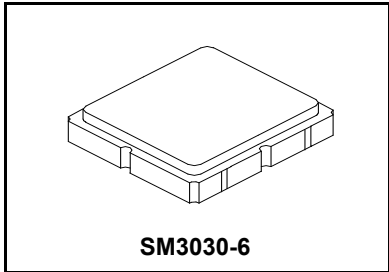


**SF2002E**

**942.5 MHz  
SAW Filter**



- RF Filter for EGSM
- Low-loss Design
- No Matching Circuit Required
- 3.0 x 3.0 x 1.3 mm Package
- Complies with Directive 2002/95/EC (RoHS)



**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Input Power	+15	dBm
DC Voltage on any Non-ground Terminal	-5 to +5	VDC
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-30 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 Cycles/10 seconds Maximum	265	°C

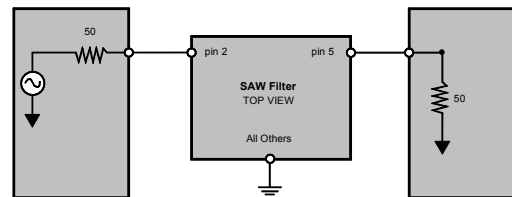
**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Operating Frequency	$f_c$			942.5		MHz
Passband Insertion Loss, 925 to 960 MHz	IL			2.2	3.0	dB
Amplitude Ripple, 925 to 960 MHz				0.8	1.5	dB <sub>P-P</sub>
Attenuation Referenced to 0 dB:						
DC to 905 MHz			17.0	20.5		dB
905 to 915 MHz			5.0	15.0		dB
980 to 1000 MHz			13.0	30.0		dB
1000 to 2000 MHz			20.0	23.0		dB
VSWR, 925 to 960 MHz			2.2		2.7	dB
Source Impedance		1		50		$\Omega$
Load Impedance		1		50		$\Omega$

Case Style	SM3030-6 3 x 3 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week, D=day)	597 <u>YWWS</u>

**Electrical Connections**

Connection	Terminals
Input	2
Output	5
Ground	All others



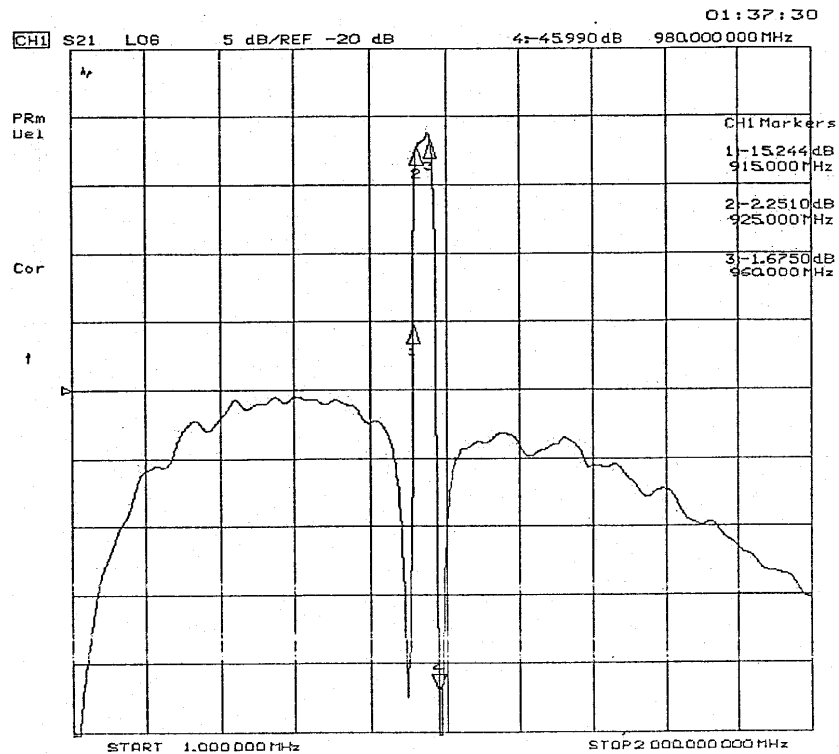
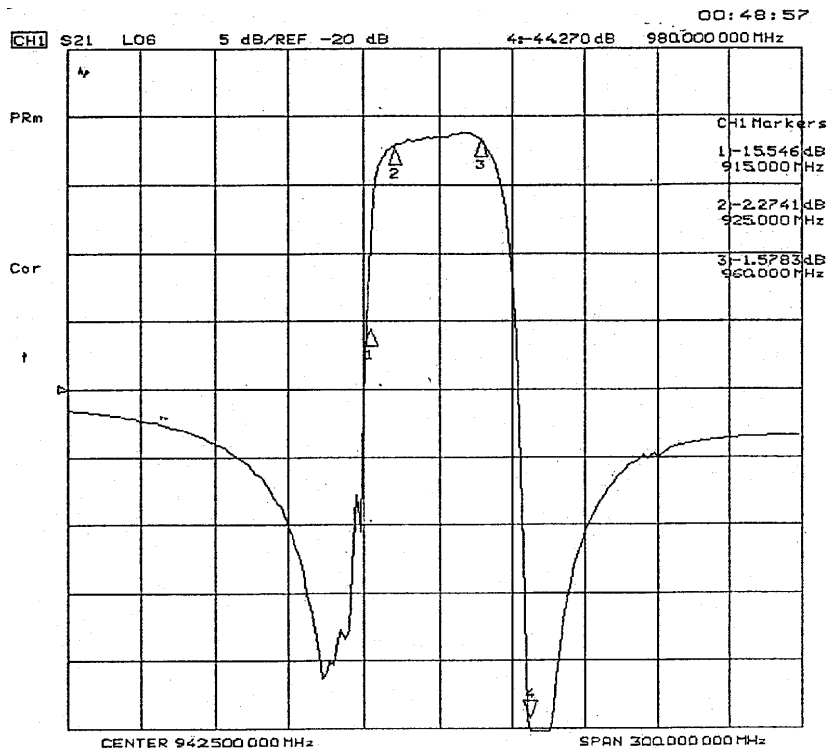
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

