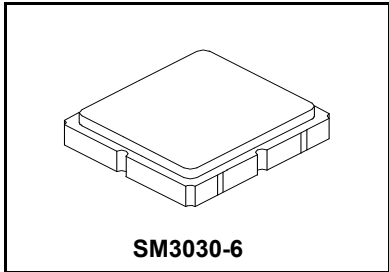


SF2208E

**1227 MHz
SAW Filter**



- No Matching Network Required for 50 Ω Operation
- Surface-mount 3.0 x 3.0 mm Package
- Complies with Directive 2002/95/EC (RoHS)



Absolute Maximum Ratings

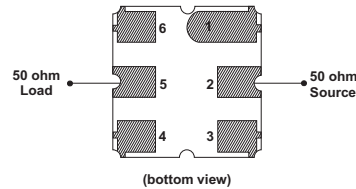
Rating	Value	Units
Input Power Level	20	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-20 to +70	°C
Storage Temperature Range in Tape and Reel	-30 to +85	°C
Solder Reflow Temperature, 10 seconds, 5 cycles maximum	260	°C

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_c			1227		MHz
Insertion Loss, 1227 MHz	IL			0.95	1.30	dB
Amplitude Ripple, 1217 to 1237 MHz				0.1	0.8	
Input/Output VSWR, 1217 to 1237 MHz				1.3:1	2.0:1	
Attenuation, 0 dB Reference:						dB
DC to 600 MHz			10	26.4		
600 to 1177 MHz			10	21.6		
1277 to 1290 MHz			20	36.0		
1290 to 3000 MHz			10	25.2		
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	943, 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

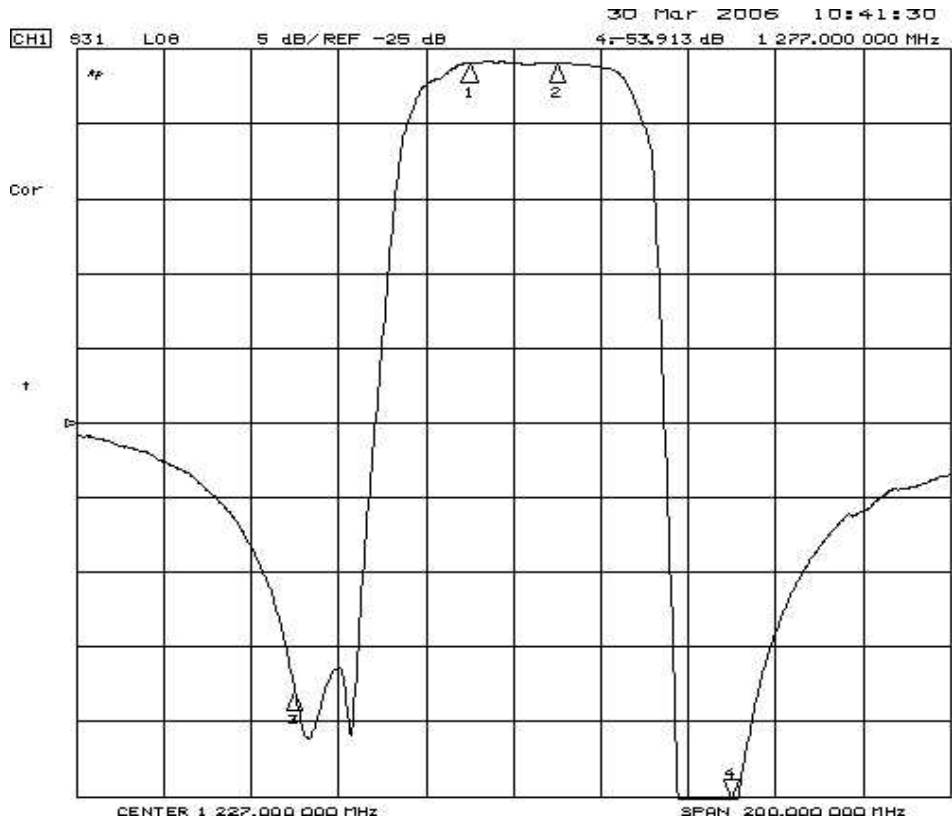


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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, 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.

