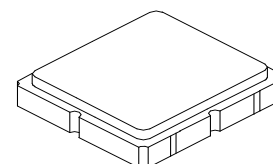


**SF2208E**

**1227 MHz  
SAW Filter**



**SM3030-6**

- **No Matching Network Required for 50 Ω Operation**
- **Surface-mount 3.0 x 3.0 mm Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

**Absolute Maximum Ratings**

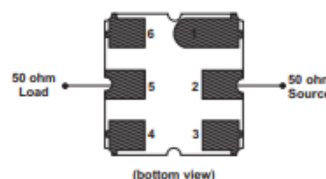
Rating	Value	Units
Input Power Level	20	dBm
DC Voltage on any Non-ground Terminal	3	V
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-20 to +70	°C
Storage Temperature Range in Tape and Reel	-30 to +85	°C
Solder Reflow Temperature, 10 seconds, 5 cycles maximum	260	°C

**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, <u>YWWS</u>					
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

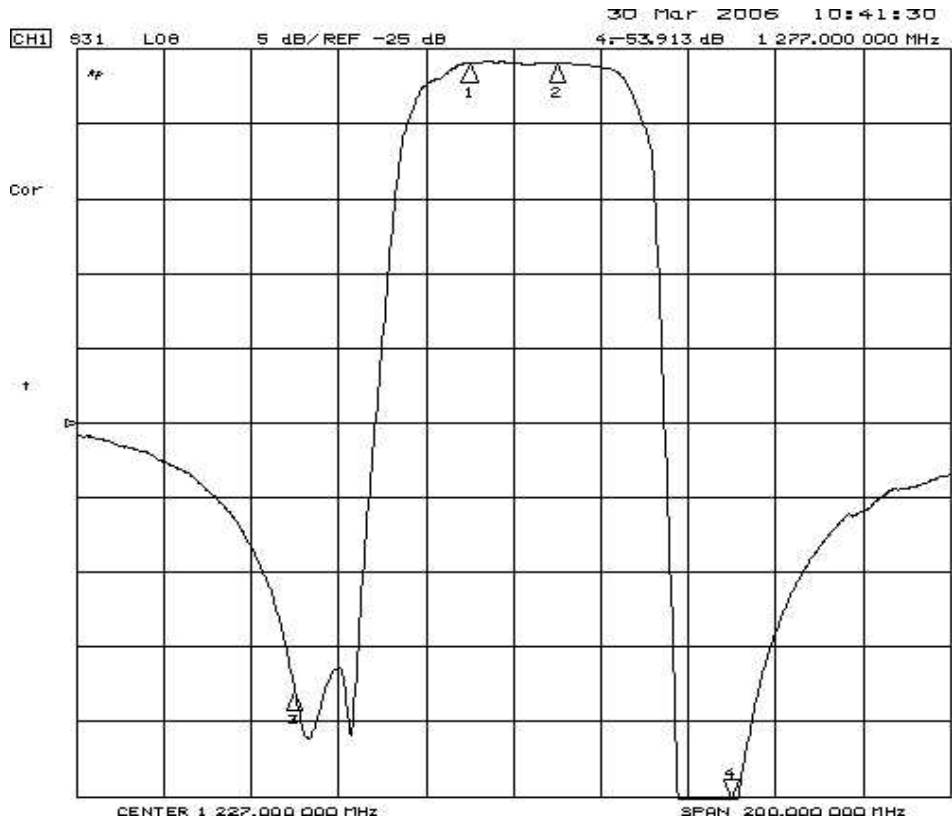


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

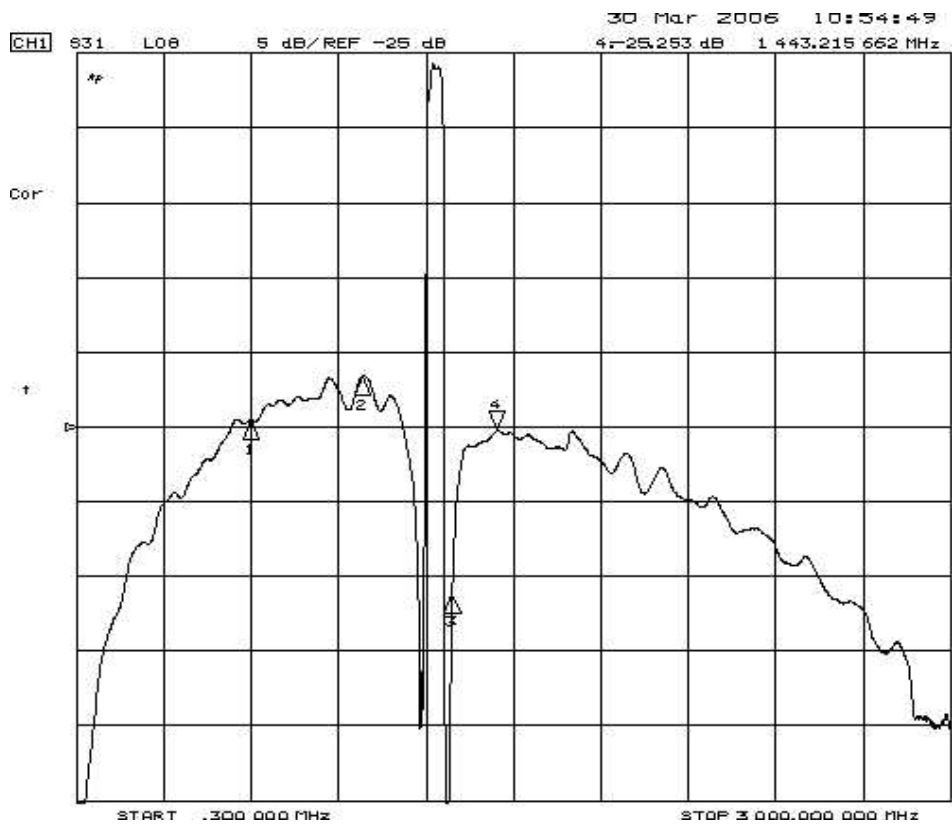
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# Filter Frequency Response



CH1 Markers

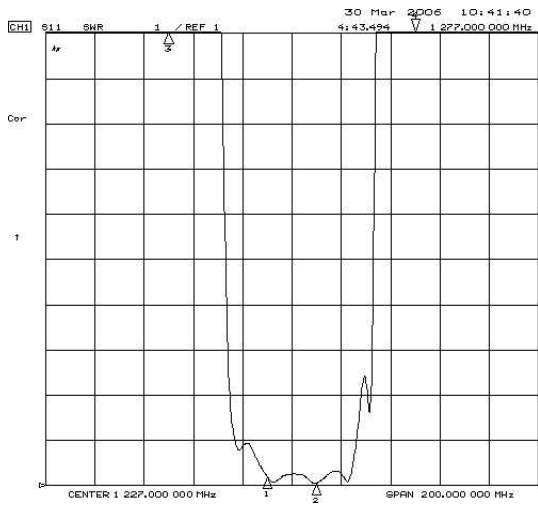
1	-93970 dB	1.21700 GHz
2	-94150 dB	1.23700 GHz
3	-42.922 dB	1.17700 GHz



