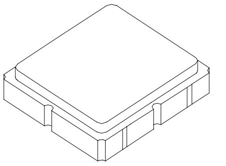
SF2202E

2017.5 MHz SAW Filter

- ***Surface Mount 3.0 x 3.0 x 1.3 mm Package***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM3030-6

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-30 to +60	℃
Storage Temperature Range in Tape and Reel	-40 to +85	℃
Solder Reflow Temperature, 10 seconds, 5 cycles maximum	260	℃

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F_C			2017.5		MHz
Insertion Loss, 2010 to 2025 MHz	IL				3.2	dB
Amplitude Ripple, 2010 to 2025 MHz					1.7	dB_{P-P}
VSWR, 2010 to 2025 MHz					2.1:1	
Group Delay Ripple, 2010 to 2025 MHz					30	ns_{P-P}
Attenuation, Referenced to 0 dB						
1 to 869 MHz			15			dB
869 to 894 MHz			35			
921 to 960 MHz			35			
1805 to 1920 MHz			35			
1920 to 1980 MHz			14			
1980 to 1990 MHz			4.5			
2045 to 2090 MHz			7			
2090 to 2170 MHz			26			
2300 to 2400 MHz			40			
Source Impedance	Z_S			50		Ω
Load Impedance	Z_L			50		

Case Style		SM3030-6 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator		932, YWWS
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

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, fc.
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. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc

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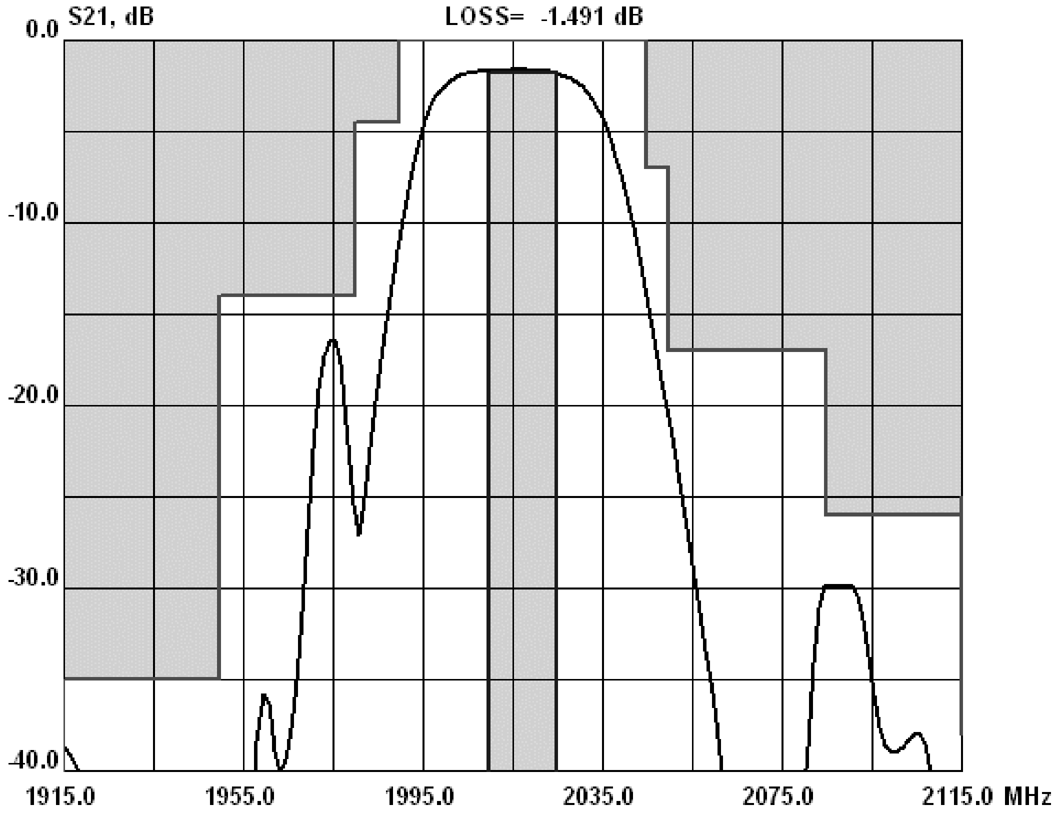
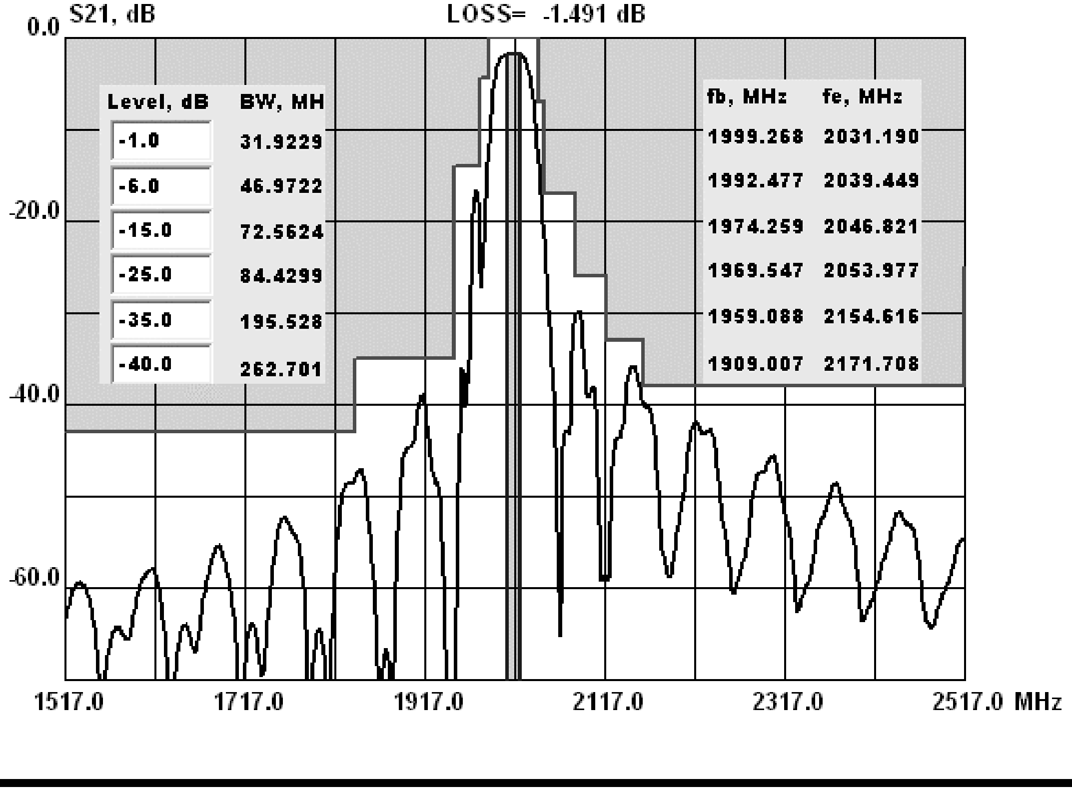
Filter Response Plots





Level, dB	BW, MH	fb, MHz	fe, MHz
-1.0	31.9229	1999.268	2031.190
-6.0	46.9722	1992.477	2039.449
-15.0	72.5624	1974.259	2046.821
-25.0	84.4299	1969.547	2053.977
-35.0	195.528	1959.088	2154.616
-40.0	262.701	1909.007	2171.708

