

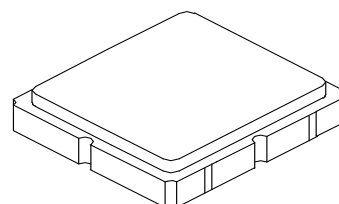
- **RF Filter for Mobile Communication Applications**
- **Low Insertion Loss**
- **3.0 x 3.0 x 1.3 mm Surface-Mount Case**
- **The SAW filters are 100% tested in a test fixture, and Murata has made the best effort to correlate such test results to the performance on the customer's board with recommended matching.**

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+15	dBm
Maximum DC Voltage Between any 2 Terminals	3	VDC
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-30 to +85	°C
Storage Temperature Range	-40 to +85	°C
Terminating Source Impedance (single) Z_S	50	Ω
Terminating Load Impedance (single) Z_L	50	Ω
Maximum Soldering Profile	260 °C for 10 s	

SF2445E

846 MHz SAW Filter



SM3030-8

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f _C		846			MHz
3dB Bandwidth			1.23	1.7		MHz
Total Amplitude Variation, 845.385 to 846.615 MHz				2.5	4.7	dB
Minimum Insertion Loss				8.0	10.5	
Input VSWR, 845.385 to 846.615 MHz				4.7	6.3	
Output VSWR, 845.385 to 846.615 MHz				2.1	3.8	
Phase Deviation (845.385 to 846.615 MHz RMS))				2	5	deg.
Attenuation Referenced to IL min:	IL					dB
0.1 to 841 MHz			40	45		
841 to 844.28 MHz			19	25		
849 to 1000 MHz			35	38		
Case Style	SM3030-8 3 x 3 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift)	9B <u>YWWS</u>					



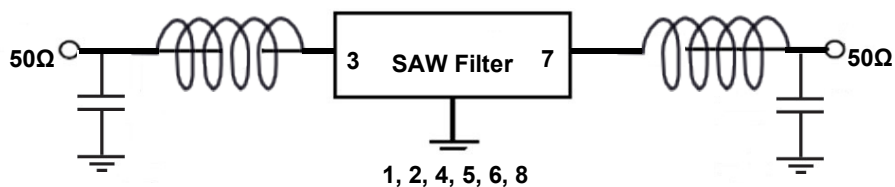
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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, 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.
9. Electrostatic Sensitive Device. Observe precautions for handling.

