RFMi
A BRAND OF AKOUSTIS

RoHS compliant

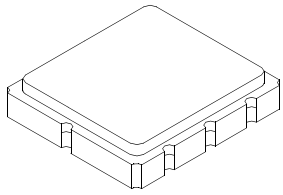
RF1404C

433.92 MHz SAW Filter

- ***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 RF1404C is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 433.92 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			433.920		MHz
Minimum Insertion Loss, 433.800 - 434.120 MHz		IL_{min}			2.4	4.0	dB
Passband (relative to IL_{min})	433.740 - 434.010 MHz					3.0	dB
	433.680 - 434.160 MHz					6.0	
Passband (relative to IL_{min})		BW_3		650	700		kHz
Attenuation: (relative to IL_{min})	10 - 414 MHz			45	48		dB
	414 - 427.5 MHz			40	43		
	427.5 - 432.92 MHz			15	19		
	434.92 - 442 MHz			10	14		
	442 - 550 MHz			35	38		
	550 - 1000 MHz			45	50		
Impedance at f_C: $Z_{IN} = R_{IN} \|\| C_{IN}$				227Ω || 3.3 pF			
$Z_{OUT} = R_{OUT} \|\| C_{OUT}$				227Ω || 3.3 pF			
Turnover To					25		°C
Frequency Aging	Absolute Value During the First Year			≤10 ppm/yr Typical			
Lid Symbolization (in addition to Lot and/or Date Codes)		499, YWWS					
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel					
	Reel Size 13 Inch	3000 Pieces/Reel					

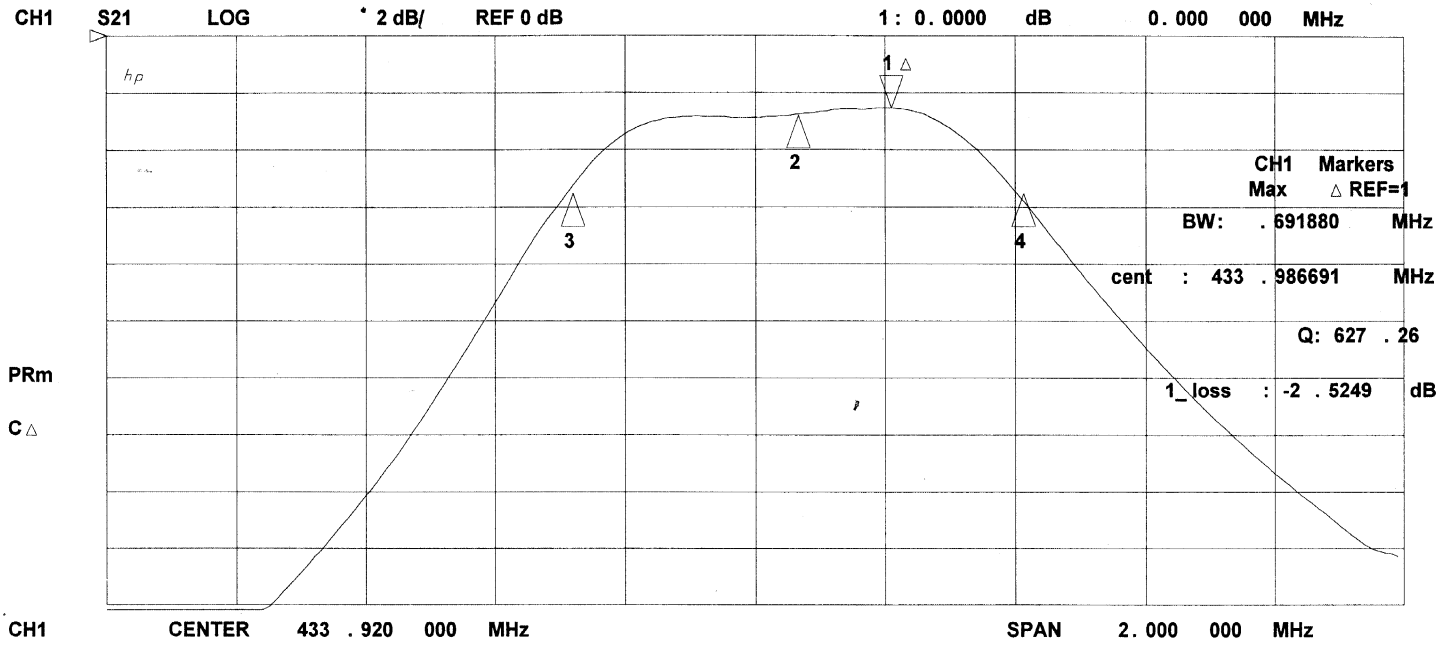
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

