



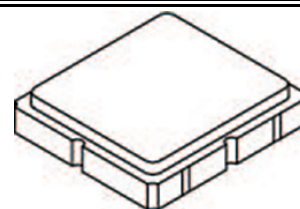
- ***Ideal Front-End Filter for European Wireless Receivers***
- ***Low-Loss, Coupled-Resonator Quartz Design***
- ***Simple External Impedance Matching***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Tape and Reel Standard per ANSI/EIA-481***
- ***AEC-Q200 Qualified***

RoHS

Compliant

RF3404E

433.92 MHz SAW Filter



SM3030-6 Case
3.0 x 3.0

The RF3404E 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.

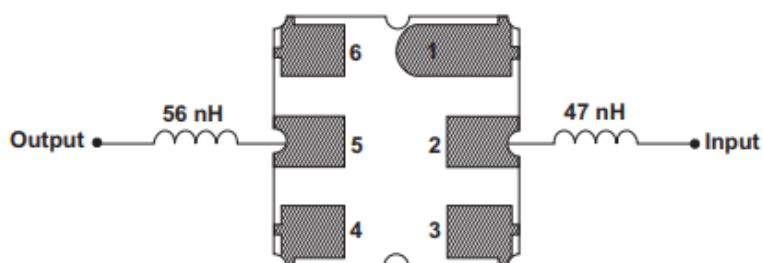
Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C	Absolute Frequency	f _c			433.92		MHz
	Tolerance from MHz	Δf _c			±100		kHz
Insertion Loss (433.760 - 434.080)		IL _{MIN}			2.3	3.5	dB
3 dB Bandwidth		BW ₃		600	650	750	kHz
Rejection Attenuation: (relative to ILmin)	10 - 414 MHz			30	40		dB
	414 - 424 MHz			27	35		
	424 - 430 MHz			16	20		
	430 - 432 MHz			8	10		
	436 - 437 MHz			19	25		
	437 - 440 MHz			25	32		
	441 - 445 MHz			15	20		
	445 - 1000 MHz			30	46		
Turnover Temperature		To		10	25	40	°C
Temperature	Freq. Temp. Coefficient	FTC			0.032		ppm/°C ²
Frequency Aging	Absolute Value during the First Year	fA			≤10		ppm/yr
Impedance @ f _c	Input Z _{IN} = R _{IN} C _{IN}	Z _{IN}		150Ω // 3.4pF			
	Output Z _{OUT} = R _{OUT} C _{OUT}	Z _{OUT}		175Ω // 4.1pF			
Lid Symbolization (Y=year WW=week S=shift)		697, <u>YWWS</u>					
Standard Reel Quantity	Reel Size 7 Inch			500 Pieces/Reel			
	Reel Size 13 Inch			3000 Pieces/Reel			

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +105	°C
Soldering Temperature (10 seconds/5 cycles Max..)	260	°C

Primary Electrical Connections

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

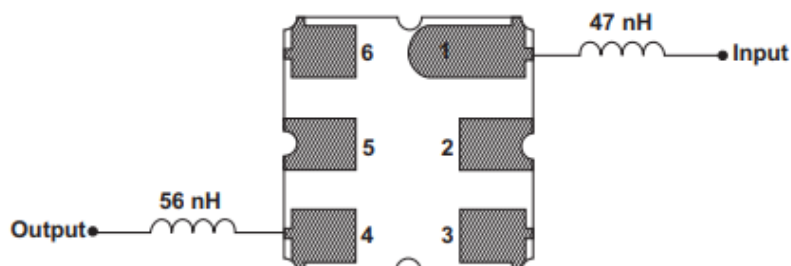
Primary Matching Circuit to 50 Ω



Alternate Electrical Connections

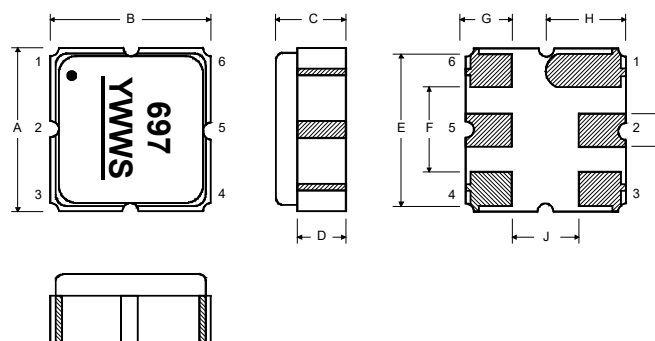
Pin	Connection
1	Input
2	Input Return
3	Ground
4	Output
5	Output Return
6	Ground

