

- Low-loss SAW Filter
- No Matching Required for 50 ohm Source/Load
- 3.8 x 3.8 x 1.4 mm Surface-mount Package
- Complies with Directive 2002/95/EC (RoHS)



Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage on any Non-ground Terminals	5	VDC
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-20 to +80	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 30 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f _C	1		453.75		MHz
Insertion Loss, 450.0 to 457.5 MHz, -10 to +60 °C	IL			3.5	5.0	dB
Amplitude Ripple, 450.0 to 457.5 MHz, -10 to +60 °C				1.0	3.0	dB _{p.p}
Input Return Loss, 450.0 to 457.5 MHz			5	6		dB
Output Return Loss, 450.0 to 457.5 MHz			5	6		dB
Rejection Referenced to 0 dB:		1, 2, 3				dB
300 to 350 MHz			27	30		
350 to 445 MHz			25	28		
460 to 470 MHz, -10 to +60 °C			8	15		
470 to 2000 MHz			16	18		
Single-ended Source Impedance	50 ohm					
Single-ended Load Impedance	50 ohm					

Case Style	SM3838-6 3.8 x 3.8 mm Nominal Footprint	
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	A24, YWWS	
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

Electrical Connections

Connection	Terminals
Port 1	2
Port 2	5
Case Ground	All others



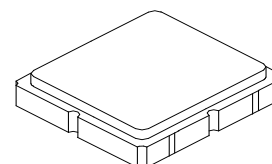
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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, 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.

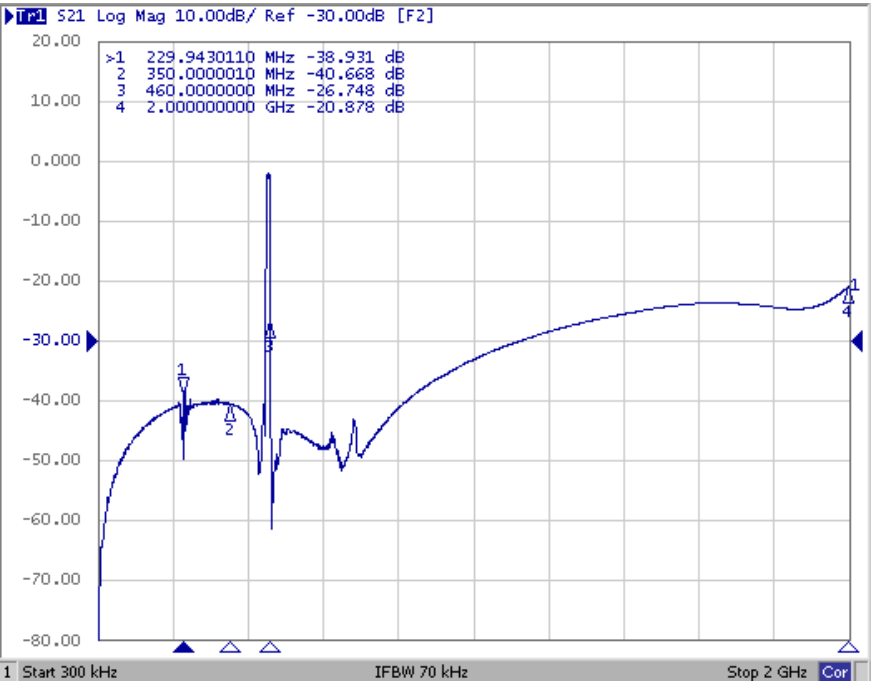
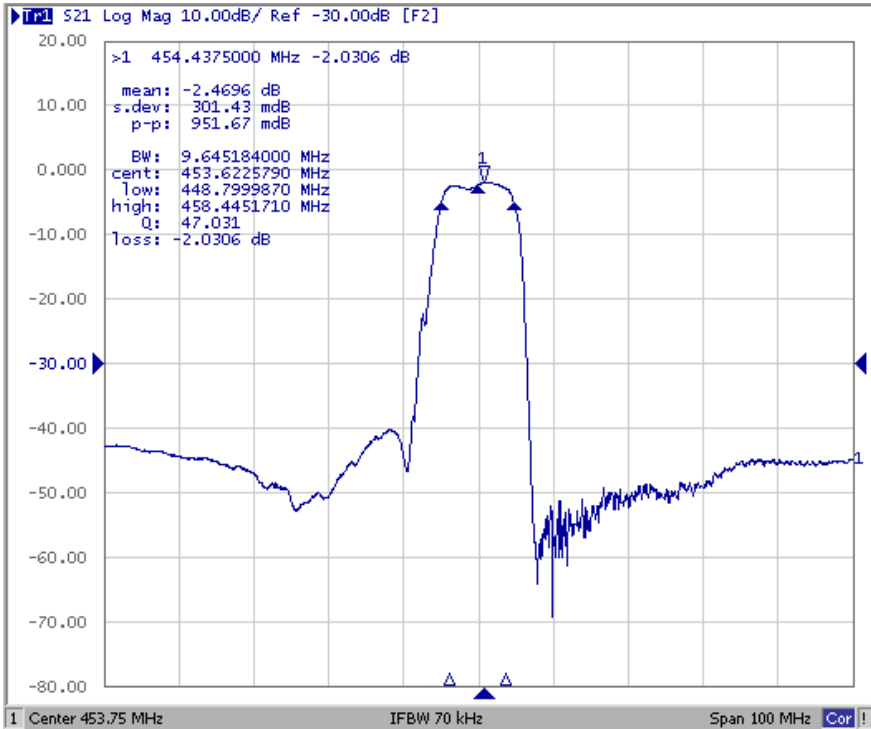
SF2276D-2