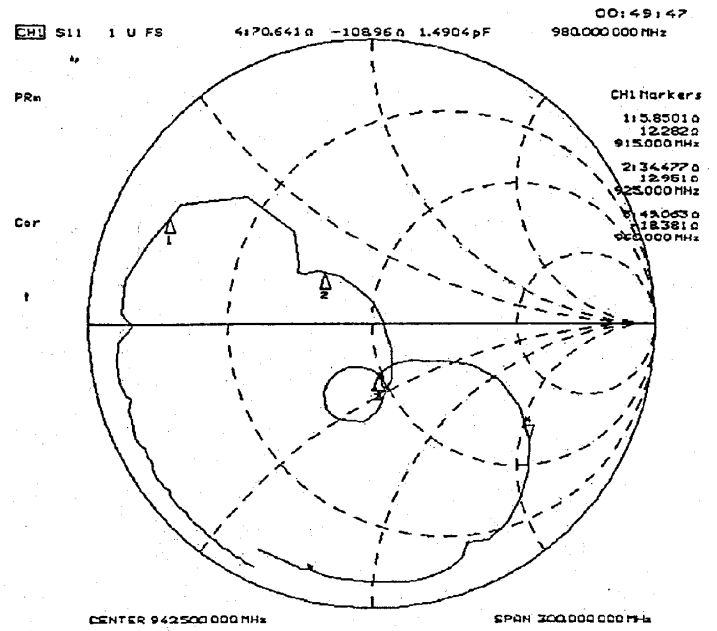
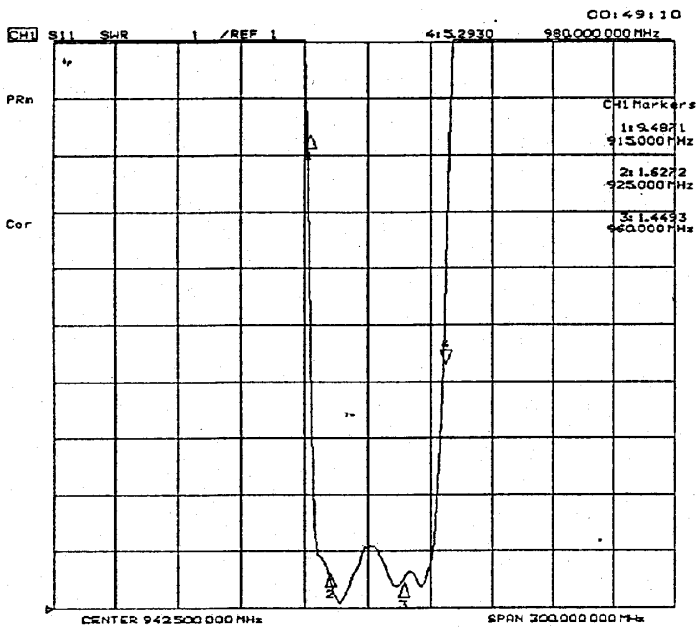
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced 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"
5. and "ENG" or "E" indicates "engineering prototypes." 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.