Alternate Matching Circuit to 50 Ω



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



11 Jan 2008 06:46:14
 CH1 S11 1 UFS 1: 51.947 Ω 3.0938 Ω 1.1347 nH 433.920000 MHz

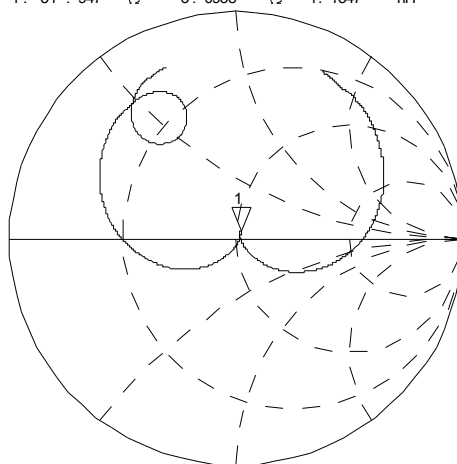
hp
 RF3404E DEMO
 USING 401-1564-001 PCB.

Cor

PRm

Full

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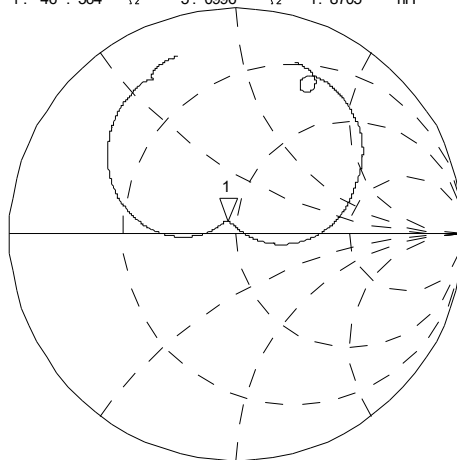
CH2 S22 1 UFS 1: 46.564 Ω 5.0996 Ω 1.8705 nH 433.920000 MHz

