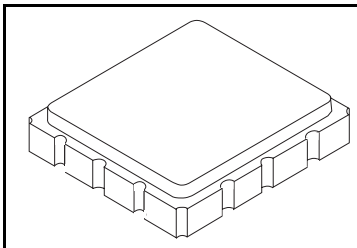
Preliminary

SF1222D

2010/2190 MHz SAW Duplexer

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



Absolute Maximum Ratings

Rating	Value	Units
Input Power Level, Antenna in TX Band and TX in TX Band	25	dBm
Input Power Level, RX in RX Band	20	dBm
DC Voltage	3	V
Operating Temperature Range	-30 to +85	℃
Storage Temperature Range in Tape and Reel	-40 to +85	℃

Electrical Characteristics, Transmitter-Antenna

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F_C			2010.0		MHz
Insertion Loss, 2000.0 to 2020.0 MHz	IL				3.0	dB
Amplitude Ripple, 2000.0 to 2020.0 MHz					1.0	dB_{P-P}
VSWR, 2000.0 to 2020.0 MHz					2.3:1	
Attenuation Relative to 0 dBm						
1559.0 to 1610.0 MHz			35			dB
1980.0 MHz			2			
1995.0 MHz			1.5			
2180.0 to 2200.0 MHz			40			
Input Impedance (Antenna)	Z_S		50 || Shunt Coil			Ω
Output Impedance, (TX and RX)	Z_L		50 || Series or Shunt Coil			

Case Style	SM3838-12 3.8 x 3.8 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	935, 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.

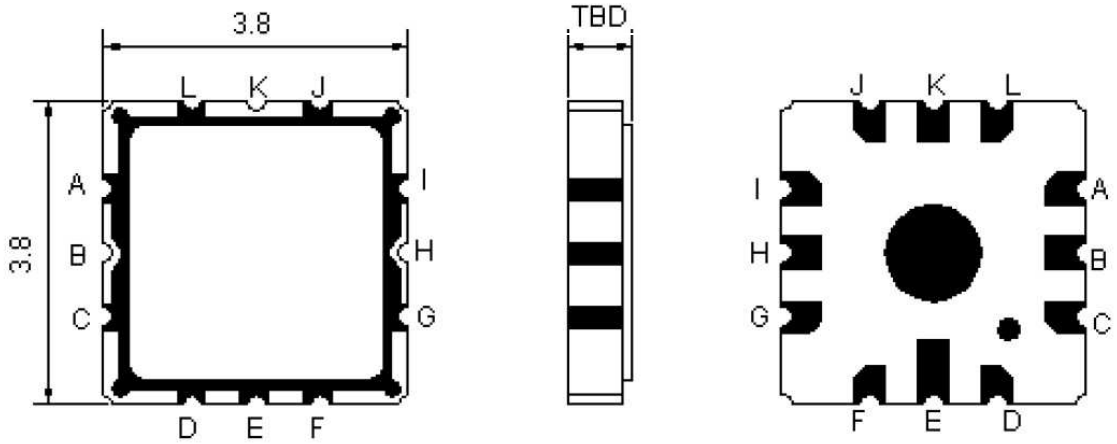
Notes:

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, fc.
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

