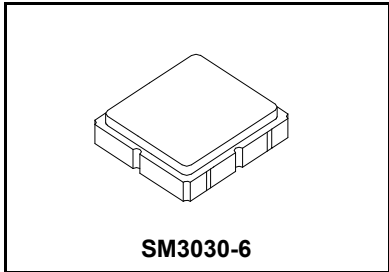


**SF1186B-3**

**1575.42 MHz  
SAW Filter**



- **Designed for GPS RF Front-end 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)**



**Maximum Ratings at +25 °C Unless Stated Otherwise**

Rating	Symbol	Value	Units
Maximum Input Signal Level		+10	dBm
Maximum 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
Reflow Soldering Temperature, 10 Seconds	T <sub>Reflow10</sub>	260	°C
Reflow Soldering Temperature, 40 Seconds	T <sub>Reflow40</sub>	235	°C

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f <sub>C</sub>	1		1575.42		MHz
1 dB Bandwidth		1	10	18		MHz
VSWR, f <sub>C</sub> ±2.0 MHz				1.4:1	2.0:1	
Insertion Loss		1		2.68	3.5	dB
Attenuation Referenced to 0 dB:						
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		598 YWWS			
Standard Reel Quantity	Reel Size 7 Inch	6	500 Pieces/Reel			
	Reel Size 13 Inch		3000 Pieces/Reel			

**Electrical Connections**

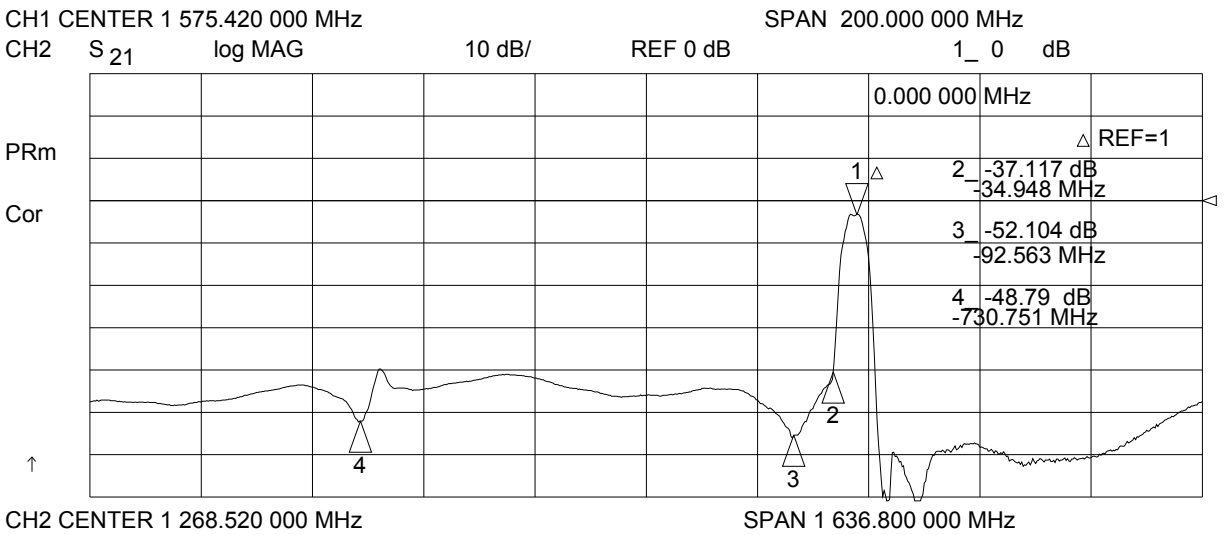
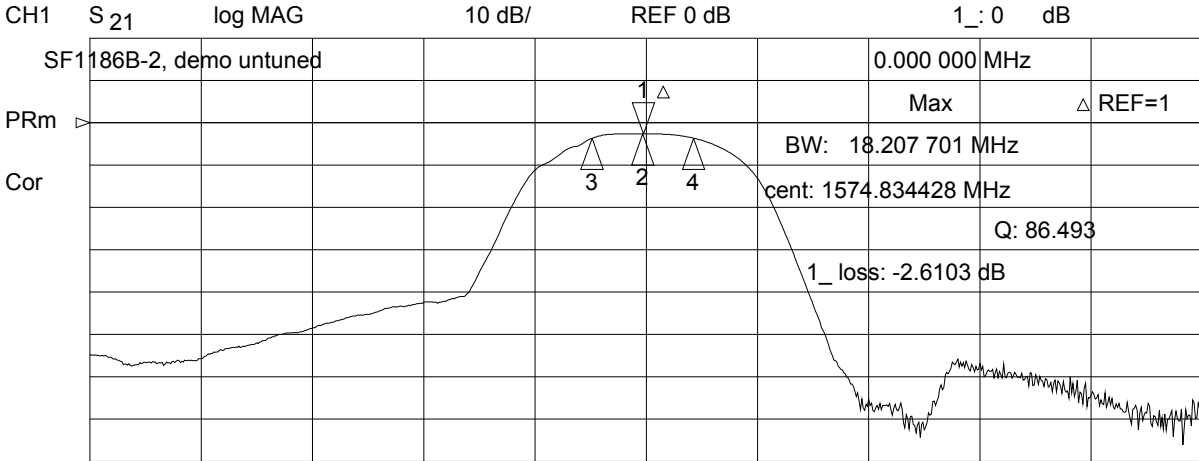
Pin #	Description	Pin #	Description
1	Ground	4	Ground
2	Input	5	Output
3	Ground	6	Ground

