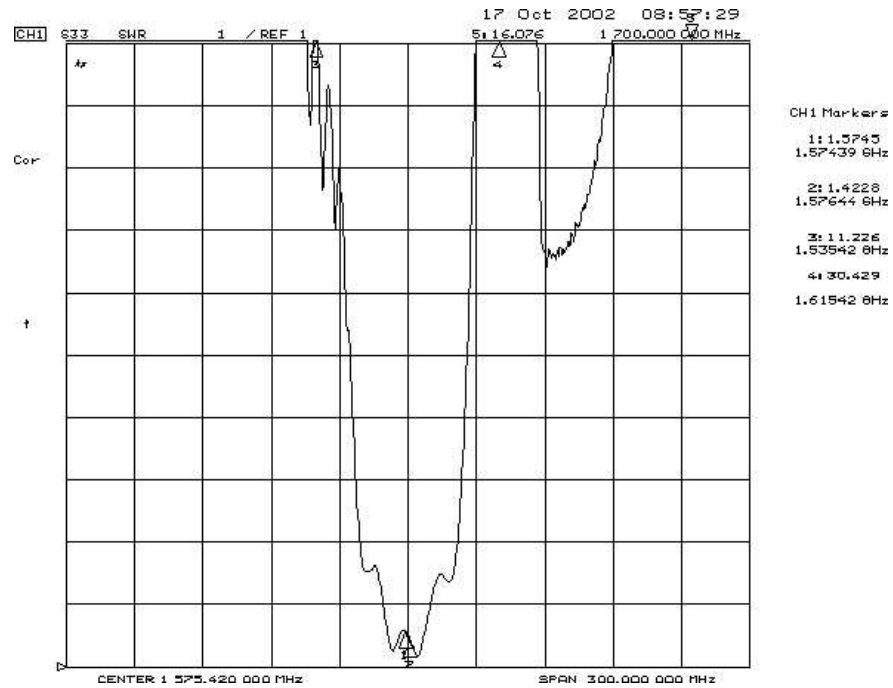


# Reflection Functions:

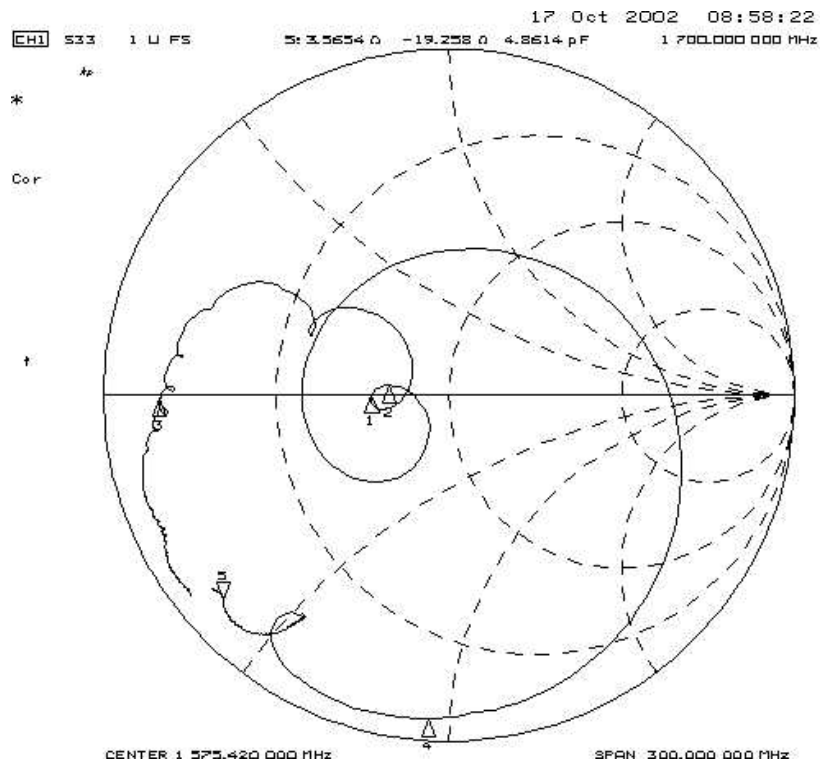
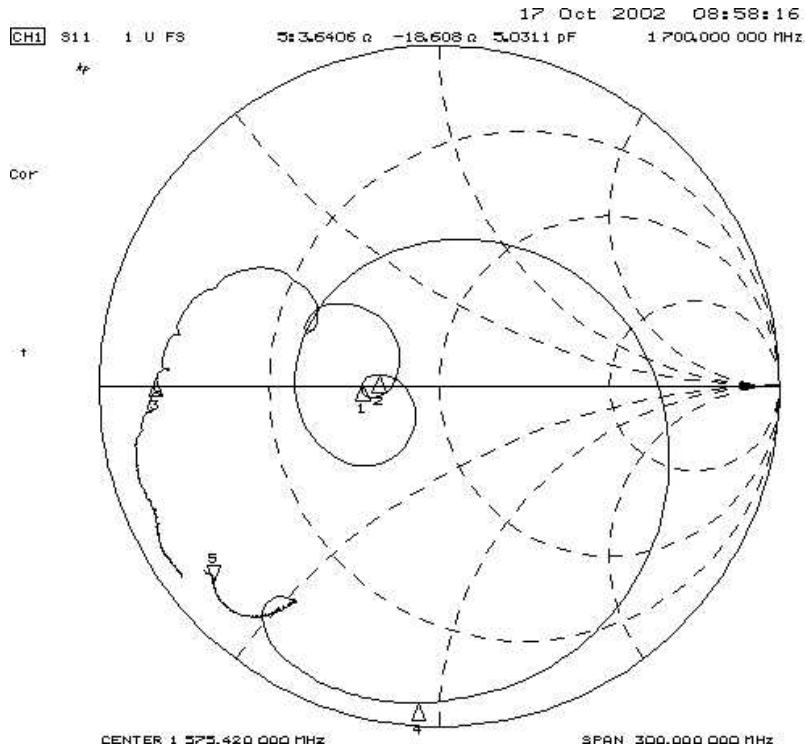
S11



