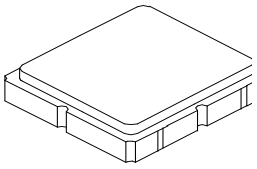
RoHS Compliance
This component is compliant with RoHS directive.
This component was always RoHS compliant from the first date of manufacture.

SF2197E

847 MHz SAW Filter



SM3030-6

- ***Low Loss SAW Filter***
- ***Surface-mount 3.0 x 3.0 mm Package***

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 +105	°C
Specification 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			847		MHz
Insertion Loss, 832 to 862 MHz	IL			2.8	4.5	dB
Amplitude Ripple, 832 to 862 MHz				1.2	2.0	dB_{P-P}
VSWR, 832 to 862 MHz				1.6	2.5	
Attenuation, 0 dB Reference:						dB
DC to 800 MHz			45	55		
800 to 815 MHz			30	45		
815 to 821 MHz			10	30		
895 to 940 MHz			30	37		
940 to 1500 MHz			45	58		
1500 to 2000 MHz			35	45		
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		927, YWWS
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel
	Reel Size 13 Inch	3000 Pieces/Reel

Electrical Connections

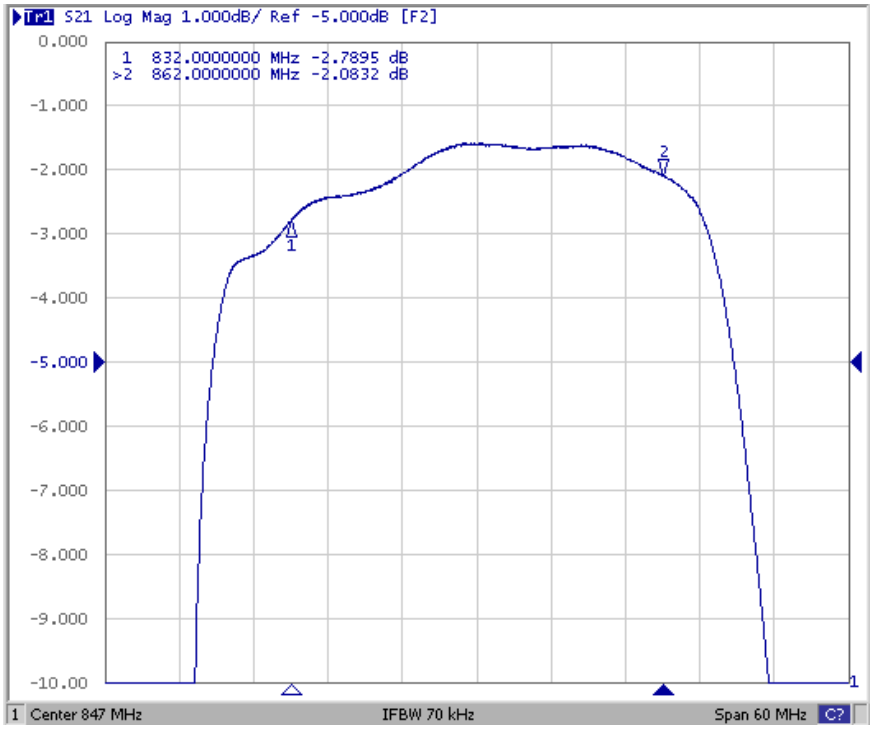
Connection	Terminals
Input	2
Output	5
Case Ground	All others

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

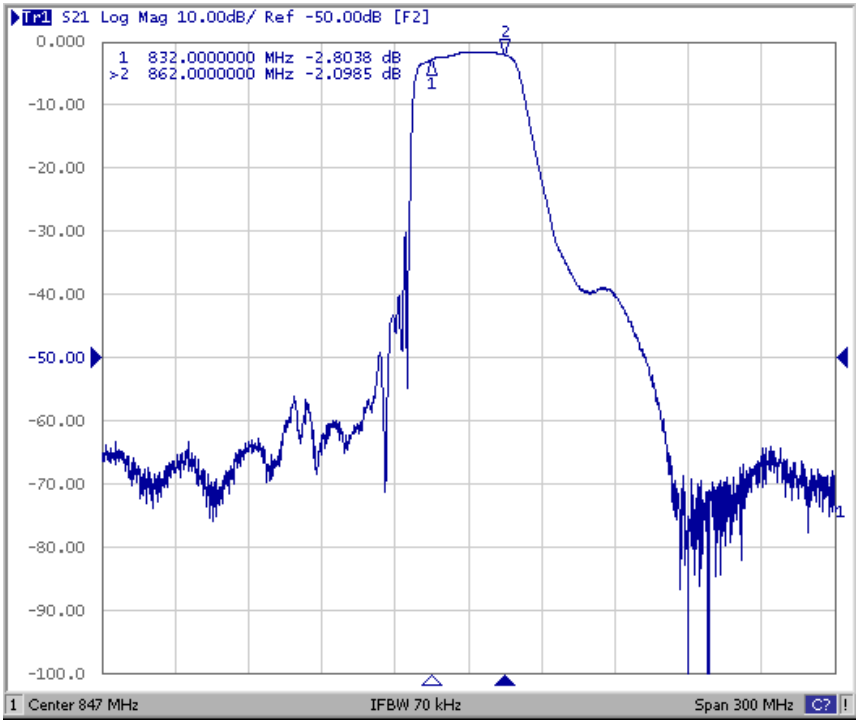
NOTES:

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, 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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

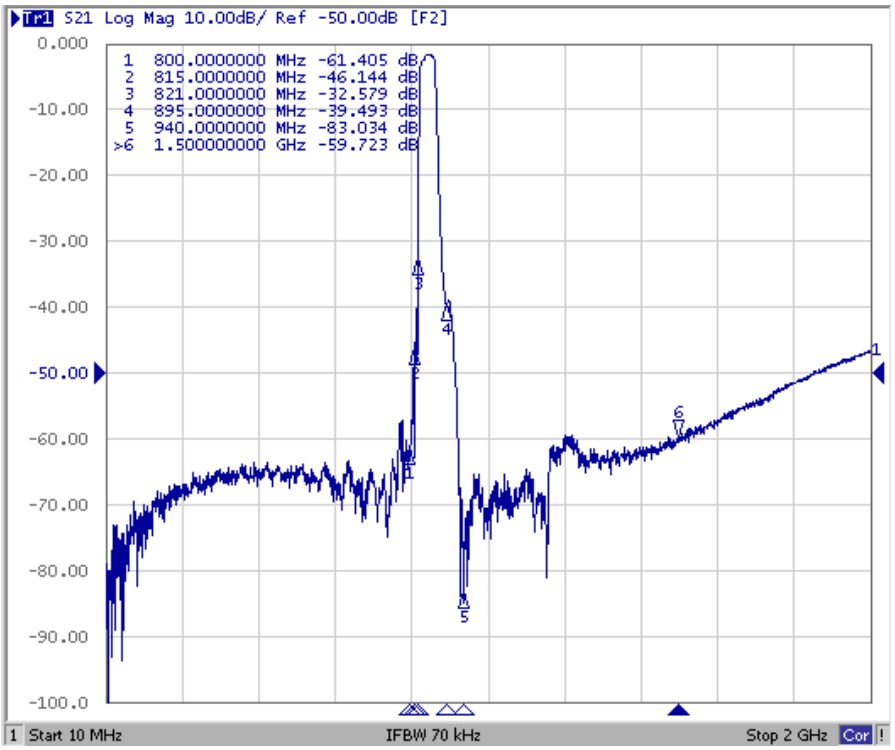
Filter Passband Response, 817 to 877 MHz



