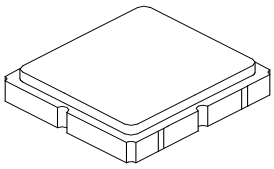
muRata
INNOVATOR IN ELECTRONICS

SF2380E

869.5 MHz SAW Filter

- ***Low-loss RF SAW Filter***
- ***Miniature 3 x 3 mm SWD Package***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM3030-6

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Operating Temperature Range	-30 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 2 cycles/10 seconds minimum	260	°C

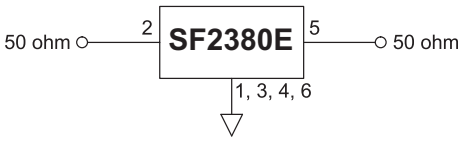
Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			869.5		MHz
Insertion Loss, 863 to 876 MHz	IL			2.5	3.5	dB
Amplitude Ripple, 863 to 876 MHz MHz				0.8	1.5	dB_{P-P}
VSWR, 863 to 876 MHz				1.6	2.0	
Attenuation, Referenced to 0 dB						dB
10 to 820 MHz			40	53		
820 to 835 MHz			35	49		
912 to 927 MHz			25	34		
927 to 972 MHz			35	41		
972 to 1300 MHz			40	55		
Source Impedance	Z_S			50		Ω
Load Impedance	Z_L			50		
Temperature Coefficient of Frequency				-36		ppm/k

Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	6H, YWWS
Standard Reel Quantity Reel Size 7 Inch	500 Pieces/Reel
Reel Size 13 Inch	

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 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
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.

