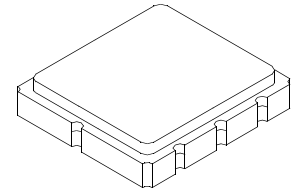




# RF3414E

## 372.5 MHz SAW Filter



SM3030-6 Case  
3.0 x 3.0

- **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 RF3414E is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 372.5 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 operating in Europe under ETSI I-ETS 300 220, in Germany under FTZ 17 TR 2100, in the United Kingdom under DTI MPT 1340 (for automotive only), in France under PTT Specifications ST/PAA/TPA/AGH/1542, and in Scandinavia.

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 (not included).

### Electrical Characteristics

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency @ 25°C Absolute Frequency	$f_c$	1, 2, 3	372.420	372.5	372.580	MHz
Insertion Loss	IL	1		2.4	3.0	dB
3 dB Bandwidth	BW <sub>3</sub>	1, 3	300	400	500	kHz
Rejection		0 - 354 MHz 354 - 364 MHz 364 - 369 MHz 369 - 370 MHz 374 - 378 MHz 378 - 380 MHz 380 - 382 MHz 382 - 389 MHz 389 - 1000 MHz	1, 3, 10, 11	40	43	dB
				35	38	
				25	28	
				14	17	
				25	28	
				15	18	
				20	23	
				25	28	
40	43					
Temperature Freq. Temp. Coefficient	FTC	3, 4		0.032		ppm/°C <sup>2</sup>
Frequency Aging Absolute Value during the First Year	fA	5		<±10		ppm/yr
Impedance @ $f_c$	Input $Z_{IN} = R_{IN}/C_{IN}$	1	887Ω // 4.7pF			
	Output $Z_{OUT} = R_{OUT}/C_{OUT}$		908Ω // 4.0pF			
Lid Symbolization (in addition to Lot and/or Date Codes)	720 // YWWS					
Standard Reel Quantity 7 Inch Reel			9	500 Pieces/Reel		
Standard Reel Quantity 13 Inch Reel				3000 Pieces/Reel		



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

#### Notes:

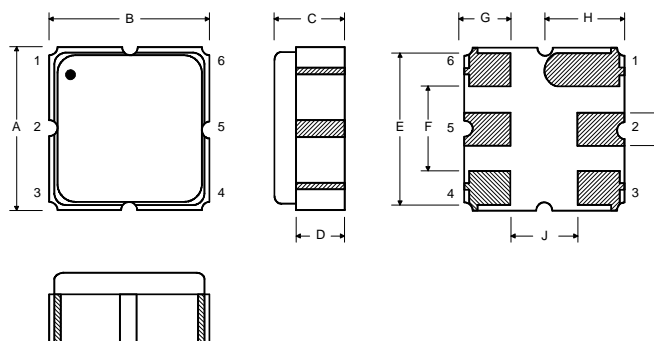
1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system with VSWR ≤ 1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency,  $f_c$ . Note that insertion loss and bandwidth 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 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 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.
9. Tape and Reel Standard for ANSI / EIA 481.
10. These values are attainable by using the optional pin out.
11. Typical rejection is defined as the typical rejection at the worst frequency in the band.

## 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

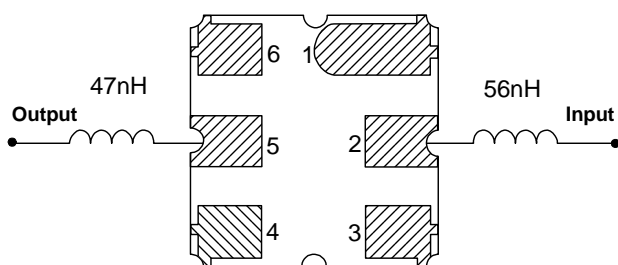
Pin	Connection
1	Input Ground
2	Input
3	Ground
4	Output Ground
5	Output
6	Ground



## Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.6	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.5	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056

## Matching Circuit to 50Ω



## OPTIONAL Electrical Connections

Pin	Connection
1	Input
2	Input Ground
3	Ground
4	Output
5	Output Ground
6	Ground

## Matching Circuit to 50Ω