Filter Frequency Response

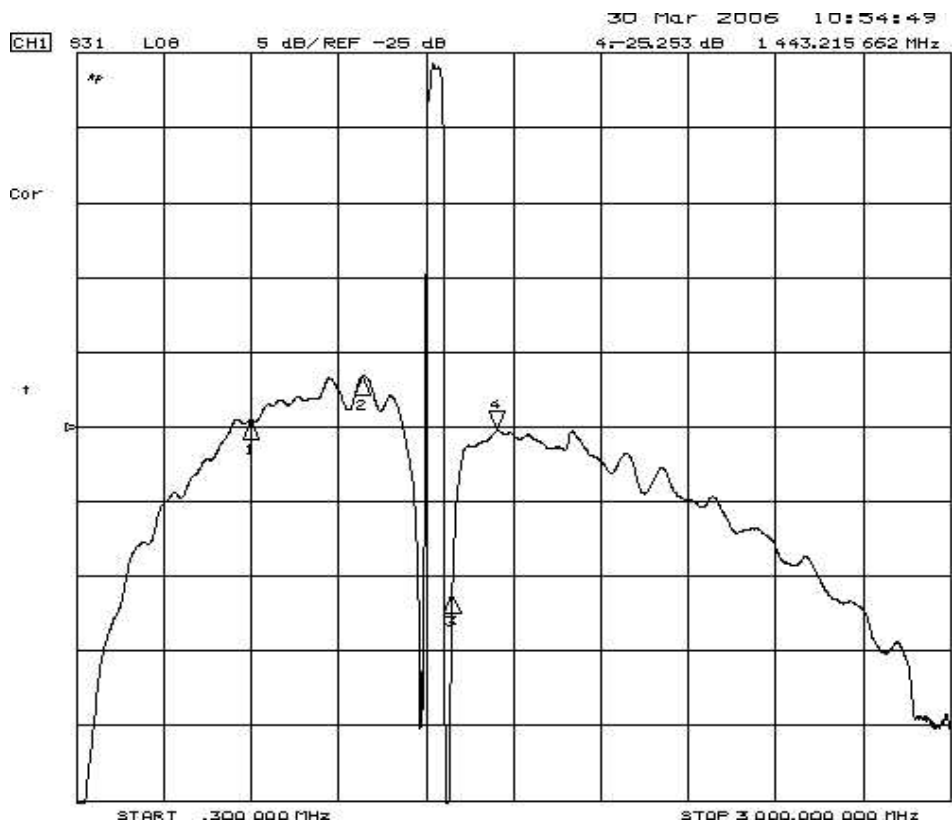


CH1 Markers

1: -93970 dB
1.21700 GHz

2: -94150 dB
1.23700 GHz

3: -42.922 dB
1.17700 GHz



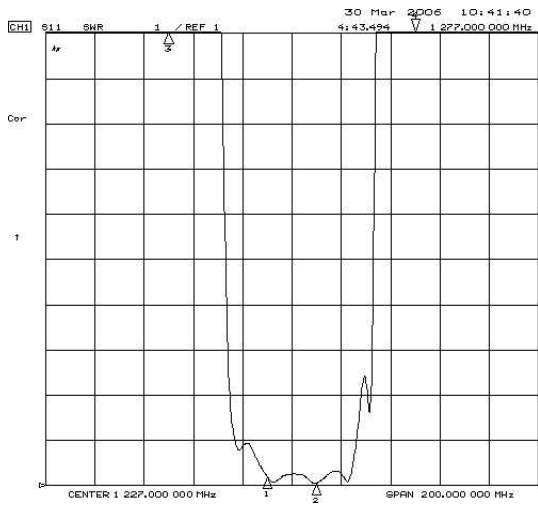
CH1 Markers

1: -24.561 dB
600.000 MHz

2: -21.580 dB
983.949 MHz

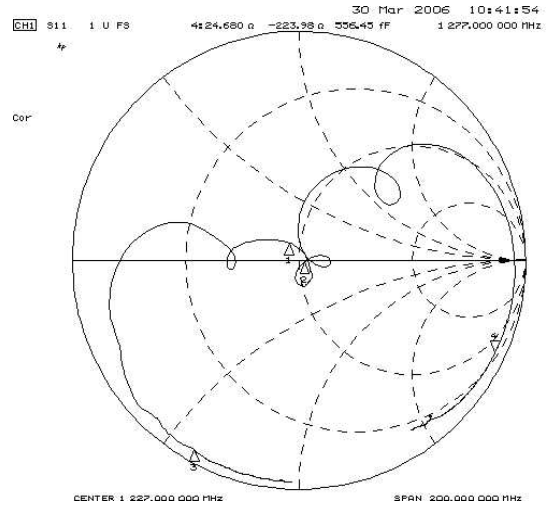
3: -36.104 dB
1.29000 GHz

Filter Input Impedance



CHI Markers

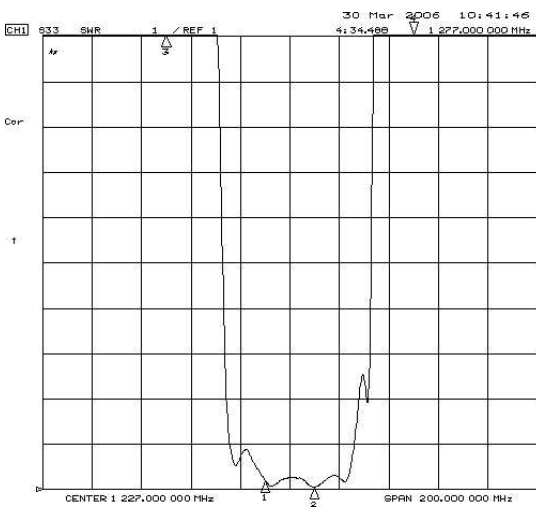
1	1.1934	1.21700 GHz
