

- Low-loss RF SAW Filter
- Low Amplitude Ripple
- No Matching Required for 50Ω Operation
- Complies with Directive 2002/95/EC (RoHS)



Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	15	dBm
DC Voltage on any Non-ground Terminal	12	V
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 Cycles/10 seconds Maximum	265	°C

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_c			1900		MHz
Insertion Loss, 1880 to 1920 MHz	IL			1.8	3.0	dB
Amplitude Ripple, 1880 to 1920 MHz				0.6	1.3	dB _{P.P}
VSWR, 1880 to 1920 MHz				1.4:1	2.0:1	
Attenuation Referenced to 0 dB:						
0.3 to 960 MHz			30	34		dB
960 to 1805 MHz			30	34		
1805 to 1830 MHz			30	35		
1830 to 1850 MHz			30	35		
1950 to 2010 MHz			15	30		
2010 to 2025 MHz			40	45		
2110 to 2170 MHz			35	44		
2300 to 2400 MHz			35	40		
2400 to 3000 MHz			28	33		
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	976, 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



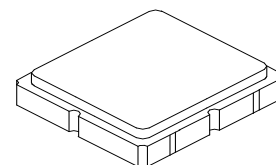
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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. 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.

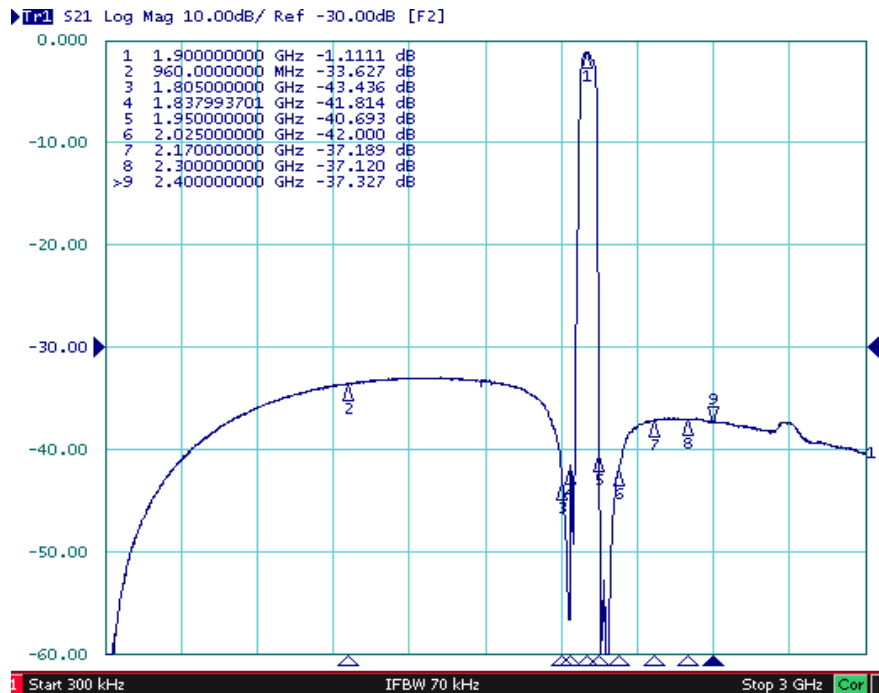
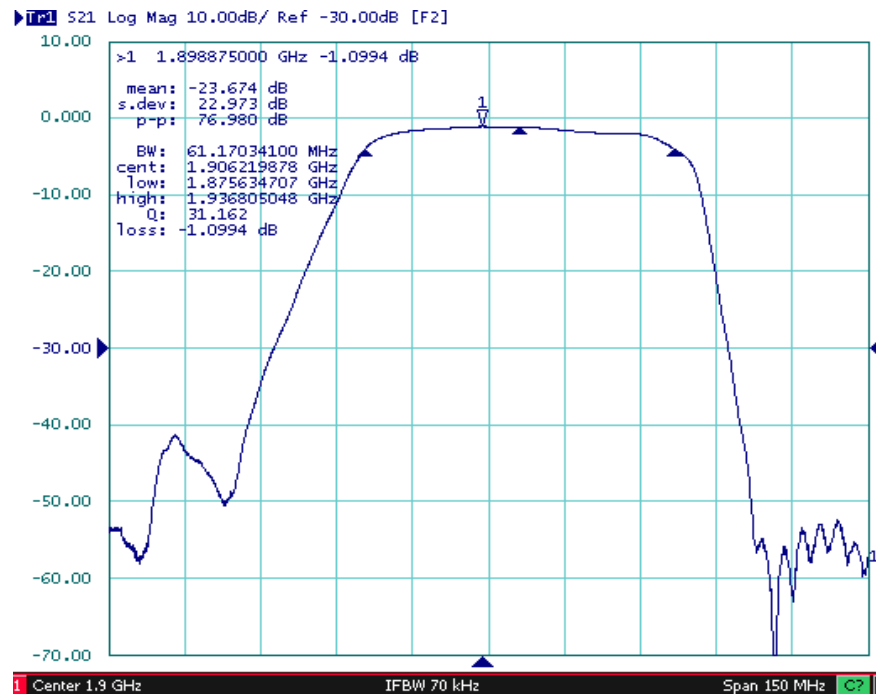
SF2204E-1

