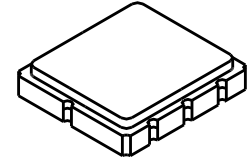


# RF1391C-1

## 433.42 MHz SAW Filter



SM5050-8 Case  
 5 x 5

- **Ideal Front-End Filter for Wireless Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Tape and Reel Standard per ANSI/EIA-481**
- **Moisture Sensitivity Level: 1**

The RF1391C-1 is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 433.42 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.

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

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C Absolute Frequency Tolerance from 433.42 MHz	$f_c$			433.42		MHz
	$\Delta f_c$				±75	kHz
Insertion Loss	IL			3.0	5.0	dB
3 dB Bandwidth	BW <sub>3</sub>		500	600	750	kHz
Rejection at $f_c - 21.4$ MHz (Image) at $f_c - 10.7$ MHz (LO) Ultimate			40	50		dB
			30	40		
				80		
Temperature Operating Case Temp. Turnover Temperature Turnover Frequency Freq. Temp. Coefficient	$T_c$		-40		+85	°C
	$T_o$		15	25	35	°C
	$f_o$			$f_c$		MHz
	FTC			0.032		ppm/°C <sup>2</sup>
Frequency Aging Absolute Value during the First Year	fA			≤10		ppm/yr
Impedance @ $f_c$ Input $Z_{IN} = R_{IN} // C_{IN}$ Output $Z_{OUT} = R_{OUT} // C_{OUT}$	$Z_{IN}$			212 Ω // 3.1 pF		
	$Z_{OUT}$			212 Ω // 3.1 pF		
Lid Symbolization (Y=year WW=week S=Shift)			792, YWWS			
Standard Reel Quantity 7 Inch Reel			500 pieces/reel			
Standard Reel Quantity 13 Inch Reel			3000 pieces/reel			



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

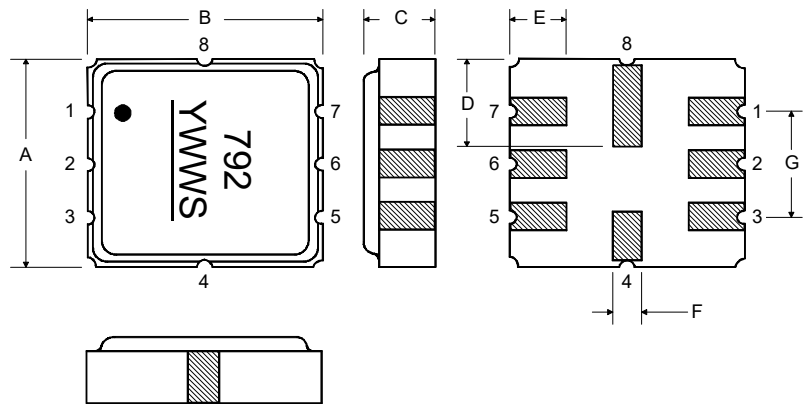
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

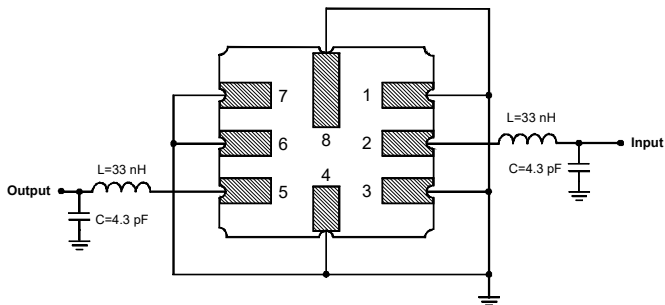
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +85	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260
		°C

### Electrical Connections

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



### Matching Circuit to 50Ω

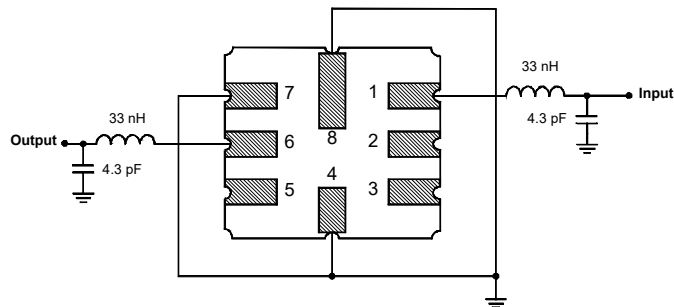


### Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.8	5.0	5.2	0.189	0.197	0.205
B	4.8	5.0	5.2	0.189	0.197	0.205
C			1.7			0.067
D		2.08			0.082	
E		1.17			0.046	
F		0.64			0.025	
G	2.39	2.54	2.69	0.094	0.100	0.106

### Optional

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



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

