

- **Low-loss 866.5 MHz SAW Filter**
- **Designed for 50 ohm Source/Load**
- **Complies with Directive 2002/95/EC (RoHS)**

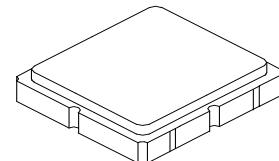


### Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+18	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Specification 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

# SF2314E

## 866.5 MHz SAW Filter



SM3030-6

### Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			866.5		MHz
Insertion Loss, 863 to 870 MHz	IL			2.3	3.0	dB
Amplitude Ripple, 863 to 870 MHz				0.3	1.3	dB <sub>P-P</sub>
VSWR, 863 to 870 MHz				1.2:1	2.0:1	
Attenuation, Referenced to 0 dB:						
10 to 830 MHz			45	49		
830 to 850 MHz			22	35		
885 to 905 MHz			27	35		
905 to 950 MHz			45	49		
950 to 1500 MHz			40	47		
1500 to 3000 MHz			25	28		
Source Impedance	$Z_S$			50		Ω
Load Impedance	$Z_L$			50		Ω
Case Style			SM3030-6 3.0 x 3.0 mm Nominal Footprint			
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator			A71, <u>YWWs</u>			
Standard Reel Quantity	Reel Size 7 inch		500 Pieces/Reel			
	Reel Size 13 inch		3000 Pieces/Reel			

