

- Low-loss SAW Filter
- Surface-mount 3.0 x 3.0 x 1.4 mm Package
- Complies with Directive 2002/95/EC (RoHS)

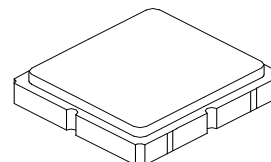


#### Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-20 to +50	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Solder Reflow Temperature, 10 seconds, 5 cycles maximum	260	°C

**SF2177E-1**

**1472 MHz  
SAW Filter**



**SM3030-6**

#### Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F <sub>C</sub>			1472		MHz
Insertion Loss, 1452 to 1492 MHz	IL			3.3	4.5	dB
Amplitude Ripple, 1452 to 1492 MHz				1.0	2.0	dB <sub>P-P</sub>
Attenuation Referenced to 0 dB						
1230 to 1330 MHz			40	55		dB
1570 to 1670 MHz			30	47		
1670 to 1715 MHz			36	48		
Source Impedance	Z <sub>S</sub>			50		Ω
Load Impedance	Z <sub>L</sub>			50		
Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	983, YWWS					
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel				
	Reel Size 13 Inch	3000 Pieces/Reel				

#### Electrical Connections

Connection	Terminals
Input	2
Output	5
Ground	All Others

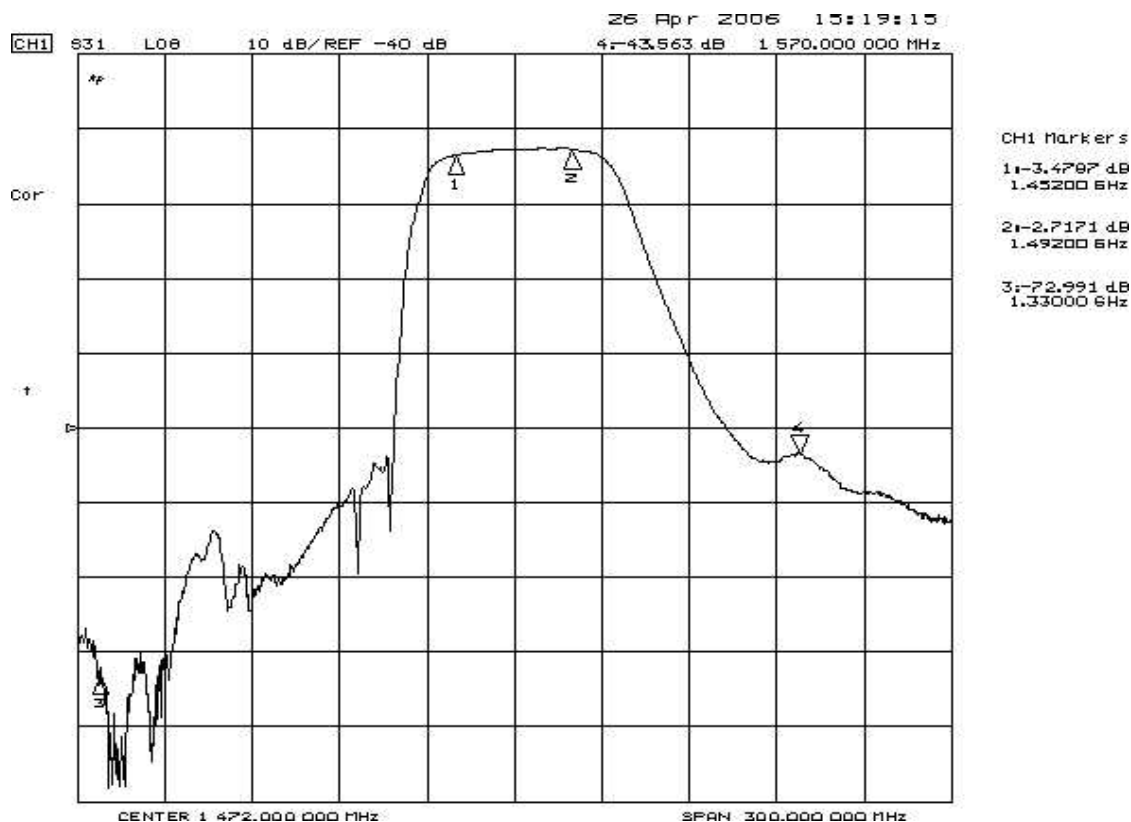


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

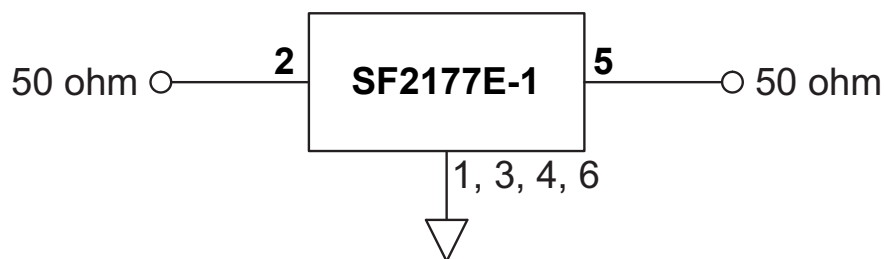
#### NOTES:

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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

