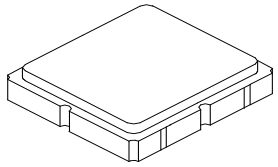
muRata
INNOVATOR IN ELECTRONICS

SF2415E

869.00 MHz SAW Filter

- ***Low Loss Filter for ISM Band***
- ***Complies with Directive 2011/65/EU (RoHS)***
- ***Complies with AEC-Q200***



SM3030-6

A1 Maximum Ratings

Rating	Value	Units
Input Power Level	20	dBm
DC Voltage	5	V
Operable Temperature Range	-45 to +125	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Specification Temperature Range	-40 to +80	°C
Soldering Profile Maximum Temperature, 5 cycles/10 s maximum	265	°C

B1 Electrical Characteristics

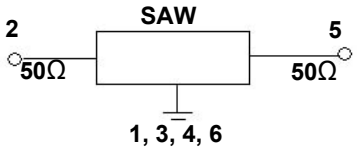
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			869.00		MHz
Insertion Loss, 868 to 870 MHz	IL			2.5	3.7	dB
Amplitude Ripple, 868 to 870 MHz				0.2	1.2	dB_{P-P}
VSWR, 868 to 870 MHz				1.7	2.5	
Attenuation Referenced to 0dB						dB
50 to 791 MHz			43	65		
791 to 835 MHz			41	60		
835 to 848 MHz			39	49		
848 to 862 MHz			11	34		
880 to 883 MHz			22	50		
883 to 1000 MHz			45	50		
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	7Y, YWWS
Standard Reel Quantity Reel Size 7 Inch	500 Pieces/Reel
Reel Size 13 Inch	3000 Pieces/Reel

