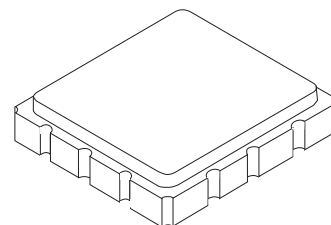


**SF1207D**

**836.5/881.5 MHz  
SAW Duplexer**



- Low-loss RF 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
CW Input Power Level, 50,000 hours, +50 °C	1.2	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 to Antenna**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	F <sub>C</sub>			836.5		MHz
Insertion Loss, 824 to 849 MHz	IL			1.5	2.2	dB
Amplitude Ripple, 824 to 849 MHz				0.4	1.0	dB <sub>P-P</sub>
VSWR, 824 to 849 MHz				1.9:1	2.4:1	
Attenuation Referenced to 0 dB:						dB
859 MHz			4	9		
869 to 894 MHz			45	50		
Input Impedance (Antenna)	Z <sub>S</sub>		50			Ω
Output Impedance, (TX and RX)	Z <sub>L</sub>		50			
Case Style	SM3838-12 3.8 x 3.8 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	A42, 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.**

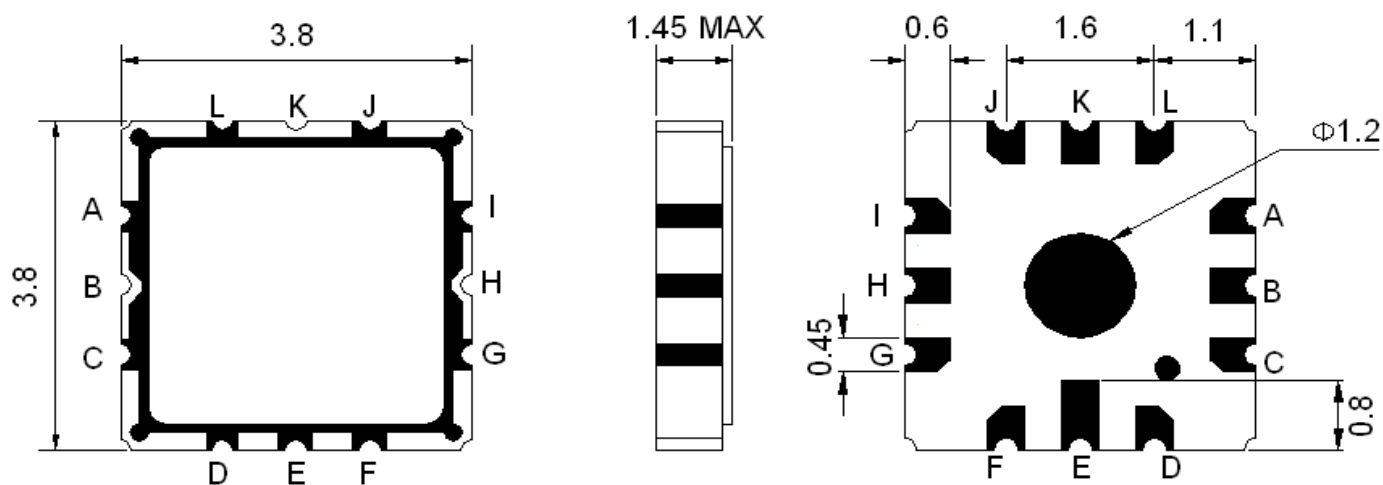
**NOTES:**

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  $\Omega$  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. 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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