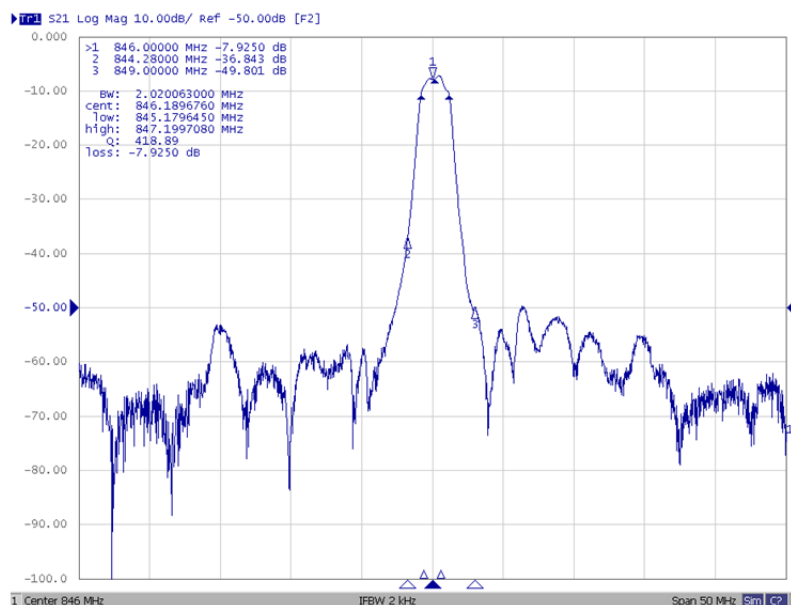
Electrical Connections

Connection	Terminals
Input	3
Output	7
Ground	All others

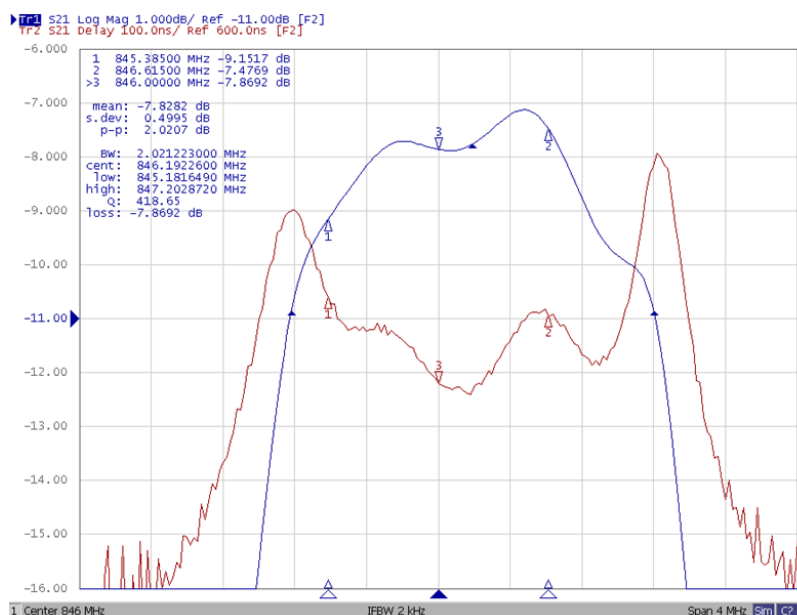


Frequency Characteristics

Narrow Band Response

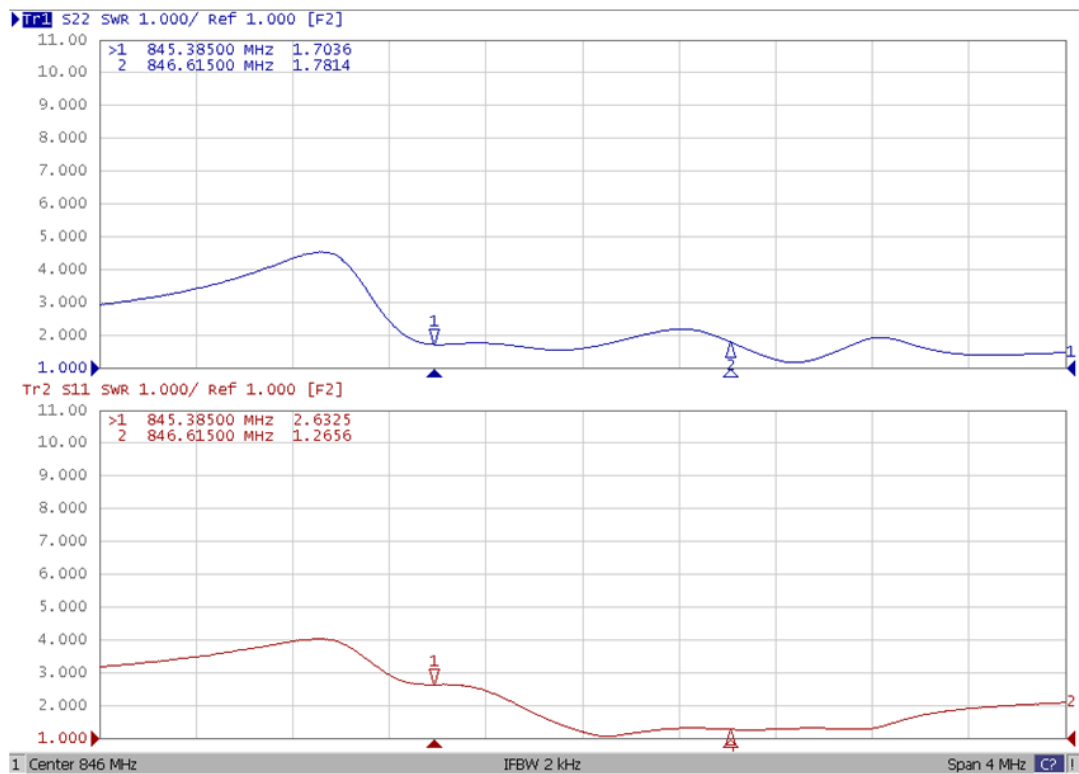