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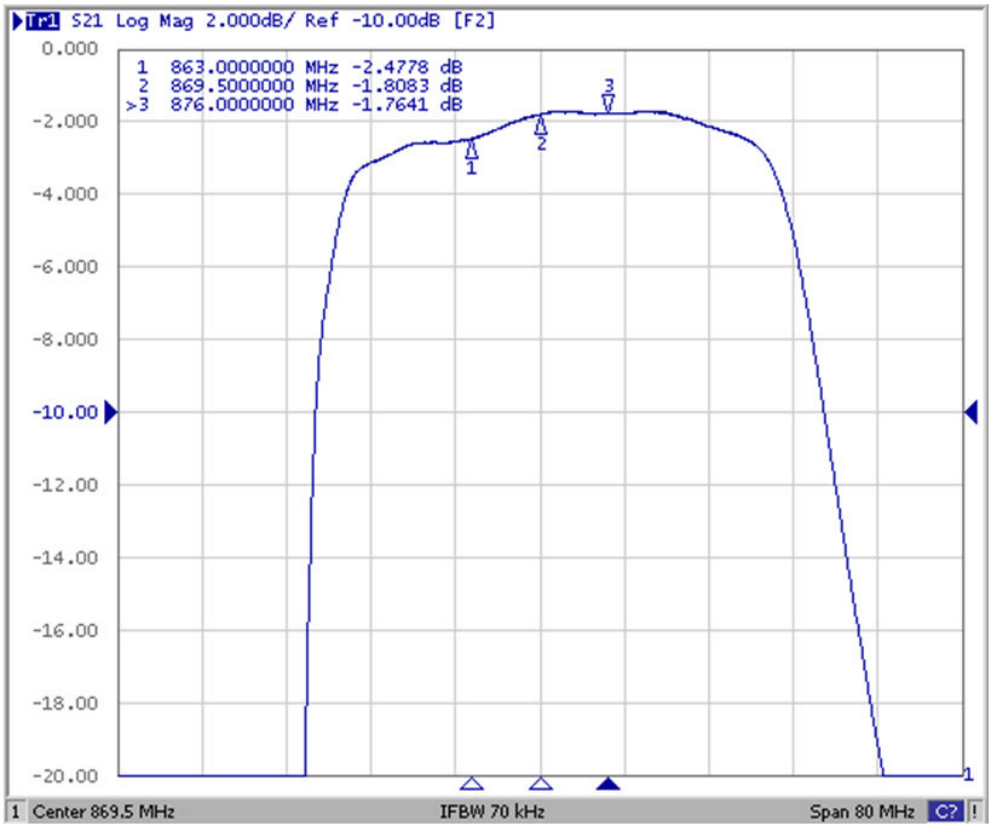
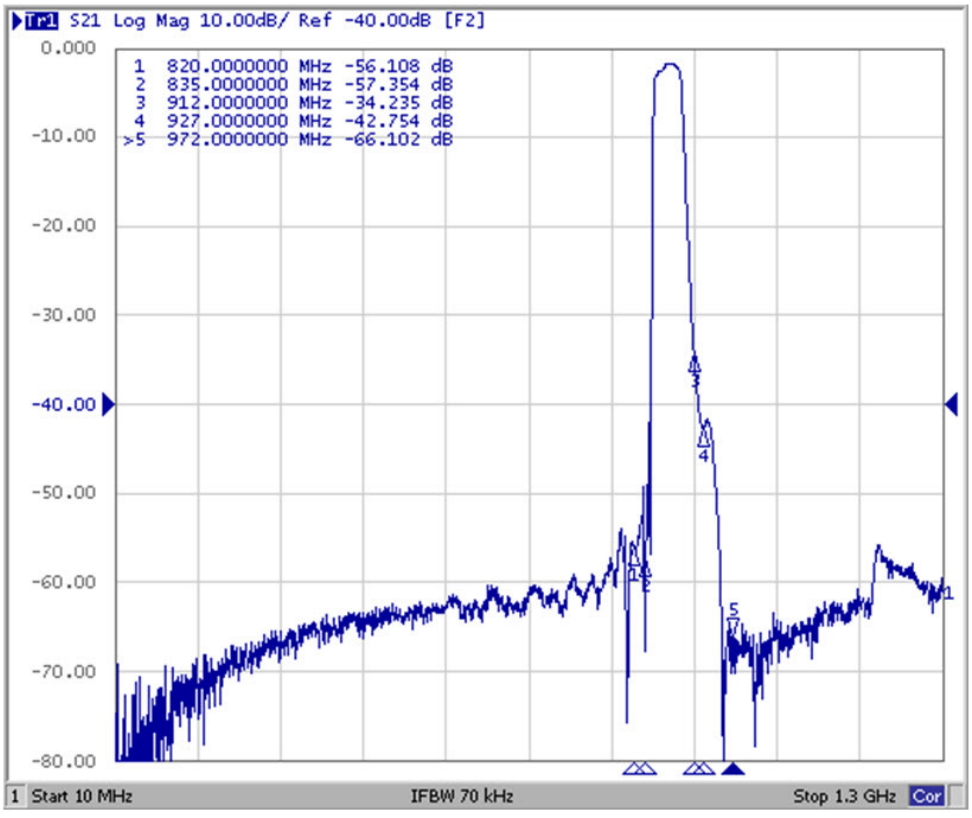
Transfer Function





