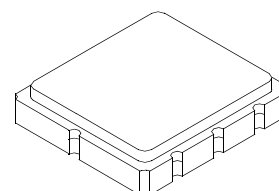




# RF1211C

## 315.0 MHz SAW Filter



**SM5050-8 Case  
5 x 5**

- **Ideal Front-End Filter for Domestic Wireless Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**

The RF1211C is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 315.0 MHz receivers. Receiver designs using this filter include superhet with 10.7 MHz or 500 kHz IF, direct conversion and superregen. Typical applications of these receivers are wireless remote-control and security devices (especially for automotive keyless entry) operating in the USA under FCC Part 15, in Canada under RSS-210, and in Italy

This coupled-resonator filter (CRF) uses selective null placement to provide suppression, typically greater than 40 dB, of the LO and image spurious responses of superhet receivers with 10.7 MHz IF. RFM's advanced SAW design and fabrication technology is utilized to achieve high performance and very low loss with simple external impedance matching.

### Electrical Characteristics

Item	Minimum	Typical	Maximum	Note
Center Frequency @ 25°C $F_C$ (MHz)	-	315	-	1, 2
Minimum I.L. (314.82~315.22 MHz)    (dB) $IL_{min}$	-	2.0	5.0	1
Pass band (relative to $IL_{min}$ )				
314.77~315.2 MHz    (dB)	-	1.5	3.0	1
314.71~315.26 MHz    (dB)	-	2.0	6.0	
Pass bandwidth (relative to $IL_{min}$ ) $BW_3$ (KHz)	800	860	-	1
Attenuation: (relative to $IL_{min}$ )    (dB)				
10~270    MHz    (dB)	45	55	-	1
270~309    MHz    (dB)	30	35	-	
309~313.94    MHz    (dB)	15	20	-	
316~335    MHz    (dB)	10	15	-	
335~400    MHz    (dB)	35	45	-	
400~1000    MHz    (dB)	45	55	-	
Impedance at $F_C$ ; Input $Z_{IN}=R_{IN}/C_{IN}$	344Ω // 4.9 pF			1
Output $Z_{OUT}=R_{OUT}/C_{OUT}$	344Ω // 4.9 pF			
Turnover To    (deg.C)	25 typ.			3, 4
Frequency Aging    Absolute Value During the First Year	≤10   ppm/yr Typical			
Operating Temperature	-40°C to +85°C			
Lid Symbolization (in addition to Lot and/or Date Codes)	410 YWWS			
Standard Reel Quantity	Reel Size 7 Inch	1000 Pieces/Reel		
	Reel Size 13 Inch	3000 Pieces/Reel		



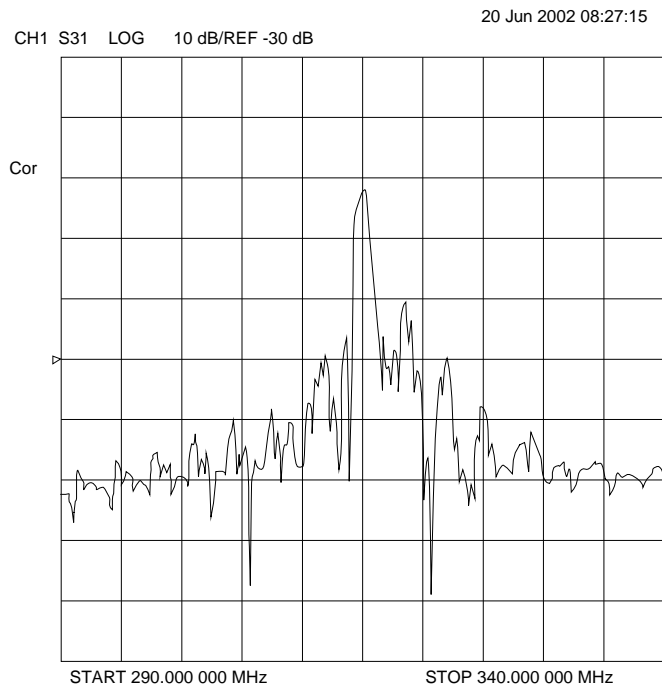
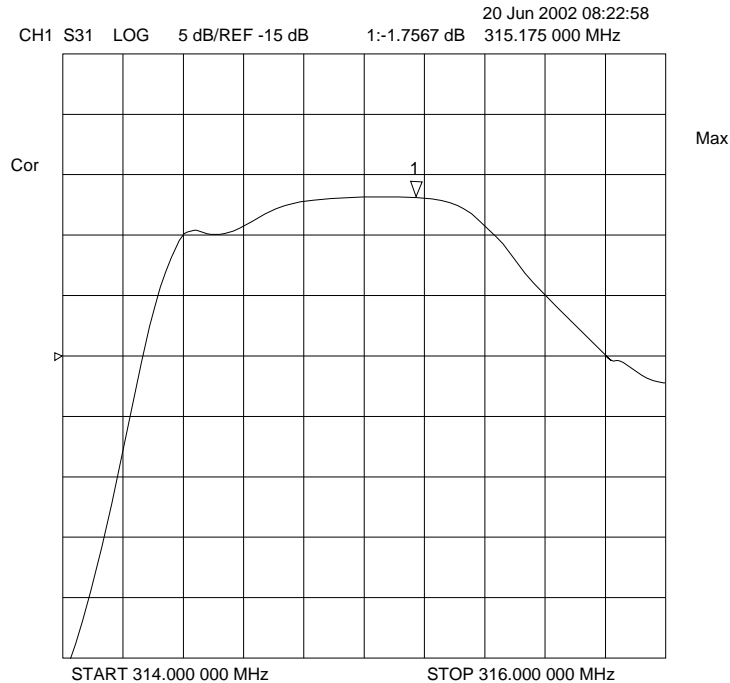
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