**1900 MHz
SAW Filter**

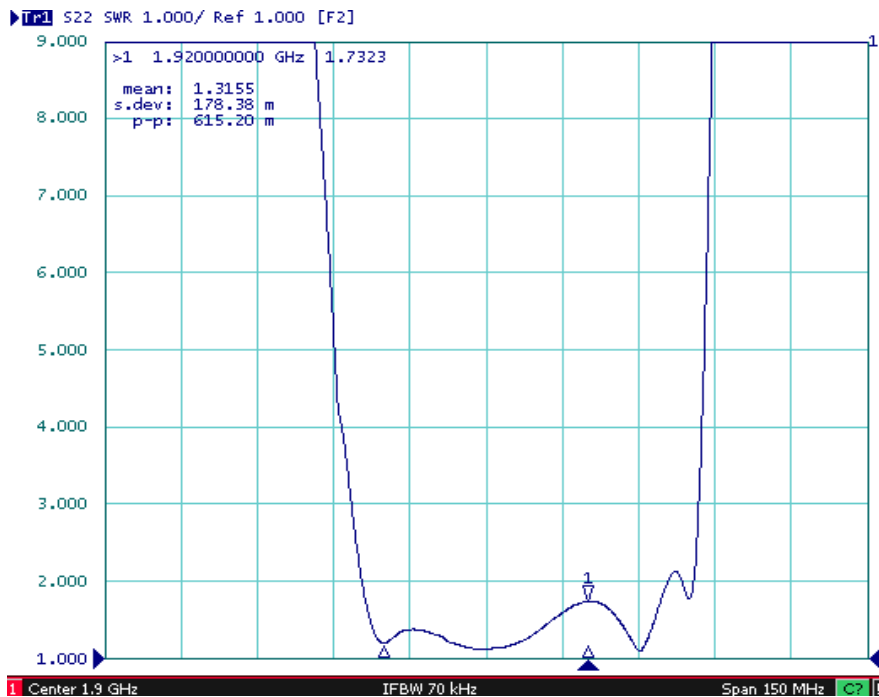
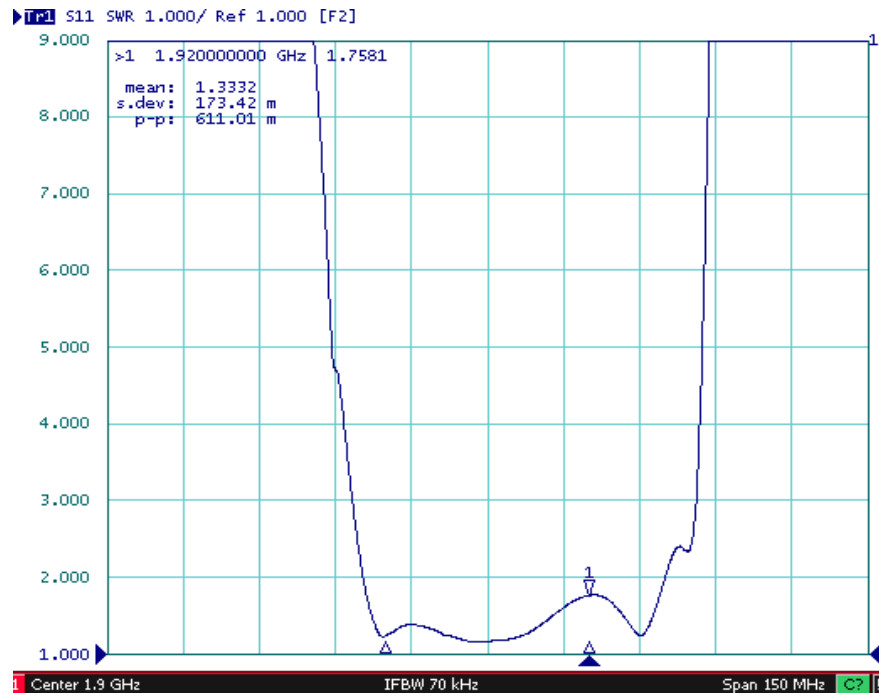


