

- *Designed for TD-SCDMA Applications*
- *Low Insertion Loss*
- *5.0 x 7.0 mm Surface-mount Case*
- *Complies with Directive 2002/95/EC (RoHS)*

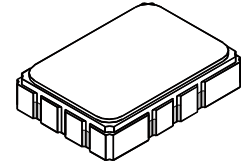


**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+15	dBm
Maximum DC Voltage Between any Two Terminals	30	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile	265 °C for 10 s	

**SF2155B**

**153.6 MHz  
SAW Filter**



**SMP-03-S**

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_C$	1	153.6			MHz
Insertion Loss at $f_C$	IL			8	10	dB
3 dB Passband	$BW_3$			20		MHz
Fast Amplitude Ripple over 20 MHz Passband		1, 2			1.2	dB <sub>P-P</sub>
Group Delay Variation over 20 MHz Passband	GDV			20	300	ns <sub>P-P</sub>
Phase Ripple over 20 MHz Passband					10	deg <sub>P-P</sub>
Rejection:						
1 to 80 MHz		1, 2, 3	50			dB
80 to 105 MHz			55			
200 to 230 MHz			50			
230 to 1000 MHz			40			
Input VSWR					3:1	
Output VSWR					3:1	
Operating Temperature Range	$T_A$	1	-40		+85	°C
Input/Output Impedance			50 ohms			
Case Style		6	SMP-03-S 7 x 5 mm Nominal Footprint			
Lid Symbolization, YY=year, WW=week, S=shift			RFM SF2155B YYWWS			