### Electrical Connections

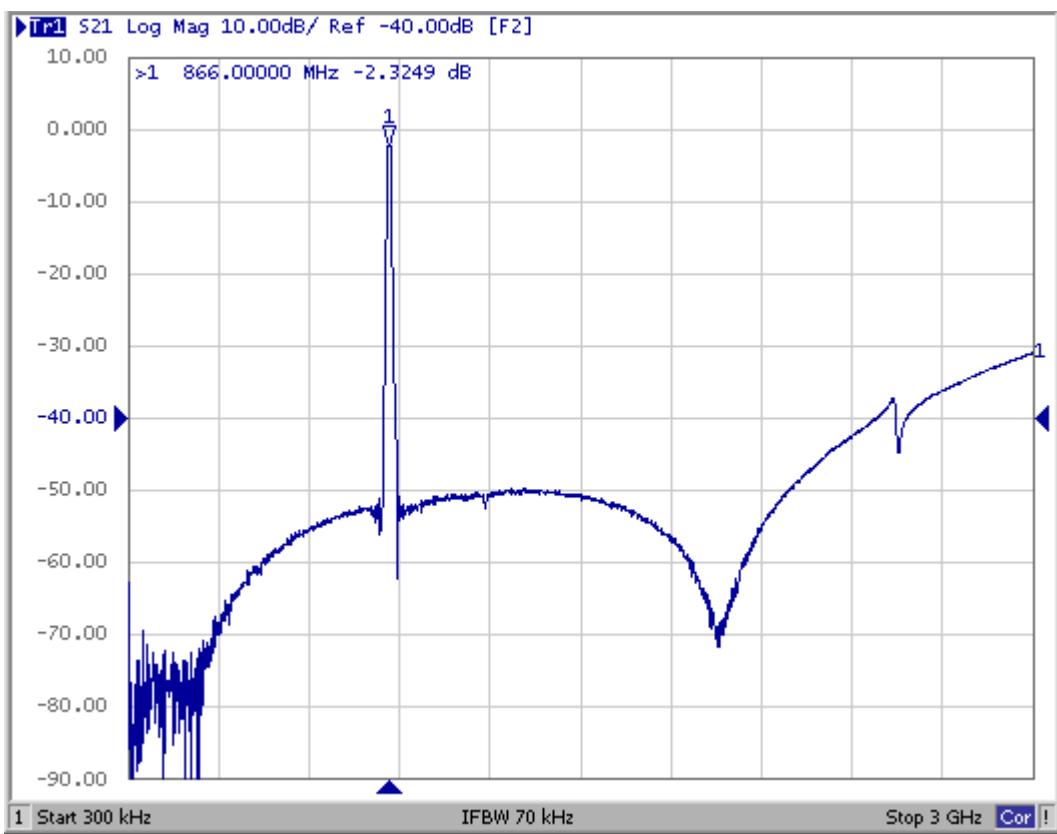
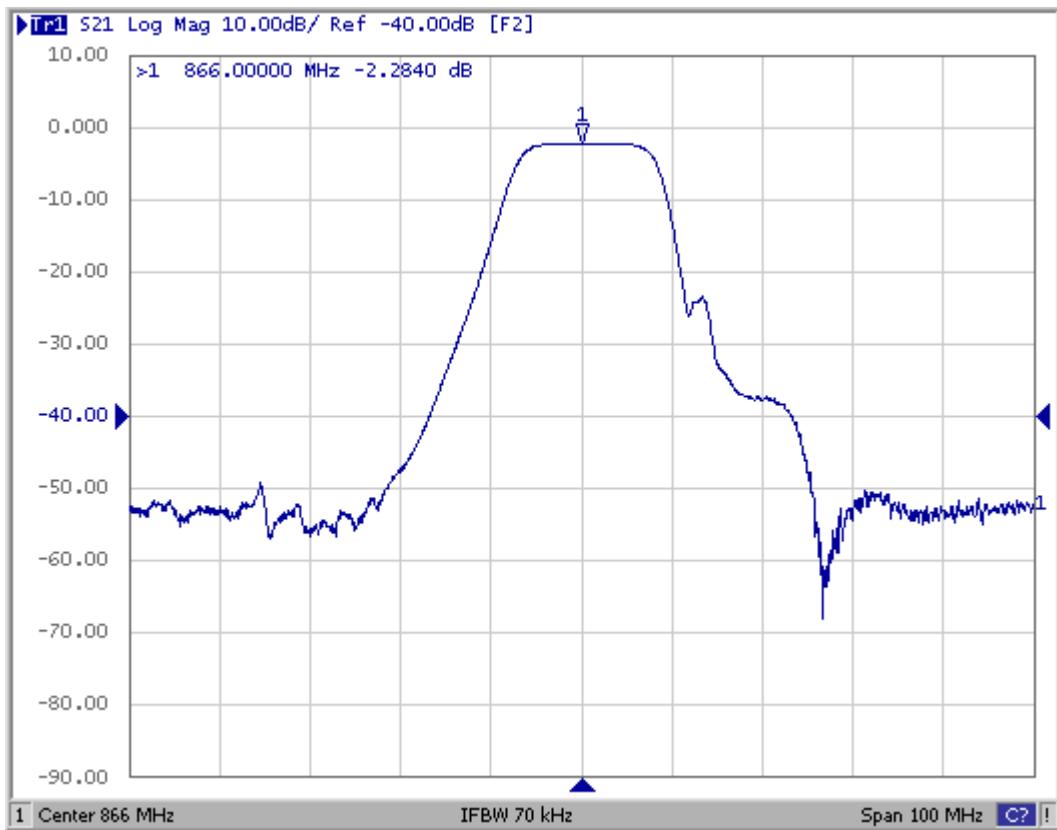
Connection	Terminals
Input	2
Output	5
Case Ground	All others