Electrical Connections

Connection	Terminals
Port 1 (Input)	2
Port 2 (Output)	5
Case Ground	All others

Test Circuit

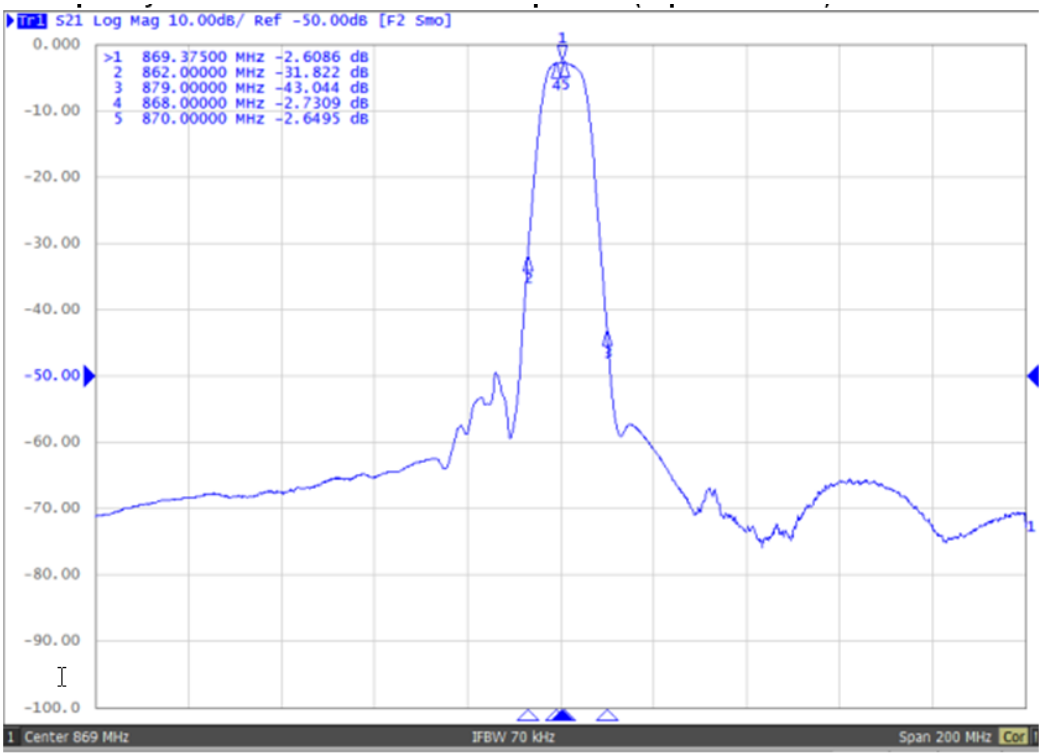


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

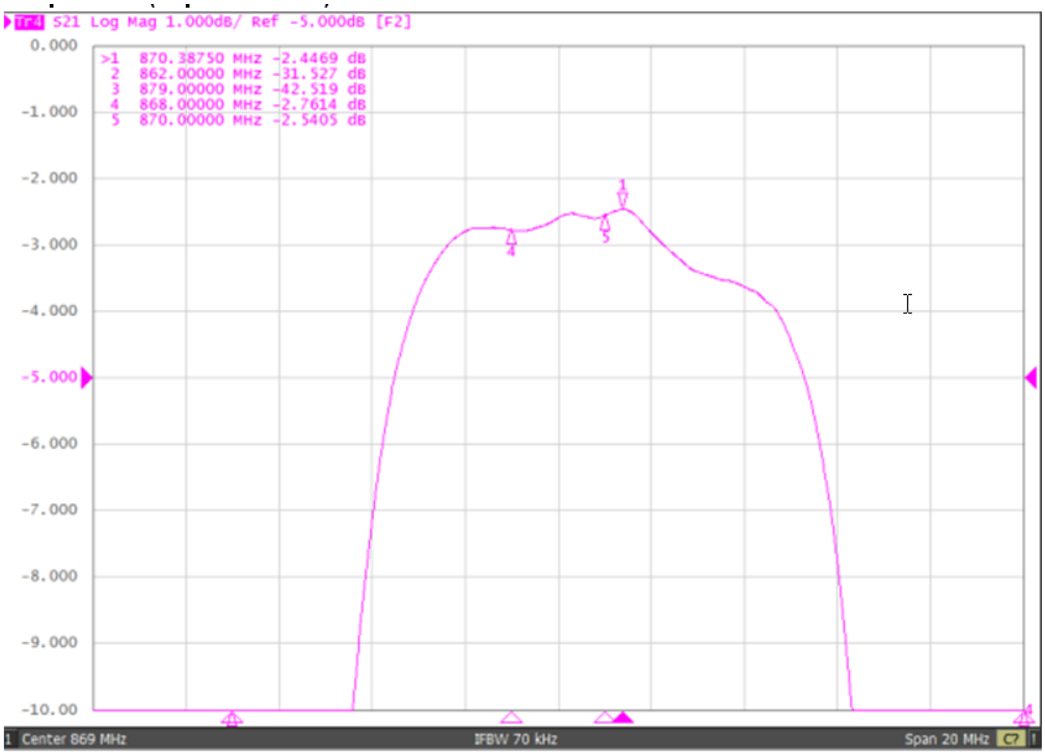
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal 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. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

Frequency Characteristics

S21 response: (Span 200 MHz)