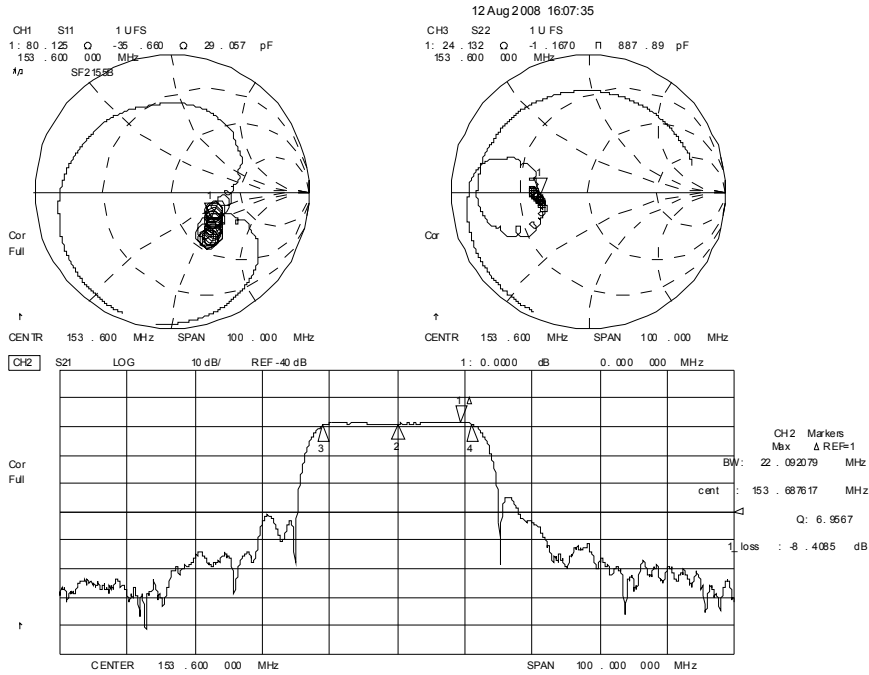


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

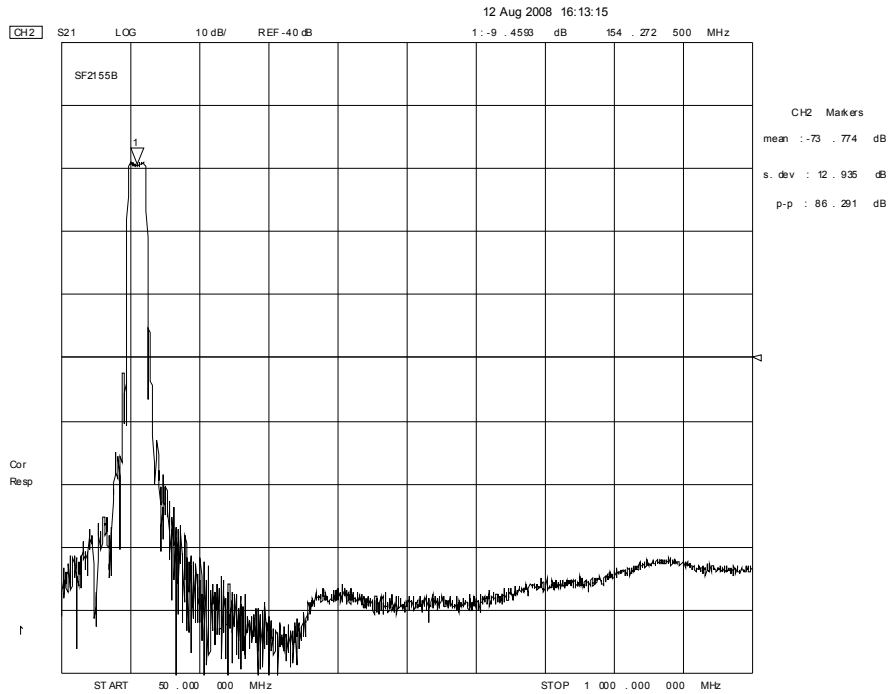
**NOTES:**

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. The design, manufacturing process, and specifications of this filter are subject to change.
4. 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.
5. US and international patents may apply.

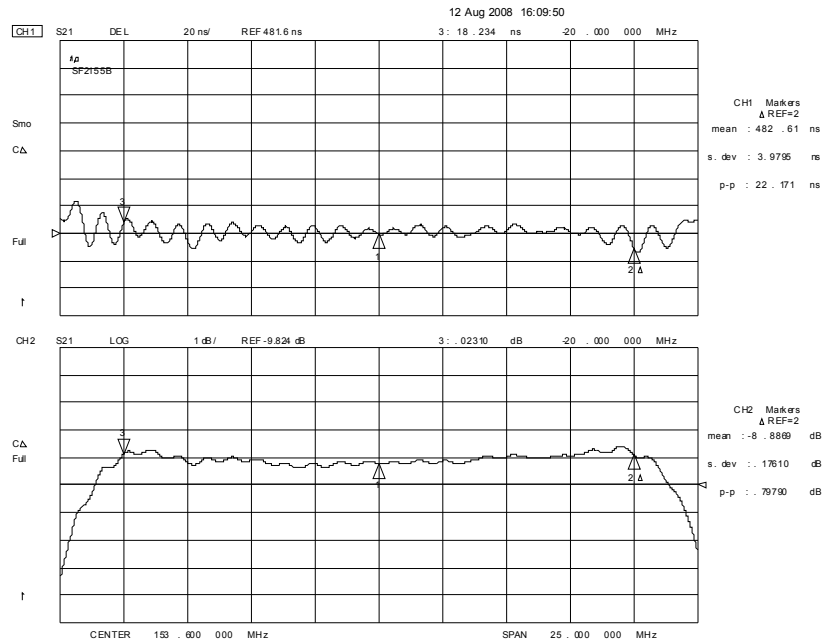
# SF2155B Input/Output Impedance Plots and Amplitude Response



