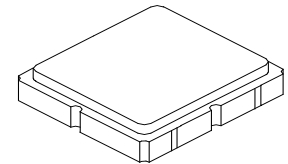


SF2316E-1

1582 MHz SAW Filter



SM3030-6

- Low-loss 1582 MHz SAW Filter
- Designed for 50 ohm Source/Load
- Complies with Directive 2002/95/EC (RoHS)
- Operable Temperature Range -45°/125°C
- Meets AEC-Q200 Standards



Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Operating Temperature Range	-40 to +10	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units	
Center Frequency	f _C			1582		MHz	
Insertion Loss, 1565.42 to 1585.42MHz	IL			1.8	2.4	dB	
Insertion Loss, 1574.42 to 1576.42MHz				1.6	2.2		
Insertion Loss, 1576.42 to 1597.42MHz				1.6	2.2		
Insertion Loss, 1597.55 to 1605.89MHz (-40 to +85°) (-40 to +105°C)				2.0	2.6		
				2.0	2.8		
GD Ripple, 1597.55 to 1605.89 MHz				8.5	20	ns	
Amplitude Ripple, 1559 to 1606 MHz (-40 to +85°C) (-40 to +105°C)				0.9	2.0	dB	
				0.9	2.5		
VSWR, 1565.42 to 1585.42 MHz				2.0	2.2	dB	
VSWR, 1597.55 to 1605.89 MHz				1.4	2.0		
Attenuation,						dB	
1 to 925 MHz			32	37			
925 to 960 MHz			32	37			
1427 to 1453 MHz			35	45			
1453 to 1501 MHz			35	46			
1501 to 1525 MHz			30	37			
1626 to 1660 MHz			30	43			
1710 to 1785 MHz			35	40			
1850 to 1910 MHz			35	41			
1920 to 1980 MHz			35	42			
2110 to 2170 MHz			35	44			
2400 to 2500 MHz			40	46			
2500 to 2570 MHz			40	44			
Case Style	SMD 3.0 x 3.0 mm Nominal Footprint						
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	A80, YWWS						

