# imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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RFM products are now Murata products.

**RF1417D** 

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)



The RF1417D 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 remotecontrol 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.



3.8 x 3.8

Characteristic			Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C Absolute Frequency		f <sub>c</sub>	1, 2, 3	314.85	315.00	315.15	MHz
Insertion Loss		IL <sub>MIN</sub>	1, 3		1.6	2.5	dB
3 dB Bandwidth		BW3	1, 3	500	600	800	kHz
Rejection Attenuation: (relative to ILmin) 10 - 295 MHz				46	51		
	295 - 305 MHz			41	46		
305 - 310 MHz 310 - 313 MHz				27	30		
				17	20		
	313 - 314 MHz		1.2	7	10		dB
	316 - 320 MHz		1, 3	20	24		
	320 - 325 MHz			15	18	1	
	325 - 335 MHz			43	48	1	
	335 - 600 MHz			55	60	-	
	600 - 1000 MHz			55	60		
_ Freq. Temp. Coefficient		FTC					ppm/
Temperature	r req. remp. coencient	TTC			0.032		°C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	lfAl	5		≤10		ppm/yr
Impedance @ fc	Input Z <sub>IN</sub> =R <sub>IN</sub> IIC <sub>IN</sub>	Z <sub>IN</sub> Z <sub>OUT</sub> 1		4930Ω//2.09pf			
	Output Z <sub>OUT</sub> =R <sub>OUT</sub> IIC <sub>OUT</sub>			4930Ω//2.09			
Lid Symbolization (Y=year WW=week S=shift)		550 // YWWS					
Standard Reel Quantity	Reel Size 7 Inch	0		500 Pieces/Reel			
	Reel Size 13 Inch		9	3000 Pieces/Reel			

#### CAUTION: Electrostatic Sensitive Device. Observe precautions for handling. NOTES:

- Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50  $\Omega$  test system with VSWR  $\leq$  1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f<sub>c</sub>. Note that insertion loss and bandwidth and passband shape are dependent on 1. the impedance matching component values and quality.
- The frequency f<sub>c</sub> is defined as the midpoint between the 3dB frequencies. 2.
- 3. 4.

- 6
- One or more of the following U.S. Patents apply: 4,54,488, 4,616,197, and others pending. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale. Tape and Reel Standard Per ANSI / EIA 481. 8. 9

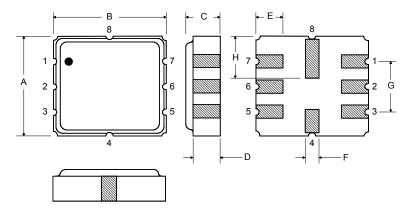
Where noted specifications apply over the entire specified operating temperature range of -40°C to +90°C. The turnover temperature,  $T_{O}$ , is the temperature of maximum (or turnover) frequency,  $f_{O}$ . The nominal frequency at any case temperature,  $T_{C}$ , may be calculated from:  $f = f_0 [1 - FTC (T_0 - T_c)^2].$ 

<sup>5.</sup> 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. The design, manufacturing process, and specifications of this device are subject to change.

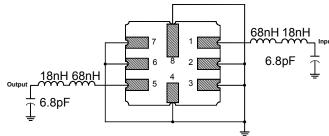
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +125	°C
Soldering Temperature (10 seconds / 5 cycles max.)	260	°C

#### **Electrical Connections**

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



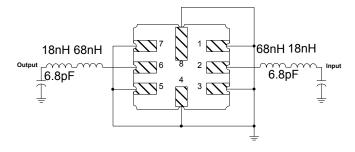
#### Matching Circuit to $50 \Omega$



**Case Dimensions** 

Dimension	mm			Inches			
	Min	Nom	Max	Min	Nom	Мах	
Α	3.6	3.8	4.0	0.14	0.15	0.16	
В	3.6	3.8	4.0	0.14	0.15	0.16	
С	1.00	1.20	1.40	0.04	0.05	0.055	
D	0.95	1.10	1.25	0.033	0.043	0.05	
E	0.90	1.0	1.10	0.035	0.04	0.043	
F	0.50	0.6	0.70	0.020	0.024	0.028	
G	2.39	2.54	2.69	0.090	0.100	0.110	
н	1.40	1.75	2.05	0.055	0.069	0.080	

#### Matching Circuit to $50 \Omega$



### Optional

**Electrical Connections** 

Connection		
Input Ground		
Input		
Ground		
Case Ground		
Output Ground		
Output		
Ground		
Case Ground		