SM3030-6

Filter Response Plots



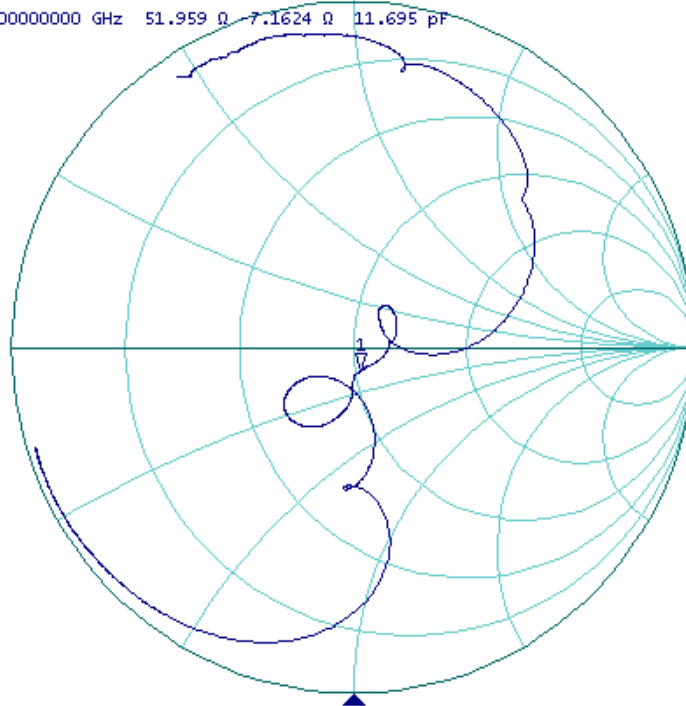
Filter Input/Output SWR Plots



Filter Input/Output Impedance Plots

► **Tr2** S11 Smith (R+jX) Scale 1.000U [F2]

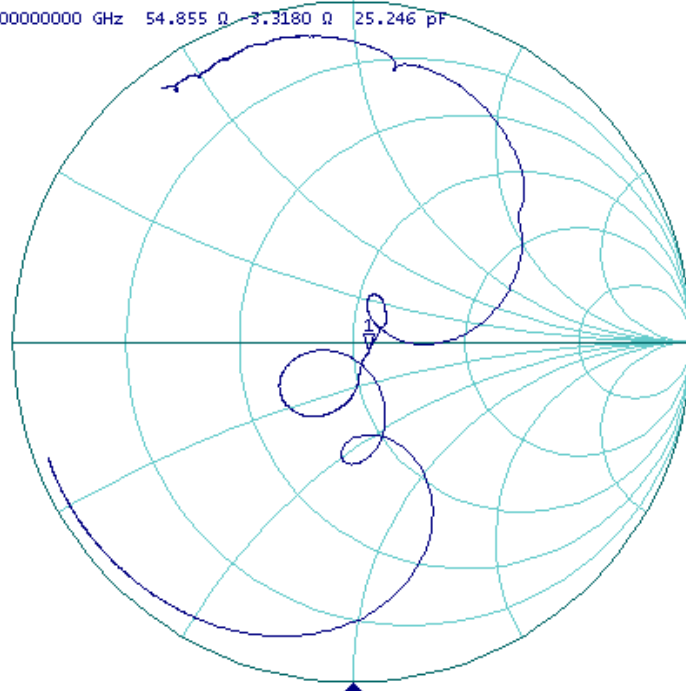
>1 1.900000000 GHz 51.959 Ω -7.1624 Ω 11.695 pF



1 Center 1.9 GHz IFBW 70 kHz Span 150 MHz **C7** **I**

► **Tr1** S22 Smith (R+jX) Scale 1.000U [F2]

