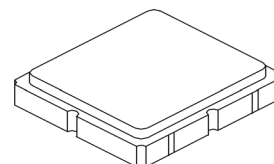


**SF2415E-1**

**869.00 MHz  
SAW Filter**



**SM3030-6**

• **Low Loss Filter for ISM Band**

**A1 Maximum Ratings**

Rating	Value	Units
Input Power Level	20	dBm
DC Voltage	6	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**

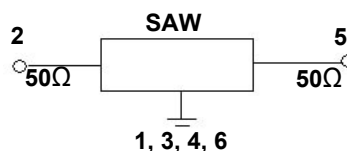
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			869.00		MHz
Insertion Loss, 868 to 870 MHz	IL			3.0	4.5	dB
Amplitude Ripple, 868 to 870 MHz				0.5	1.6	dB <sub>P-P</sub>
VSWR, 868 to 870 MHz				1.5	2.5	
Attenuation Referenced to 0dB						dB
50 to 791 MHz			43	63		
791 to 835 MHz			41	57		
835 to 848 MHz			39	52		
848 to 862 MHz			18	40		
880 to 883 MHz			12	28		
883 to 1000 MHz			38	50		
Source Impedance	$Z_S$			50		$\Omega$
Load Impedance	$Z_L$			50		$\Omega$

Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint	
Lid Symbolization, Y=year, WW=week, S=shift, Dot=pin 1 indicator	A1, <u>YWWS</u>	
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**

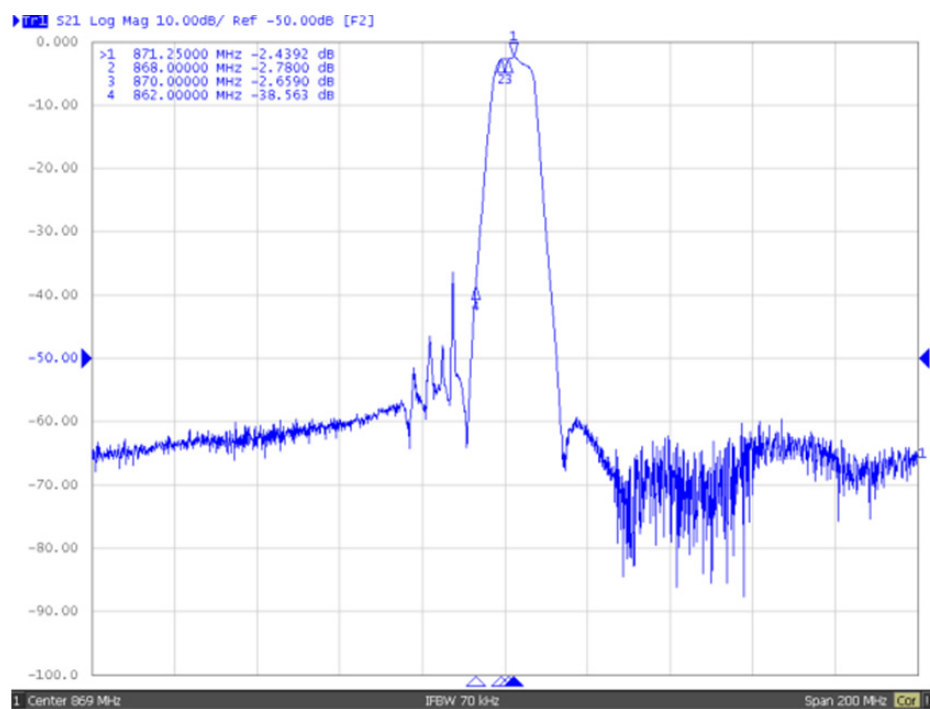


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

- 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.
- Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_C$ .
- 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.
- The design, manufacturing process, and specifications of this filter are subject to change.
- US and international patents may apply.
- Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

## Frequency Characteristics

S21 response: (Span 200 MHz)