# Electrical Characteristics, Receiver to Antenna, Receiver to Transmitter

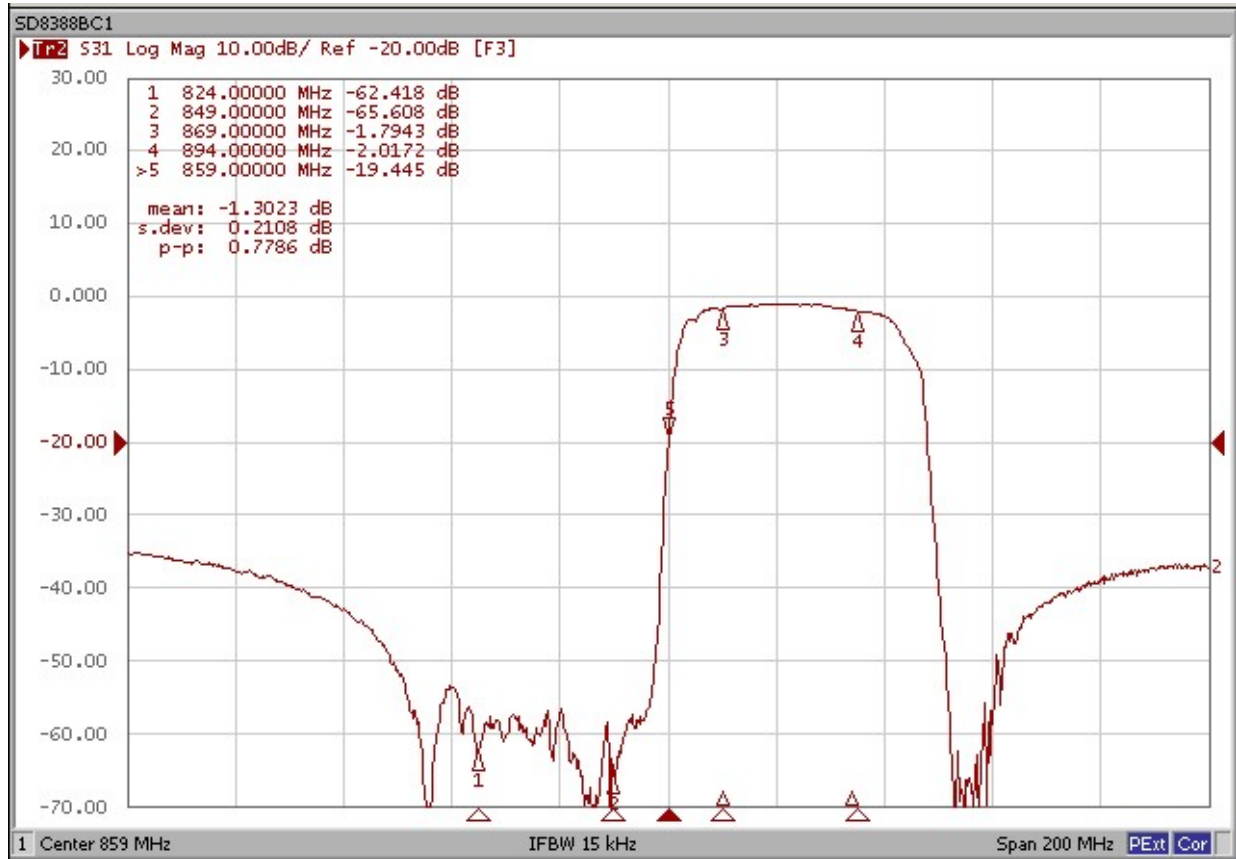
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$F_C$			881.5		MHz
Insertion Loss, 869 to 894 MHz	IL			2.0	3.0	dB
Amplitude Ripple, 869 to 894 MHz				0.8	1.5	dB <sub>P-P</sub>
VSWR, 869 to 894 MHz				1.7:1	2.2:1	
Attenuation Referenced to 0 dB:						dB
824 to 849 MHz			50	58		
859 MHz			4	13		
Receiver-Transmitter Isolation:						dB
824 to 849 MHz			50	55		
869 to 894 MHz			48	53		