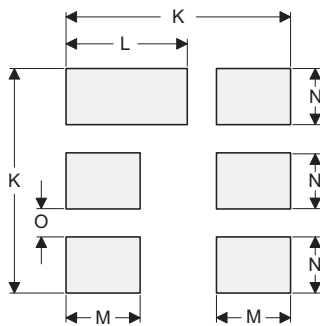
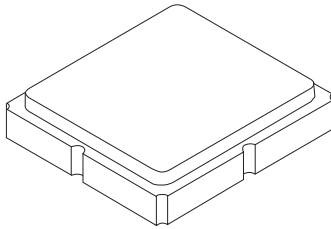
>1 1.900000000 GHz 54.855 Ω -3.3180 Ω 25.246 pF



1 Center 1.9 GHz IFBW 70 kHz Span 150 MHz **C7** **I**

SM3030-6 Case

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



PCB Footprint Top View

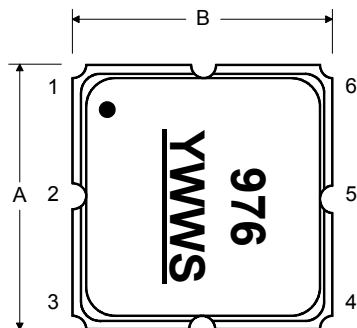
Case and PCB Footprint Dimensions

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	1.40	0.044	0.049	0.055
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	

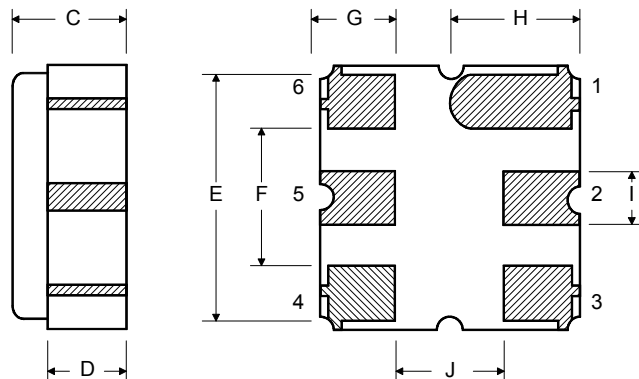
Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 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



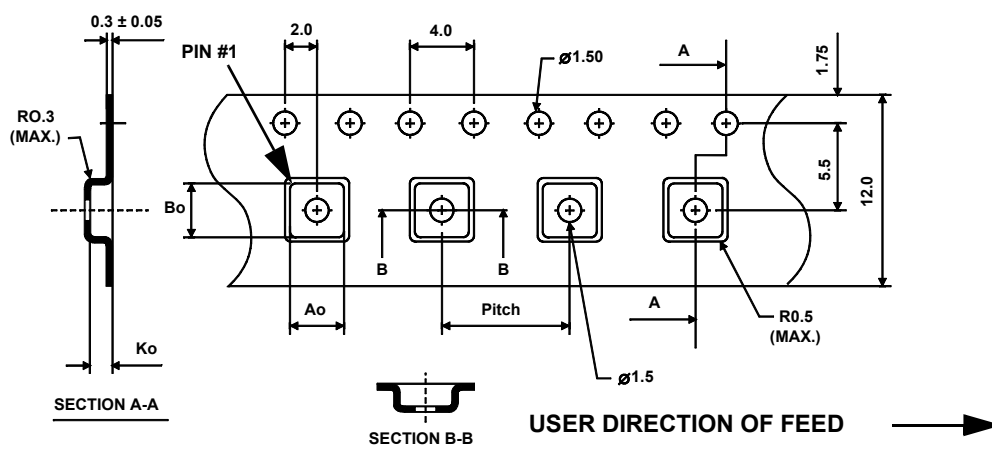
Bottom View



Technical drawing of a circular component. The top view shows a large outer circle and a smaller inner circle, both centered on a common point marked with a crosshair. A dashed line indicates the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle. To the right, a side view shows the component's profile, which is a thin, elongated shape. Dimensions are provided: a horizontal dimension of 12.0, a vertical dimension of 100 REF., and a vertical dimension of "B" REF. Below the side view, a cross-section view shows a circular shape with a central hole. Dimensions are provided: a horizontal dimension of 2.0, a vertical dimension of 13.0, and a diagonal dimension of 20.2.

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

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 mm
Pitch	8.0 mm
W	12.0 mm



Typical Solder Reflow Profile