### Notes:

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system with VSWR ≤ 1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency,  $f_c$ . Note that insertion loss and bandwidth and passband shape are dependent on the impedance matching component values and quality.
2. The frequency  $f_c$  is defined as the midpoint between the 3dB frequencies.
3. Where noted specifications apply over the entire specified operating temperature range.
4. The turnover temperature,  $T_O$ , is the temperature of maximum (or turnover) frequency,  $f_o$ . The nominal frequency at any case temperature,  $T_c$ , may be calculated from:  $f = f_o [1 - FTC (T_o - T_c)^2]$ .
5. Frequency aging is the change in  $f_c$  with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing significantly in subsequent years.
6. The design, manufacturing process, and specifications of this device are subject to change without notice.
7. One or more of the following U.S. Patents apply: 4,54,488, 4,616,197, and others pending.
8. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.



## Frequency Characteristics:

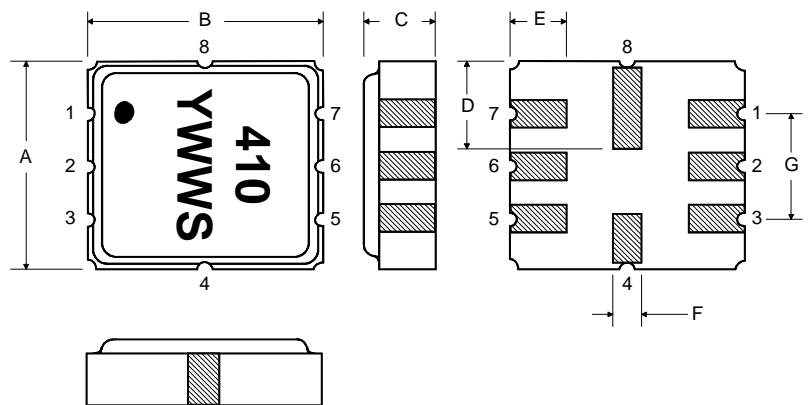


## Absolute Maximum Ratings

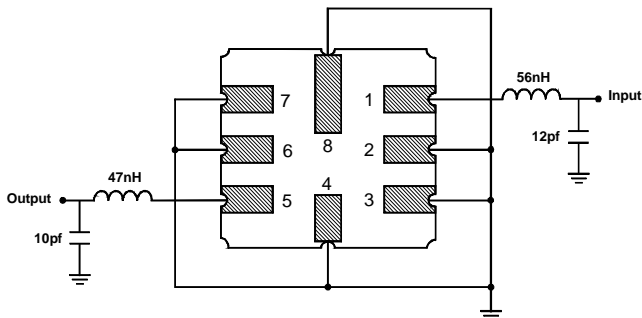
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature <sup>5</sup>	-40 to +85	°C

## Electrical Connections

Pin	Connection
1	Input
2	Input Ground
3	to be Grounded
4	Case Ground
5	Output
6	Output Ground
7	to be Grounded
8	Case Ground



## Matching Circuit to 50Ω



## Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.8	5.0	5.2		0.1968	
B	4.8	5.0	5.2		0.1968	
C			1.7			0.0669
D		2.08			0.0818	
E		1.17			0.046	
F		0.64			0.0252	
G	2.39	2.54	2.69		0.100	

See Detail "A"

100 REF.

"B" REF.

12.0

13.0

20.2

2.0

“B “ Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	1000
13	330	3000

Diagram illustrating the dimensions of a cover tape joint. The diagram shows a cross-section of a joint where a cover tape is applied to a substrate. The dimensions are labeled as follows:

- COVER TAPE SIZE**: Indicated by a vertical double-headed arrow on the left, representing the height of the tape.
- K0**: Indicated by a horizontal double-headed arrow in the center, representing the thickness of the substrate.
- COVER TAPE**: Labeled at the bottom, pointing to the tape material.

Carrier Tape Dimensions	
<b>Ao</b>	5.3 mm
<b>Bo</b>	5.3 mm
<b>Ko</b>	2.0 mm
<b>Pitch</b>	8.0 mm
<b>W</b>	12.0 mm