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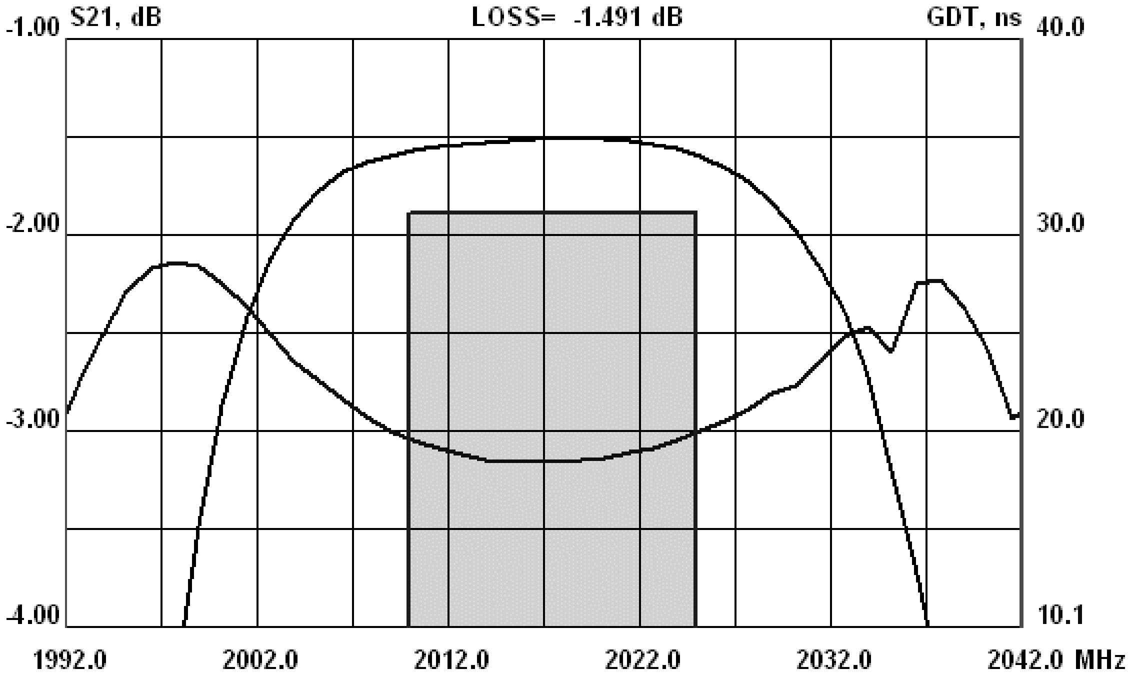

