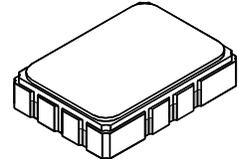


SF2148B

**138.24 MHz
SAW Filter**



SMP-03-S

- **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	+10	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	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C	1	138.24			MHz
Insertion Loss at f_C	IL				10.5	dB
1 dB Passband, 128.24 to 148.24 MHz	BW_1			20		MHz
Amplitude Ripple over 20 MHz Passband		1, 2			1	dB _{P-P}
Group Delay Ripple over 20 MHz Passband	GD_{P-P}				50	ns _{P-P}
Rejection:						
0 to 108.24 MHz		1, 2, 3	54			dBc
108.24 to 117.52 MHz			50			
122.88 MHz			45			
220.4 to 271.12 MHz			50			
271.12 to 1000 MHz			40			
1 dB Compression			12			dBm
Input IP3			35			dBm
Operating Temperature Range	T_A	1	-40		+85	°C
Input/Output Impedance	200 ohms balanced or 50 ohms unbalanced					
Case Style	SMP-03-S 7 x 5 mm Nominal Footprint					
Lid Symbolization (YY=year, WW=week, S=shift) See note 4	RFM SF2148B YYWWS					

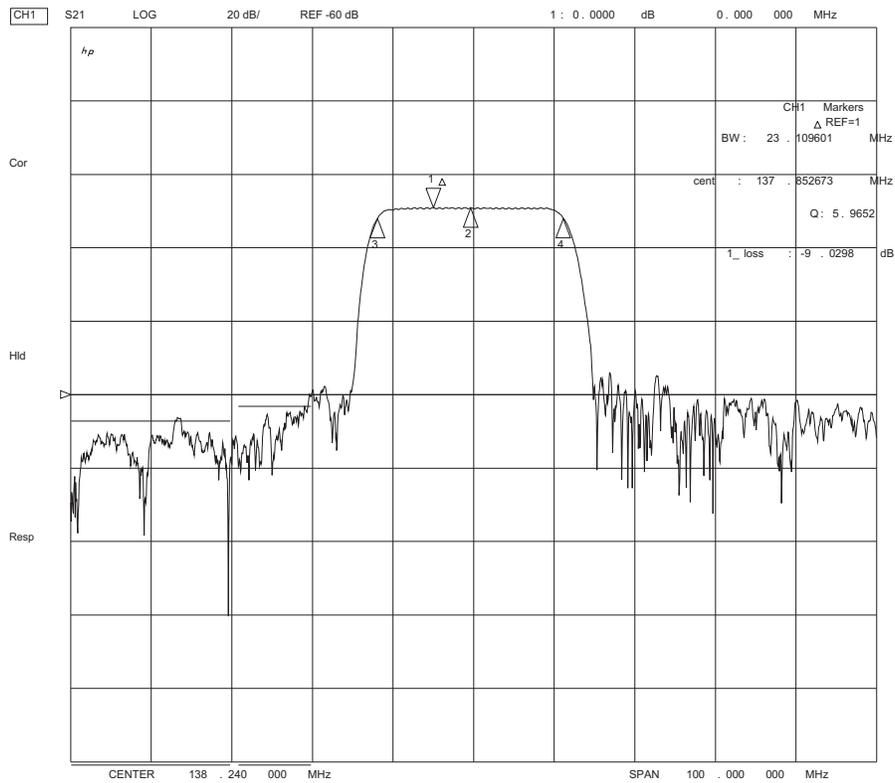


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

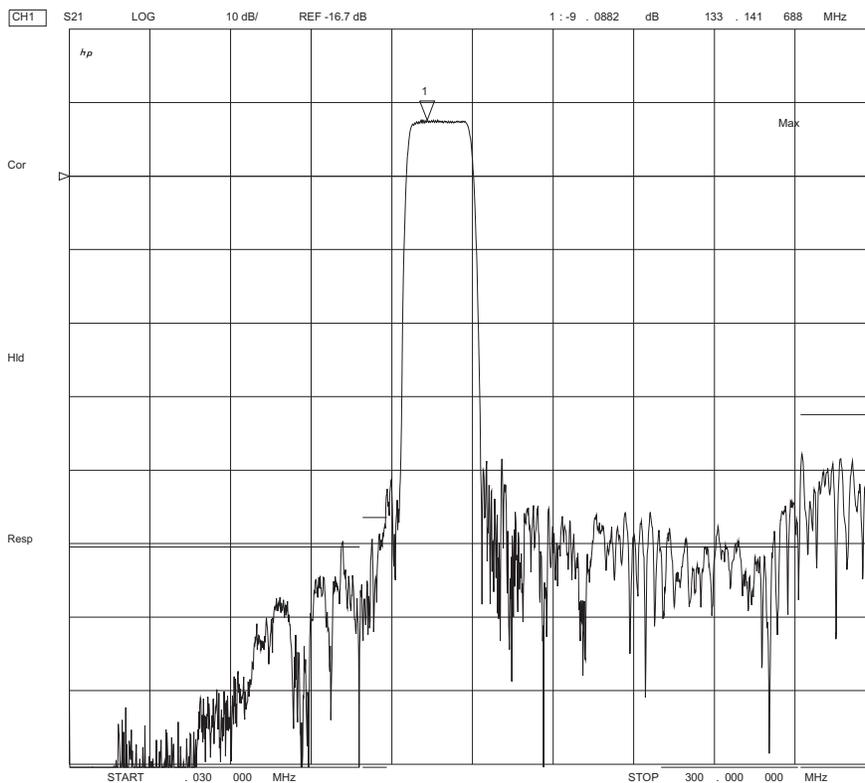
Notes:

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.