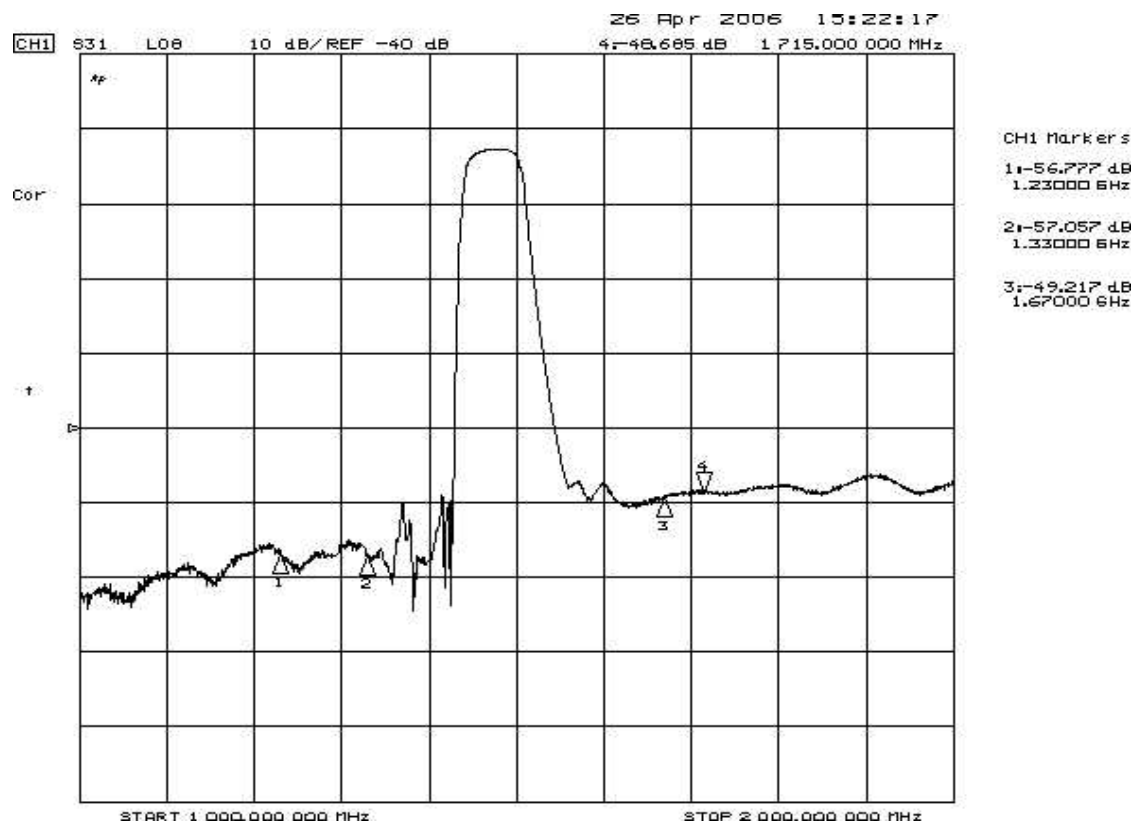
## Filter Passband Response



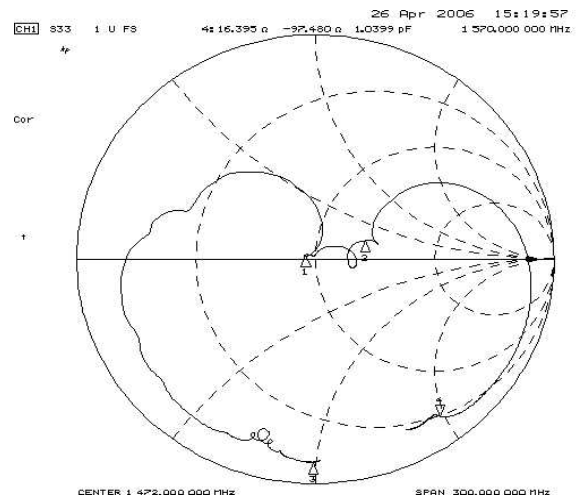
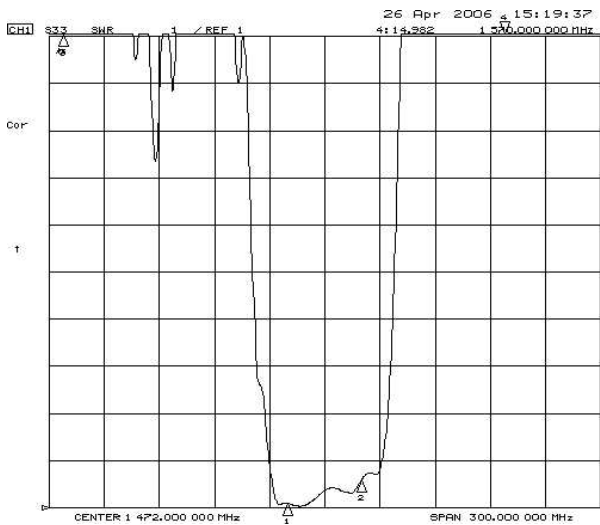
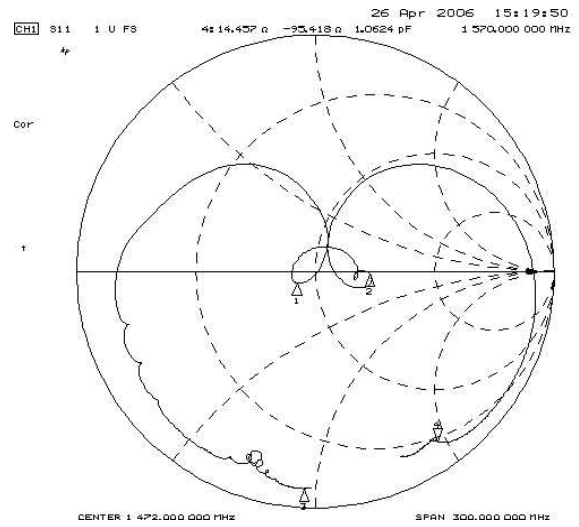
