

- 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)

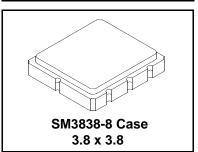


The RF1408D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 447.7 MHz receivers. Receiver designs using this filter include superhet with 10.7 MHz or 500 kHz IF, direct conversion and superregen. Typical applications of these receivers 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.

RF1408D

447.7 MHz SAW Filter



Electrical Characteristics

С	haracteristic	Sym	Notes	Minimum	Typical	Maximum	Units	
Center Frequency at 25°C	Absolute Frequency	f _c	1, 2, 3		447.7		MHz	
Insertion Loss		IL _{MIN}	1, 3		1.5	2.0	dB	
3 dB Bandwidth			1, 3	500	840	1100	kHz	
Rejection Attenuation: (relative to ILmin) 10 - 409 MHz				45	60			
	409 - 434 MHz			40	55			
	434 - 443 MHz			33	35			
	443 - 445 MHz			20	33			
	445 - 446.7 MHz			9	12		dB	
448.7 - 449.7 MHz			1, 3	9	15		иь	
	449.7 - 456 MHz			16	20			
	456 - 458 MHz			31	38			
	458 - 487 MHz			38	40			
487 - 1000 MHz				39	55			
Temperature	Freq. Temp. Coefficient	FTC			0.032		ppm/°C ²	
Frequency Aging	Absolute Value during the First Year	lfAl	5		≤10		ppm/yr	
Impedance @ fc	1		221.86Ω // 1.25	5pf				
			172.02Ω // 126.49fF					
Lid Symbolization (Y=year WW=week S=shift)		511 // YWWS				<u>!</u>		
Standard Reel Quantity Reel Size 7 Inch			9		500 Pieces/Reel			
	Reel Size 13 Inch		7		3000 Pieces/Reel			

W

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:

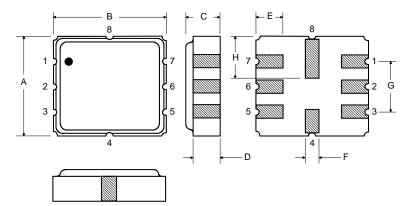
- Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system with VSWR ≤ 1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f_c. Note that insertion loss and bandwidth 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 of -40°C to +90°C.
- 4. The turnover temperature, T_0 , is the temperature of maximum (or turnover) frequency, f_0 . The nominal frequency at any case temperature, T_c , may be calculated from: $f = f_0 [1 FTC (T_0 T_c)^2]$.
- 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.
- 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.
- 9. Tape and Reel Standard Per ANSI / EIA 481.

Absolute Maximum Ratings

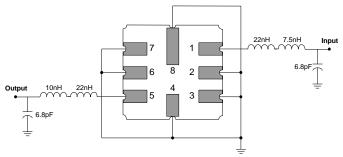
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +125	°C
Soldering Temperature (10 seconds / 5 cycles Max.)	260	°C

Electrical Connections

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



Matching Circuit to 50W



Case Dimensions

Dimension	mm			Inches			
Dilliension	Min	Nom	Max	Min	Nom	Max	
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	0.037	0.043	0.05	
Е	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	

Optional

Electrical Connections

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