## Duplexer Package

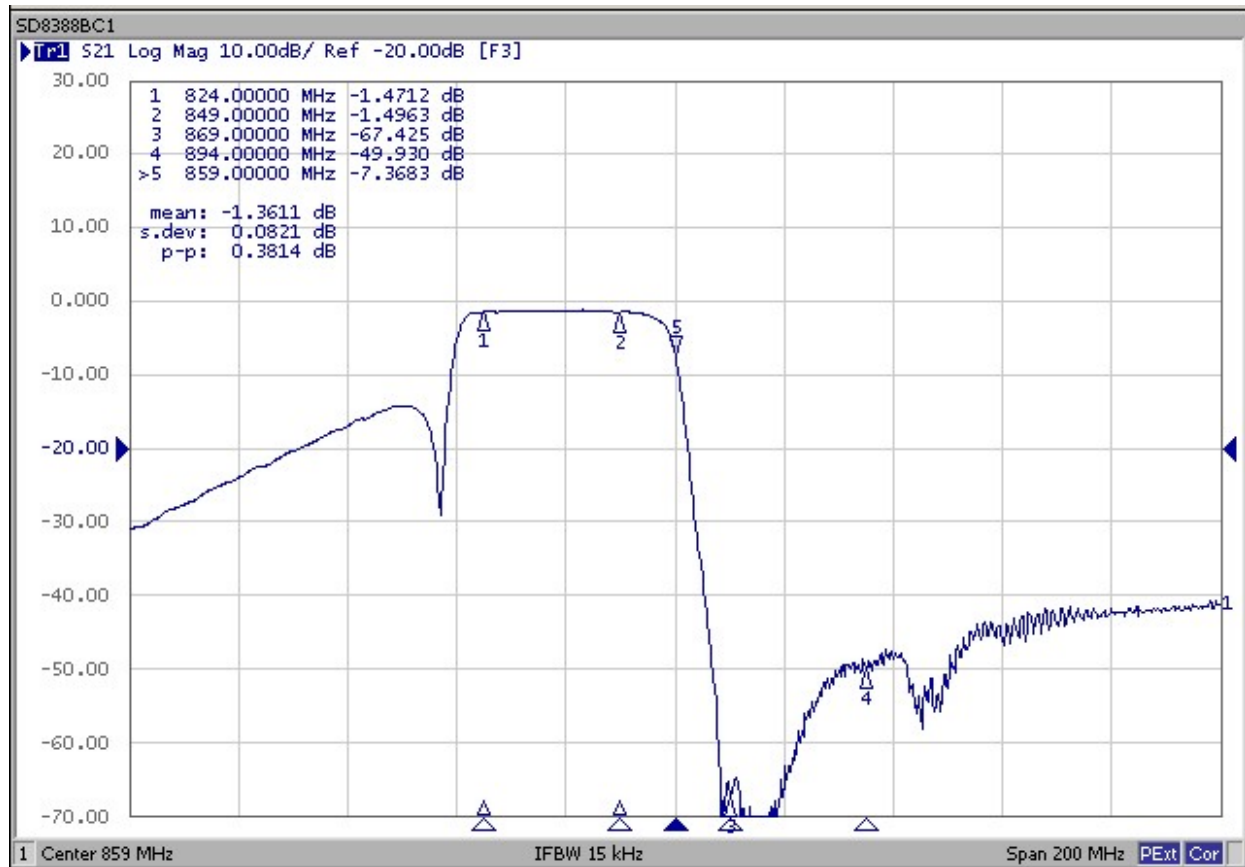


Dimensions in mm

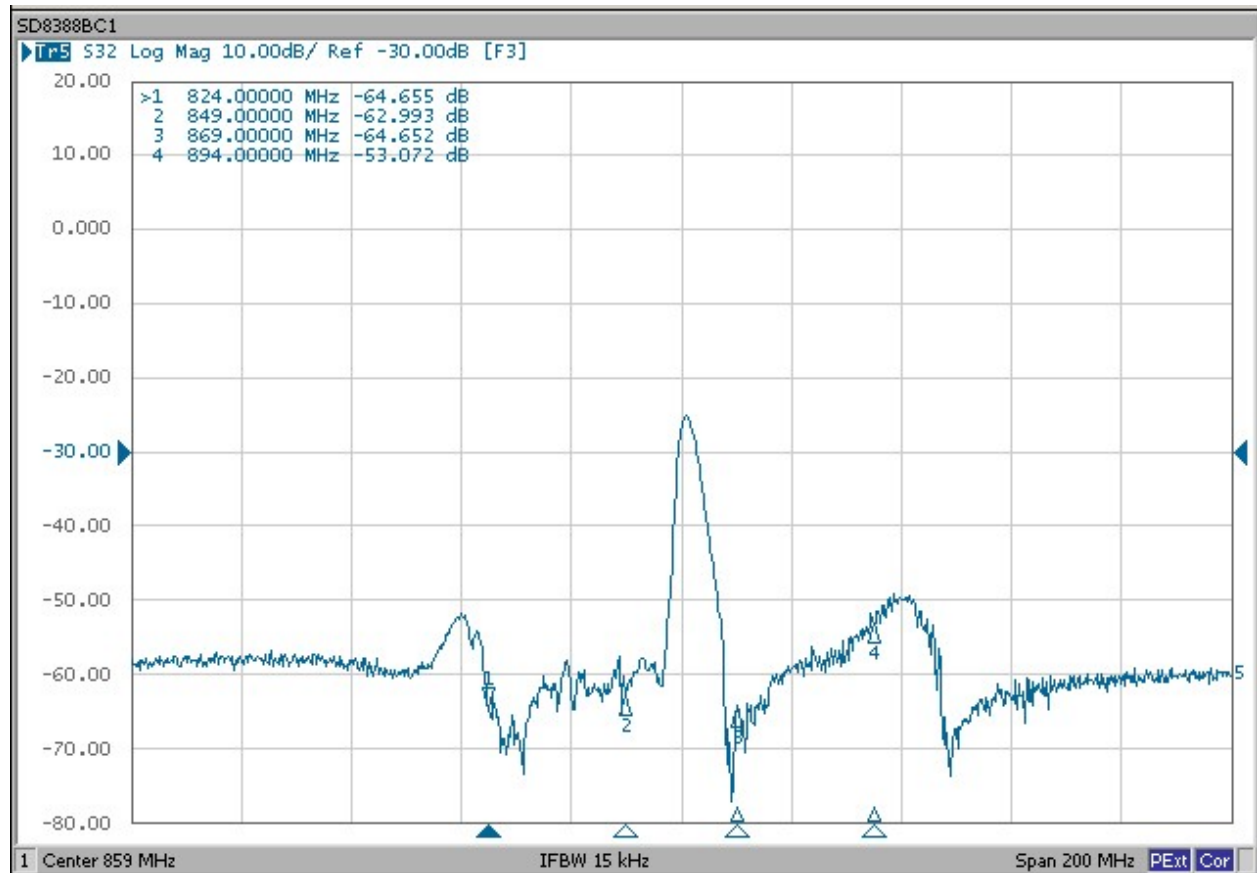
## Duplexer Antenna to Receiver Passband Response