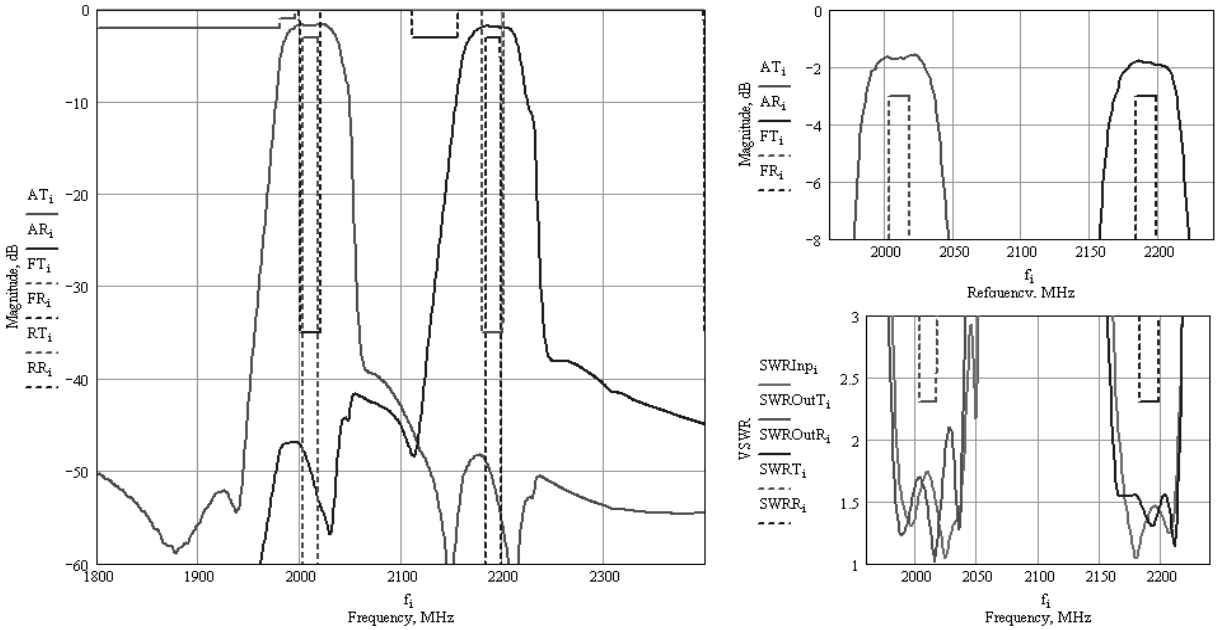
Electrical Characteristics, Receiver-Antenna, Transmitter-Receiver Isolation

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F_C			2190.0		MHz
Insertion Loss, 2180.0 to 2200.0 MHz	IL				3.0	dB
Amplitude Ripple, 2180.0 to 2200.0 MHz					1.0	dB_{P-P}
VSWR, 2180.0 to 2200.0 MHz					2.3:1	
Attenuation Relative to 0 dBm						
2000.0 to 2020.0 MHz			40			dB
2110.0 to 2155.0 MHz			3			
2400.0 MHz			40			
Transmitter-Receiver Isolation						
2000.0 to 2020.0 MHz			40			dB
2180.0 to 2200.0 MHz			40			

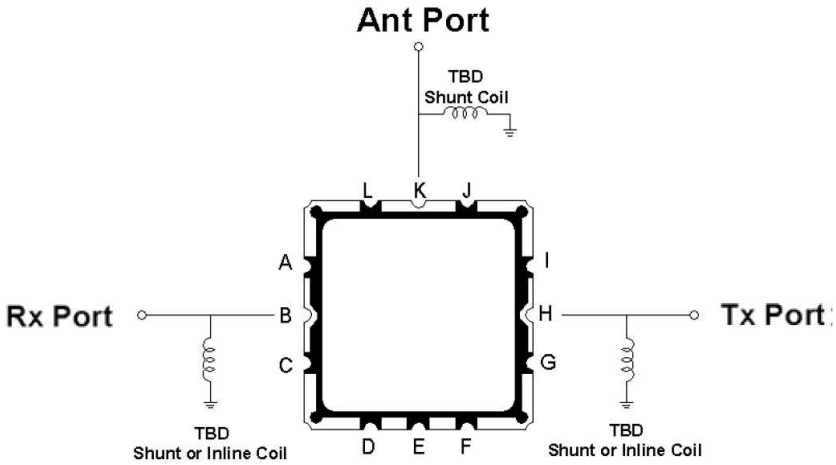
Duplexer Package



Duplexer Response



Duplexer Test Circuit



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