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

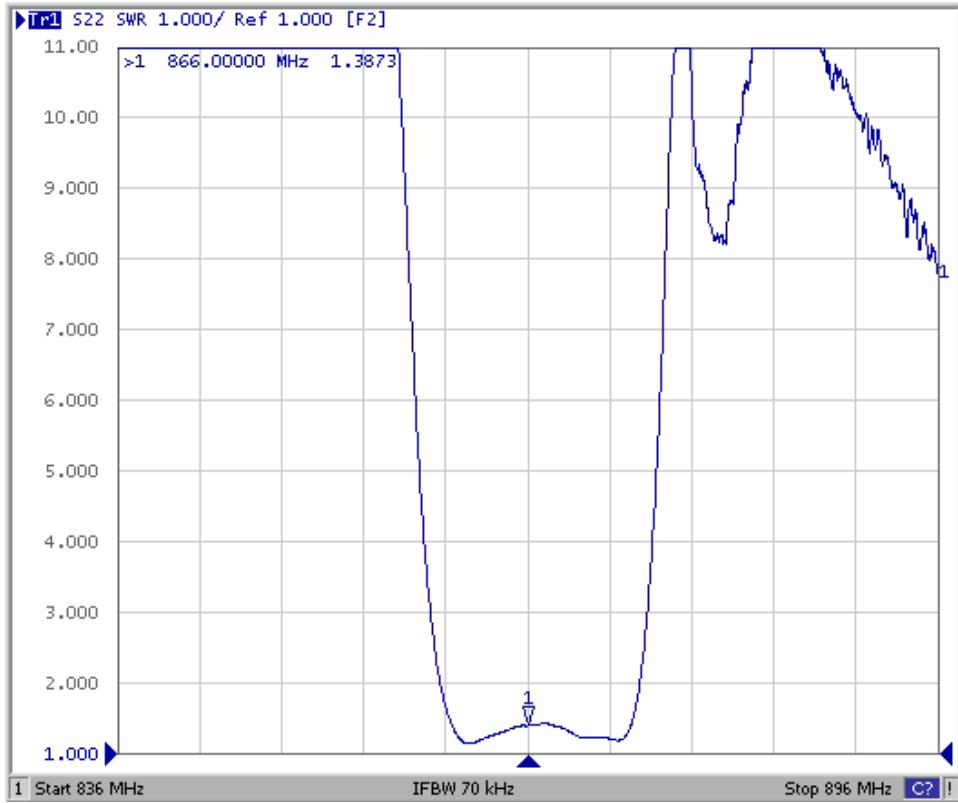
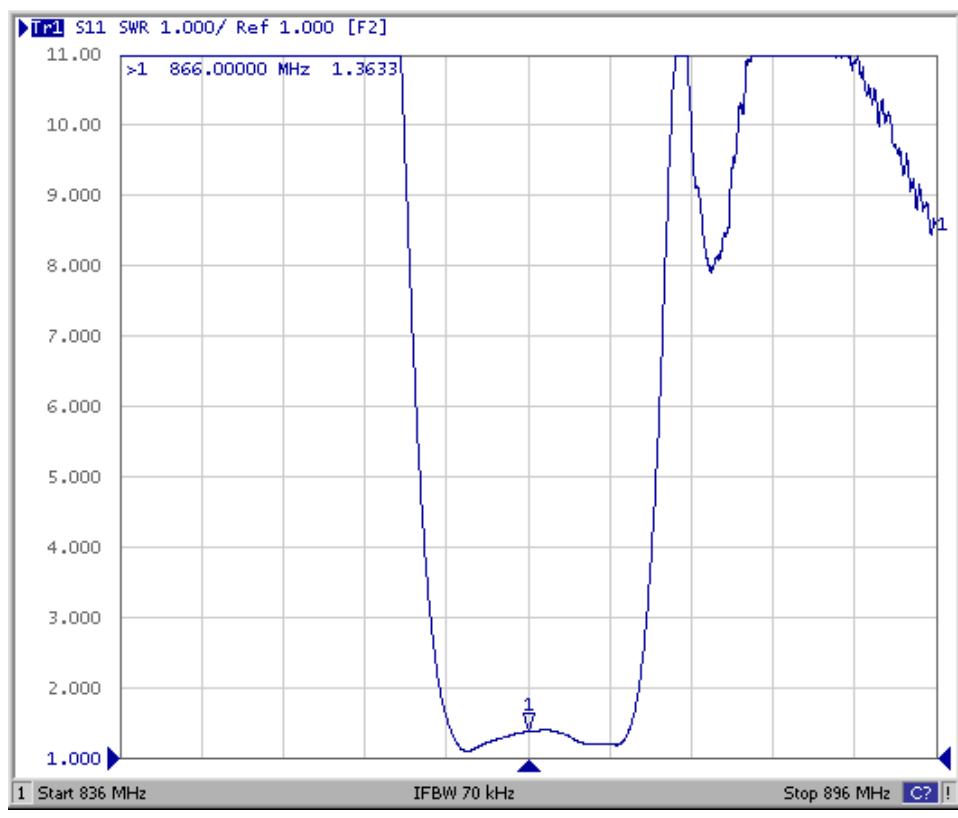
#### Notes:

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 Response Plots

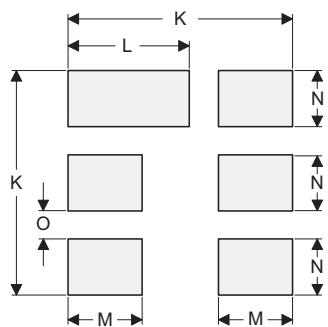
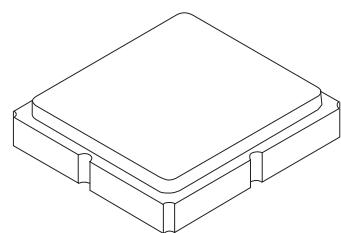


## Filter SWR Plots



# SM3030-6 Case

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



PCB Footprint Top View

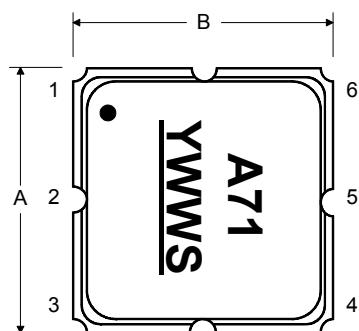
### Case and PCB Footprint Dimensions

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	

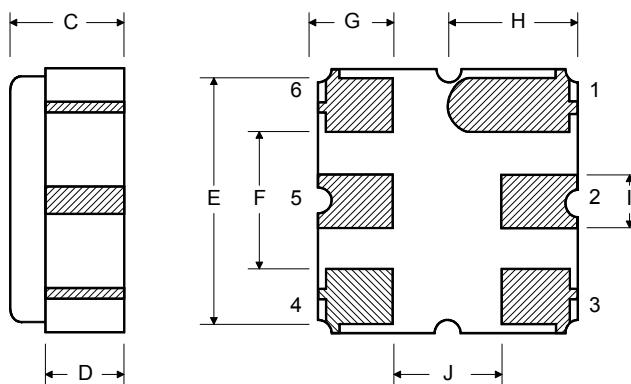
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ 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

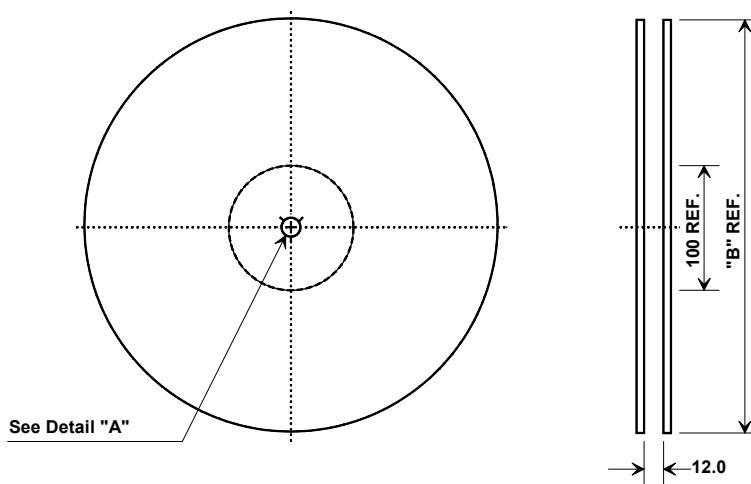
### TOP VIEW



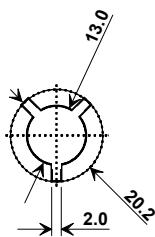
### BOTTOM VIEW



## Tape and Reel Specifications



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



## COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 mm
Pitch	8.0 mm
W	12.0 mm