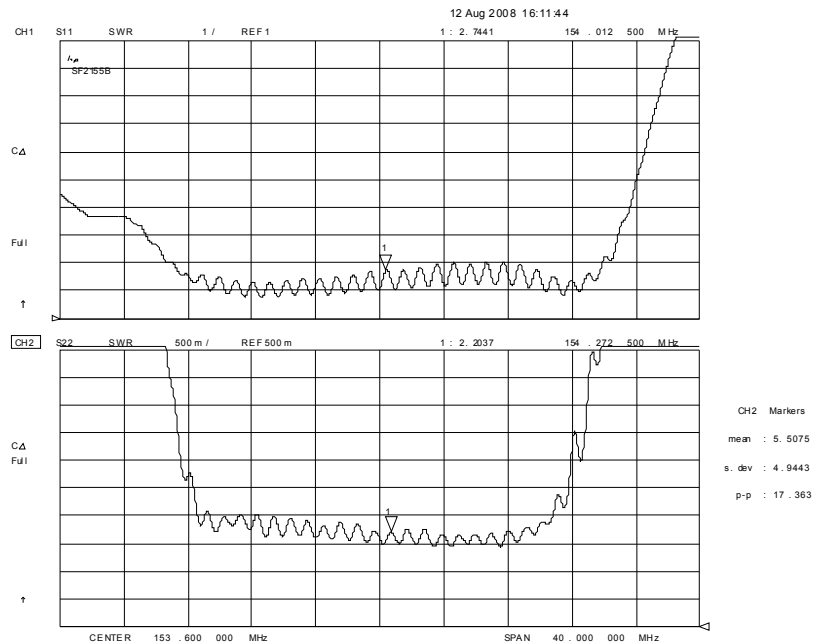
# SF2155B Broadband Amplitude Response



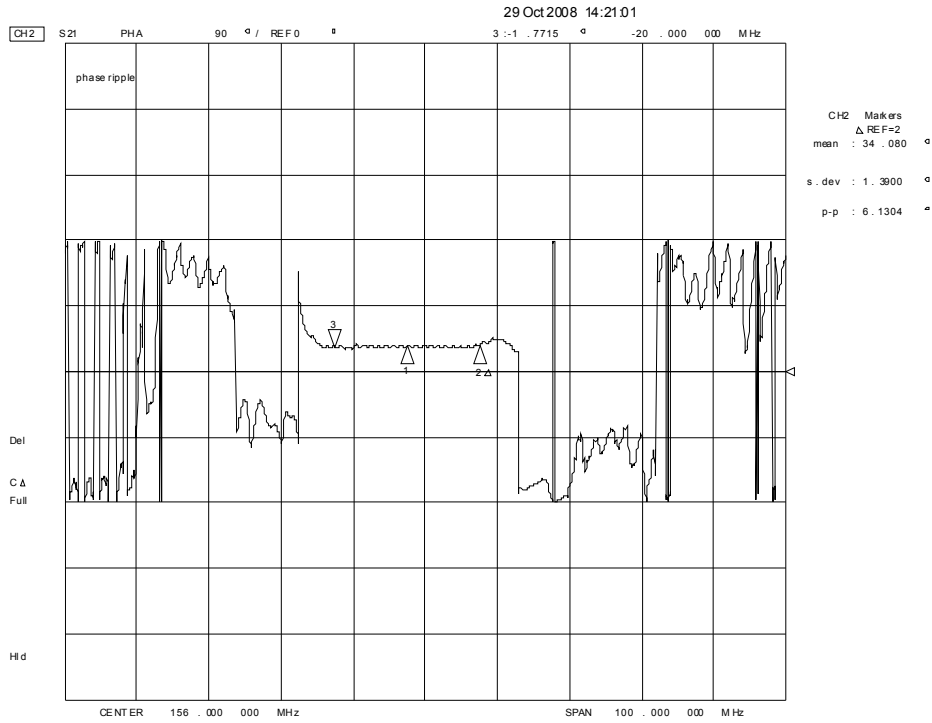
# SF2155B Passband Group Delay Deviation and Amplitude Ripple



