

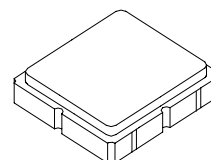


- Low Insertion Loss SAW RF Filter
- 3.0 x 3.0 x 1.3 mm Surface-Mount Case
- No Matching Circuit Required
- Complies with Directive 2002/95/EC (RoHS)



SF2161E

**2650 MHz
SAW Filter**



SM3030-6

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	dBm
DC Voltage on any Non-ground Terminal	3	Volts
Operating Temperature Range	-20 to +70	°C
Storage Temperature Range in Tape and Reel	-30 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	1		2650		MHz
Insertion Loss	IL			2.0	3.5	MHz
Amplitude Ripple, 2615 to 2685 MHz				0.9	2.5	dB _{P-P}
Attenuation Referenced to 0 dB:						
DC to 2300 MHz			23.0	27.5		dB
2300 to 2500 MHz			25.0	32.0		
2800 to 4000 MHz			30.0	34.0		
4000 to 5000 MHz			20.0	32		
VSWR, 2615 to 2685 MHz				1.6:1	2.3:1	
Source Impedance	Z_S			50		Ω
Load Impedance	Z_L			50		Ω

Single-Ended Input / Output Impedance Match	No matching network required for operation at 50 ohms
Case Style	SM3030-6 3 x 3 mm Nominal Footprint
Lid Symbolization, Y=year, WW=week, S=shift	848 YWWS