Pass Band and Group Time Delay Response

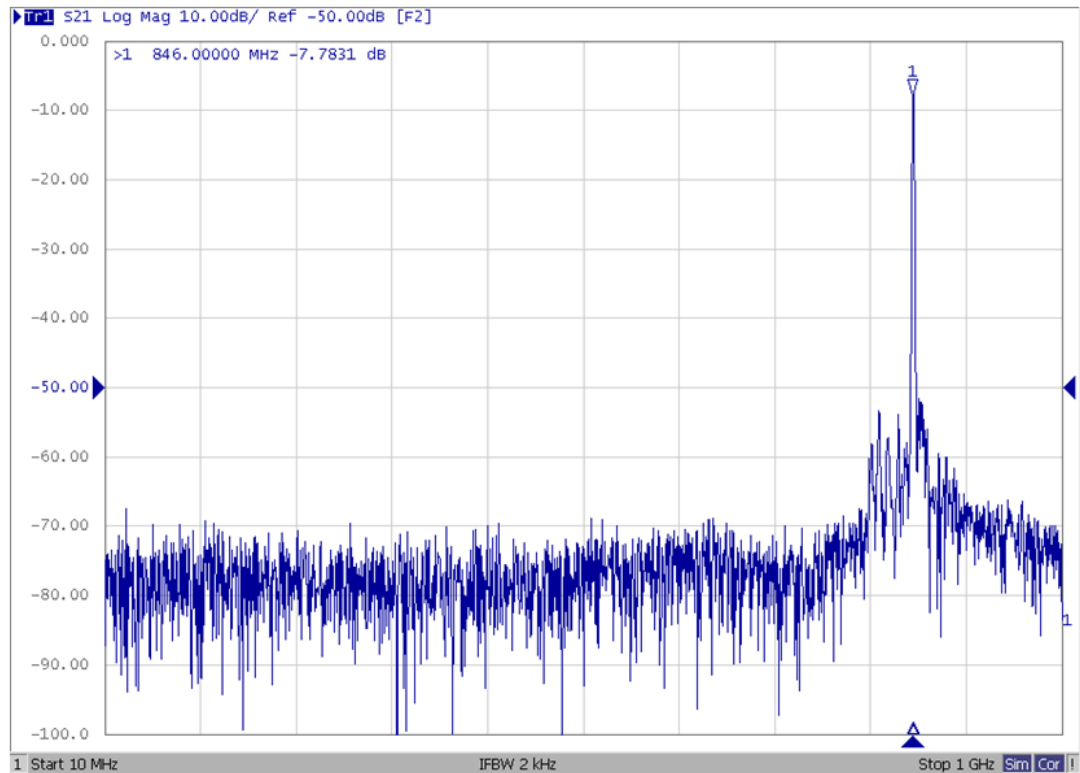


Frequency Characteristics (cont.)

VSWR

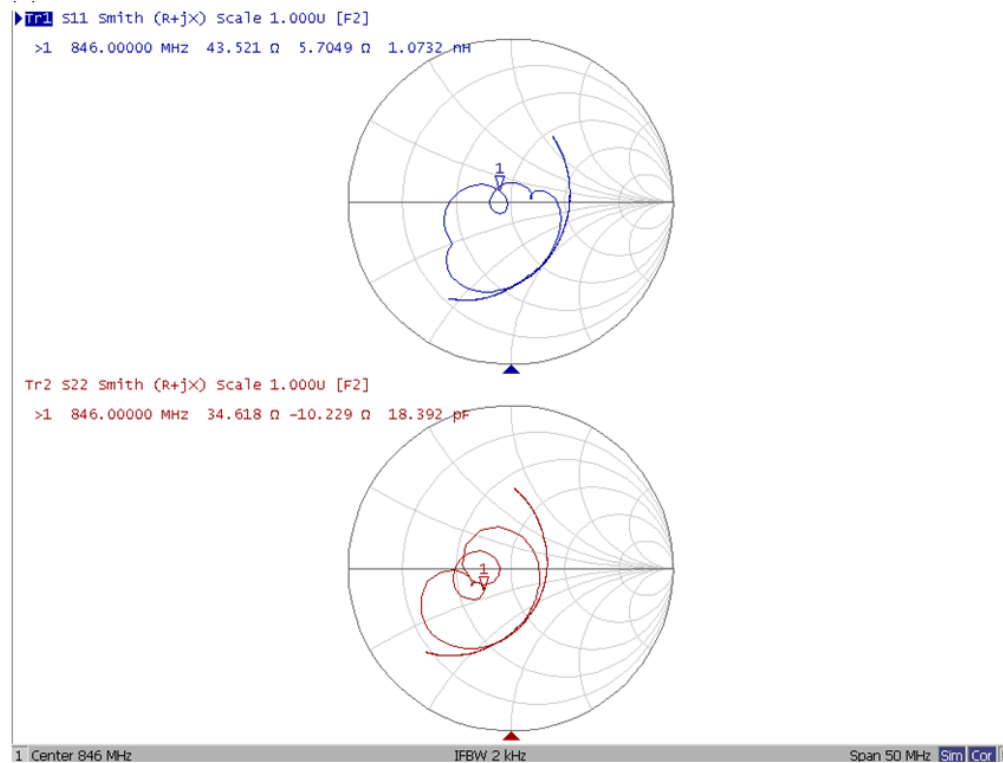


Wide Band Response



Frequency Characteristics (cont.)