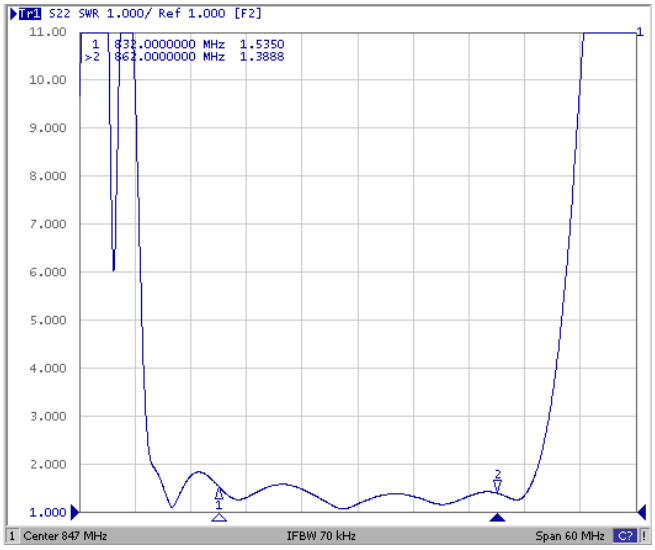
Filter Rejection Plot, 697 to 997 MHz

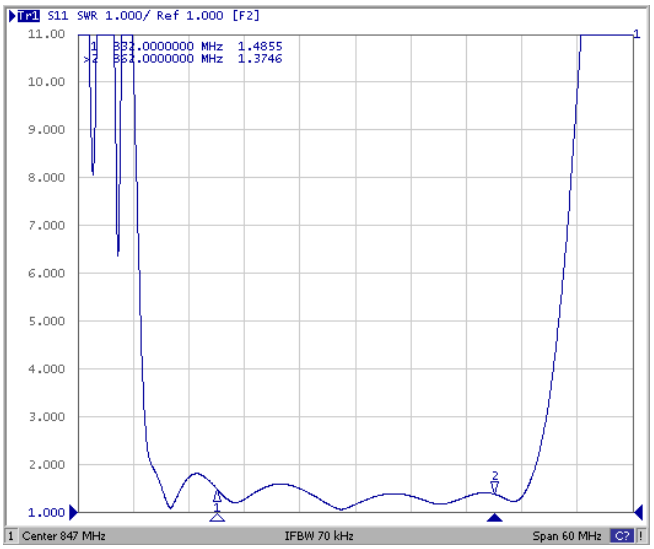


Filter Broadband Response, 10 to 2000 MHz



Filter Input and Output VSWR Plots

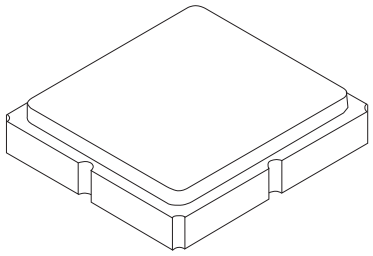


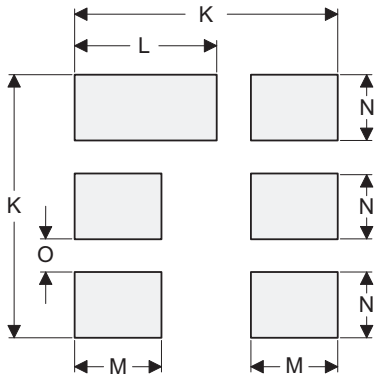


SM3030-6 Case

6-Terminal Ceramic Surface-Mount Case

3.0 X 3.0 mm Nominal Footprint





PCB Footprint Top View

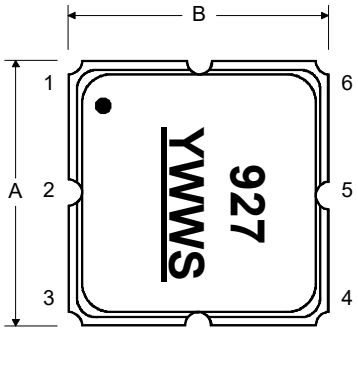
Case and PCB Footprint Dimensions

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	

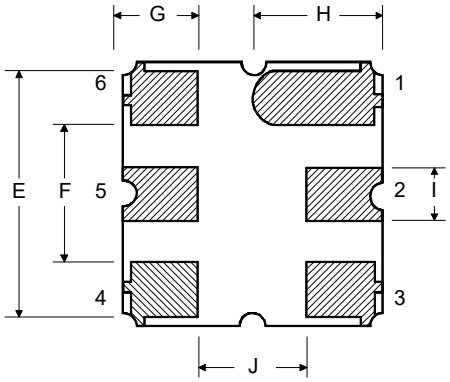
Case Materials

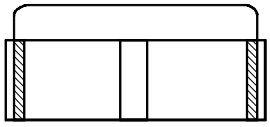
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

Top View

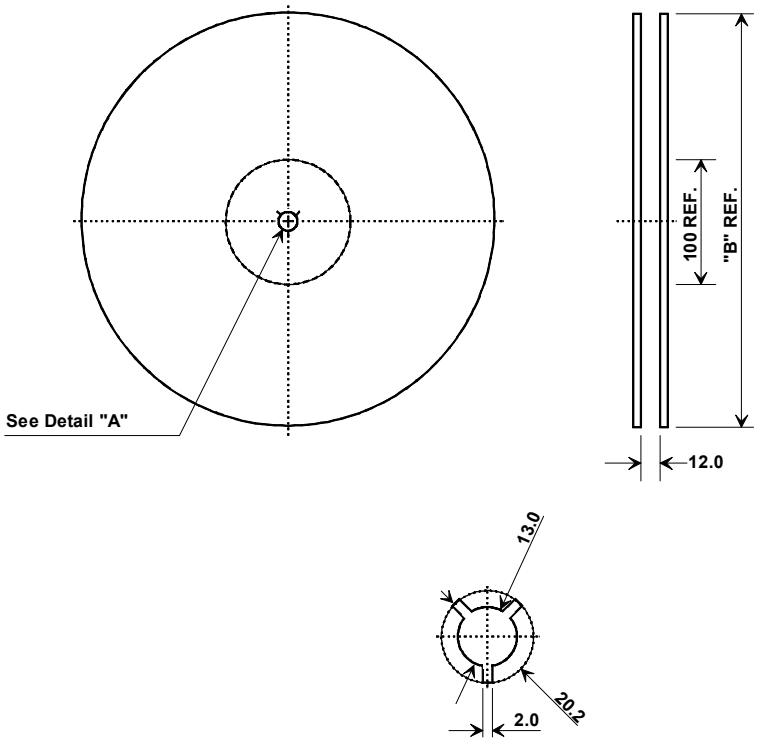


Bottom View





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