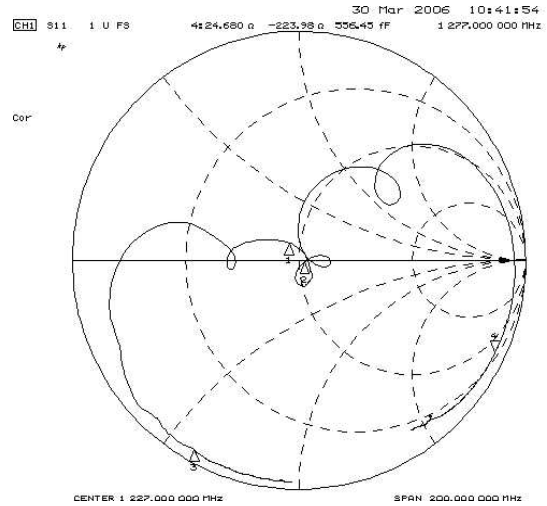
CH1 Markers

1	-24.561 dB	600.000 MHz
2	-21.590 dB	983.949 MHz
3	-36.104 dB	1.29000 GHz

# Filter Input Impedance

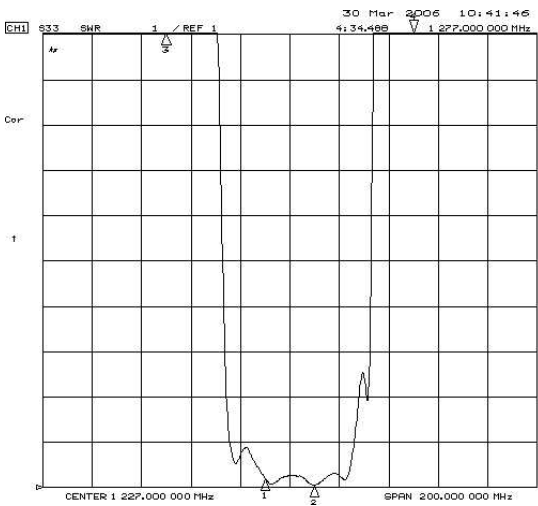


CHI Markers  
 1: 1.1934  
 1.21700 GHz  
 2: 1.0527  
 1.23700 GHz  
 3: 37.229  
 1.17700 GHz

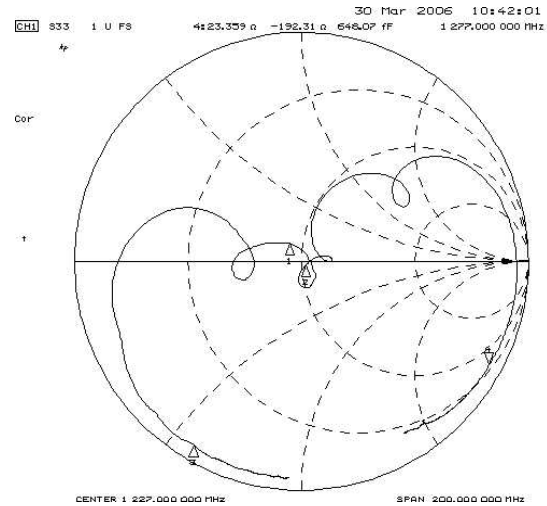


CHI Markers  
 1: 45.289 a  
 7.0352 a  
 1.21700 GHz  
 2: 52.523 a  
 -744.14 db  
 1.23700 GHz  
 3: 1.7930 a  
 -23.343 a  
 1.17700 GHz

# Filter Output Impedance



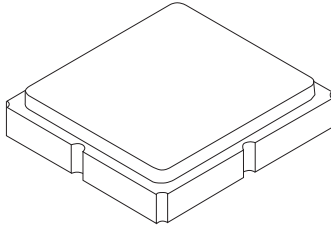
CHI Markers  
 1: 1.2039  
 1.21700 GHz  
 2: 1.0520  
 1.23700 GHz  
 3: 29.312  
 1.17700 GHz



CHI Markers  
 1: 44.656 a  
 6.9727 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

