



Preliminary

SF1223D

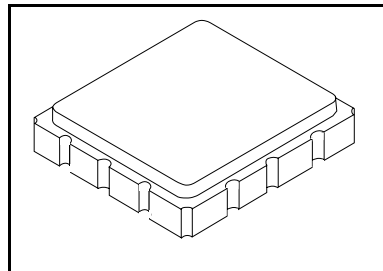
- Surface Mount 3.8 x 3.8 x 1.4 mm Package
- Complies with Directive 2002/95/EC (RoHS)



800/842 MHz SAW Duplexer

Absolute Maximum Ratings

Rating	Value	Units
CW Input Power Level, 50,000 hours, +50 °C	0.5	W
DC Voltage	0	V
Operating Temperature Range	-30 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C



Electrical Characteristics, Transmitter, 842.0 MHz

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F_C			842.0		MHz
Insertion Loss, 832.0 to 852.0 MHz	IL			2.0	3.0	dB
Amplitude Ripple, 832.0 to 852.0 MHz				0.8	1.5	dB _{P-P}
VSWR, 832.0 to 852.0 MHz				1.6:1	2.2:1	
Attenuation Referenced to 0 dB, 790.0 to 810.0 MHz			45	50		dB
Input Impedance (Antenna)	Z_S		50 (L-C Match)			Ω
Output Impedance, (TX and RX)	Z_L		50 (L-C Match)			
Case Style	SM3838-12 3.8 x 3.8 x 1.45 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	939, YWWS					
Standard Reel Quantity	Reel Size 7 Inch		1000 Pieces/Reel			
	Reel Size 13 Inch		3000 Pieces/Reel			



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

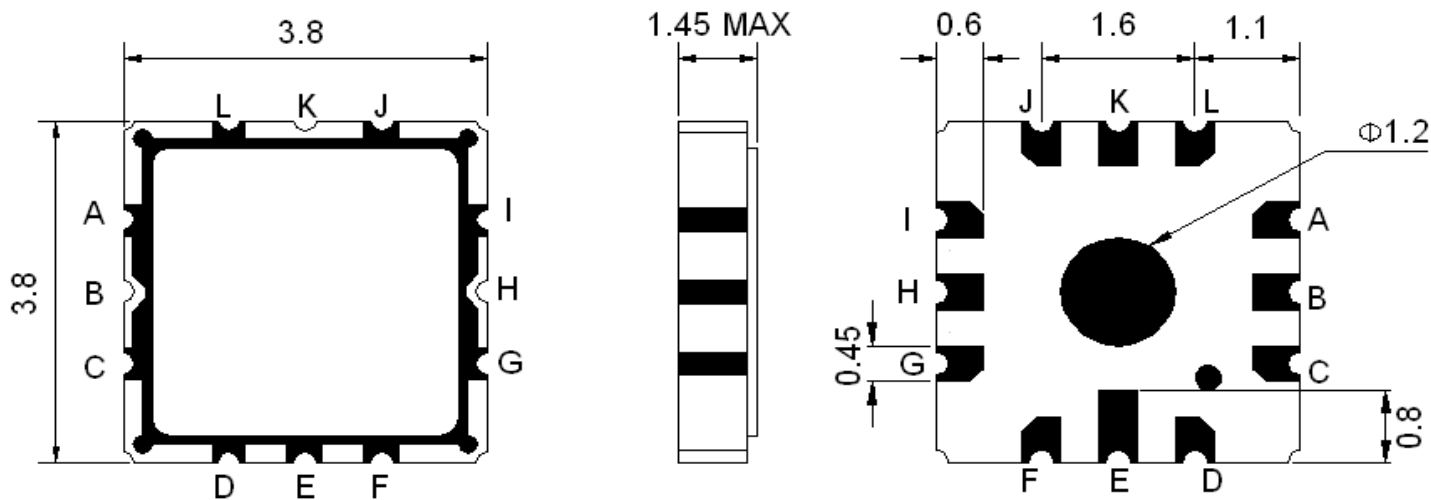
Notes:

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. 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