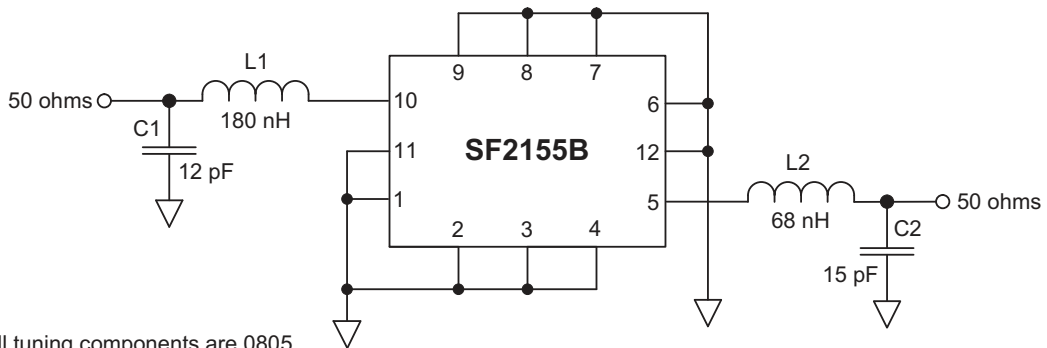
# SF2155B Input/Output VSWR



# SF2155B Passband Phase Ripple

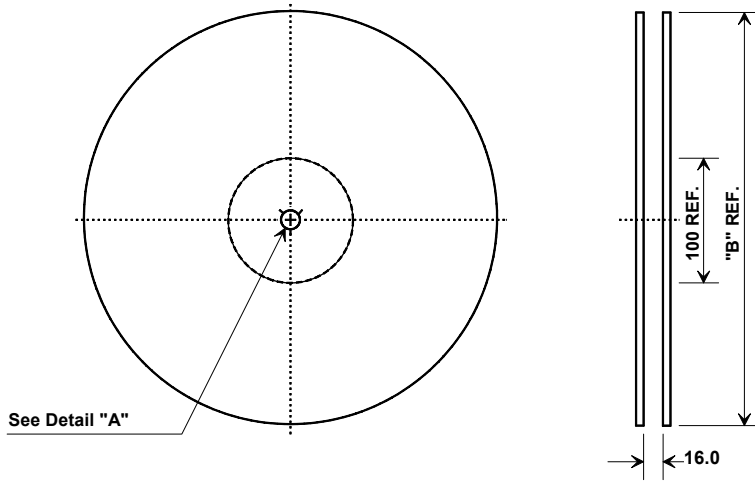


# SF2155B Test Circuit

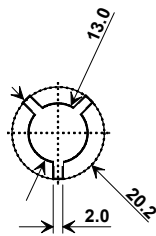


All tuning components are 0805  
 Inductors are Coilcraft

## Tape and Reel Specifications

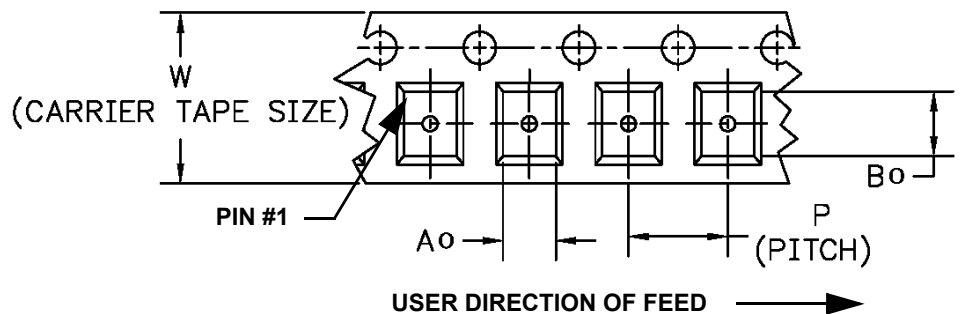
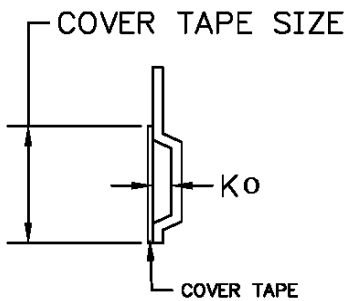


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



### COMPONENT ORIENTATION and DIMENSIONS

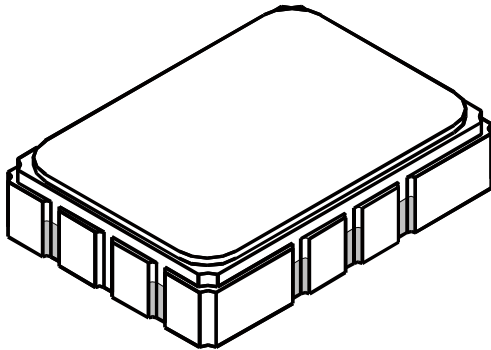
Carrier Tape Dimensions		Tolerance
Ao	5.5 mm	± 0.1mm
Bo	7.5 mm	± 0.1mm
Ko	2.0 mm	± 0.1mm
Pitch	8.0 mm	± 0.1mm
W	16.0 mm	± 0.2mm



# SMP-03-S Case

## 12-Terminal Ceramic Surface-Mount Case

### 5 x 7 mm Nominal 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		0.80				
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.1	1.13	0.034	0.039	0.044
J		2.54				
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 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	

Electrical Connections	
Input	10
Output	5
Ground	1,2,3,4,6,7,8,9,11,12