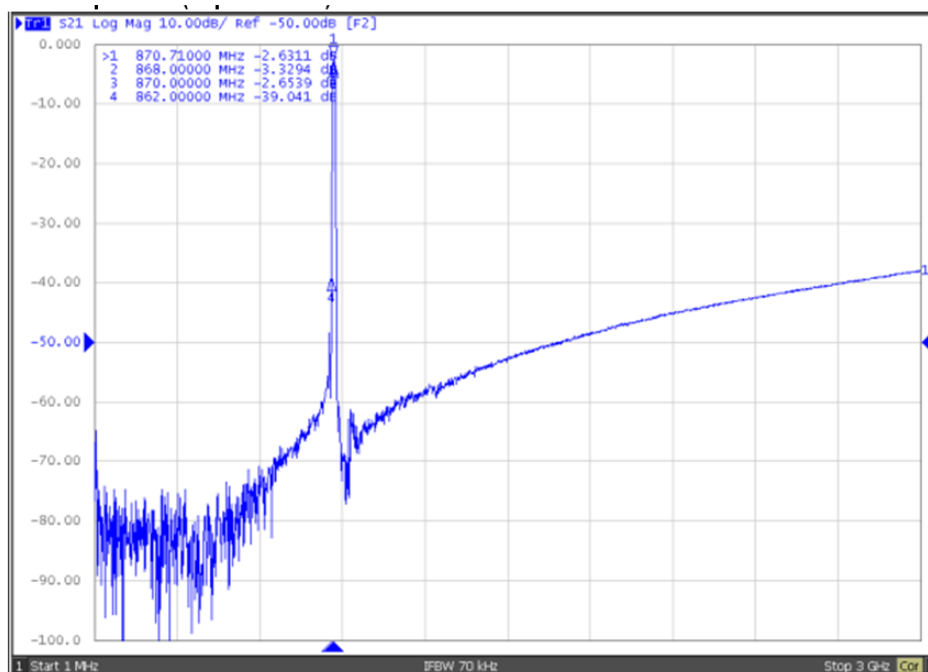


S21 response: (Span 20 MHz)

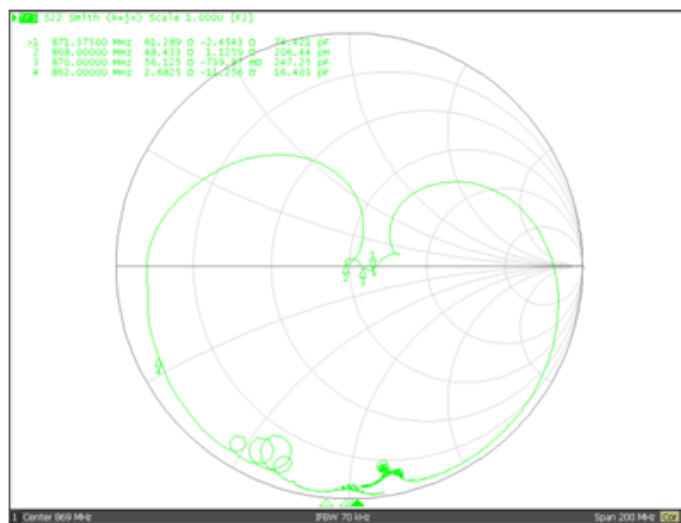
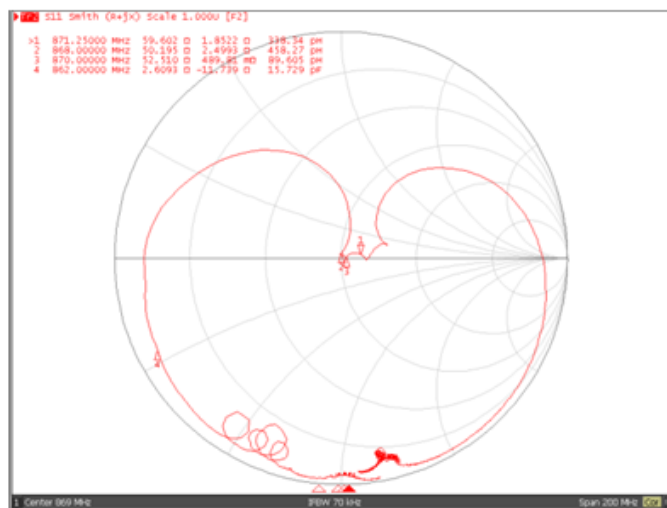


