

- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**

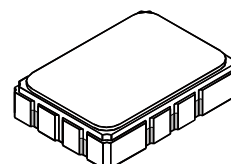


#### Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Max. DC voltage between any 2 terminals	0	VDC
Storage Temperature Range	-60 to +95	°C
Suitable for lead-free soldering - Max Soldering Temperature	260°C for 30 s	

**SF2026B**

**114.815 MHz  
SAW Filter**



**SMP-03**

#### Electrical Characteristics

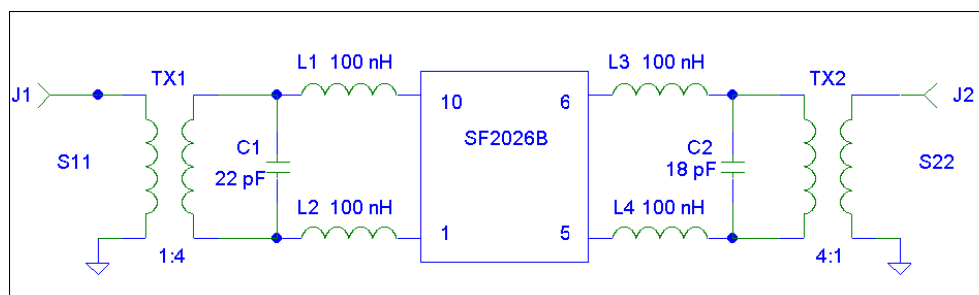
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency of IF SAW Filter (RF LO $\pm 50$ ppm correction to 1st IF)	$f_c$	1	114.815			MHz
Insertion Loss	IL			12.5	15	dB
Amplitude Ripple (p-p) between 111.7594.....113.4107 MHz (BW=1.64 MHz $\pm 50$ ppm)					1.3	dB
Amplitude Ripple (p-p) between 113.5993.....115.2508 MHz (BW=1.64 MHz $\pm 50$ ppm)					1.3	
Amplitude Ripple (p-p) between 115.3492.....117.8709 MHz (BW=1.64 MHz $\pm 50$ ppm)					1.3	
Pass Bandwidth of -1.5 dB				6.30		MHz
Pass Bandwidth of -3 dB				7.24		
Low side attenuation 80 MHz...102.815 MHz (Fc -12 MHz)			38	40		dB
Low side attenuation 102.815 MHz...107.690 MHz (Fc -7.125 MHz)			36	38		
Low side attenuation 107.690 MHz...109.690 MHz (Fc -5.125 MHz)			28	30		
High side attenuation 121.260 (Fc +6.445 MHz)...123.860 MHz (Fc +9.045 MHz)			25	27		
High side attenuation 123.860 MHz...126.815 MHz (Fc +12.00 MHz)			36	38		
High side attenuation 126.815 MHz...150.815 MHz (Fc +36.00 MHz)			38	40		
Group Delay Ripple (p-p) between 111.7594.....113.4107 MHz (BW=1.64 MHz $\pm 50$ ppm)					80	ns
Group Delay Ripple (p-p) between 113.5993.....115.2508 MHz (BW=1.64 MHz $\pm 50$ ppm)					80	ns
Group Delay Ripple (p-p) between 115.3492.....117.8709 MHz (BW=2.510 MHz $\pm 50$ ppm)					100	ns
Operating Temperature Range	$T_A$	1	-40		+85	°C
Case Style		6	SMP-03 7 x 5 mm Nominal Footprint			
Lid Symbolization (YY=year, WW=week, S=shift) See note 4			RFM SF2026B YYWWWS			

