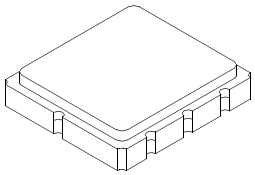
muRata
INNOVATOR IN ELECTRONICS

RF1112C

315.0 MHz SAW Filter

- ***Ideal Front-End Filter for Domestic Wireless Receivers***
- ***Low-Loss, Coupled-Resonator Quartz Design***
- ***Simple External Impedance Matching***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM5050-8 Case
5 x 5

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. Murata's advanced SAW design and fabrication technology is utilized to achieve high performance and very low loss with simple external impedance matching.

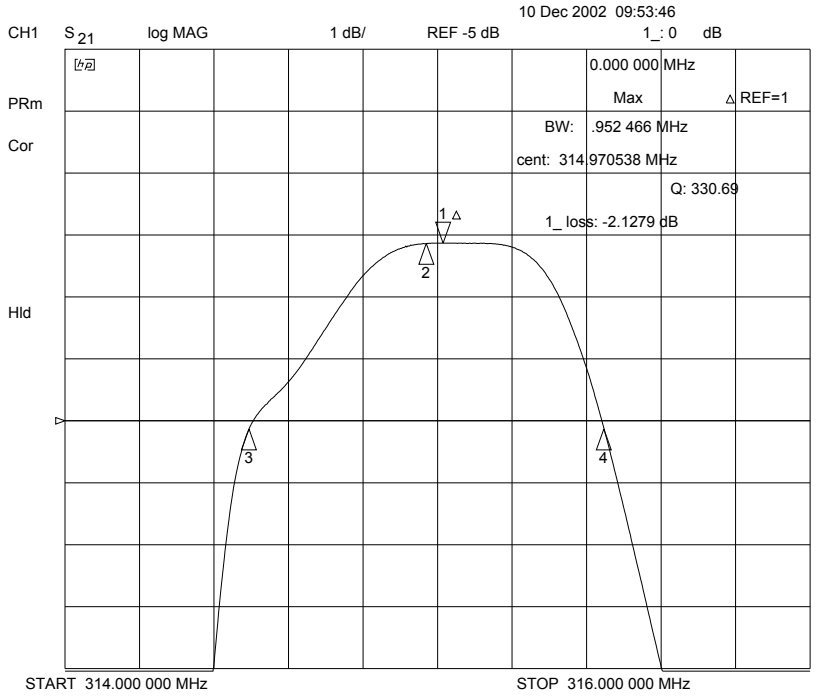
Item			Minimum	Typical	Maximum	Note
Center Frequency @ 25°C	F_C	(MHz)	-	315	-	1, 2
Minimum **I.L.** (314.82~315.22 MHz)	(dB)	IL_{min}	-	2.0	5.0	1
Pass band (relative to IL_{min})						
314.77~315.2 MHz		(dB)	-	1.5	3.0	1
314.71~315.26 MHz		(dB)	-	2.0	6.0	
Pass bandwidth (relative to IL_{min})	BW_3	(KHz)	800	860	-	1
Attenuation: (relative to IL_{min})		(dB)				
10~270	MHz	(dB)	45	55	-	
270~309	MHz	(dB)	30	35	-	
309~313.94	MHz	(dB)	15	20	-	1
316~335	MHz	(dB)	10	15	-	
335~400	MHz	(dB)	35	42	-	
400~1000	MHz	(dB)	45	60	-	
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			
Lid Symbolization (in addition to Lot and/or Date Codes)			410 YWWS			
Standard Reel Quantity		Reel Size 7 Inch	500 Pieces/Reel			
		Reel Size 13 Inch	3000 Pieces/Reel			

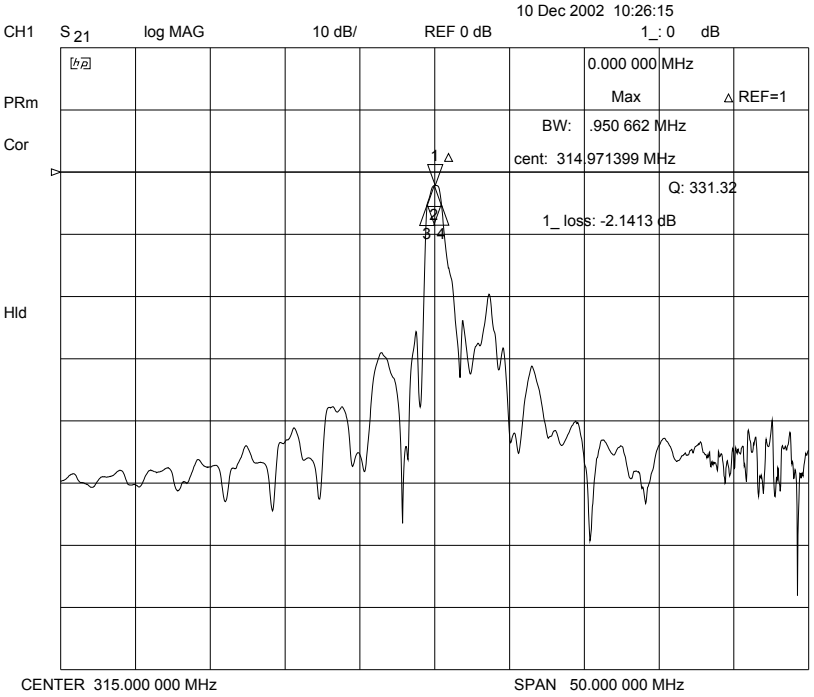
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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 fc 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:

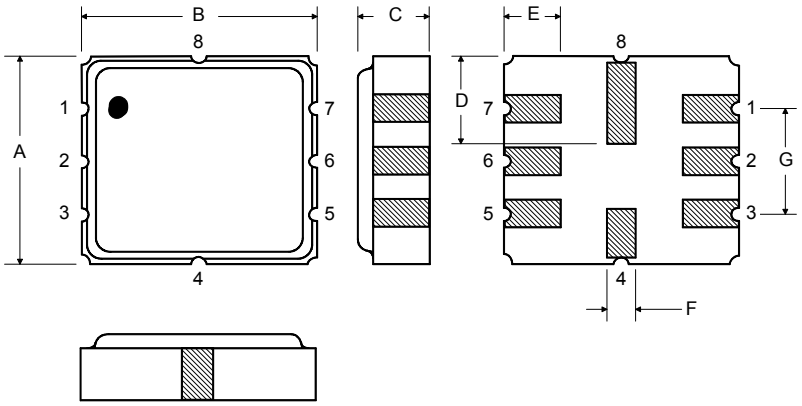




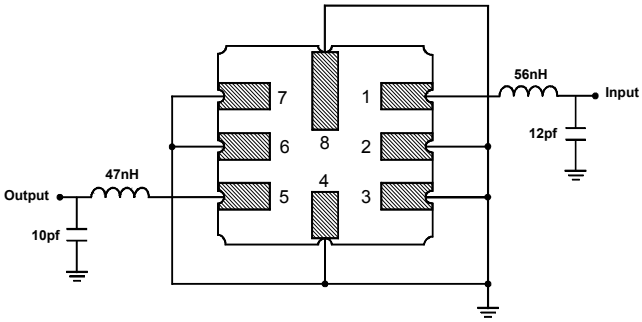
Rating		Value	Units
Input Power Level		10	dBm
DC Voltage		12	VDC
Storage Temperature[5]		-40 to +85	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260	°C

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	