Smith Chart



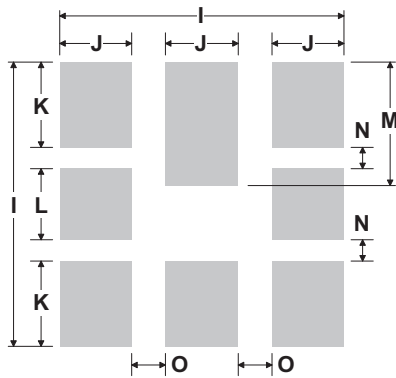
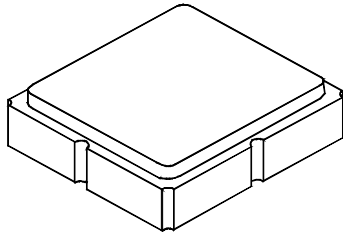
Phase



SM3030-8 Case

8-Terminal Ceramic Surface-Mount Case

3.0 X 3.0 mm Nominal Footprint



PCB Footprint, Top View

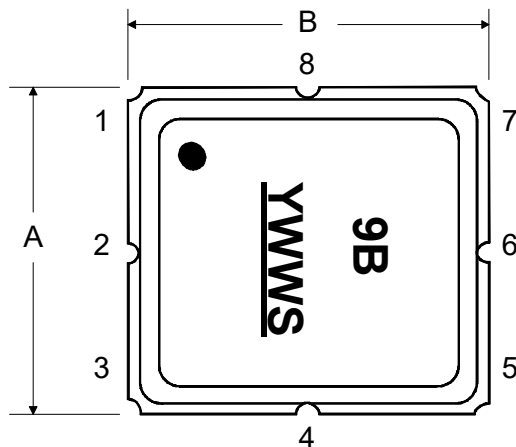
Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	1.14	1.27	1.40	0.045	0.050	0.055
D	0.79	0.92	1.05	0.031	0.036	0.041
E	0.62	0.75	0.88	0.024	0.029	0.034
F	0.47	0.60	0.73	0.018	0.024	0.029
G	0.47	0.60	0.73	0.018	0.024	0.029
H	1.07	1.20	1.33	0.042	0.047	0.052
I		3.19			0.126	
J		0.81			0.032	
K		0.96			0.038	
L		0.81			0.032	
M		1.39			0.055	
N		0.23			0.009	
O		0.38			0.015	

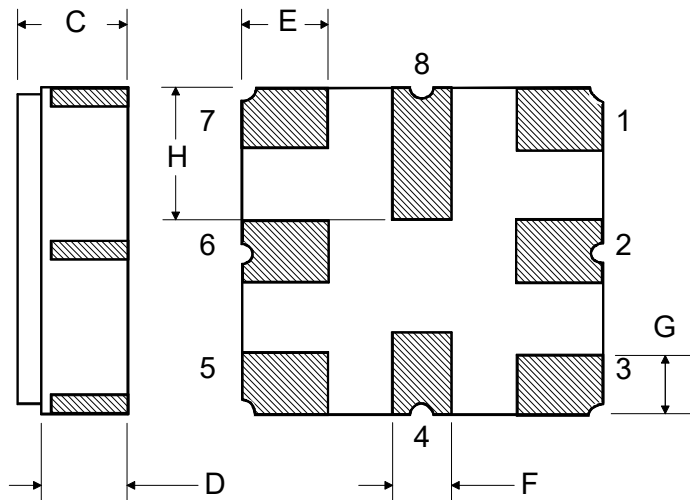
Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel
Lid Plating	2.0 to 3.0 μ m Nickel
Body	Al ₂ O ₃ Ceramic
Pb Free	

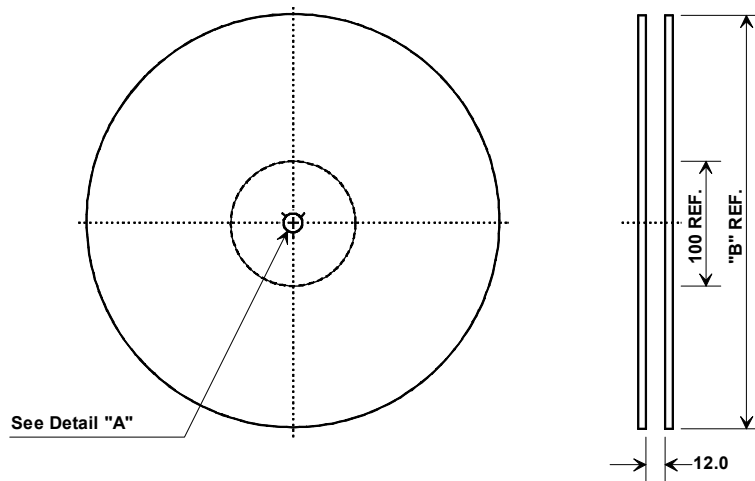
TOP VIEW



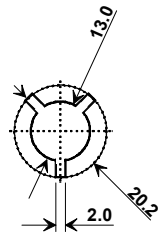
BOTTOM VIEW



Tape and Reel Specifications



“B” Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	1000
13	330	3000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.3 mm
Pitch	8.0 mm
W	12.0 mm