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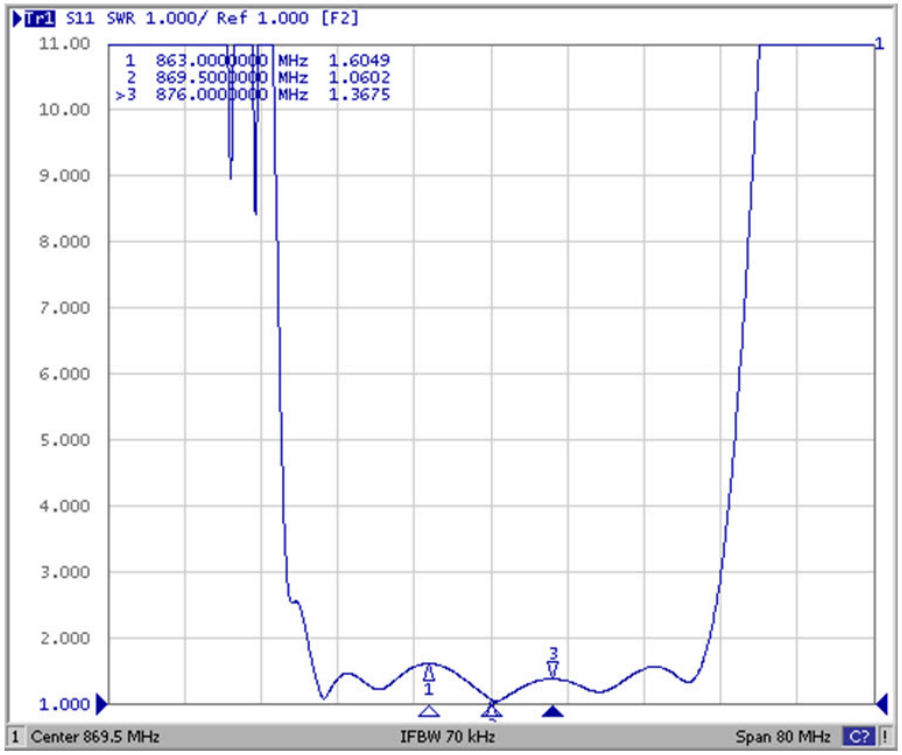
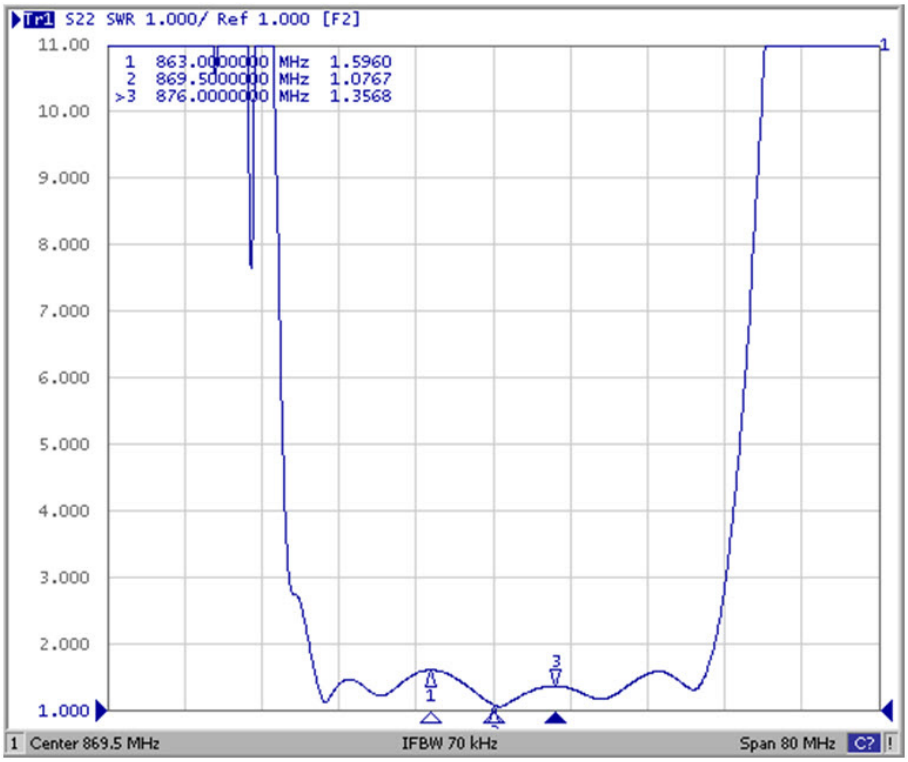
Reflection Functions

S11



S22



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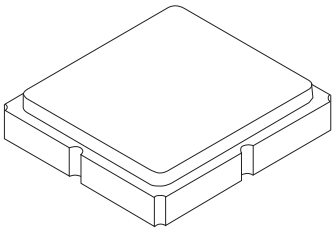
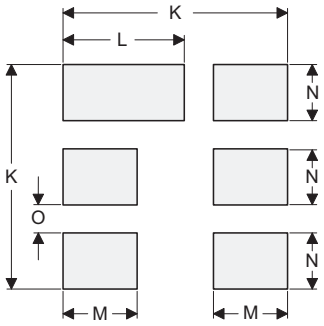
SM3030-6 Case