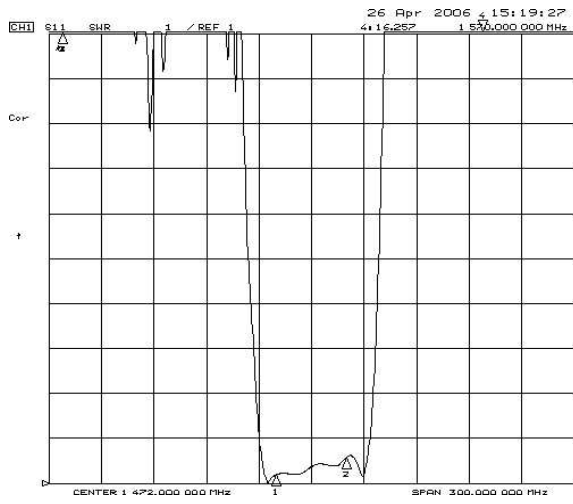
## Filter Test Circuit



# Filter Broadband Response

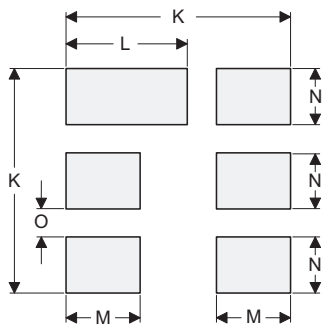
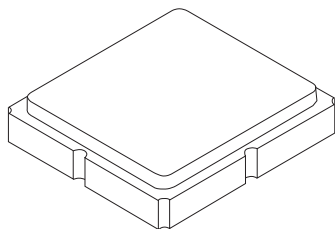