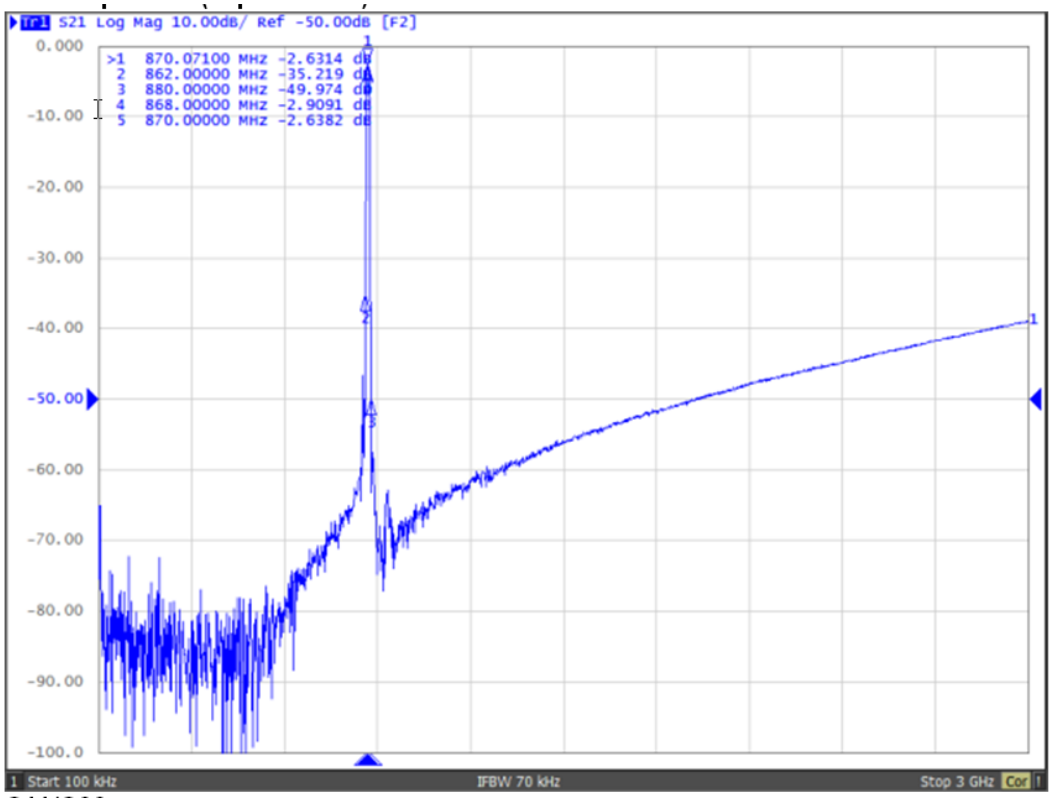


S21 response: (Span 20 MHz)

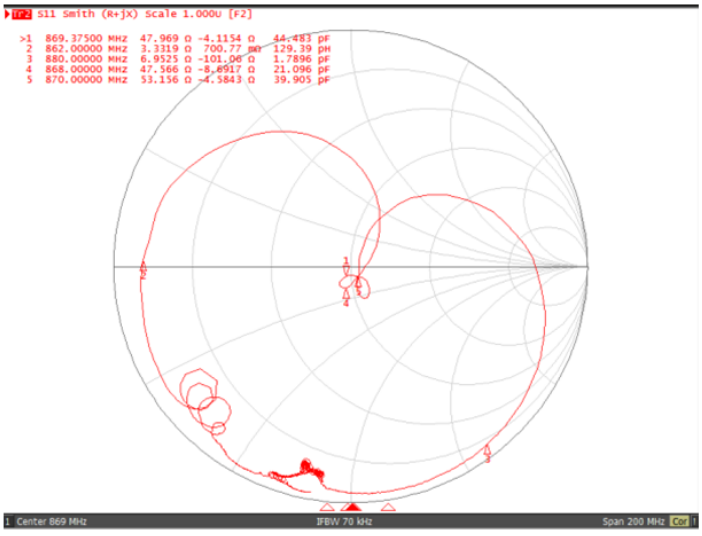


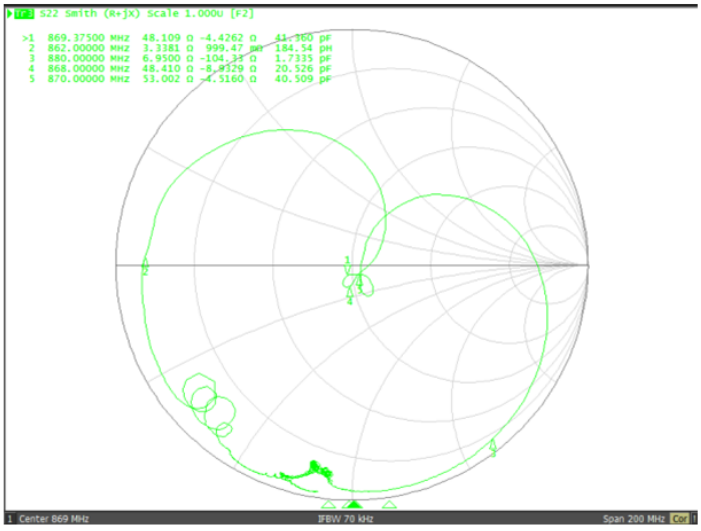
Frequency Characteristics

S21 response: (Span 3 GHz)



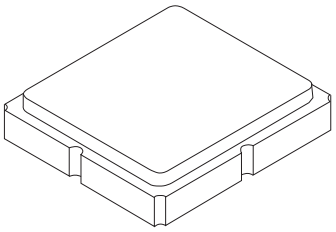
S11/S22 response:

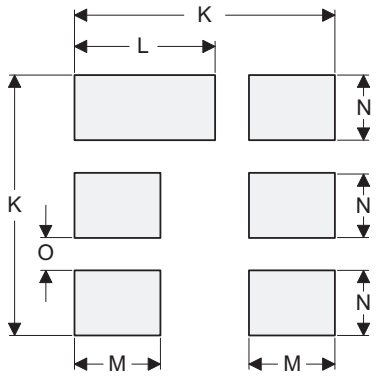




SM3030-6 Case

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





PCB Footprint Top View

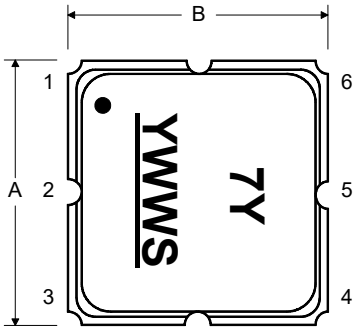
Case and PCB Footprint Dimensions

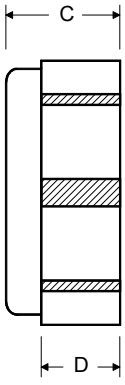
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.99	3.00	3.10	0.117	0.118	0.122
B	2.99	3.00	3.10	0.117	0.118	0.122
C	-	1.4	-	-	0.055	-
D	-	1.0	-	-	0.039	-
E	-	2.80	-	-	0.110	-
F	-	1.60	-	-	0.063	-
G	-	0.85	-	-	0.033	-
H	-	1.50	-	-	0.059	-
I	-	0.60	-	-	0.024	-
J	-	1.30	-	-	0.051	-
K	-	3.20	-	-	0.126	-
L	-	1.70	-	-	0.067	-
M	-	1.05	-	-	0.041	-
N	-	0.81	-	-	0.032	-
O	-	0.38	-	-	0.015	-

Case Materials

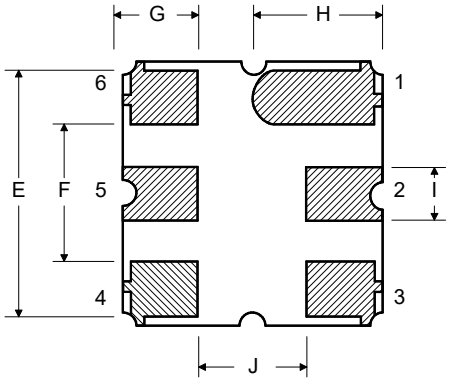
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

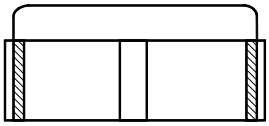
Top View



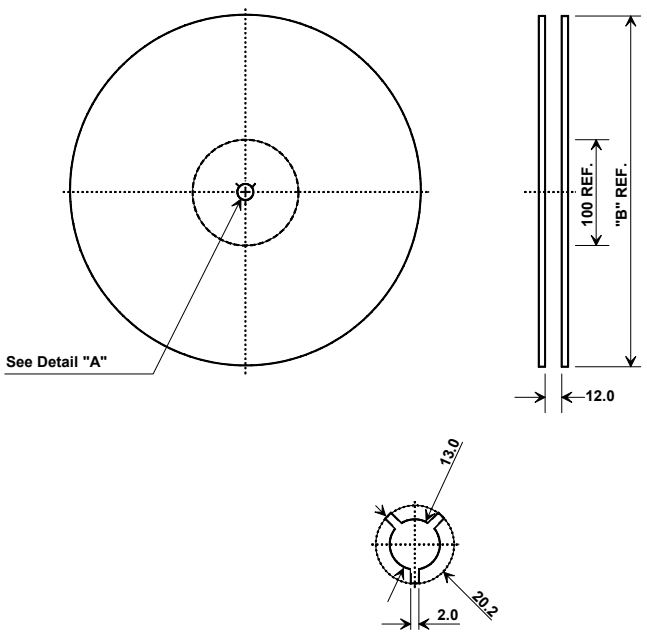


Bottom View





Tape and Reel Specifications



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

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.3 mm
Bo	3.3 mm
Ko	1.4 mm
Pitch	4.0 mm
W	12.0 mm