Cor

Full

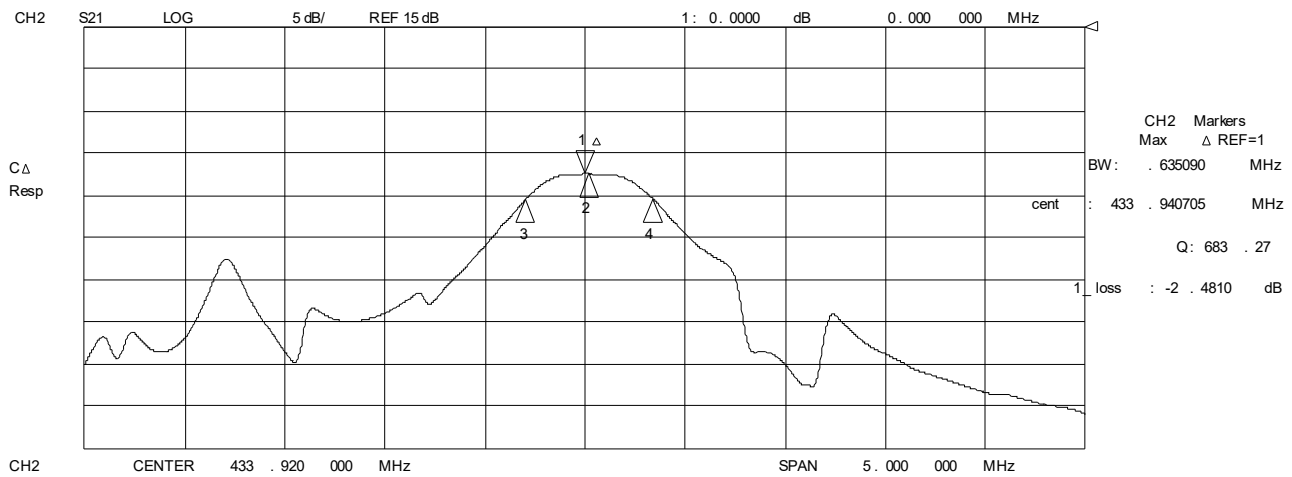
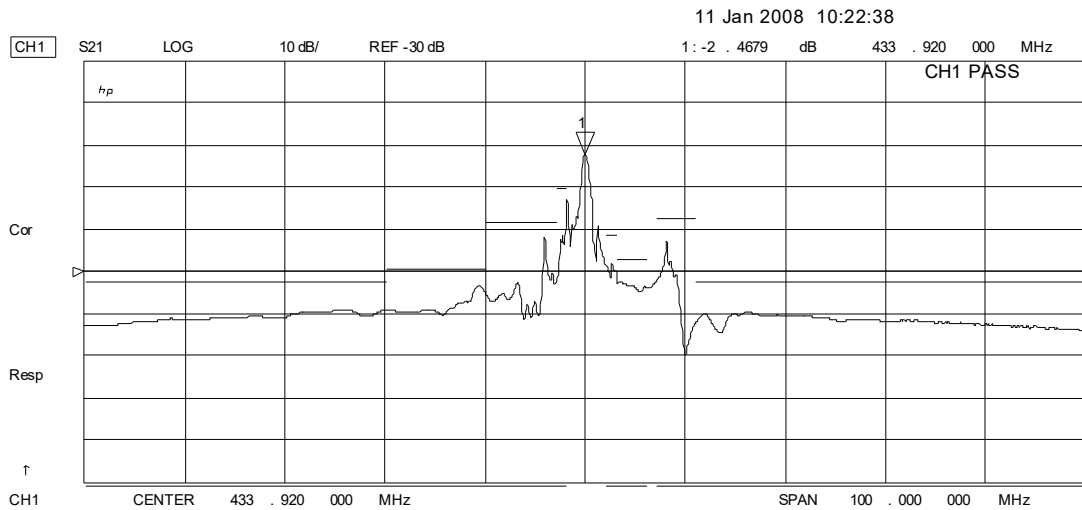
PRm

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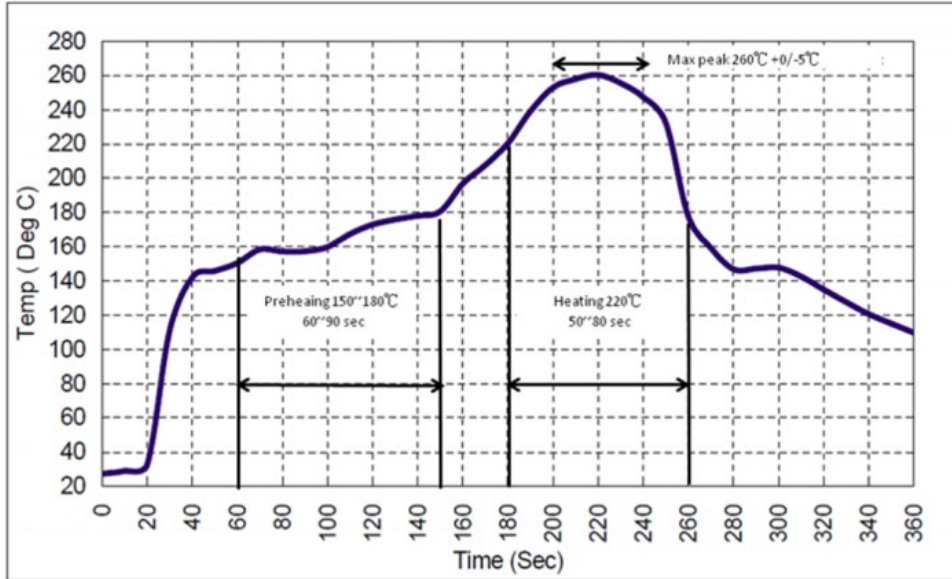
CENTER 433.920000 MHz

SPAN 2.000000 MHz



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.



Mouser Electronics

Authorized Distributor

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