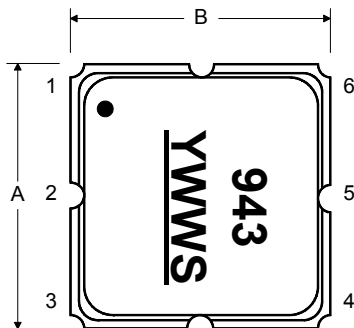
### Case and PCB Footprint Dimensions

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	

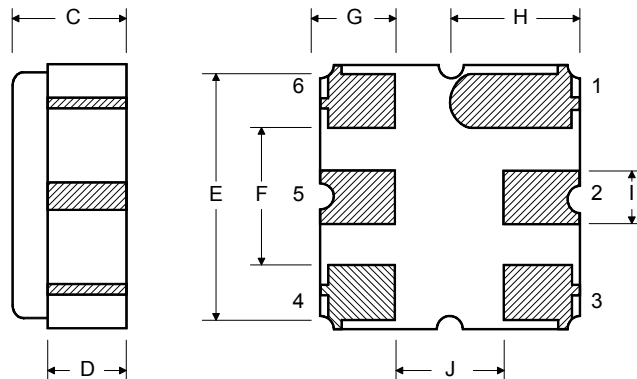
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic

### TOP VIEW

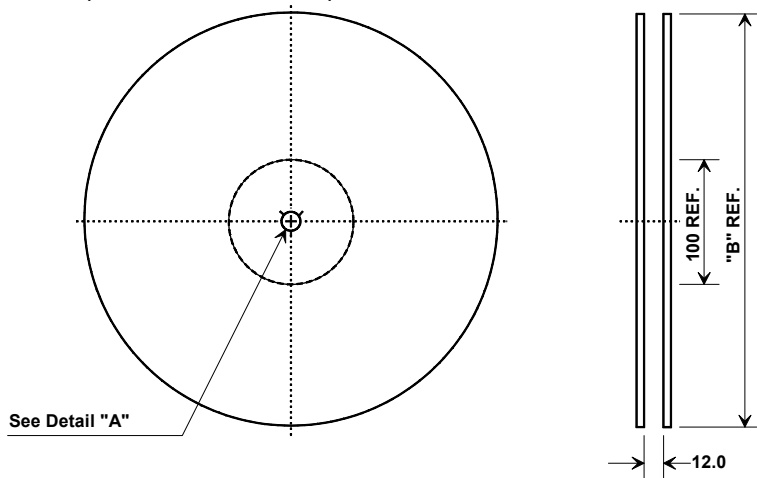


### BOTTOM VIEW

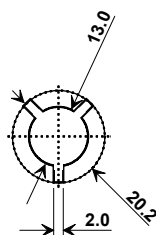


## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

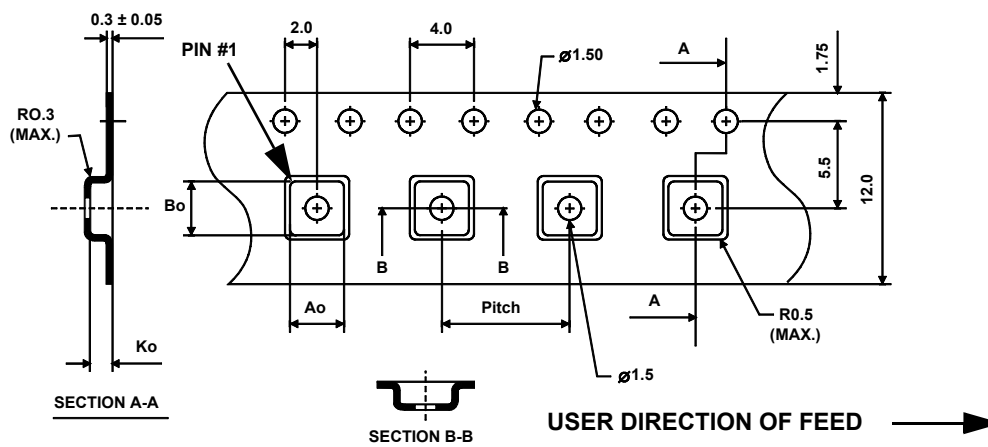


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



### 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



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