S22



Reflection Functions:

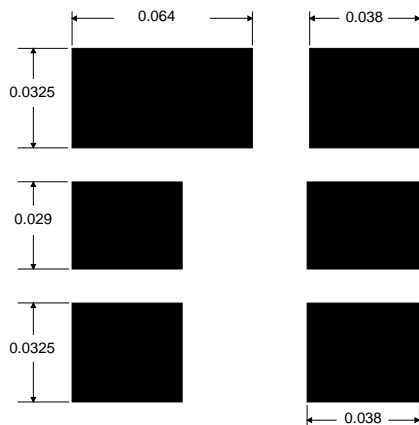
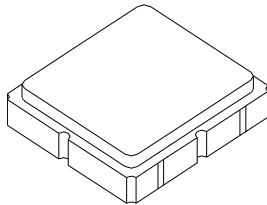




# SM3030-6 Case

## 6-Terminal Ceramic Surface-Mount Case

### 3.0 X 3.0 mm Nominal Footprint



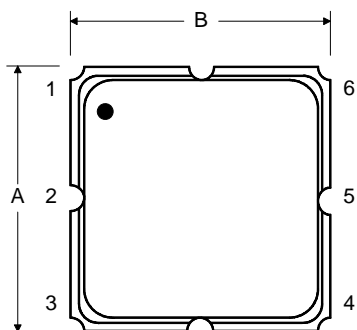
Foot Print Dimensions in Nominal Inches

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

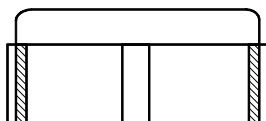
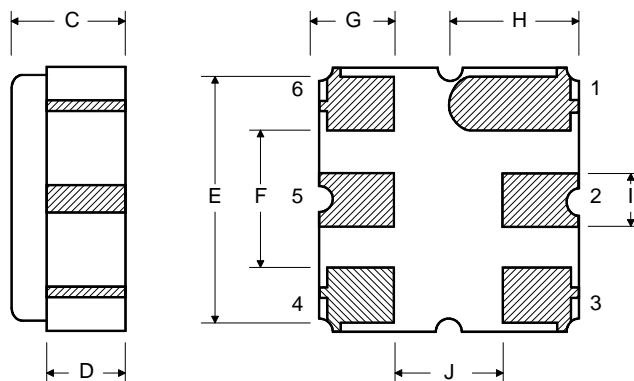
Electrical Connections		
Connection	Terminals	
Port 1	Single Ended Input	2
Port 2	Single Ended Output	5
	Ground	All others
<b>Single Ended Operation Only</b>		
Dot indicates Pin 1		

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



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