453.75 MHz SAW Filter

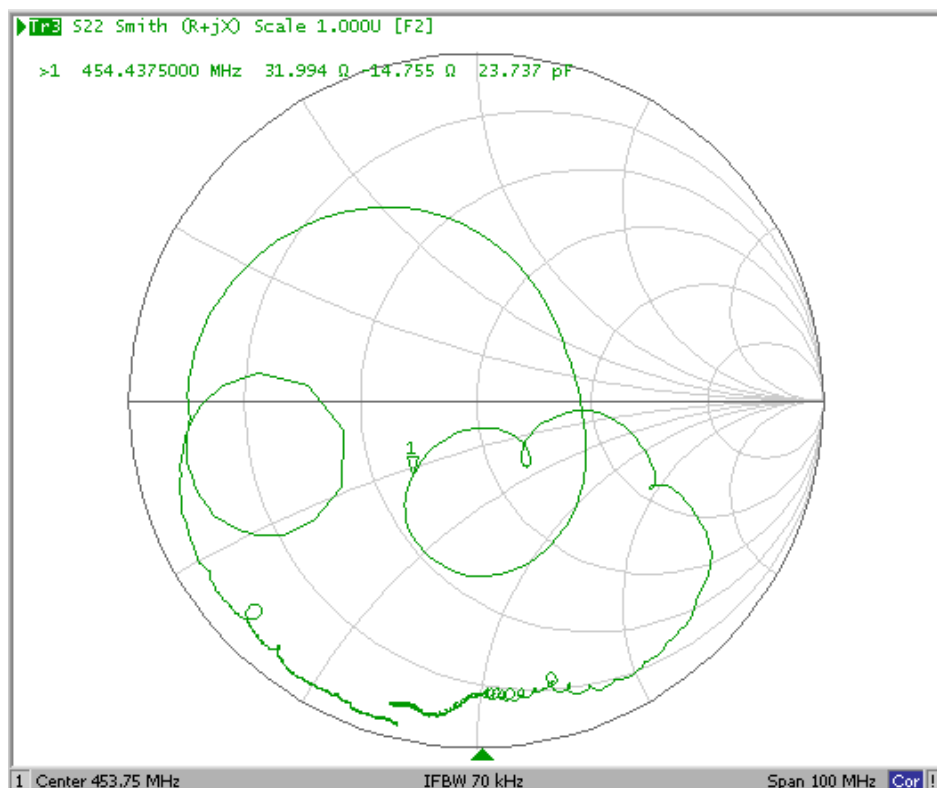
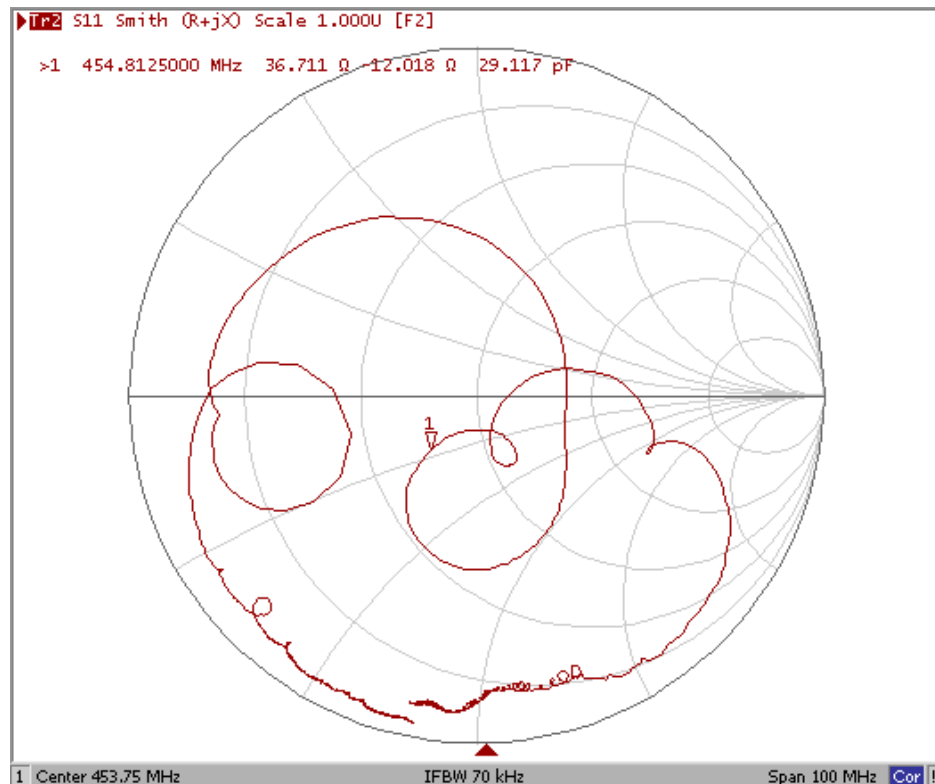