**FREQUENCY CHARACTERISTICS:**

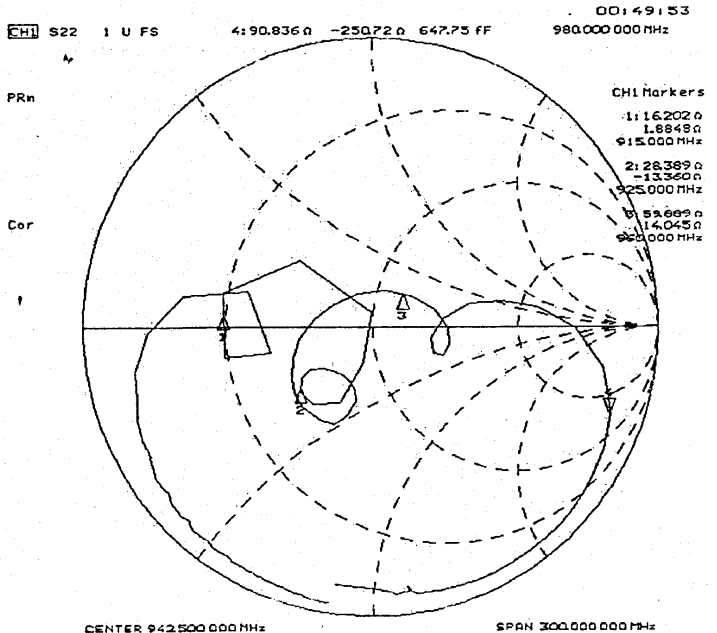
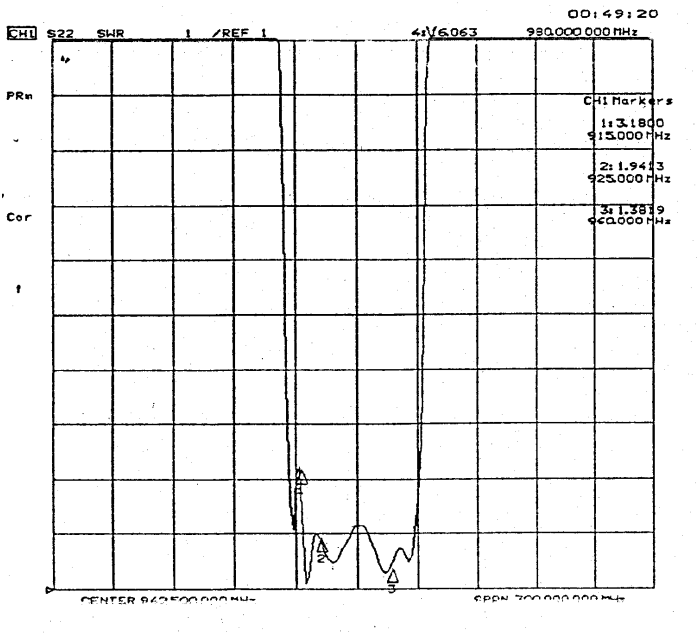
**1. wideband response:**



**S11 Return Loss & VSWR:**

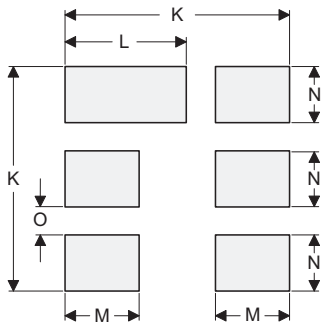


**S22 Return Loss & VSWR:**



# SM3030-6 Case

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



PCB Footprint Top View

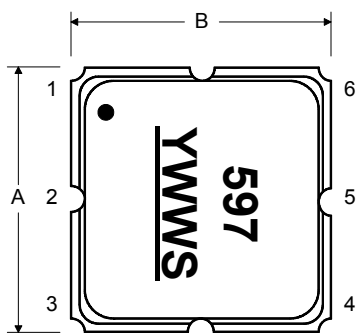
### Case and PCB Footprint Dimensions

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	

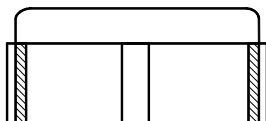
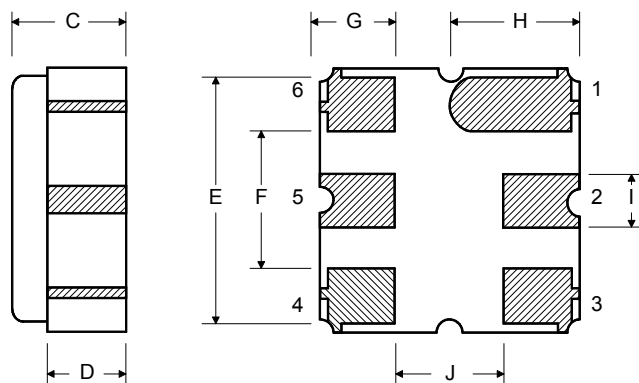
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