**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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.
6. Tape and Reel Standard Per ANSI / EIA 481.
7. Electrostatic Sensitive Device. Observe precautions for handling.



25 Jul 2005 11:14:38

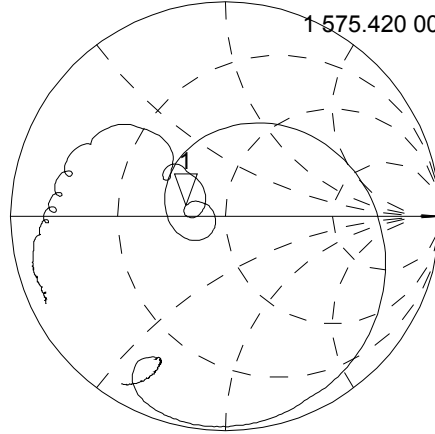


CH2 CENTER 1 268.520 000 MHz SPAN 1 636.800 000 MHz

CH1 S<sub>11</sub> 1 UFS  
[h]

25 Jul 2005 11:15:25  
1\_ 34.395 Ω 3.5762 Ω 361.28 pH

PRm  
Cor

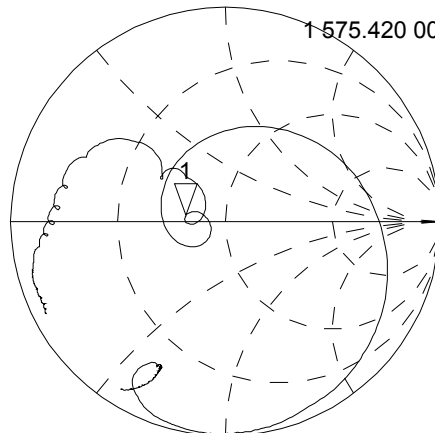


↑

CH2 S<sub>22</sub> 1 UFS  
SF1186B-2, demo untuned

1\_ 34.543 Ω 2.1738 Ω 219.61 pH

PRm  
Cor

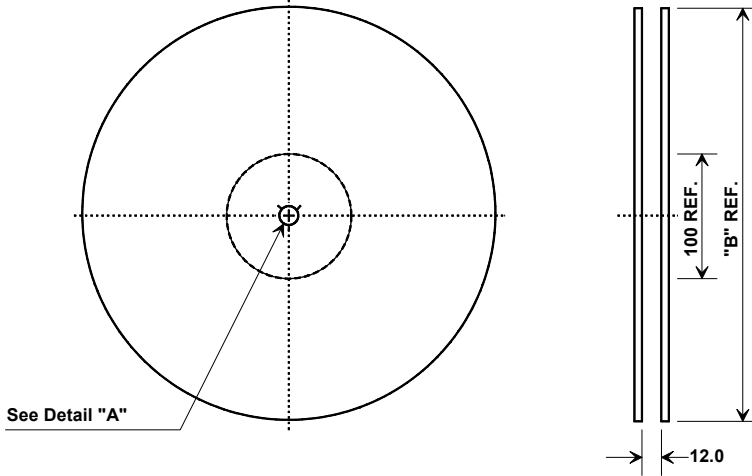


↑

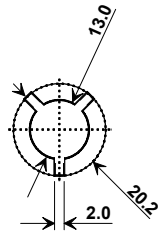
CENTER 1 575.420 000 MHz

SPAN 200.000 000 MHz

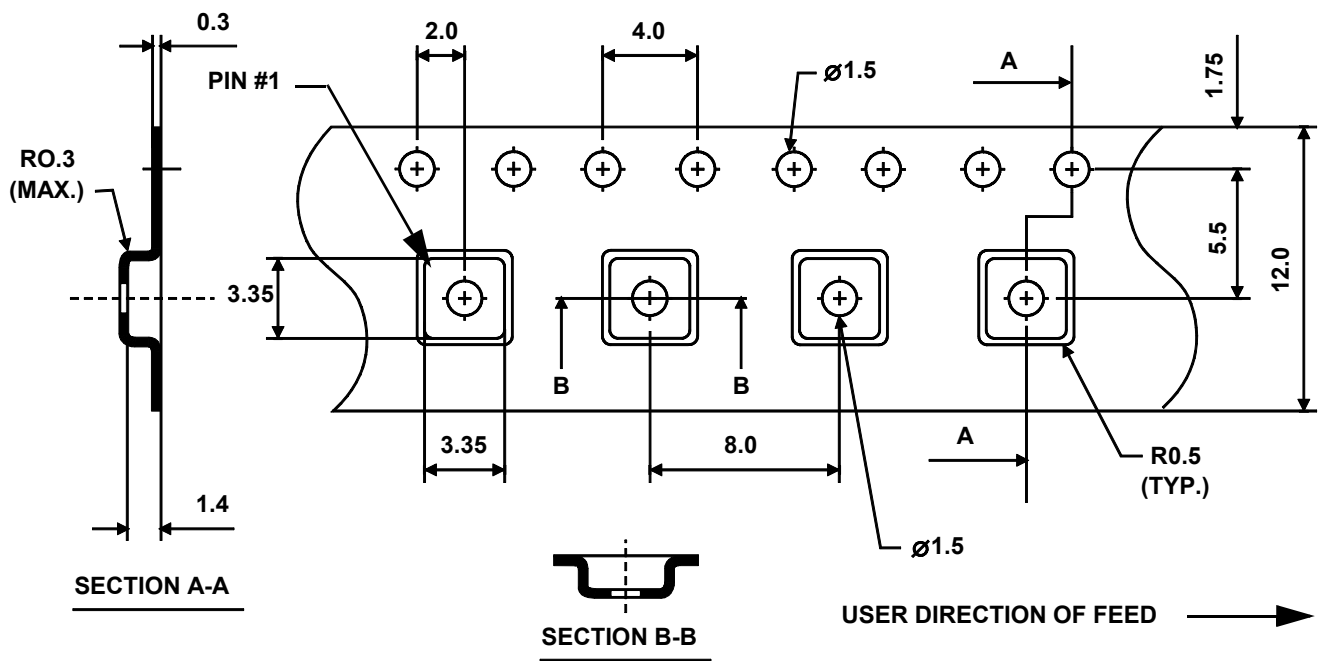