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

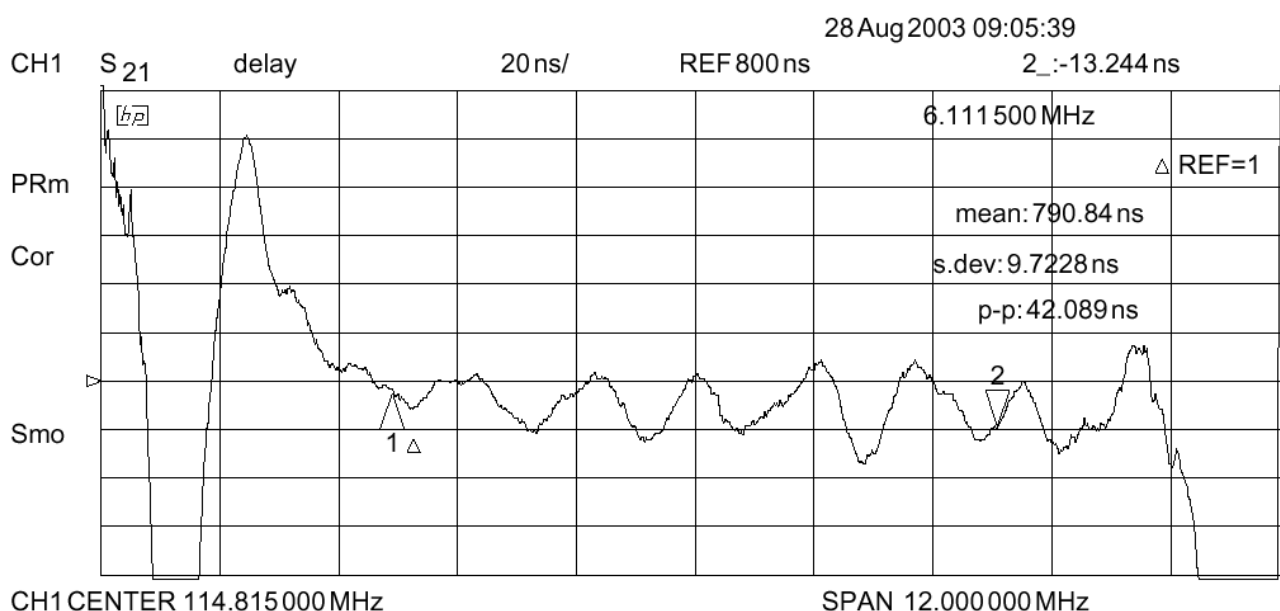
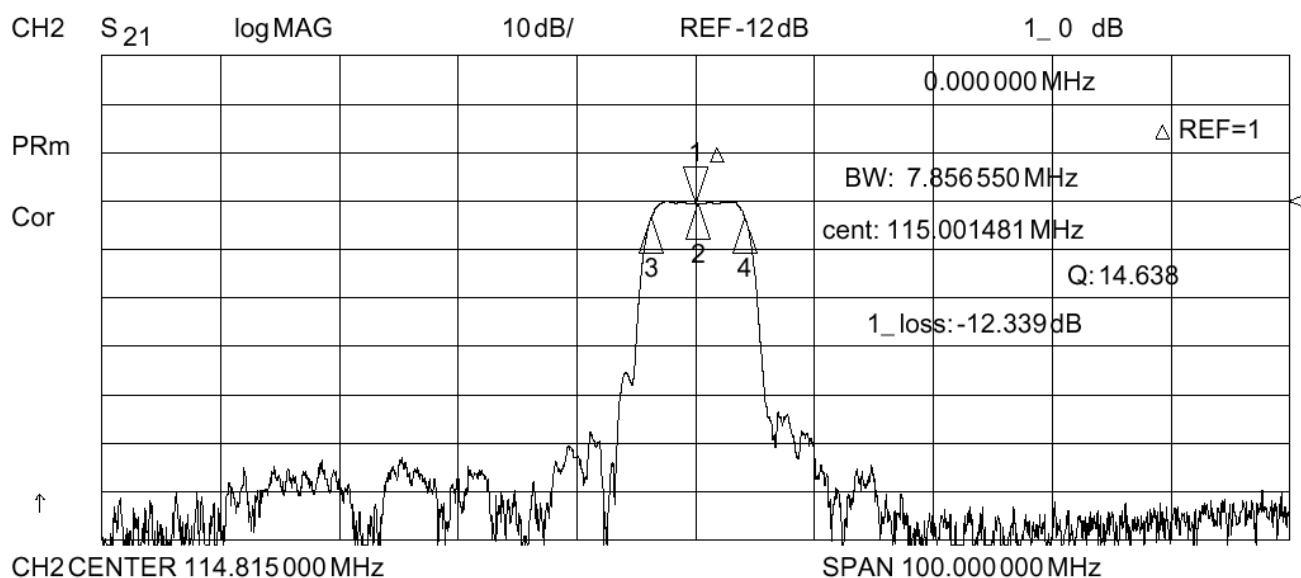
#### NOTES:

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" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Tape and Reel Standard Per ANSI / EIA 481.
7. 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.
8. US and international patents may apply.
9. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