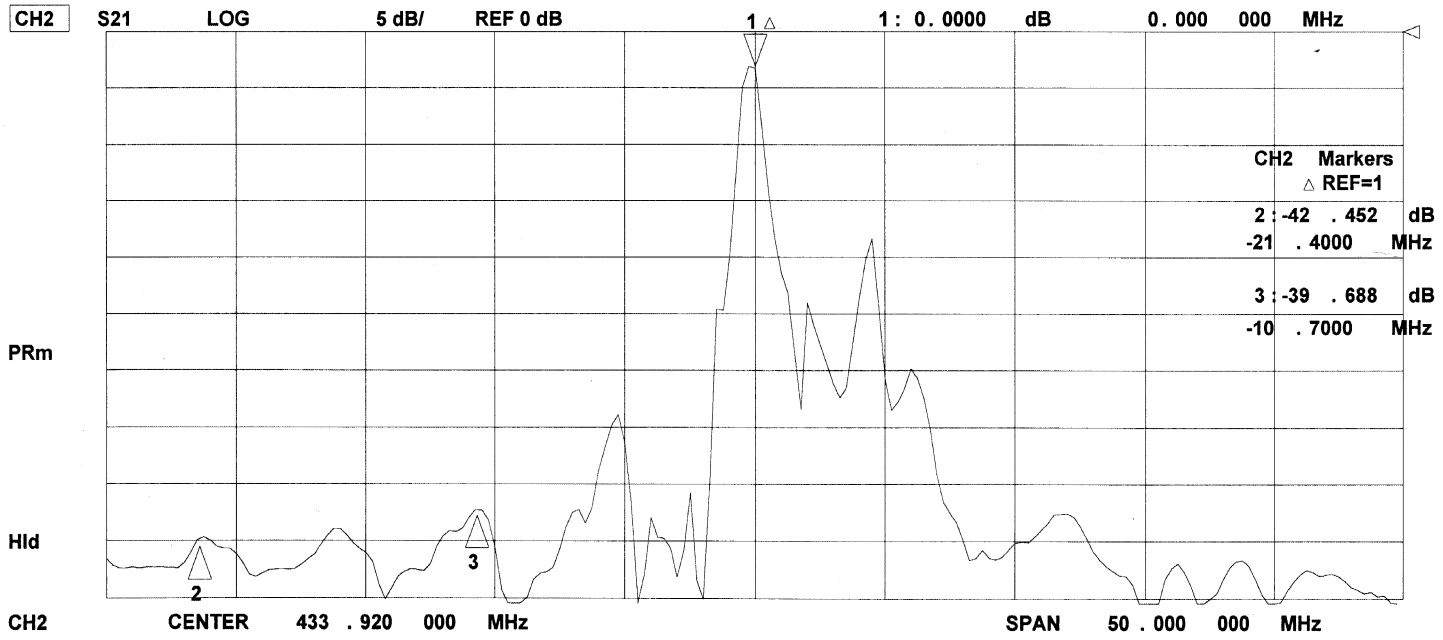
NOTES:

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.

Typical Filter Response

Typical filter responses are shown below. The actual response is dependent on external impedance matching and circuit layout.