Electrical Connections

Connection	Terminals
Input	2
Output	5
Ground	All others

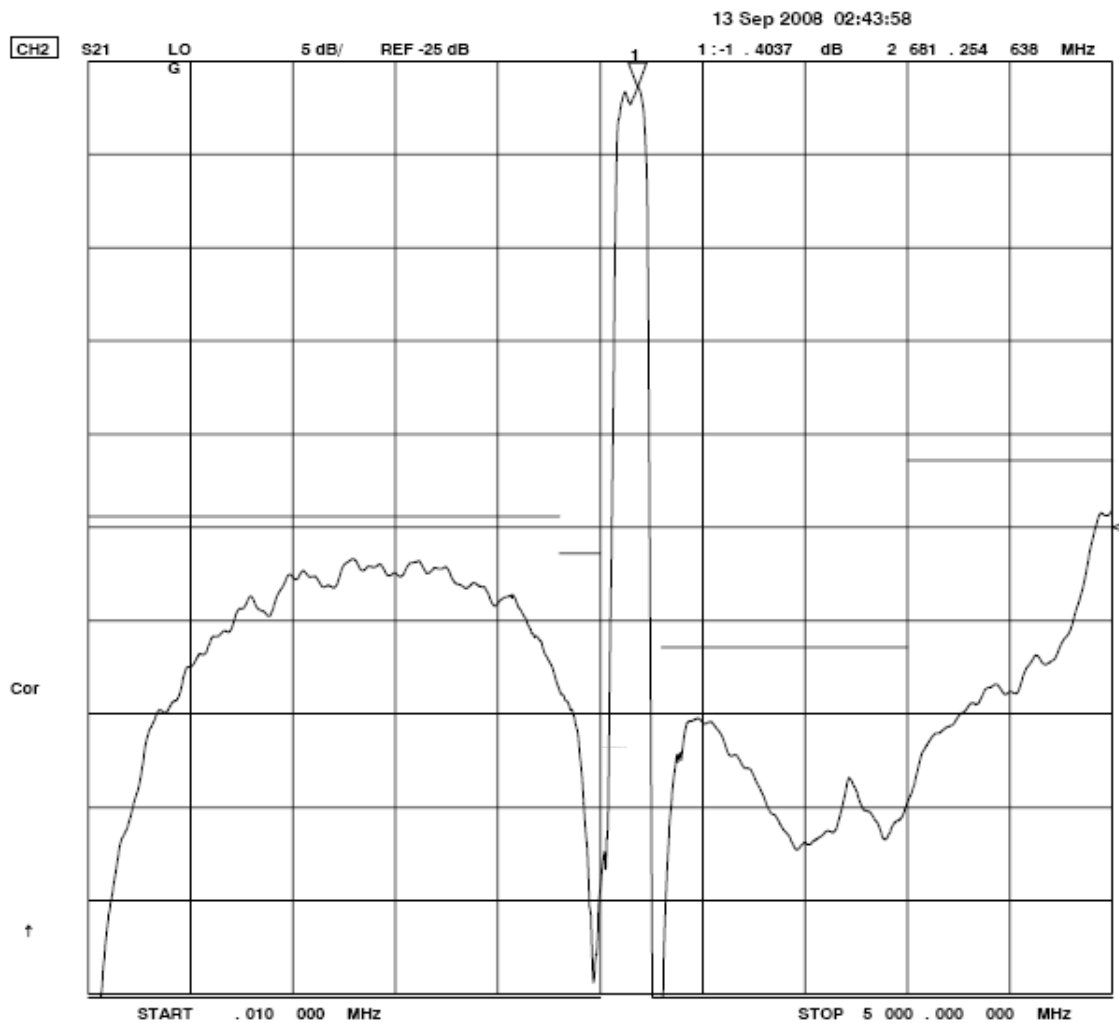


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

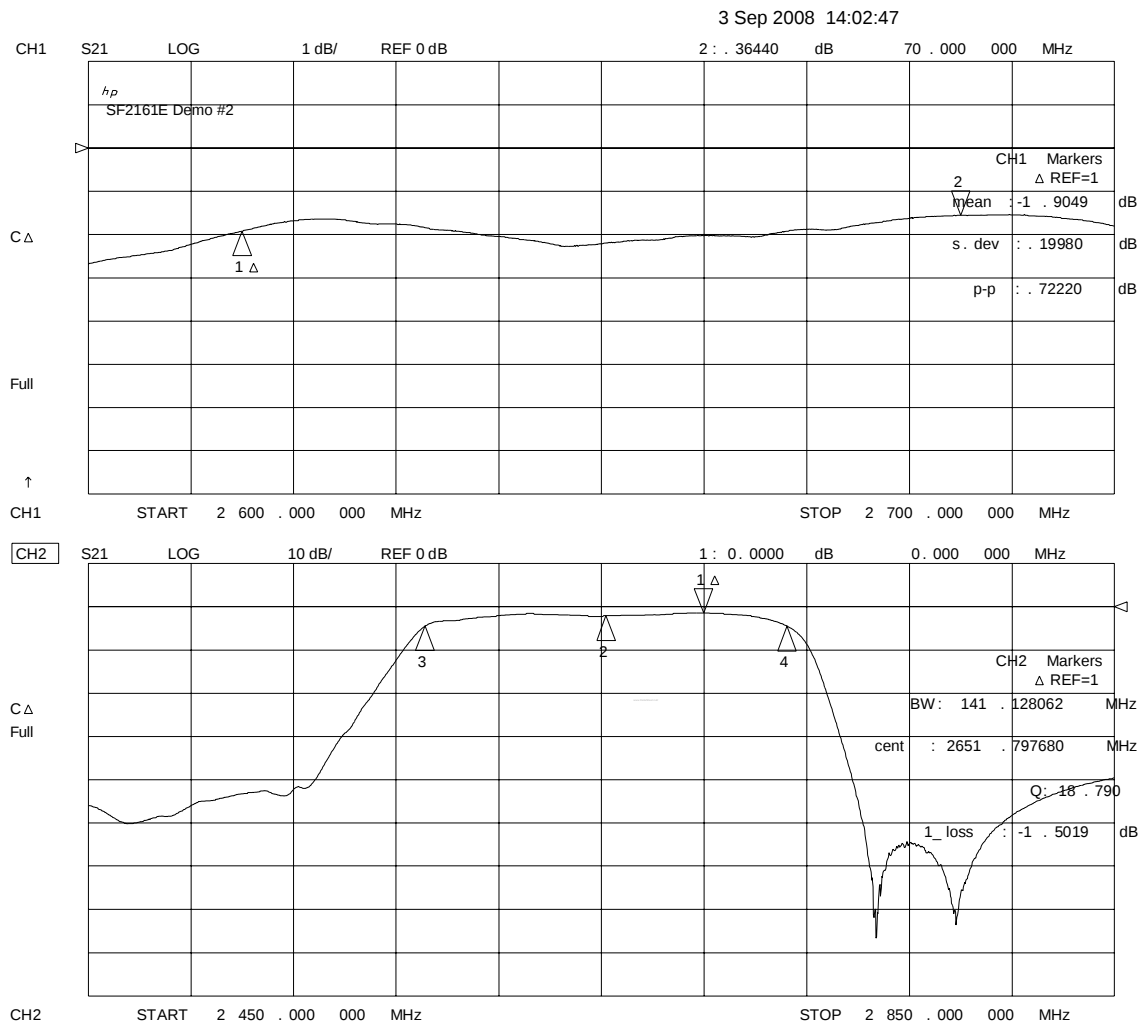
Notes:

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 parts."
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.

Broadband Filter Response

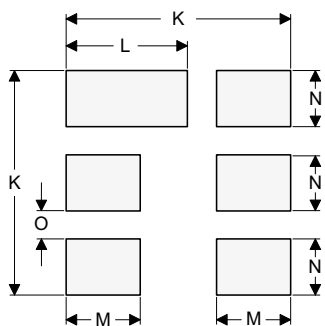
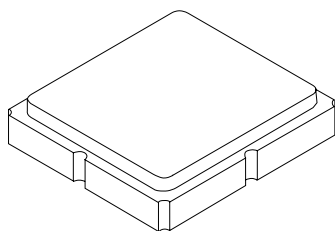


Passband Filter Response



SM3030-6 Case

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



PCB Footprint Top View

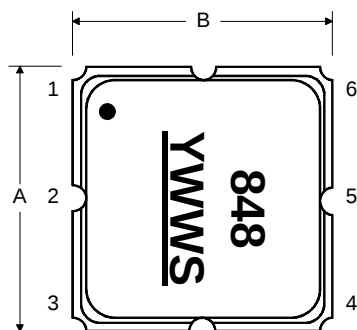
Case and PCB Footprint Dimensions

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	1.38	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	

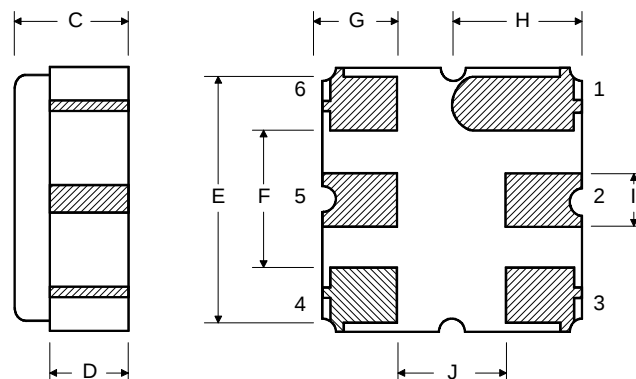
Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 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	

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 horizontal dashed line and a vertical dashed line intersect at the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle.

Side View: Two vertical lines representing the thickness of the component. The total thickness is dimensioned as 12.0. The distance from the centerline to the outer edge is dimensioned as 100 REF. The distance from the centerline to the inner edge is dimensioned as "B" REF.

Detail View (Detail A): A cross-sectional view of the central hole. It shows a circular hole with a diameter of 13.0. The hole is surrounded by a flange with a thickness of 2.0. The distance from the centerline to the outer edge of the flange is dimensioned as 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