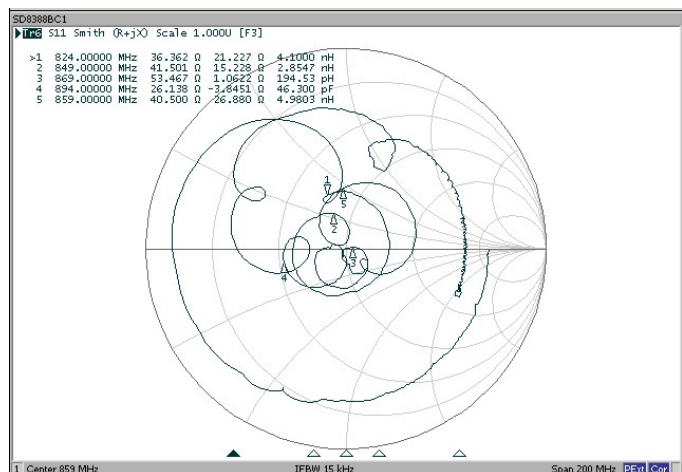
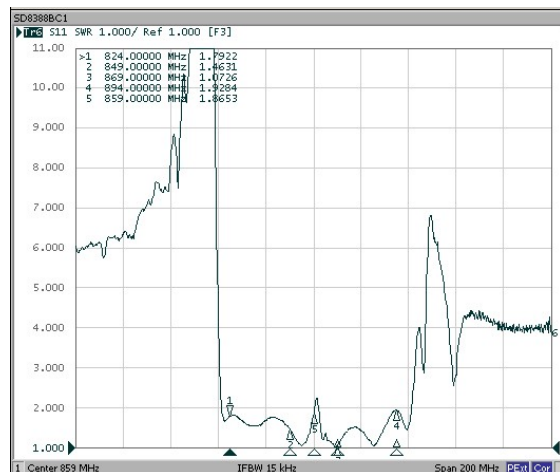
## Duplexer Antenna to Transmitter Passband Response



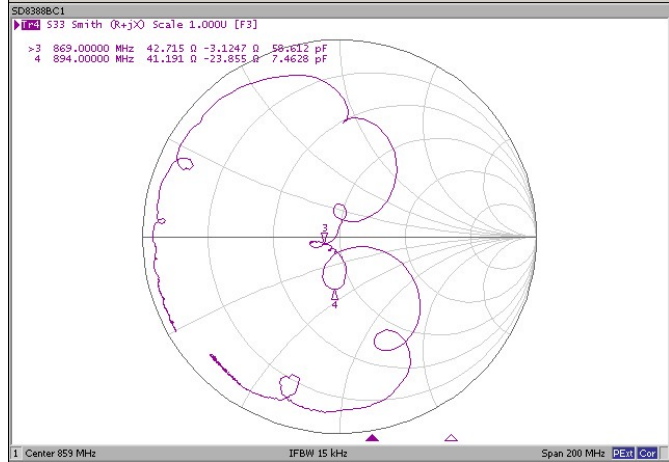
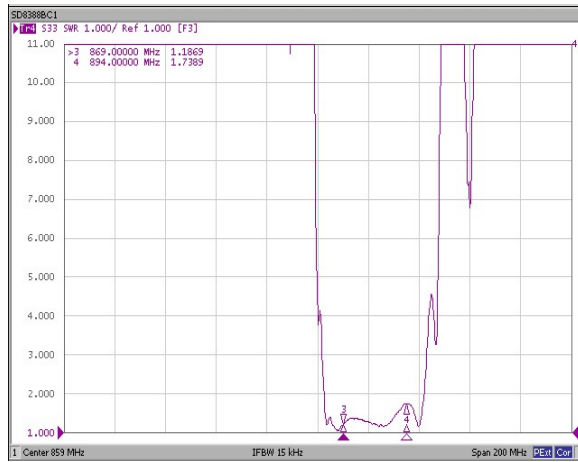
## Duplexer RX-TX Isolation