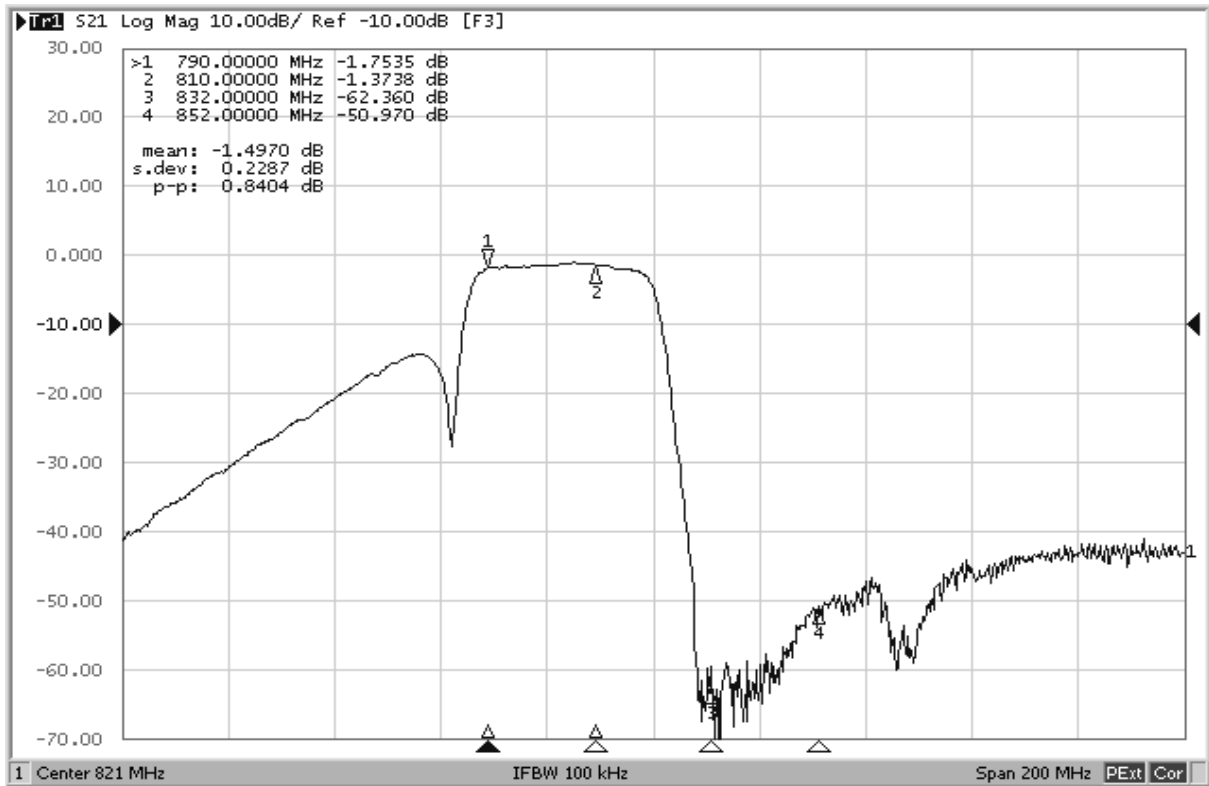
Electrical Characteristics, Receiver, 800.0 MHz

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F_C			800.0		MHz
Insertion Loss, 790.0 to 810.0 MHz	IL			1.8	2.5	dB
Amplitude Ripple, 790.0 to 810.0 MHz				0.8	1.5	dB _{P-P}
VSWR, 790.0 to 810.0 MHz				1.7:1	2.2:1	
Attenuation, 832.0 to 852.0 MHz			45	50		dB
Receiver-Transmitter Isolation:						
790.0 to 810.0 MHz			45	50		dB
832.0 to 852.0 MHz			45	50		