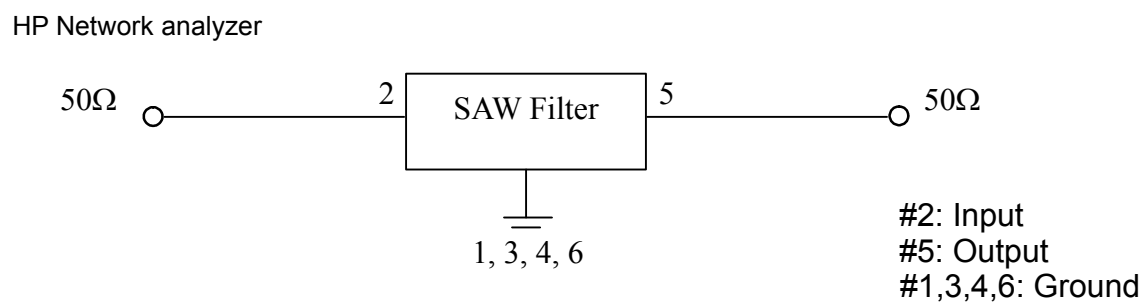


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

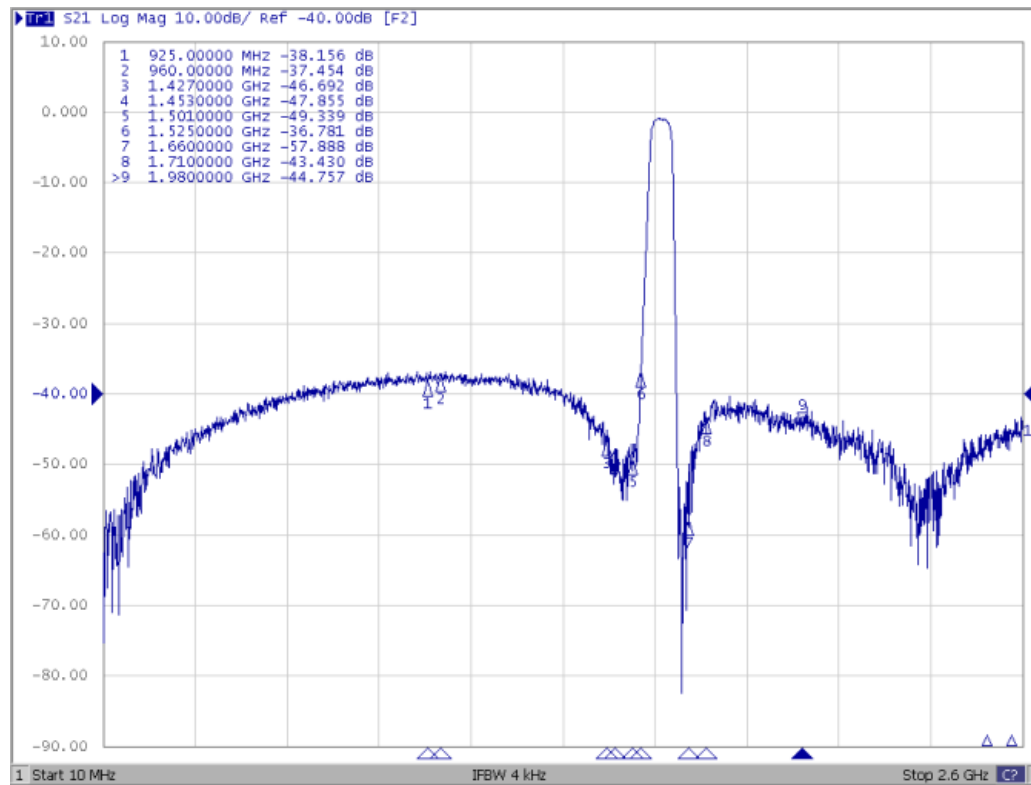
NOTES:

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.

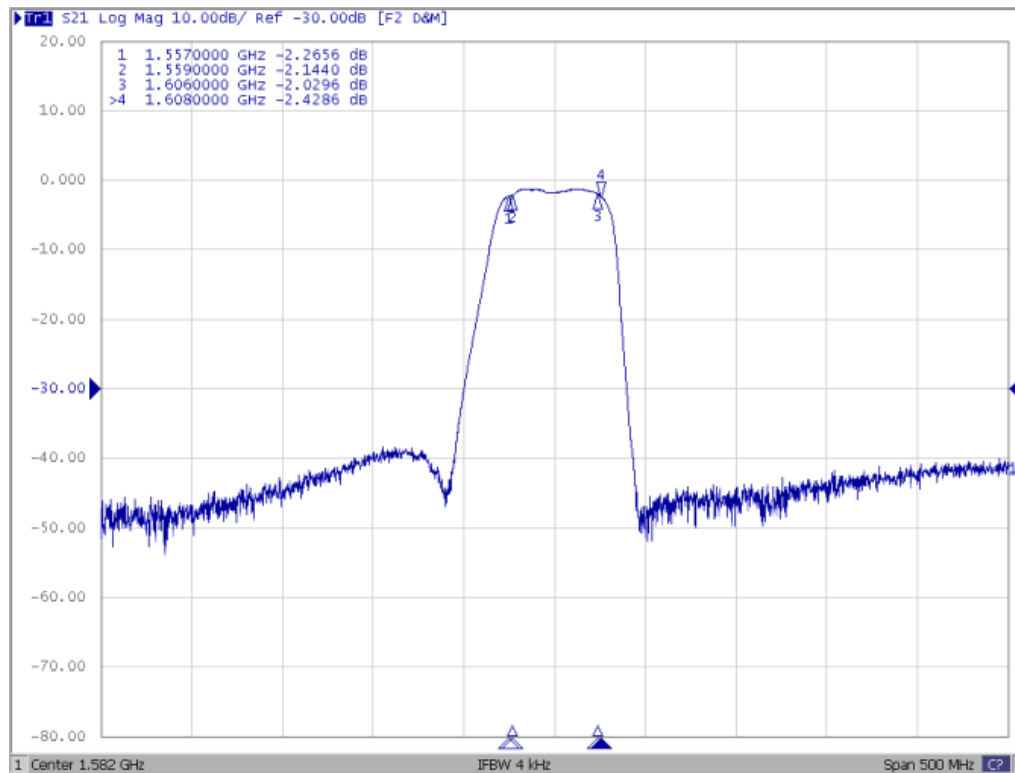
Measurement Circuit:



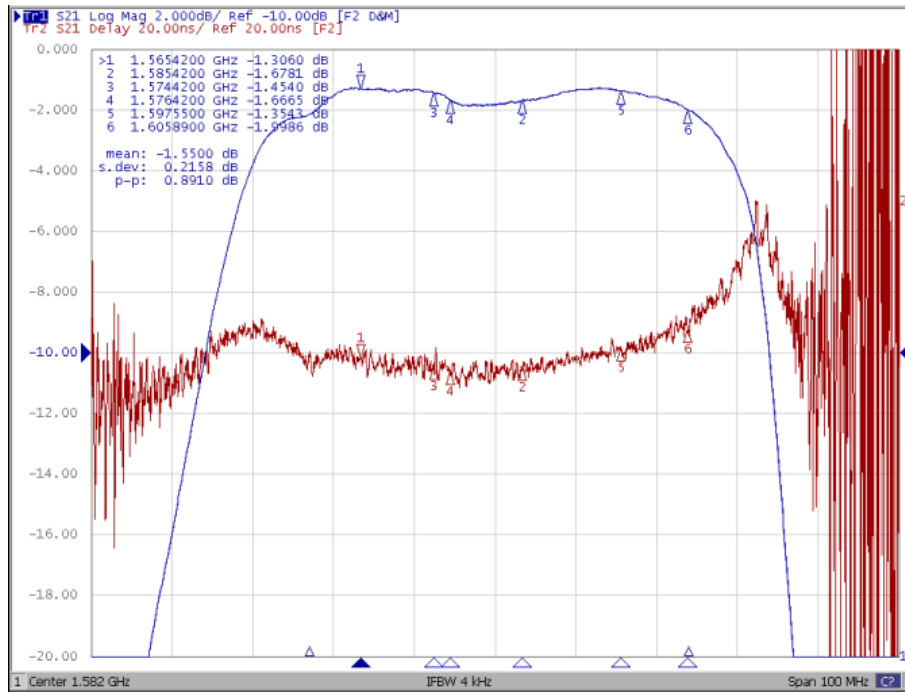
Frequency Characteristics: S21 response: (span 2.6 GHz)



