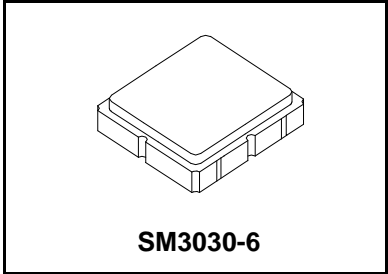


- **RF Filter for EGSM**
- **Low Loss Design**
- **No Matching Circuit Required**
- **3.0 x 3.0 x 1.3 mm Package**
- **Complies with Directive 2002/95/EC (RoHS)**



**SF2002E**

**942.5 MHz  
SAW Filter**



**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Input Power	+15	dBm
DC voltage between Terminals	-5 ~ +5	VDC
Operating Temperature	-30 to +85	°C

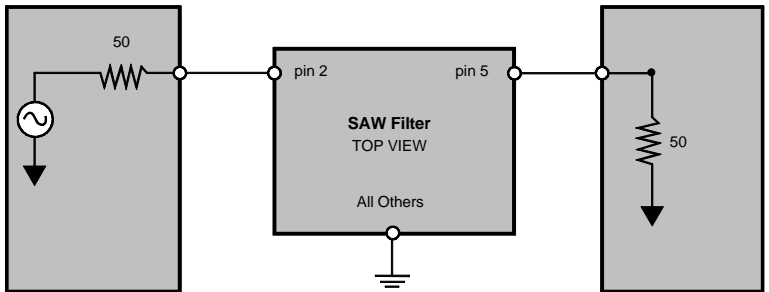
**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units	
Nominal Operating Frequency	$f_c$			947.5		MHz	
Passband	Insertion Loss (925~960 MHz)	IL		2.2	3.0	dB	
			Amplitude Ripple (925~960 MHz)		0.8	1.5	dB
Attenuation	D.C.~905 MHz		17.0	20.5		dB	
			905~915 MHz	5.0	15.0		dB
			980~1000 MHz	13.0	30.0		dB
			1000~2000 MHz	20.0	23.0		dB
VSWR (925~960 MHz)			2.2		2.7	dB	
Input $Z_{IN}$		1		50		$\Omega$	
Output $Z_{OUT}$		1		50		$\Omega$	

Case Style	SM3030-6 3 x 3 mm Nominal Footprint
Lid Symbolization (YY=year, WW=week, D=day)	597 YYWWD

**Electrical Connections**

Connection	Terminals
Input	2
Output	5
Ground	All others



**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" 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. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
9. ©Copyright 1999, RF Monolithics Inc.
10. Electrostatic Sensitive Device. Observe precautions for handling.