J = 50 Ohms



J = 50 Ohms

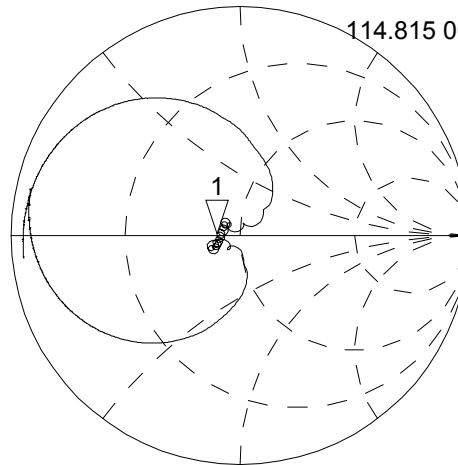


28 Aug 2003 09:06:31  
 CH1 S<sub>11</sub> 1 U FS 1\_ 40.76 Ω 0.5801 Ω 804.09 pH  
 [72] 114.815 000 MHz

PRm

Cor

↑

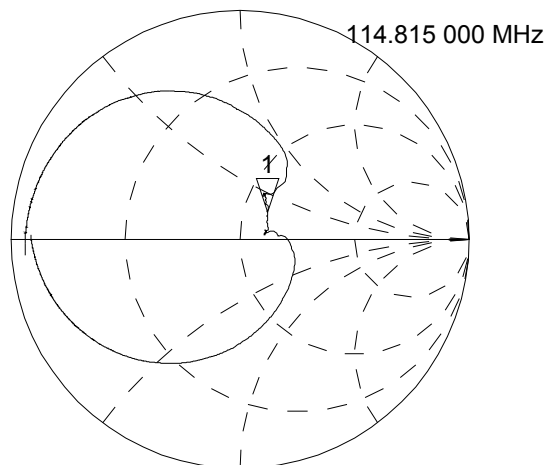


CH2 S<sub>22</sub> 1 U FS 1\_ 61.52 Ω 15.119 Ω 20.958 nH

PRm

Cor

↑



CENTER 114.815 000 MHz

SPAN 100.000 000 MHz

## SF2026B Recommended Matching

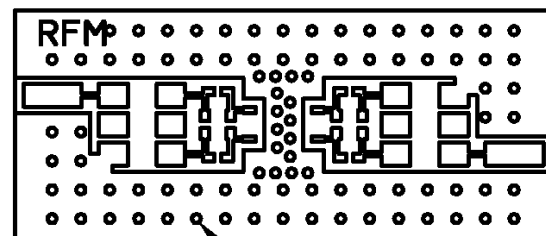
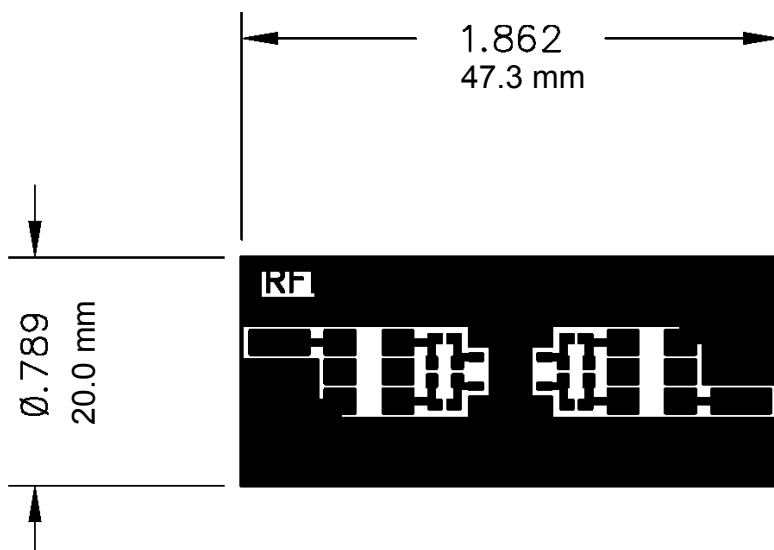
Component for 200 ohm load on Input and Output upon Differential SAW

### Inductor

Part Number	0603CSR10XJBW
Value	100nH
Size	0603
Tolerance	5%
Recommended Manufacturer	Coilcraft 0603CS-series

### Capacitor

Part Number	0603CG220J9B20	0603CG180J9B20
Value	22 pF	18 pF
Size	0603	0603
Tolerance	±5%	±5%
Recommended Manufacturer	Philips	Philips