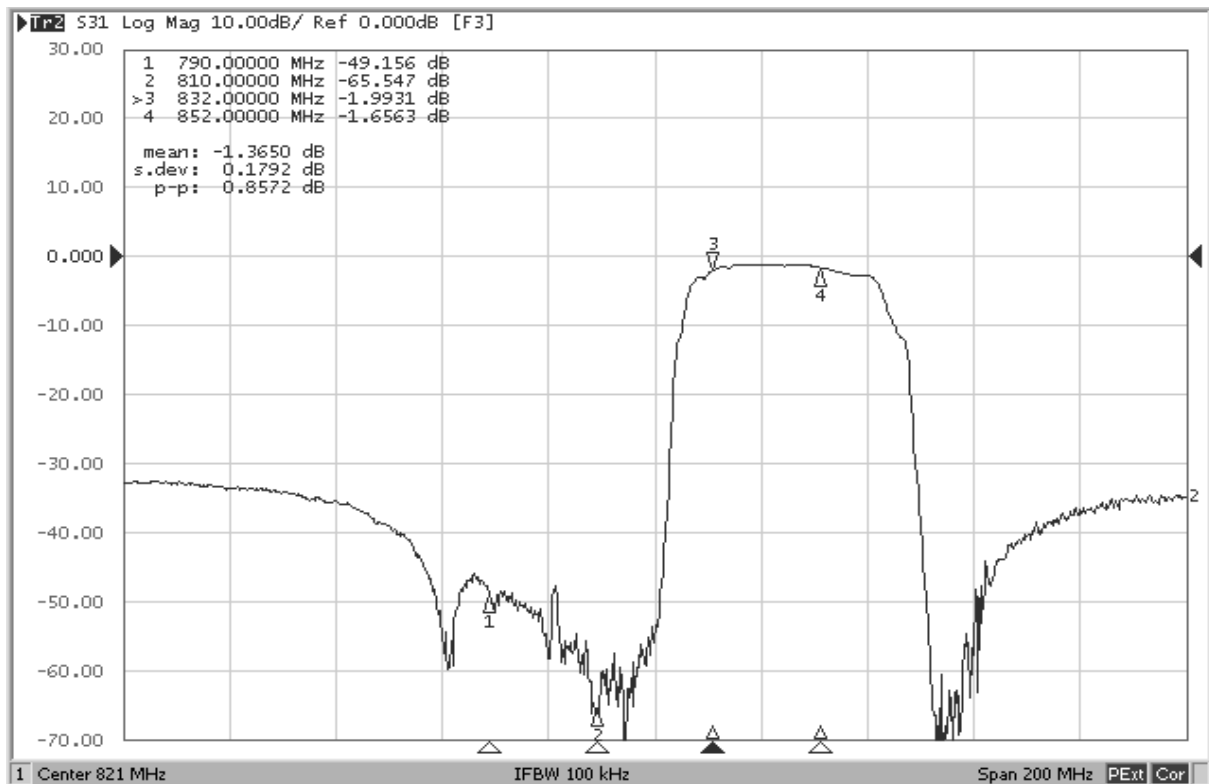
Duplexer Package



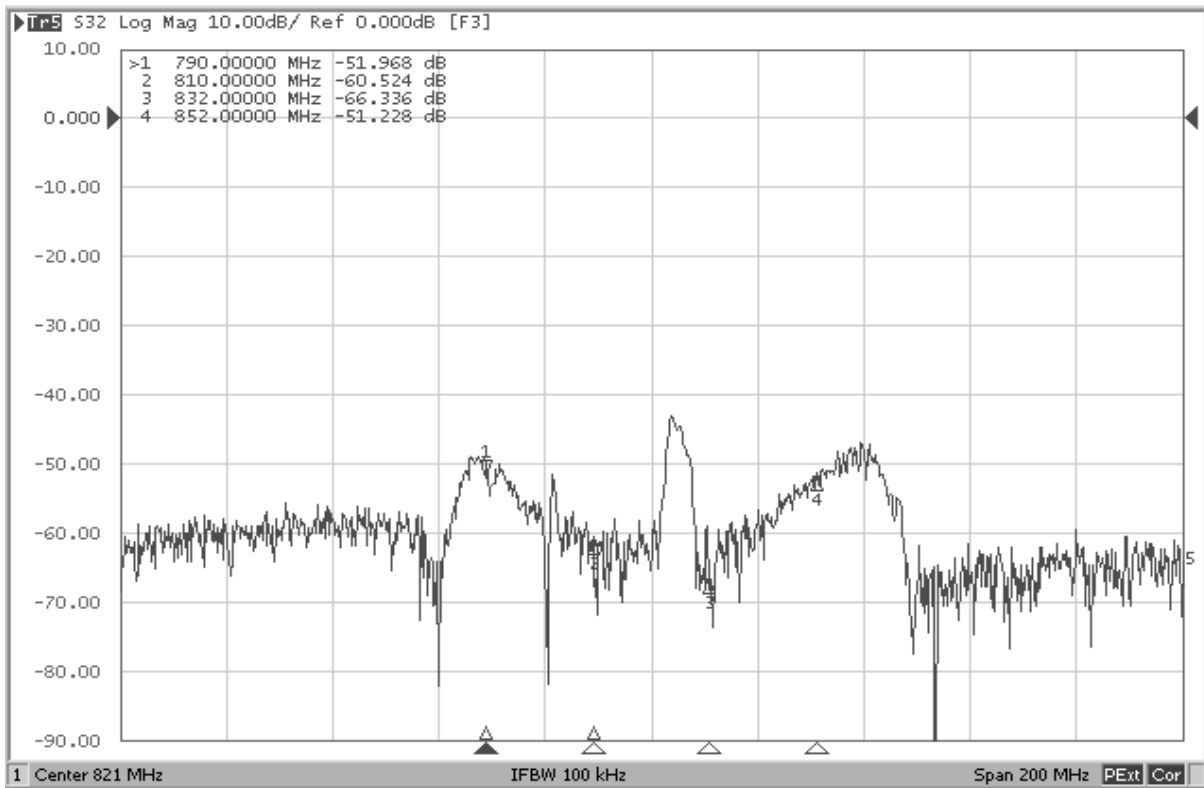
Receiver Port to Antenna Port Amplitude Response