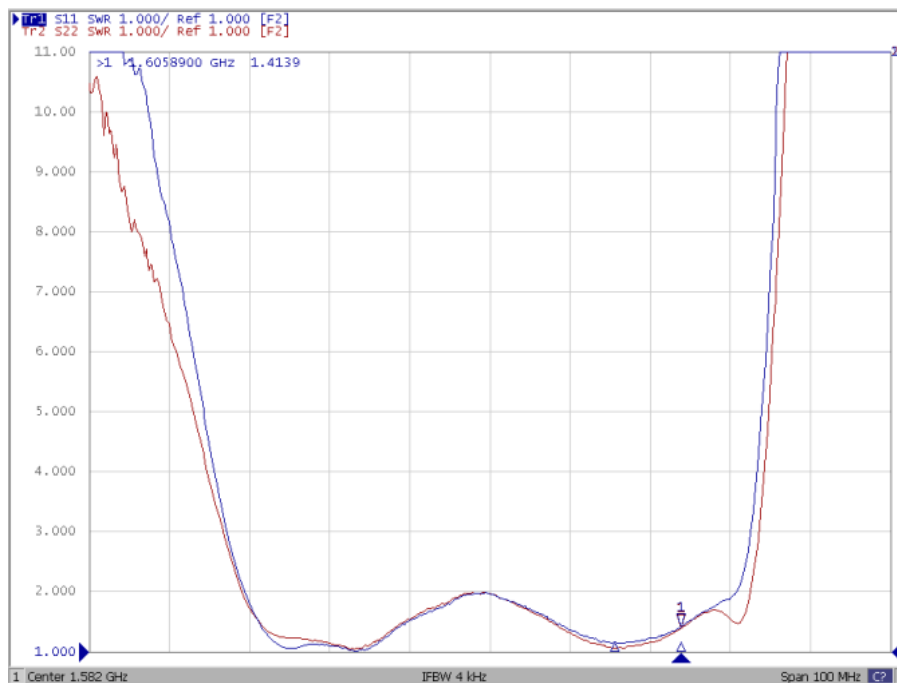
S21 response: (span 500 MHz)



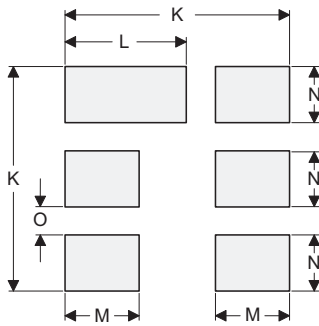
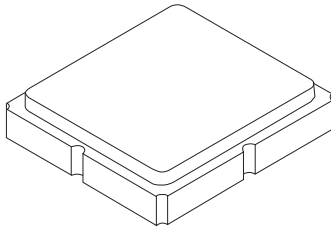
S21 response: (span 100 MHz)



S11 and S22 VSWR: (span 100 MHz)



SM3030-6 Ceramic 6-Terminal 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	1.38	0.044	0.049	0.054
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	

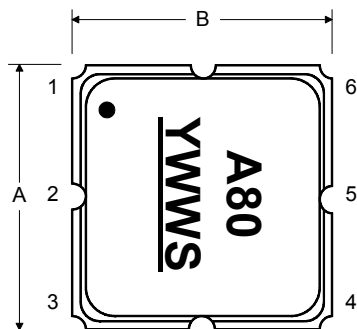
Case Materials

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	

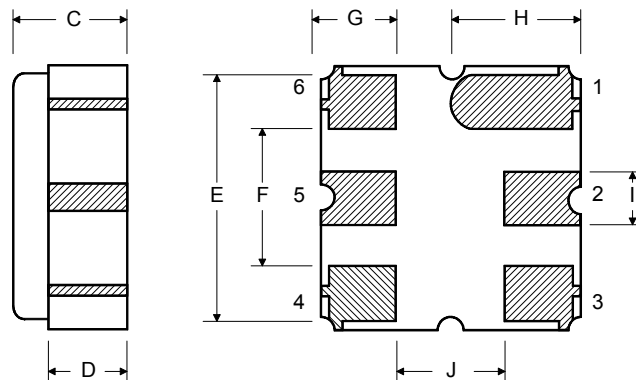
Electrical Connections

Connection	Terminals
Input	2
Output	5
Case Ground	All others

TOP VIEW



BOTTOM VIEW



See Detail "A"

100 REF.
"B" REF.

12.0

13.0
20.2
2.0

This technical drawing shows a circular component with a central hole. A detail callout labeled "See Detail 'A'" points to the central hole. To the right, a vertical dimension line indicates a length of 100 REF. and a width of "B" REF. Below this, a horizontal dimension line indicates a width of 12.0. At the bottom, a detail view of the central hole is shown, with dimensions 13.0, 20.2, and 2.0.

"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

