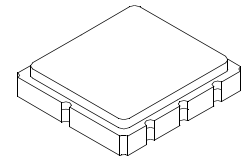




# RF3700D

## 372.00 MHz SAW Filter



SM3838-8 Case  
3.8 x 3.8

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



The RF3700D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 372.00 MHz receivers. Receiver designs using this filter include superheterodyne with 10.7 MHz or 500 kHz IFs, direct conversion receivers and superregenerative receivers. Typical applications for these receivers are wireless remote control and security.

This coupled-resonator filter (CRF) uses selective null placement to provide suppression, typically greater than 40 dB, of the LO and image spurious responses in superheterodyne receivers with 10.7 MHz IFs. 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

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25 °C	$f_C$	1, 2, 3		372.00		MHz
Insertion Loss	$IL_{MIN}$	1, 3		1.8	3.0	dB
3 dB Bandwidth	$BW_3$	1, 3	400	500	600	kHz
Rejection Attenuation: (relative to $IL_{MIN}$ )						
10 - 354 MHz			52	57		dB
354 - 364 MHz			37	42		
364 - 369 MHz			10	15		
369 - 370 MHz			15	20		
374 - 378 MHz		1, 3	25	30		
378 - 380 MHz			9	14		
380 - 382 MHz			24	29		
382 - 389 MHz			28	33		
389 - 550 MHz			43	48		
550 - 1000 MHz			61	66		
Operating Temperature Range			-40		+90	°C
Frequency Temperature Coefficient	FTC			0.032		ppm/°C <sup>2</sup>
Frequency Aging, Absolute Value During the First Year	fA	5		≤10		ppm/yr
Impedance @ $f_C$	Input $Z_{IN} = R_{IN} \parallel C_{IN}$ Output $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	$Z_{IN}$ $Z_{OUT}$	1	1.8 KΩ    1.68 pF 2.5 KΩ    1.5 pF		
Lid Symbolization (Y=year WW=week S=shift)				916 // YWWS		
Standard Reel Quantity	Reel Size 7 Inch Reel Size 13 Inch		9	500 Pieces/Reel 3000 Pieces/Reel		



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

Notes:

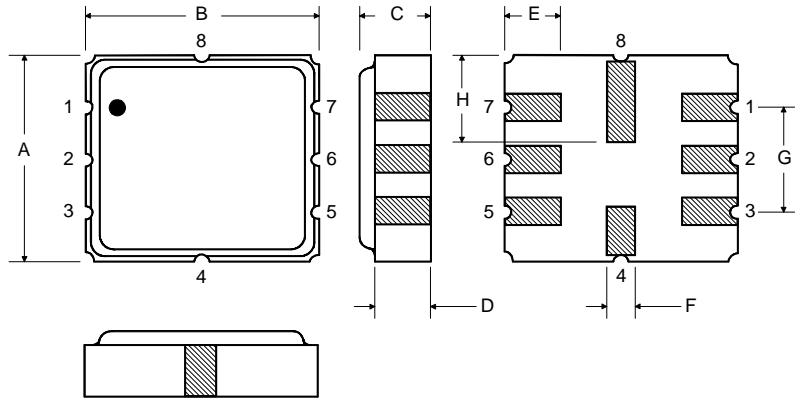
1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system with VSWR ≤ 1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency,  $f_C$ . Note that insertion loss and 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 3 dB frequencies.
3. Where noted specifications apply over the entire specified operating temperature range of -40 to +90 °C.
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.
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

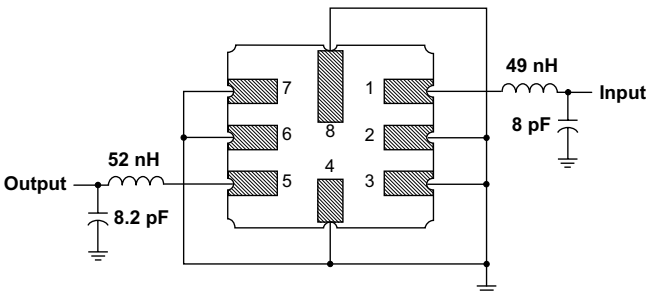
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Soldering Temperature, 10 seconds / 5 cycles maximum	260	°C

## Electrical Connections

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



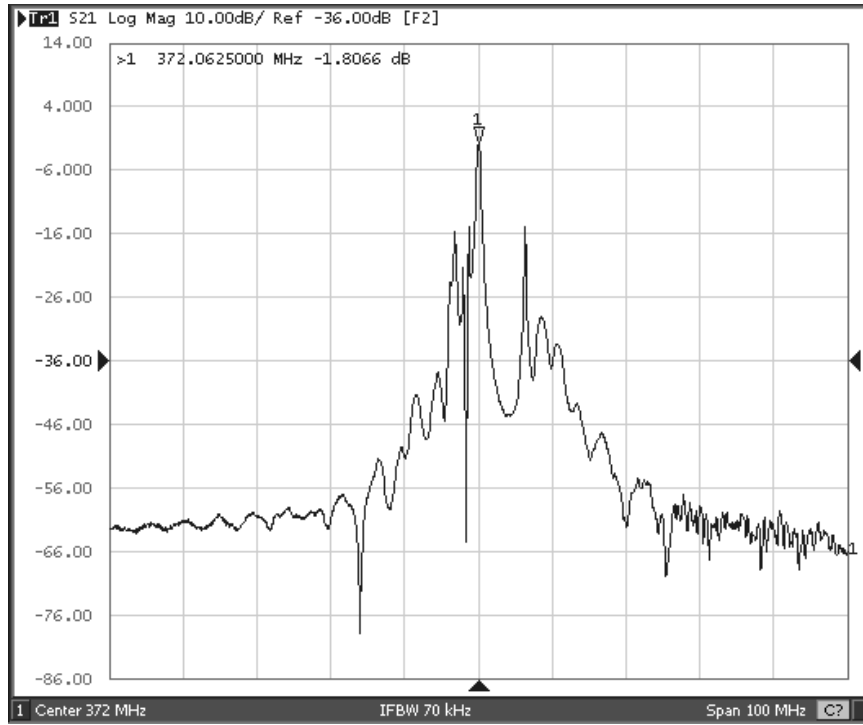
## Matching Circuit to 50Ω



## Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.14	0.15	0.16
B	3.6	3.8	4.0	0.14	0.15	0.16
C	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
H	1.40	1.75	2.05	0.055	0.069	0.080

## RF3700D Response



## RF3700D Pass-band Response