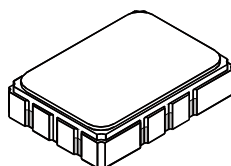


ALL HOLES PLATED THRU -  $\phi 1/32$  DRILL

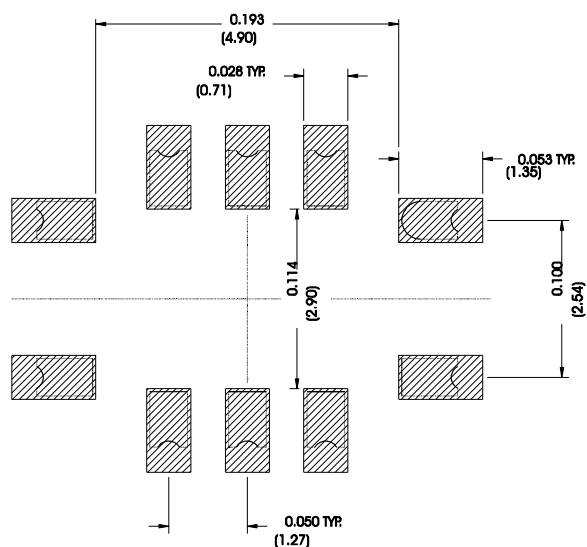
# SMP-03 Case

## 10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



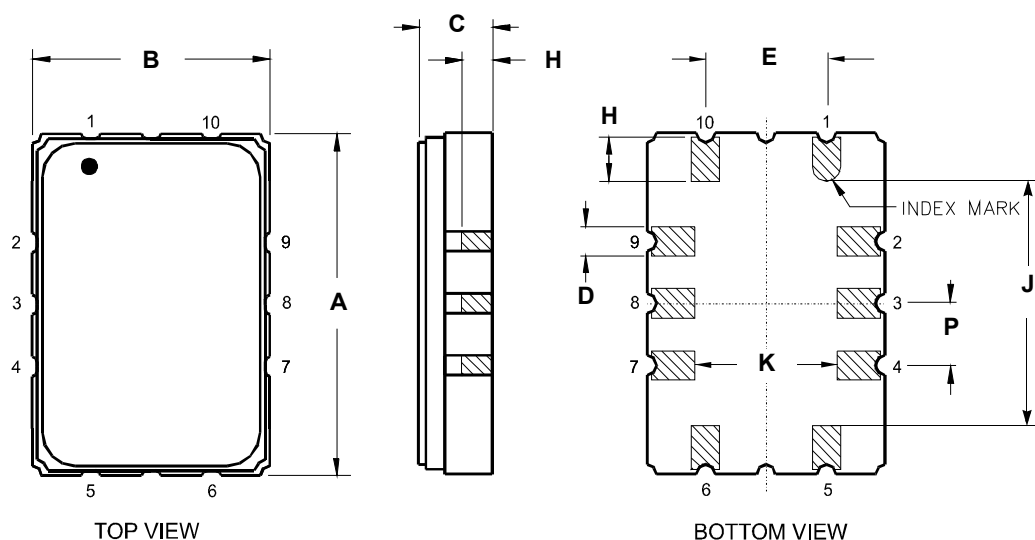
Recommended PCB Footprint



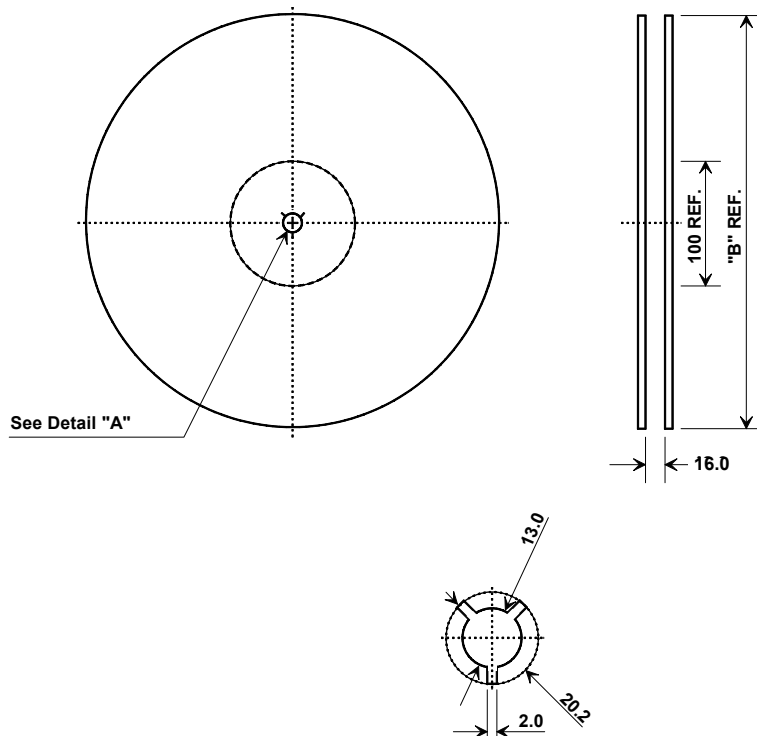
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

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	

Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single Ended Operation		Return is ground
Differential Operation		Return is hot



## Tape and Reel Specifications



"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000

### COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.5 mm
Bo	7.5 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm