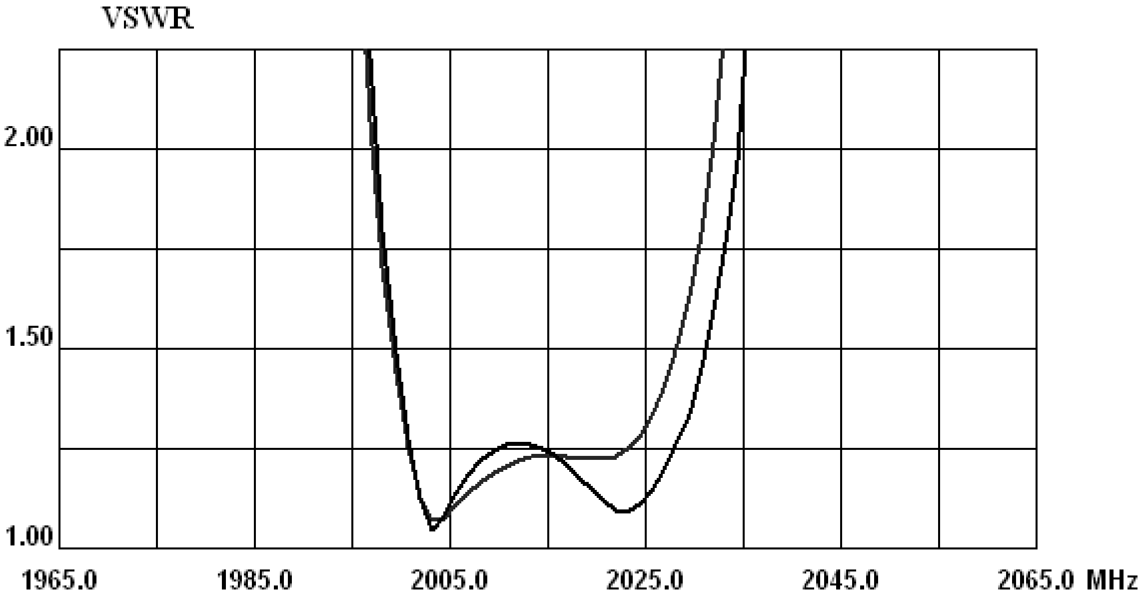

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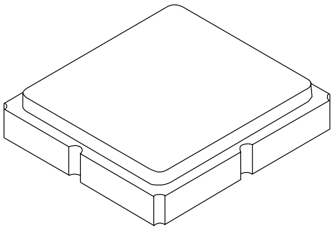
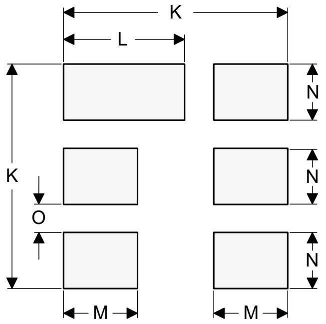
SM3030-6 Case

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



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	



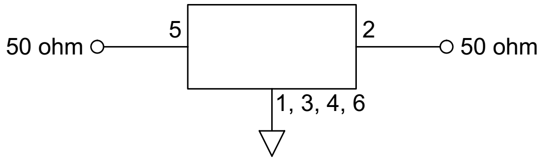
PCB Footprint Top View

Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

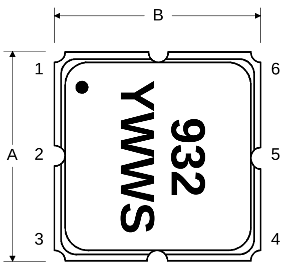
Electrical Connections

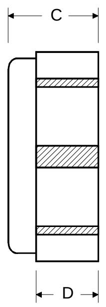
Connection	Terminals
Input	5
Output	2
Ground	All Others

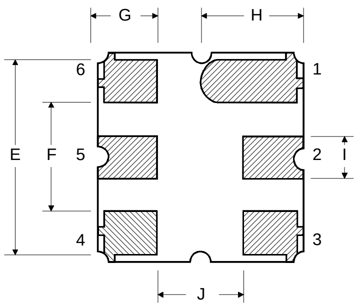


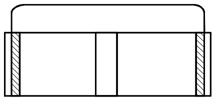
TOP VIEW

BOTTOM VIEW









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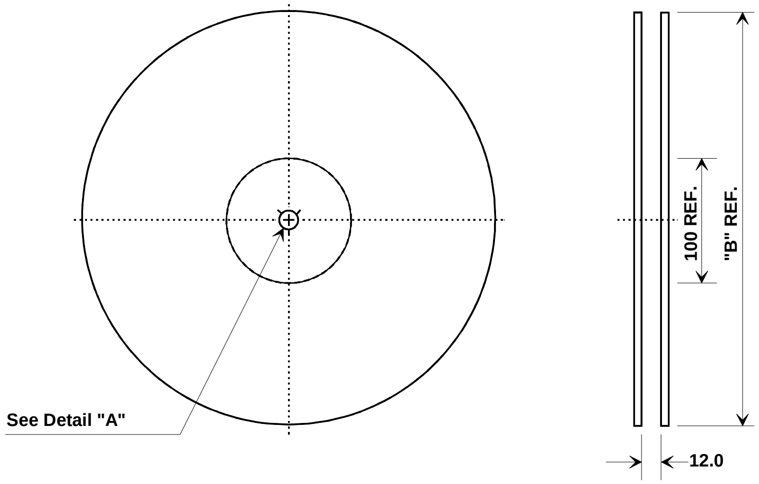
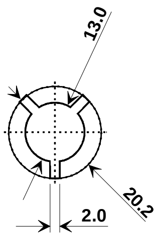
Tape and Reel Specifications



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



COMPONENT ORIENTATION and DIMENSIONS

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