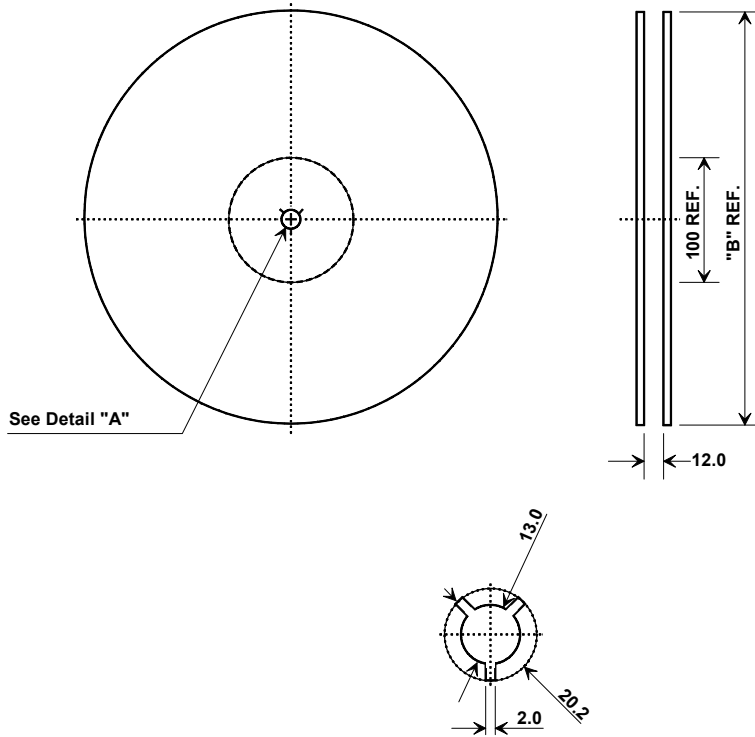
### TOP VIEW



### BOTTOM VIEW

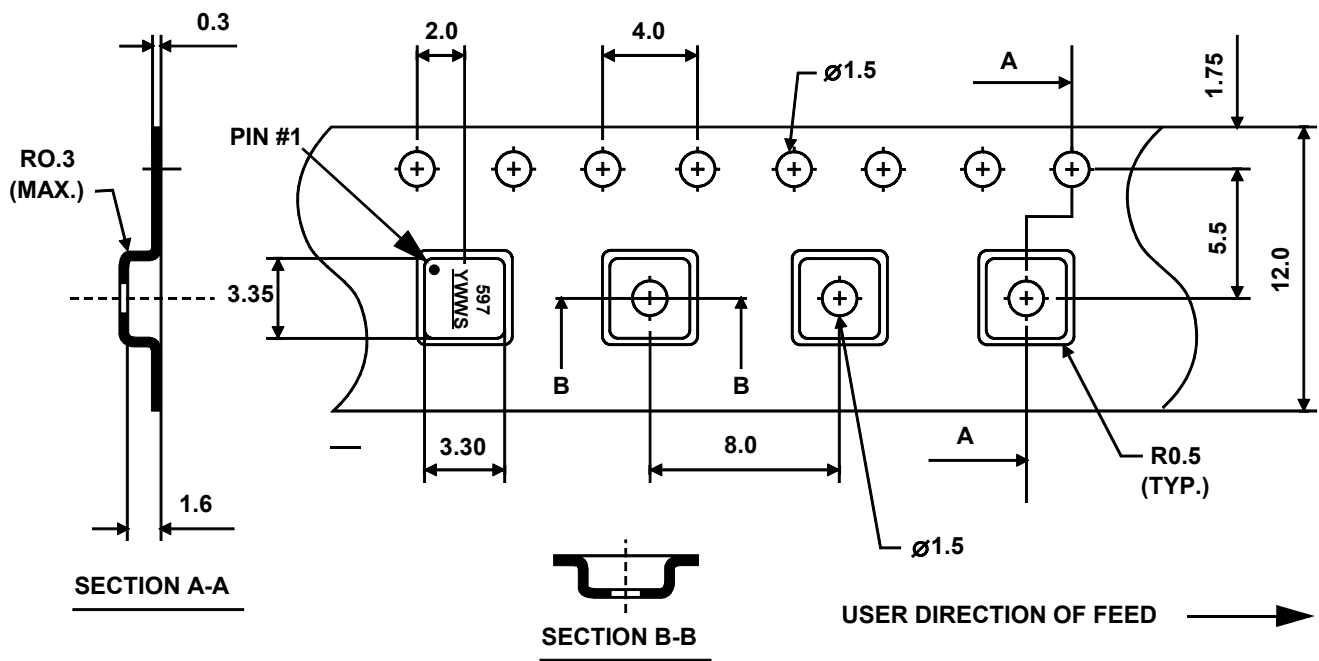


## Tape and Reel Specifications



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

### COMPONENT ORIENTATION



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