RF1391C

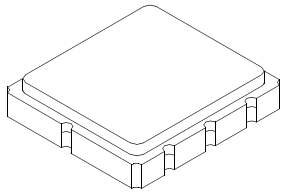
433.42 MHz SAW Filter

- ***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 & Reel Standard per ANSI/EIA481***
- ***AEC-Q200 Qualified***

RoHS Compliant

The RF1391C 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.



SM5050-8 Case
5 x 5

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C	Absolute Frequency	f_c			433.42		MHz
	Tolerance from 433.42 MHz	Δf_C				-120/+200	kHz
Insertion Loss		IL			3.0	5.0	dB
3 dB Bandwidth		BW_3		500	600	750	kHz
Rejection	at f_c - 21.4 MHz (Image)			40	50		dB
	at f_c - 10.7 MHz (LO)			30	40		
	Ultimate				80		
Temperature	Operating Case Temp.	T_C		-40		+85	°C
	Turnover Temperature	T_O		15	25	35	°C
	Turnover Frequency	f_O			f_c		MHz
	Freq. Temp. Coefficient	FTC			0.032		ppm/°C²
Frequency Aging	Absolute Value during the First Year	|fA|			≤10		ppm/yr
Impedance @ fc	Input $Z_{IN} = R_{IN}//C_{IN}$	Z_{IN}		212 Ω // 3.1 pF			
	Output $Z_{OUT} = R_{OUT}//C_{OUT}$	Z_{OUT}		212 Ω // 3.1 pF			
Lid Symbolization (Y=year WW=week S=Shift)		415 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.

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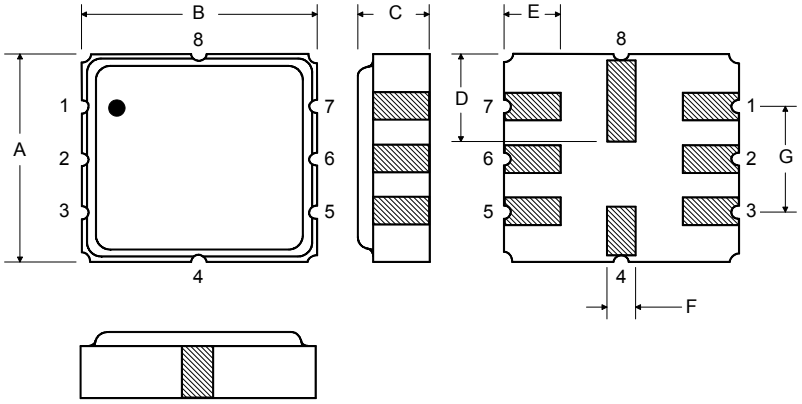
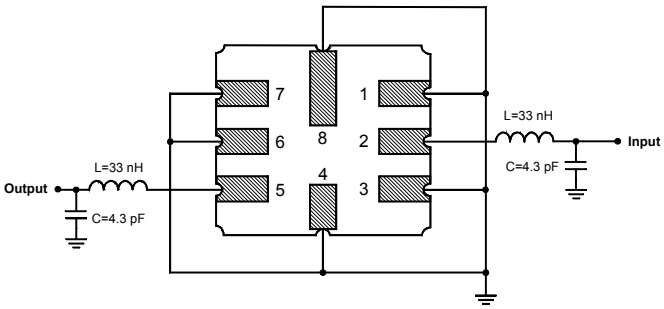
Rating		Value	Units
Input Power Level		10	dBm
DC Voltage		12	VDC
Storage Temperature		-40 to +85	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260	°C

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

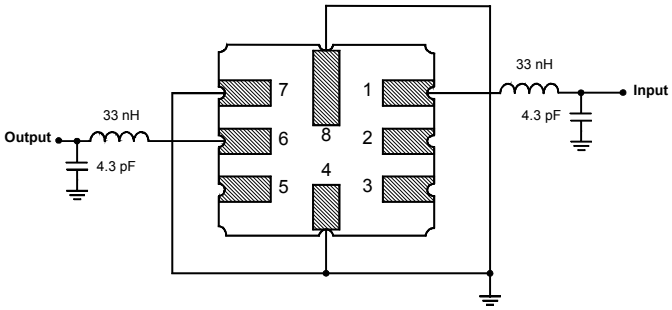


Case Dimensions

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



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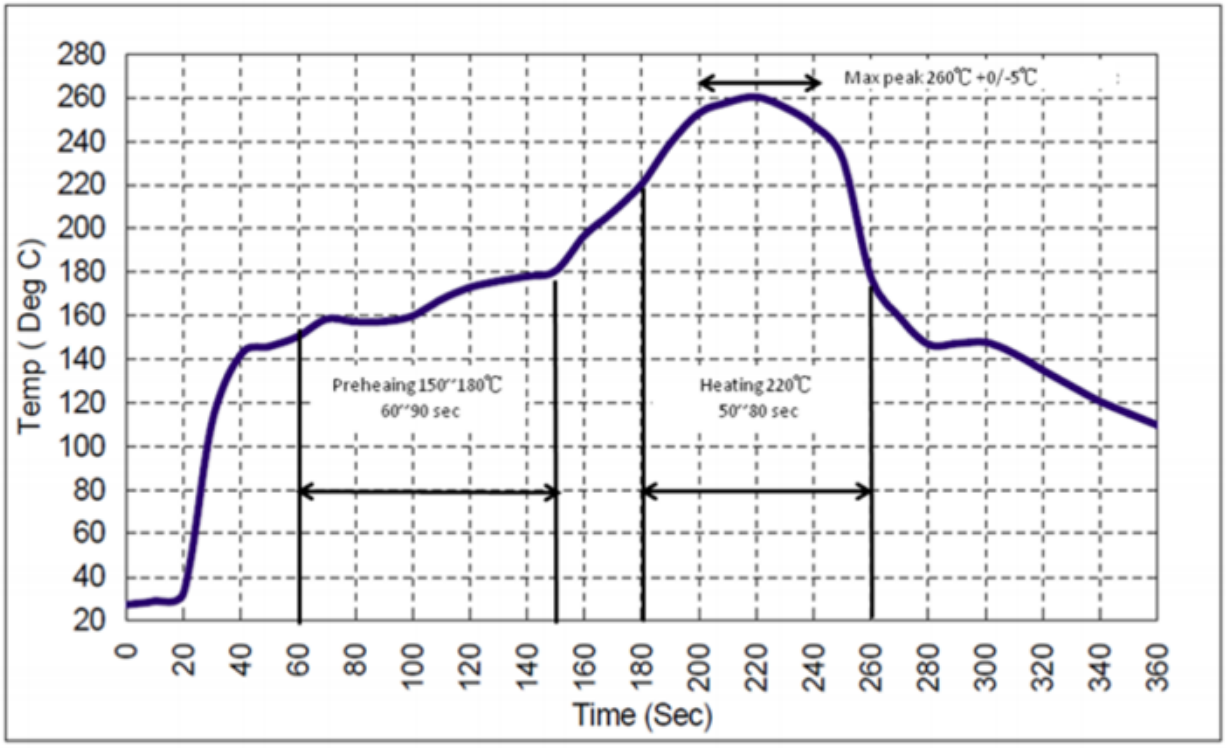
Recommended Reflow Profile

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



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