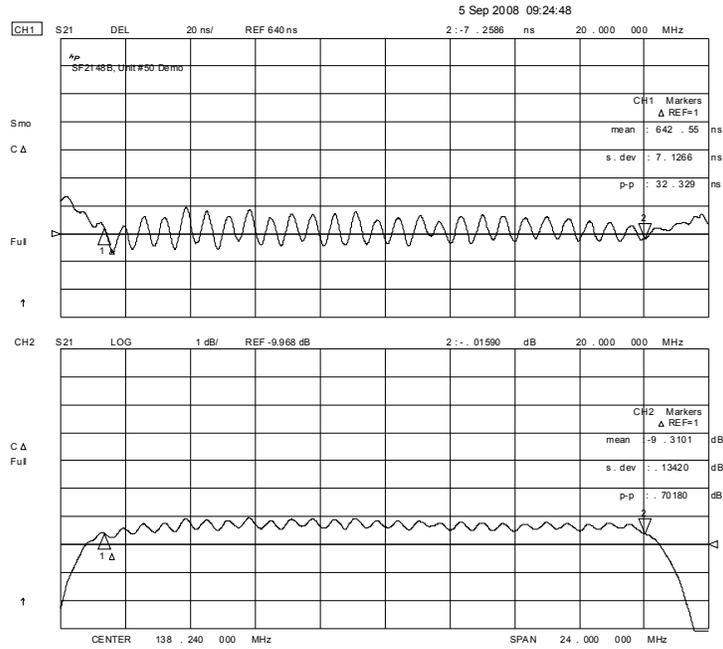
SF2148B Passband Response



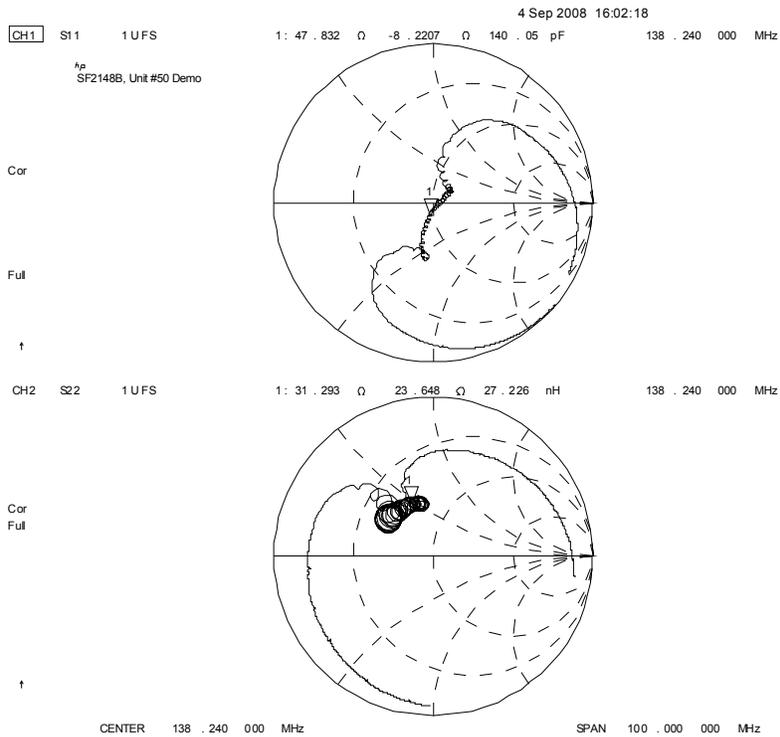
SF2148B Broadband Response



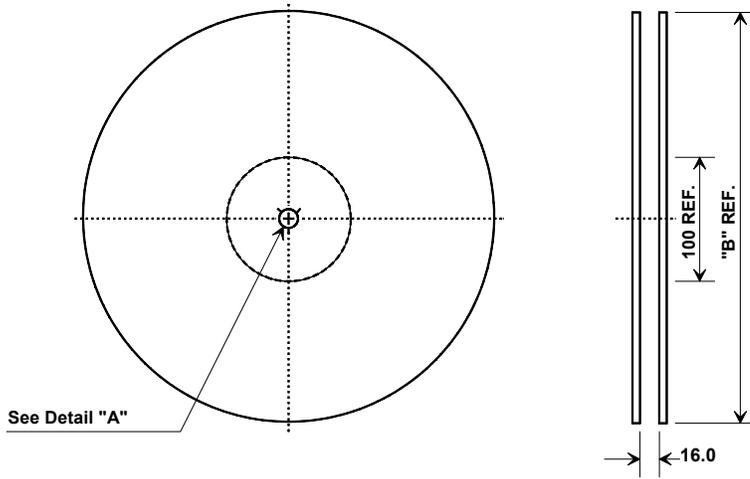
SF2148B Group Delay Deviation & Amplitude Ripple



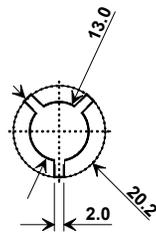
SF2148B Input/Output Impedance Plots



Tape and Reel Specifications

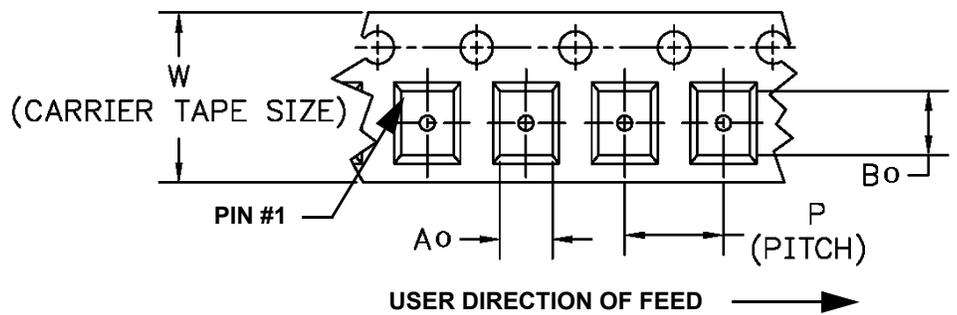
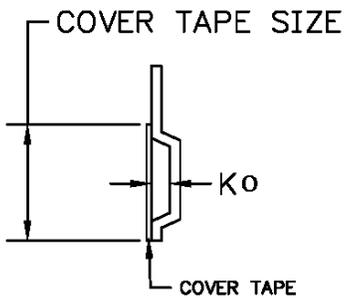


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



COMPONENT ORIENTATION and DIMENSIONS

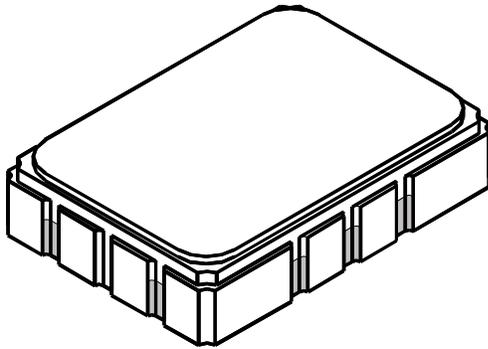
Carrier Tape Dimensions		Tolerance
Ao	5.5 mm	± 0.1mm
Bo	7.5 mm	± 0.1mm
Ko	2.0 mm	± 0.1mm
Pitch	8.0 mm	± 0.1mm
W	16.0 mm	± 0.2mm



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 μm Gold over 1.27 to 8.89 μm Nickel
Lid Plating	2.0 to 3.0 μm Nickel
Body	Al_2O_3 Ceramic
Pb Free	

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

