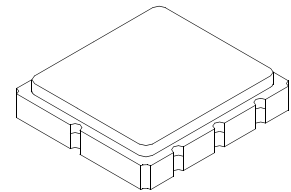


# RF1396C

## 434.42 MHz SAW Filter



**SM5050-8 Case**  
5 x 5

- **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)**
- **Tape and Reel Standard per ANSI/EIA-481**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

The RF1396C is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 434.420 MHz receivers. Receiver designs using this filter include superheterodynes with 10.7 MHz or 500 kHz IF, direct conversions and super-regeneratives. 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	$f_c$		434.420		MHz
	Tolerance from 434.420 MHz	$\Delta f_c$			$\pm 160$	kHz
Insertion Loss	IL			3.0	5.0	dB
3 dB Bandwidth	BW <sub>3</sub>		500	700	800	kHz
Rejection	at $f_c - 21.4$ MHz (Image)		40	-		dB
	at $f_c - 10.7$ MHz (LO)		30	-		
	Ultimate			-		
Temperature	Operating Case Temp.	$T_C$	-40		+85	°C
	Turnover Temperature	$T_O$	15	25	35	°C
	Turnover Frequency	$f_O$		$f_c$		MHz
	Frequency Temperature Coefficient	FTC		0.032		ppm/°C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	fA		≤10		ppm/yr
Impedance @ $f_c$	Input $Z_{IN} = R_{IN} \parallel C_{IN}$	$Z_{IN}$		227 $\Omega \parallel 3.3$ pF		
	Output $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	$Z_{OUT}$		227 $\Omega \parallel 3.3$ pF		
Lid Symbolization (Y=year WW=week S=Shift)			427 YWWS			
Standard Reel Quantity	7 Inchn Reel	500 Pieces/Reel				
Standard Reel Quantity	13 Inch Reel	3000 Pieces/Reel				

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

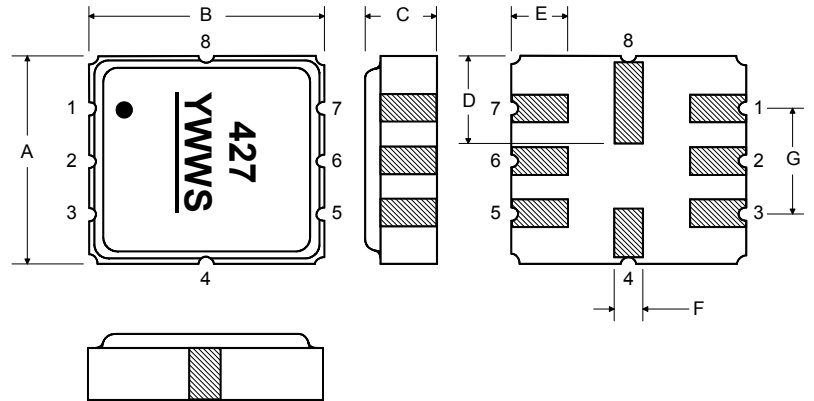
**NOTES:**

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.

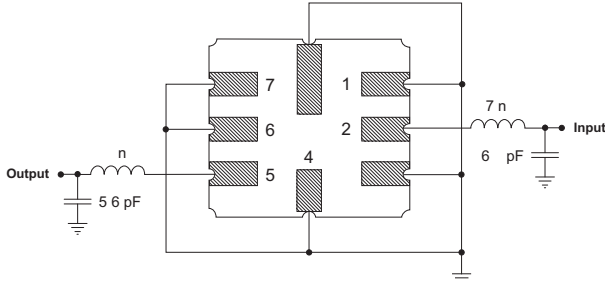
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +85	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	°C

### Electrical Connections

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



### Matching Circuit to 50Ω



### Case Dimensions

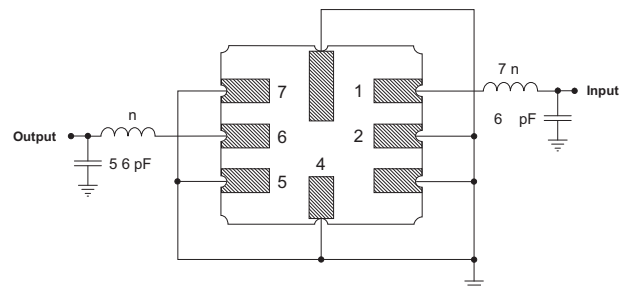
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.8	5.0	5.2	0.189	0.197	0.205
B	4.8	5.0	5.2	0.189	0.197	0.205
C			1.7			0.067
D		2.08			0.082	
E		1.17			0.046	
F		0.64			0.025	
G	2.39	2.54	2.69	0.094	0.100	0.106

### Optional

#### Electrical Connections

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

### Matching Circuit to 50Ω



## 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.