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





PCB Footprint Top View

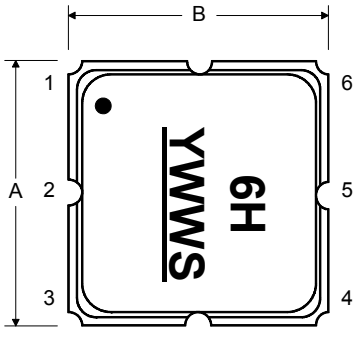
Case and PCB Footprint Dimensions

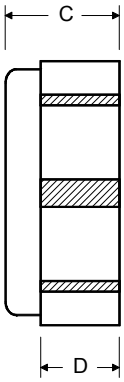
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	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

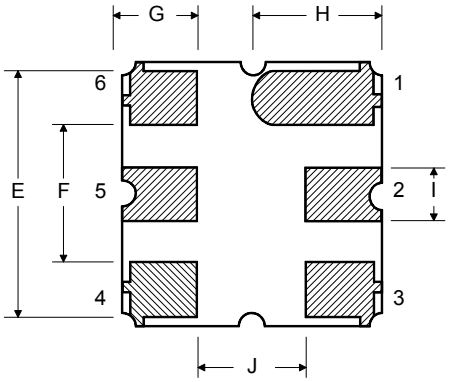
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

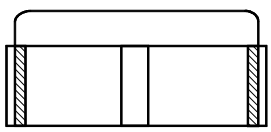
TOP VIEW





BOTTOM VIEW





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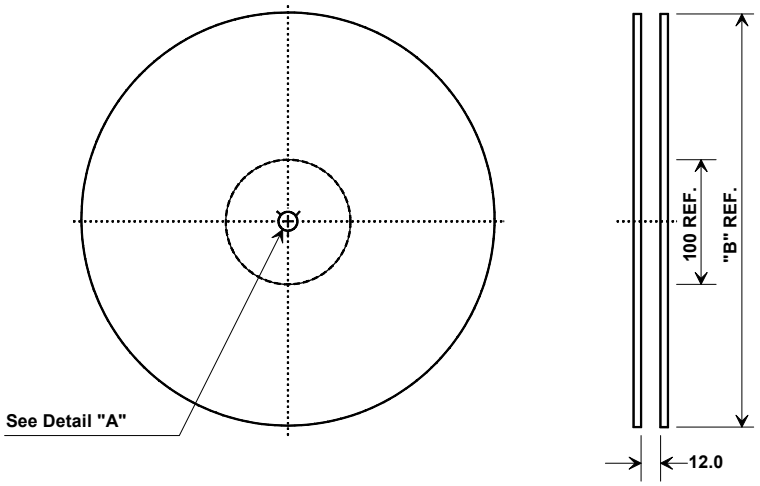
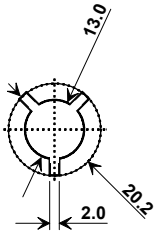
Tape and Reel Specifications

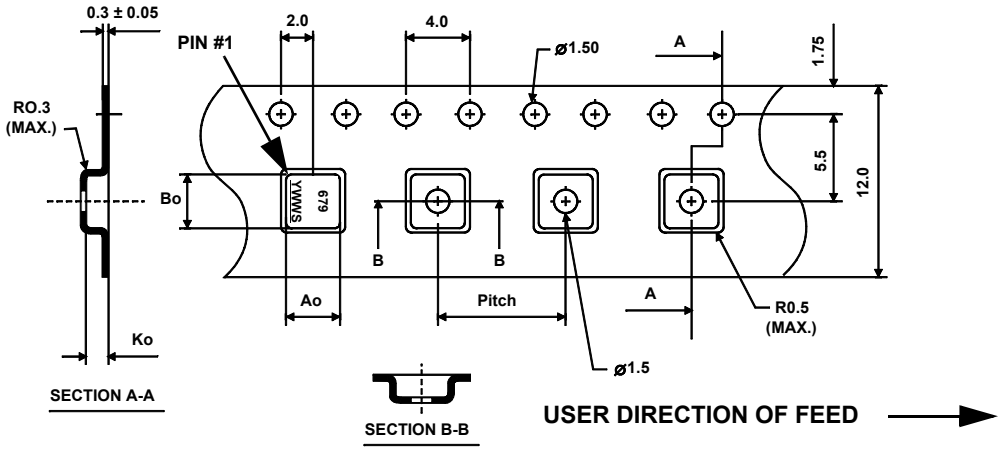




"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

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



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