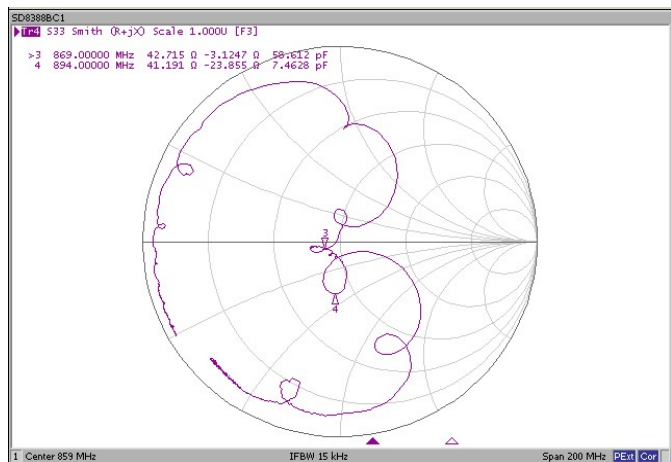
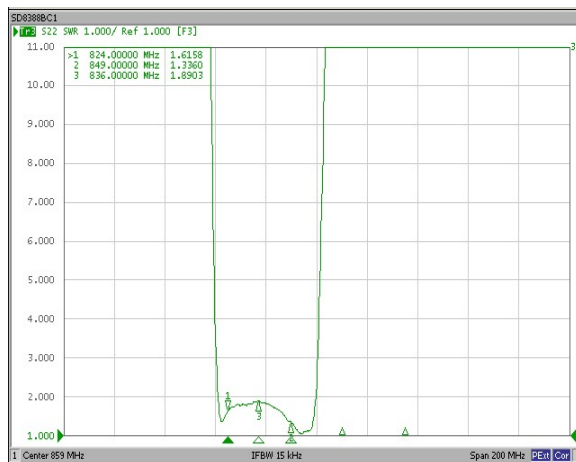
## Antenna Port Impedance



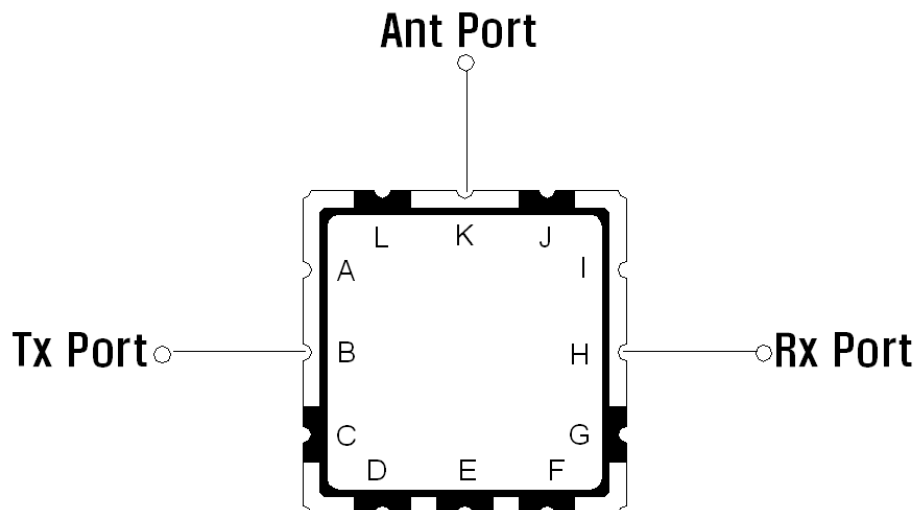
## Receiver Port Impedance



## Transmitter Port Impedance



## Duplexer Test Circuit



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