# Frequency Characteristics

S21 response: (Span 3 GHz)

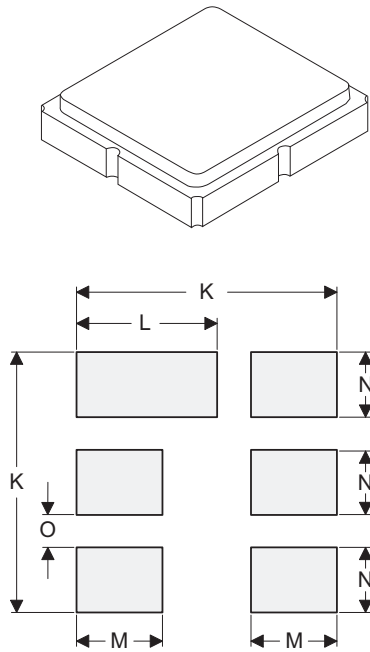


S11/S22 response:



# SM3030-6 Case

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



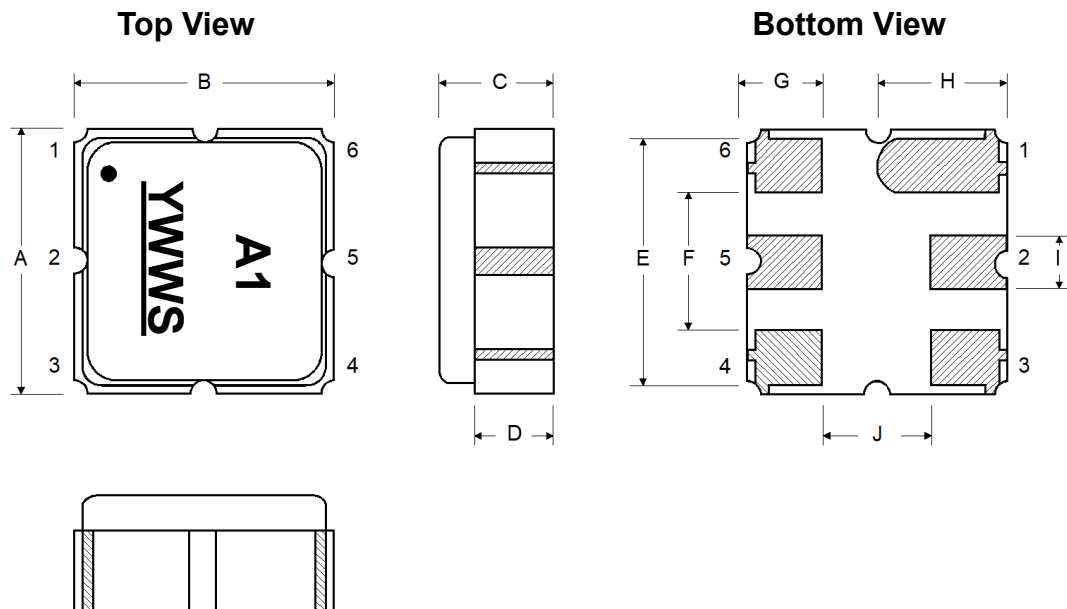
PCB Footprint Top View

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 $\mu$ 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	



Technical drawing of a circular part, likely a flange or end plate, showing three views: a top view, a side view, and a detail view.

**Top View:** A large circle with a smaller concentric circle in the center. A central hole is indicated by a circle with a cross. Dashed lines represent the centerlines. A leader line points from the text "See Detail 'A'" to the central hole.

**Side View:** A vertical cross-section showing the thickness of the part. The total thickness is dimensioned as 12.0. The inner hole has a diameter of 100 REF. The outer diameter is dimensioned as 13.0 REF.

**Detail View (A):** A cross-section of the central hole, showing a circular profile with a central hole. The inner hole has a diameter of 2.0. The outer diameter of the detail is dimensioned as 20.2. The thickness of the detail is dimensioned as 13.0.

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

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