SM3838-6

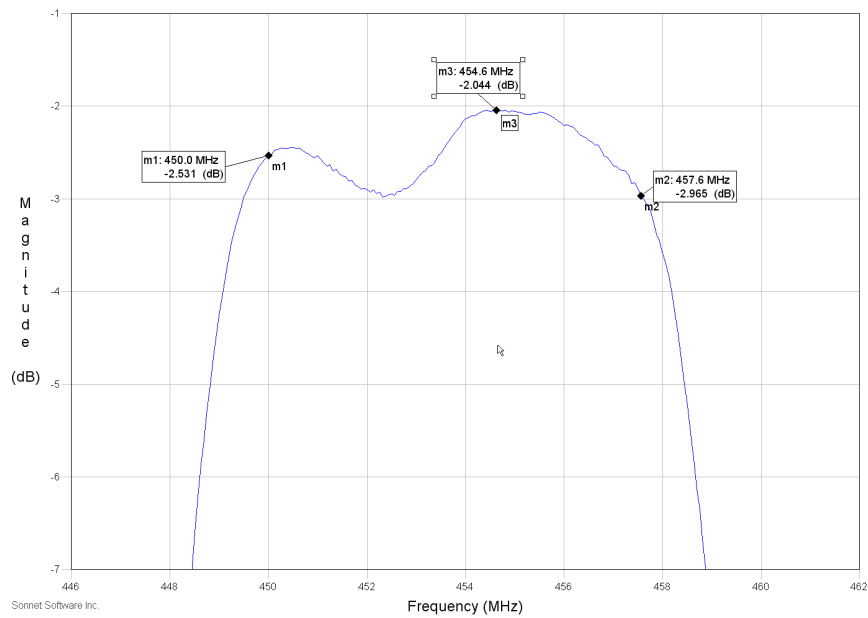
Filter Response Plots



Filter Input and Output Impedance Plots

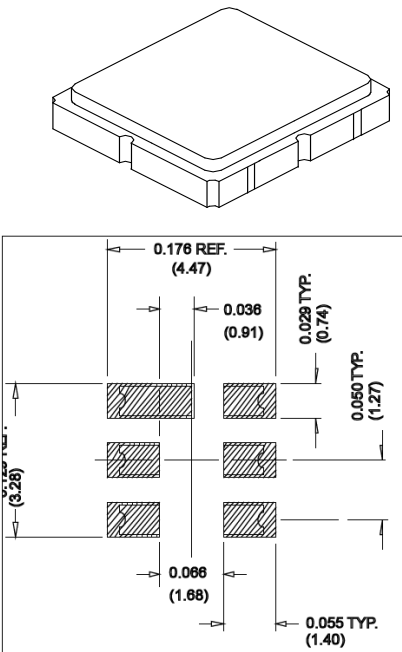


Filter Passband Detail



SM3838-6 Case

6-Terminal Ceramic Surface-mount Case 3.8 X 3.8 mm Nominal Footprint



Typical PCB Land Footprint

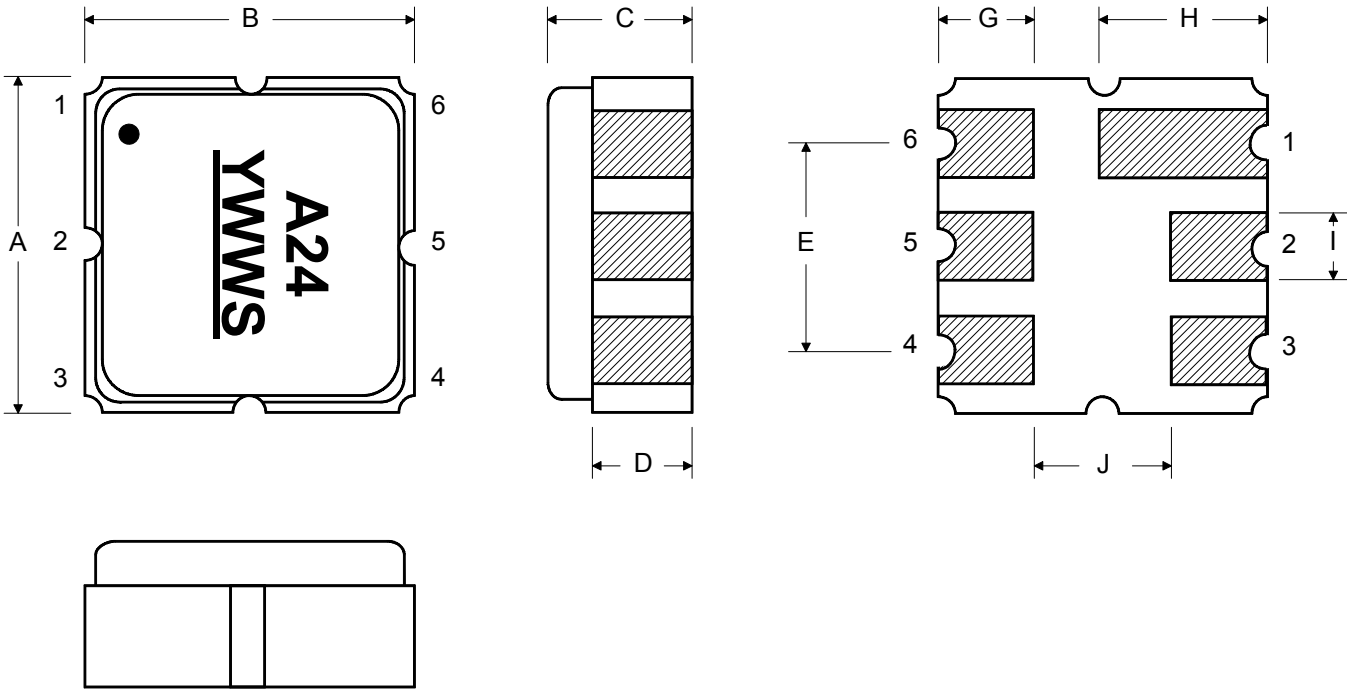
Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.60	3.80	4.00	0.140	0.150	0.016
B	3.60	3.80	4.00	0.140	0.150	0.016
C	1.07	1.25	1.43	0.050	0.060	0.067
D	0.95	1.10	1.25	0.037	0.043	0.050
E	2.39	2.54	2.69	0.090	0.100	0.110
G	0.90	1.00	1.10	0.035	0.040	0.043
H	1.90	2.00	2.10	0.750	0.080	0.830
I	0.50	0.60	0.70	0.020	0.024	0.028
J	1.70	1.80	1.90	0.067	0.070	0.075

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



Technical drawing of a circular component, 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 crosshair indicates the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle.

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

Detail View (Detail A): A cross-section of the central hole. It shows a circular hole with a diameter of 20.2. The hole is surrounded by a ring with a thickness of 2.0. The outer diameter of this ring is 13.0.

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

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm