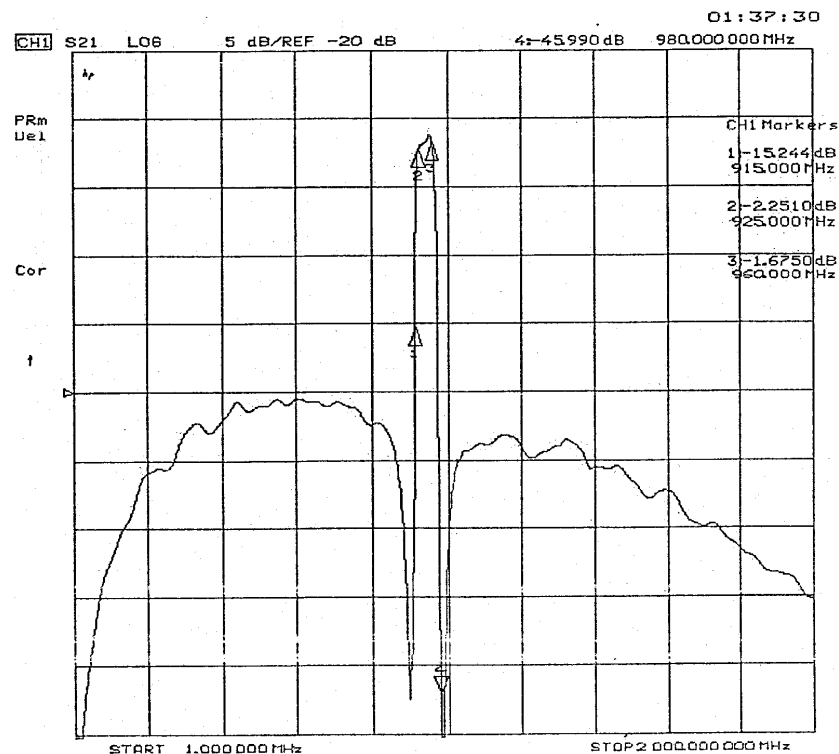
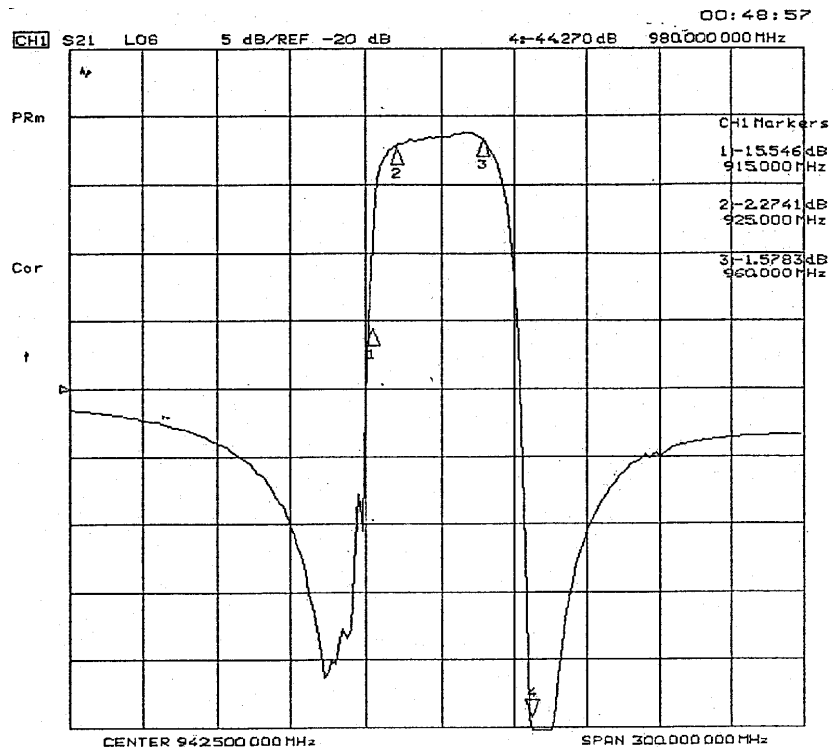
# 942.5 MHz

# SAW Filter

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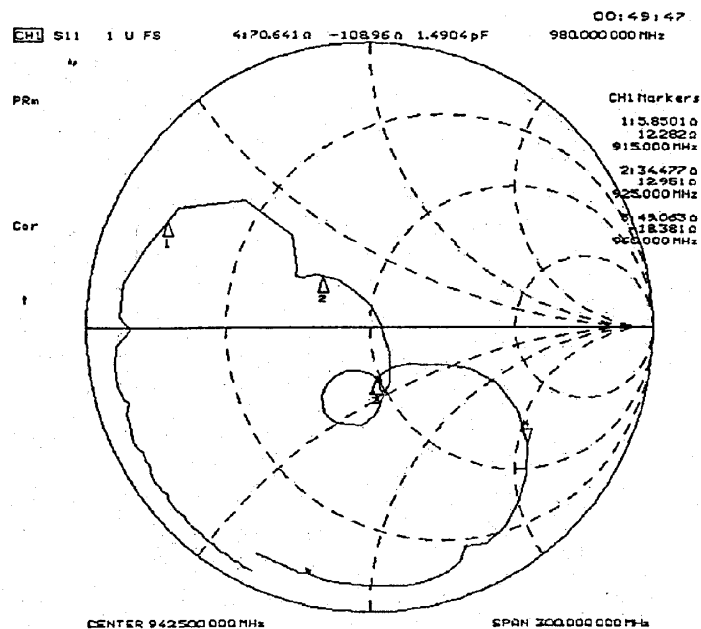
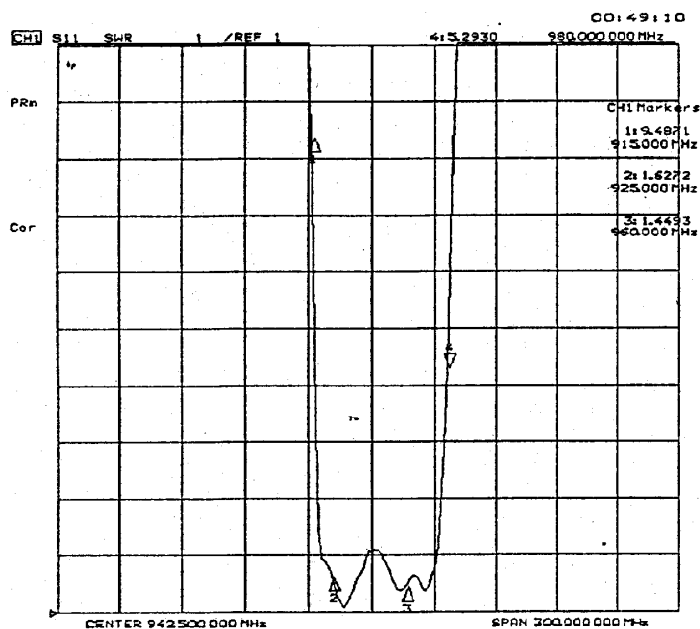
## FREQUENCY CHARACTERISTICS:

### 1. wideband response:

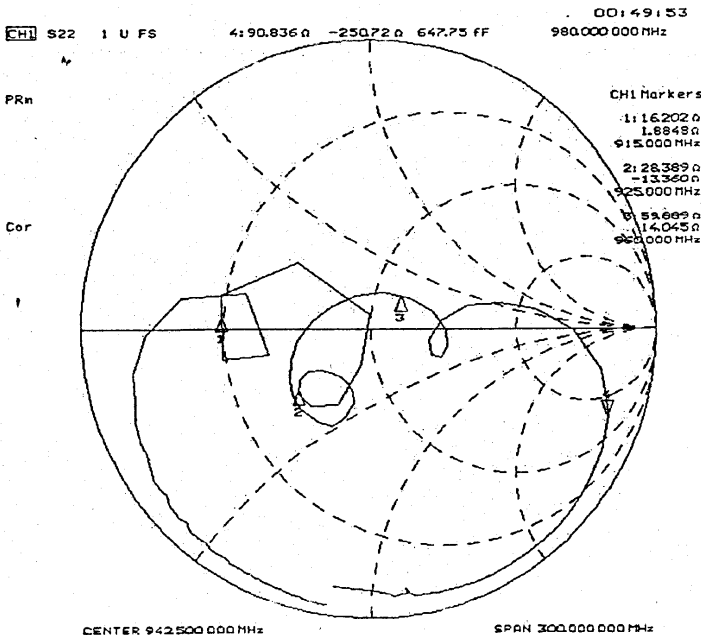
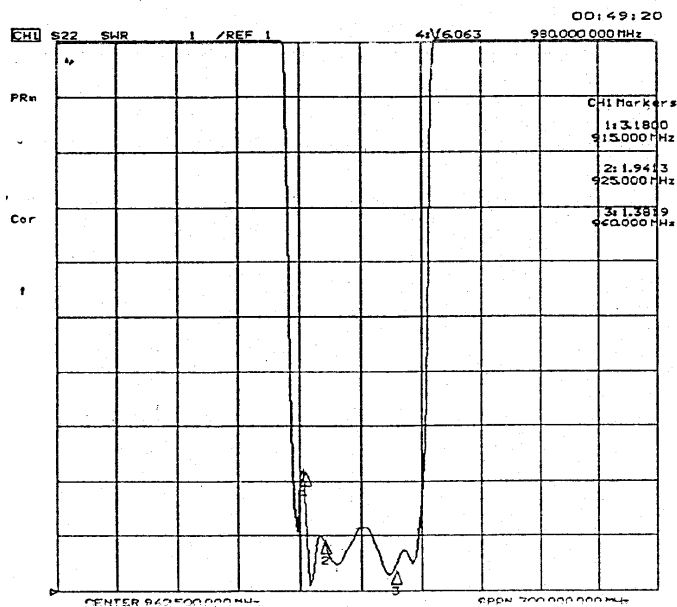