# Tape and Reel Specifications



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

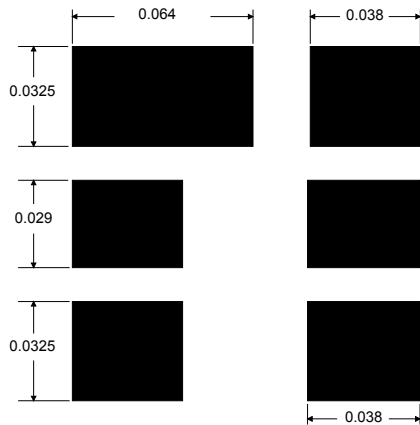
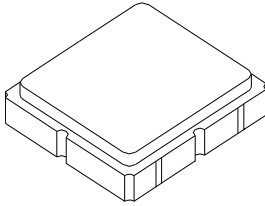


## COMPONENT ORIENTATION



# SM3030-6 Case

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



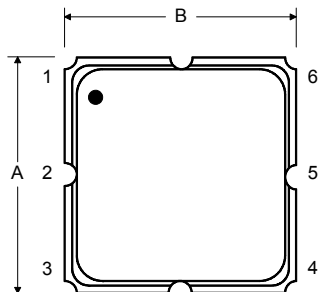
Foot Print Dimensions in Inches

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

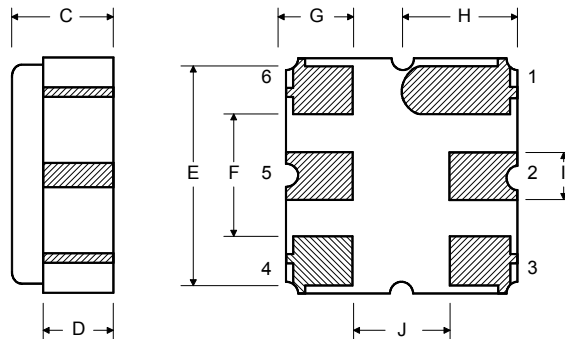
Electrical Connections		
Connection	Terminals	
Port 1	Single-ended Input	2
Port 2	Single-ended Output	5
	Ground	All others
Single-ended Operation Only		
Dot indicates Pin 1		

Case 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



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