# Input and Output VSWR Plots



# SM3030-6 Case

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



PCB Footprint Top View

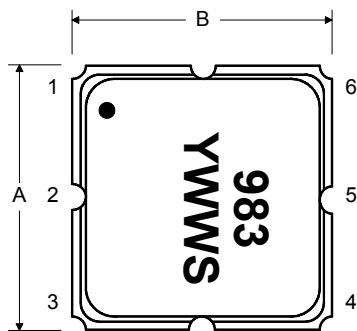
Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056
K		3.20			0.126	
L		1.70			0.067	
M		1.05			0.041	
N		0.81			0.032	
O		0.38			0.015	

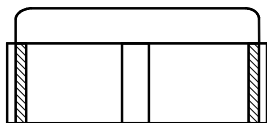
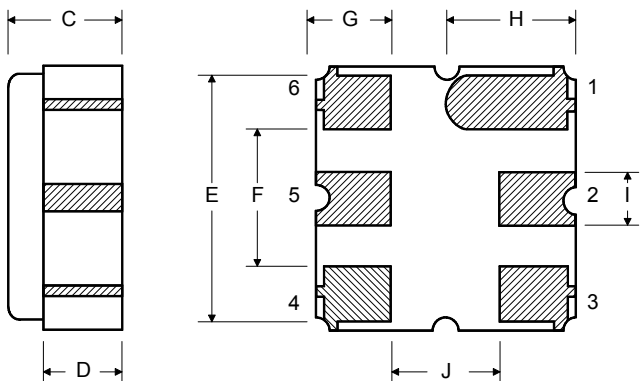
Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

TOP VIEW



BOTTOM VIEW



See Detail "A"

100 REF.

"B" REF.

12.0

13.0

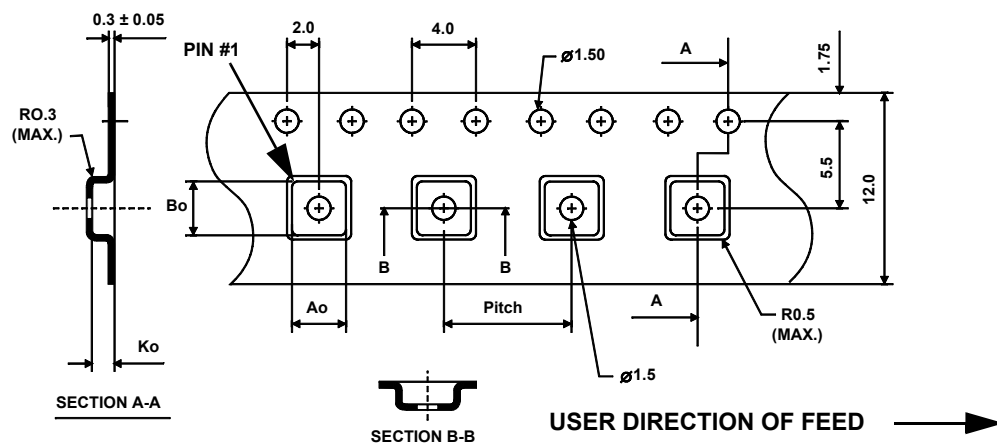
20.2

2.0

This technical drawing shows a circular component with a central hole. The main view is a top-down perspective showing concentric circles and a central hole. A detail callout labeled "See Detail 'A'" points to the central hole. To the right, a side view shows the component's profile, with dimensions 100 REF. and "B" REF. indicating the height of the central hole and the overall height of the component, respectively. Below the main view, a detail view of the central hole is shown, with dimensions 13.0, 20.2, and 2.0 indicating the hole's diameter, the distance from the hole's center to the outer edge, and the hole's depth, respectively. The dimension 12.0 is also shown, indicating the distance from the hole's center to the outer edge of the main view.

“B”		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

Carrier Tape Dimensions	
Ao	3.3 mm
Bo	3.3 mm
Ko	1.6 mm
Pitch	8 mm
W	12 mm



Typical Solder Reflow Profile