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## S11 Return Loss & VSWR:



## S22 Return Loss & VSWR:

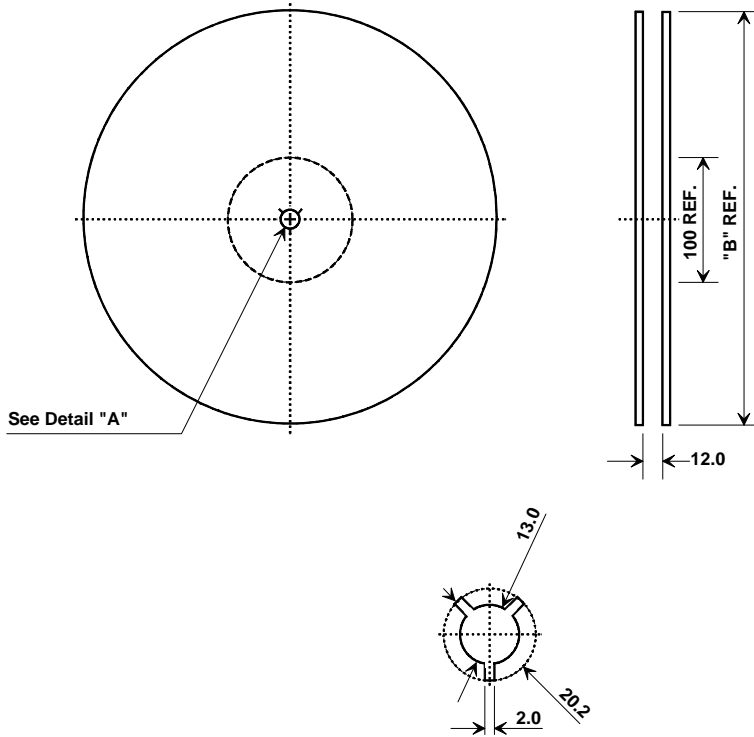


# 942.5 MHz

# SAW Filter

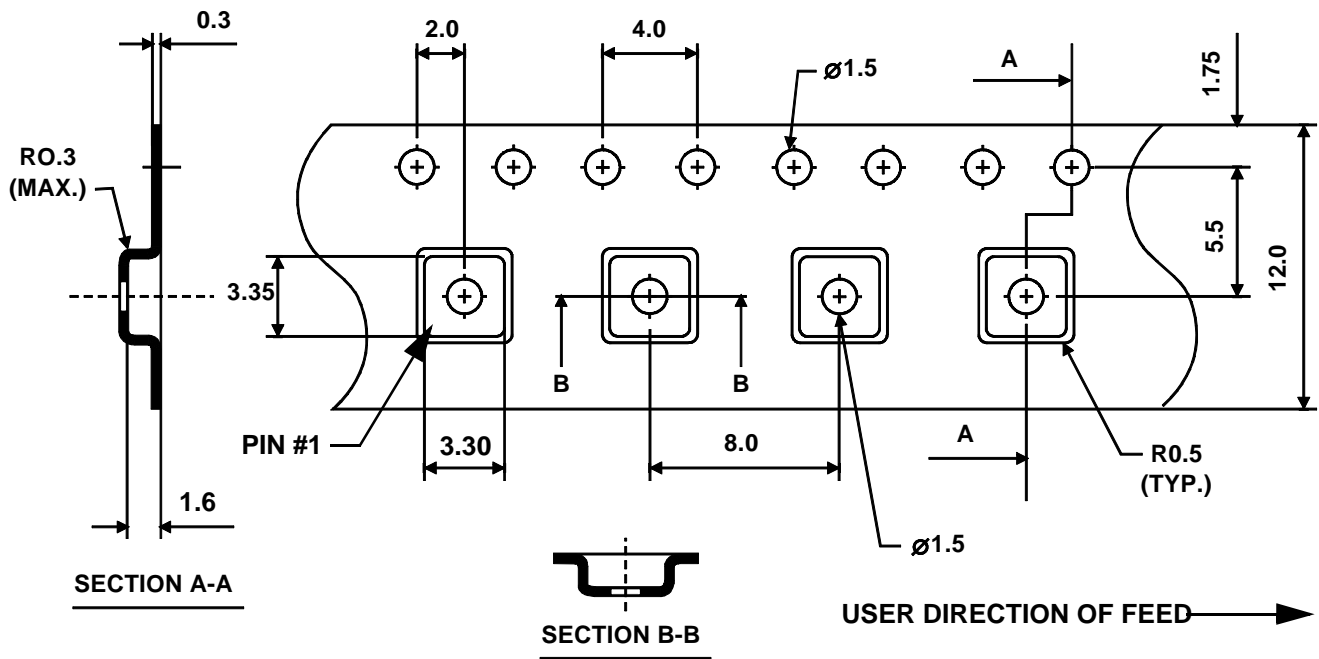
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## Tape and Reel Specifications



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

### COMPONENT ORIENTATION



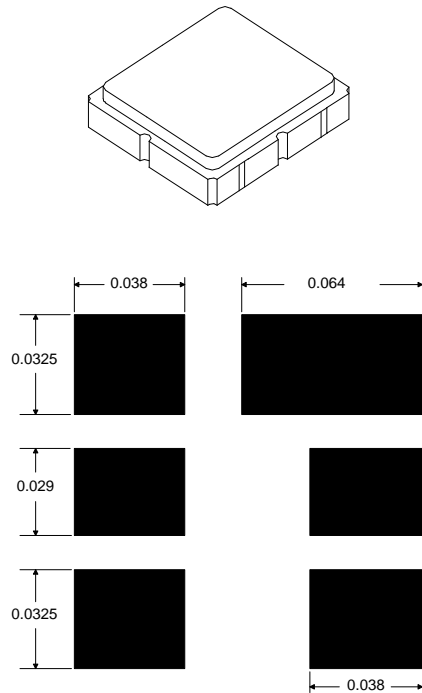
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# SM3030-6 Case

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

### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.9	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.6	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.5	1.63	0.054	0.059	0.064
I	0.47	0.6	0.73	0.019	0.024	0.029
J	1.17	1.3	1.43	0.046	0.051	0.056



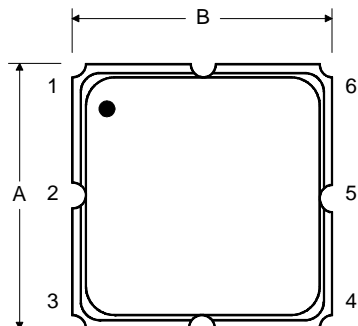
PCB Foot Print Dimensions  
in Nominal Inches

### Electrical Connections

Connection	Terminals	
Port 1	Single Ended Input	2
Port 2	Single Ended Output	5
	Ground	All others
<b>Single Ended Operation Only</b>		
Dot indicates Pin 1		

Materials	
Solder Pad Termination	Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches Thick
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

TOP VIEW



BOTTOM VIEW