2	1.0527	1.23700 GHz
3	37.229	1.17700 GHz



CHI Markers

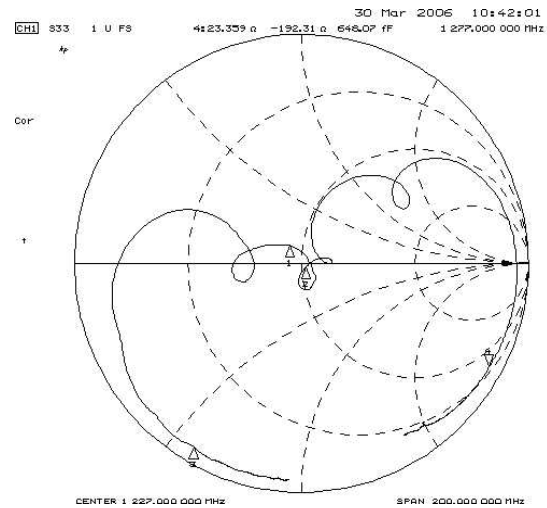
1	45.289 a	7.0352 a	1.21700 GHz
2	52.523 a	-744.14 ff	1.23700 GHz
3	1.7930 a	-23.343 a	1.17700 GHz

Filter Output Impedance



CHI Markers

1	1.2039	1.21700 GHz
2	1.0520	1.23700 GHz
3	29.312	1.17700 GHz

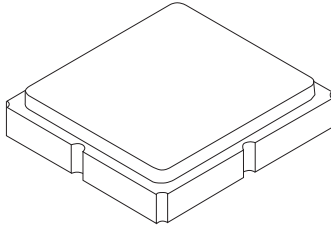


CHI Markers

1	44.656 a	8.9727 a	1.21700 GHz
2	52.111 a	-14.980 a	1.23700 GHz
3	2.3330 a	-26.442 a	1.17700 GHz