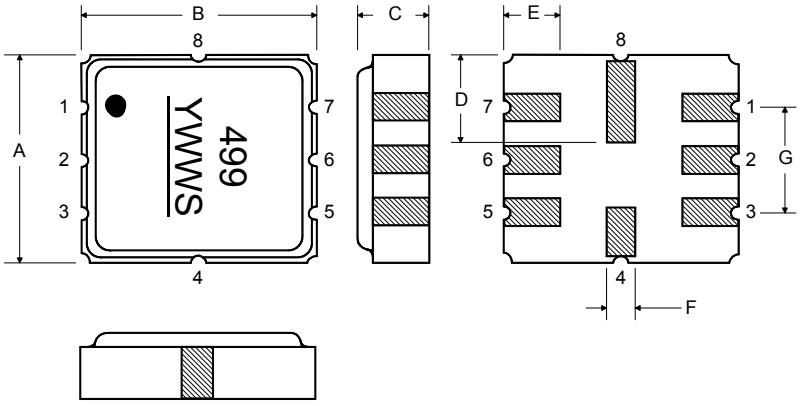




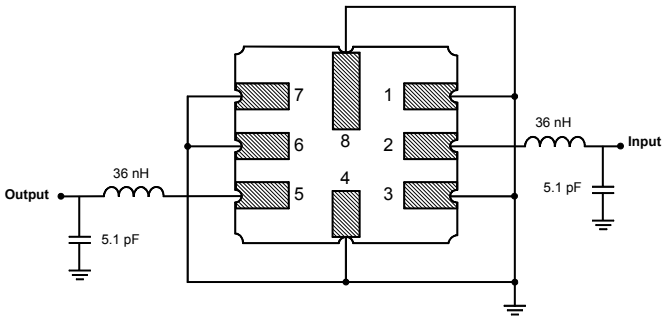
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +120	°C
Operating Temperature	-40 to +105	°C
Soldering Temperature, 10 seconds/5 cycles maximum	260	°C

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



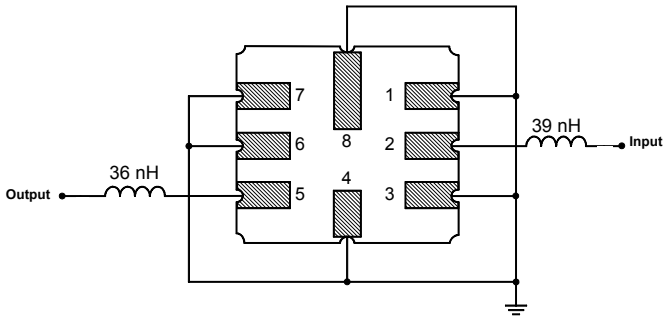
Matching Circuit to 50Ω



Case Dimensions

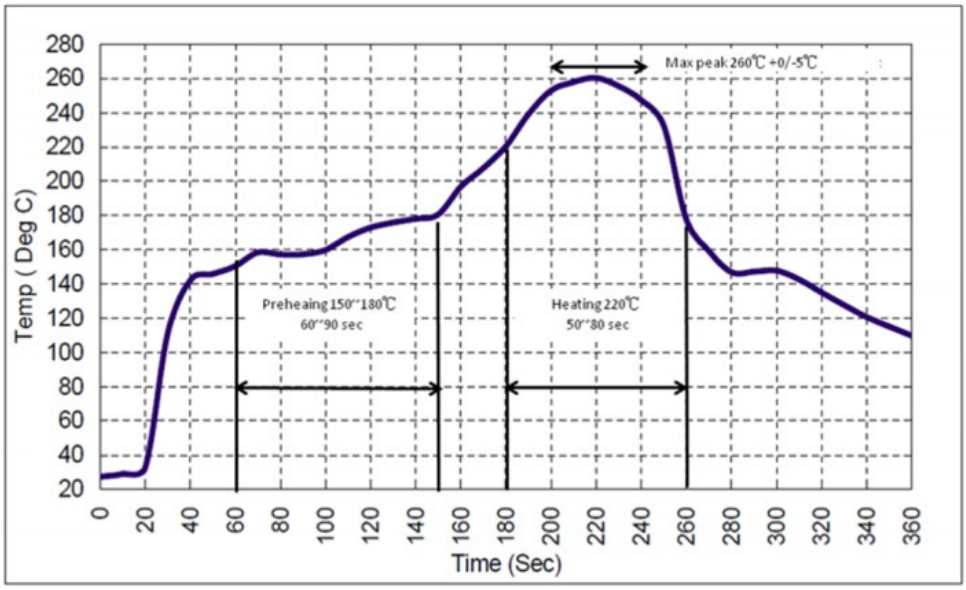
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.8	5.0	5.2	0.189	0.197	0.205
B	4.8	5.0	5.2	0.189	0.197	0.205
C			1.7			0.067
D		2.08			0.082	
E		1.17			0.046	
F		0.64			0.025	
G	2.39	2.54	2.69	0.094	0.100	0.106

Alternate Matching Circuit to 50Ω



Recommended Reflow Profile

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



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