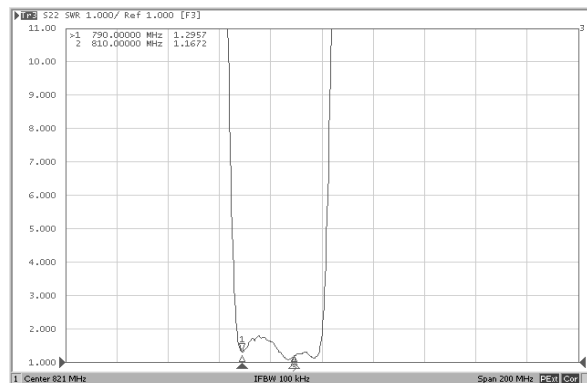
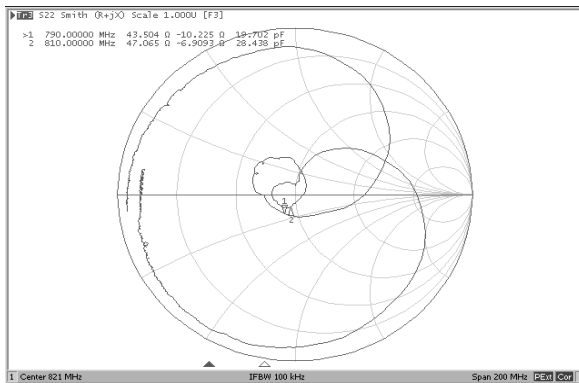
Transmitter Port to Receiver Port Amplitude Response



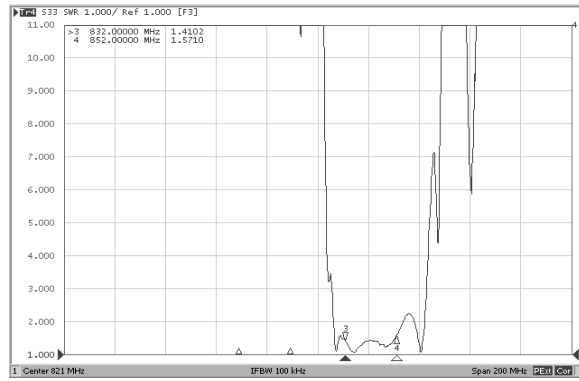
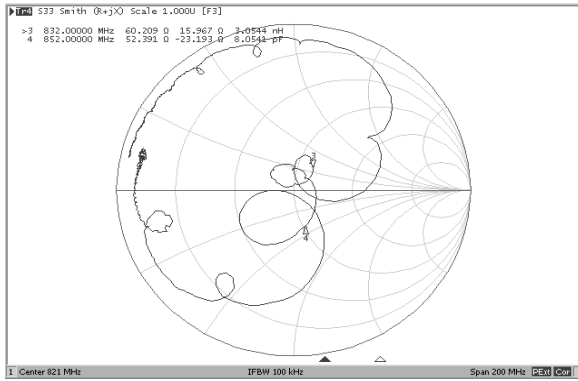
Receiver Port -Transmitter Port Isolation Plot