SM3030-6 Case

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



PCB Footprint Top View

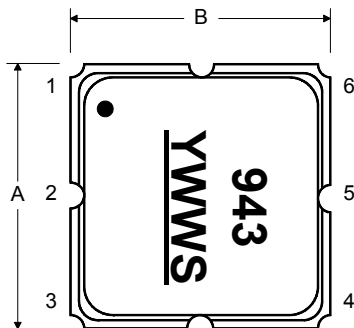
Case and PCB Footprint Dimensions

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	

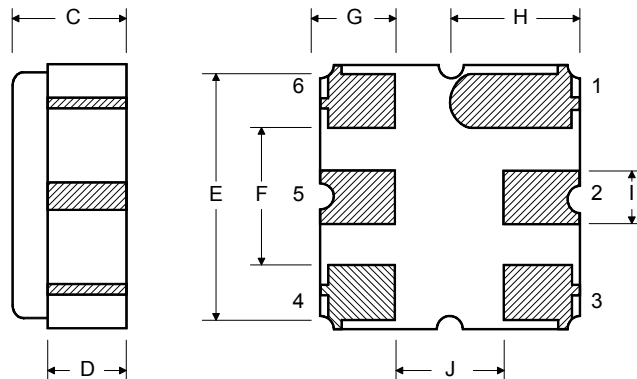
Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 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

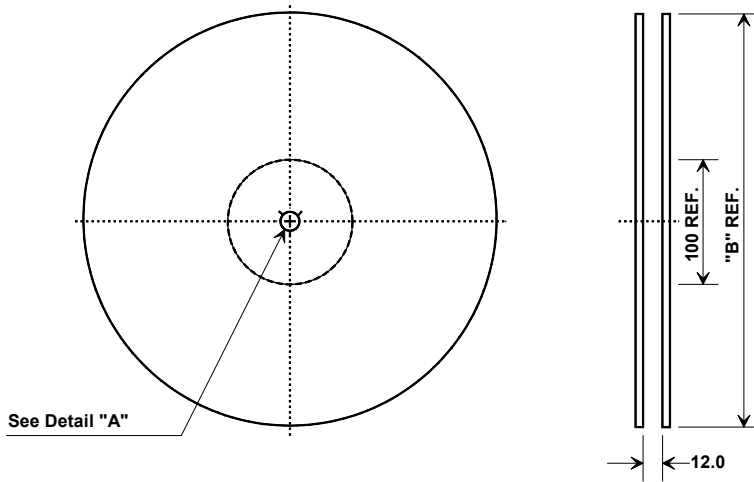
TOP VIEW



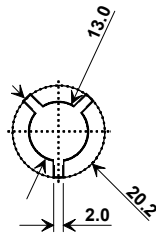
BOTTOM VIEW



Tape and Reel Specifications

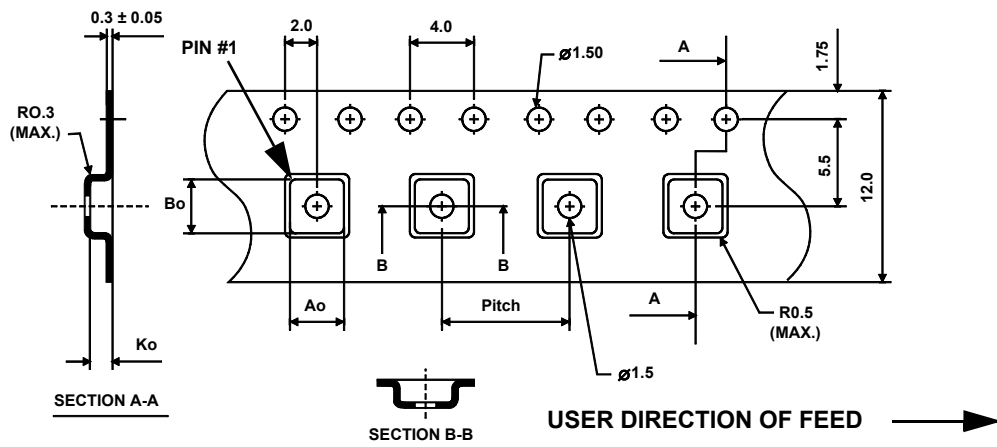


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



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



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