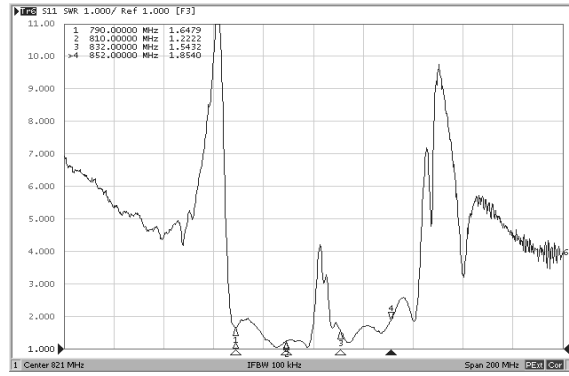
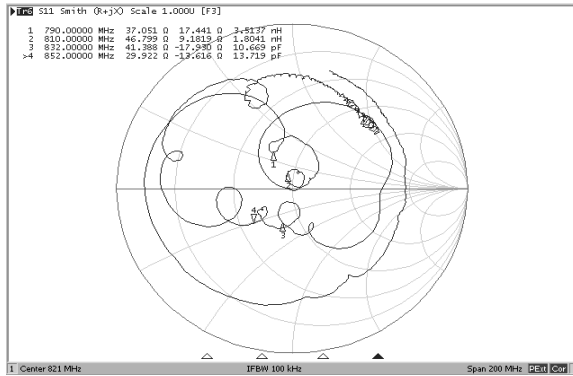
Receiver Port Smith Chart and VSWR Plots



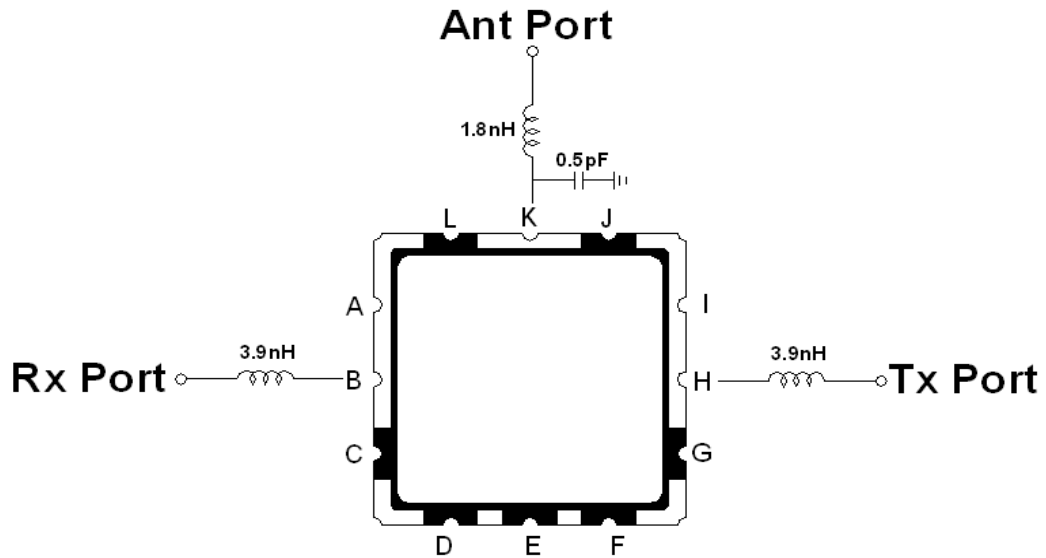
Transmitter Port Smith Chart and VSWR Plots



Antenna Port Smith Chart and VSWR Plots



Duplexer Test Circuit



K is the Antenna Port
B is the Receiver Port
H is the Transmitter Port
All other Package Pads are Ground