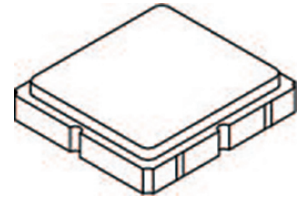


RF3396E

434.420 MHz SAW Filter



SM3030-6 Case
3.0 x 3.0

- **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**

The RF3396E is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 434.42 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	f_c		434.42		MHz
	Tolerance from MHz	Δf_c		±100		kHz
Insertion Loss (433.760 - 434.080)		IL_{MIN}		1.8	2.5	dB
3 dB Bandwidth		BW_3	850	900	950	kHz
Rejection Attenuation: (relative to IL_{min})	10 - 420 MHz		47	52		dB
	420 - 427 MHz		38	43		
	427 - 431 MHz		29	34		
	431 - 433.2 MHz		8	18		
	435.92 - 439 MHz		8	16		
	439 - 447 MHz		19	28		
	447 - 1000 MHz		37	44		
Turnover Temperature		T_o	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 $Z_{IN} = R_{IN} \parallel C_{IN}$	Z_{IN}		TBD		
	Output $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	Z_{OUT}		TBD		
Lid Symbolization (Y=year WW=week S=shift)	841, YWWS					
Standard Reel Quantity	Reel Size 7 Inch			500 Pieces/Reel		
	Reel Size 13 Inch			3000 Pieces/Reel		

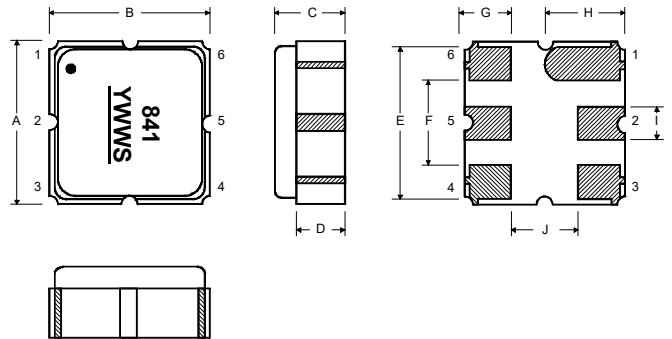
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.
NOTES:

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.

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

Electrical Connections

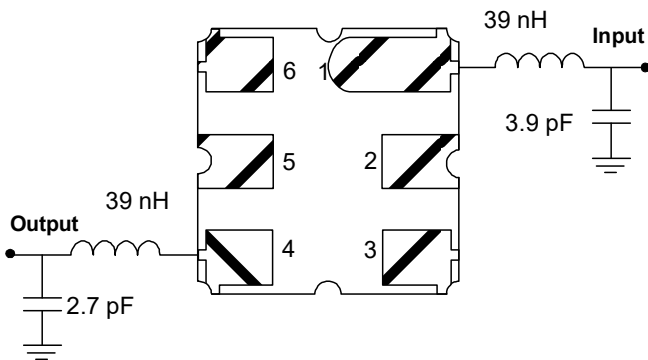
Pin	Connection
1	Input
2	Input Ground
3	Ground
4	Output
5	Output Ground
6	Ground



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

Matching Circuit to 50Ω



11 Jan 2008 06:46:14

CH1 S11 1 UFS 1: 51.947 Ω 3.0938 Ω 1.1347 nH 433.920000 MHz

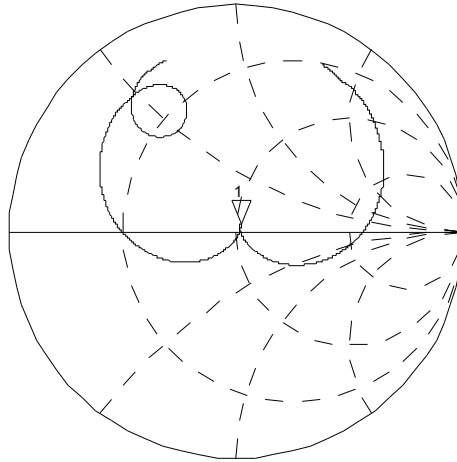
h_p
RF3404E DEMO
USING 401-1564-001 PCB.

Cor

PRm

Full

↑



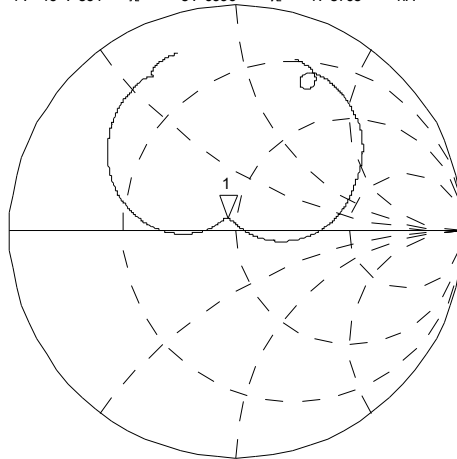
CH2 S22 1 UFS 1: 46.564 Ω 5.0996 Ω 1.8705 nH 433.920000 MHz

Cor

Full

PRm

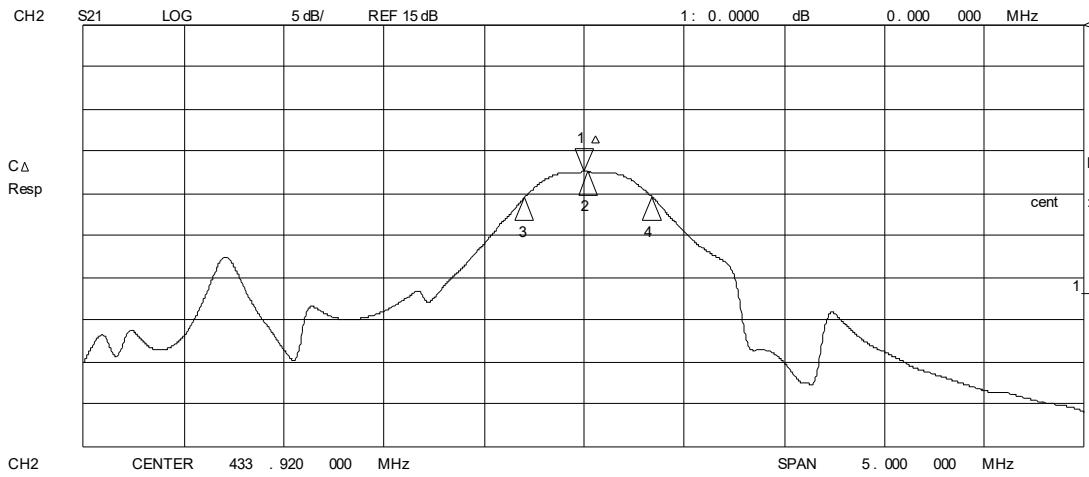
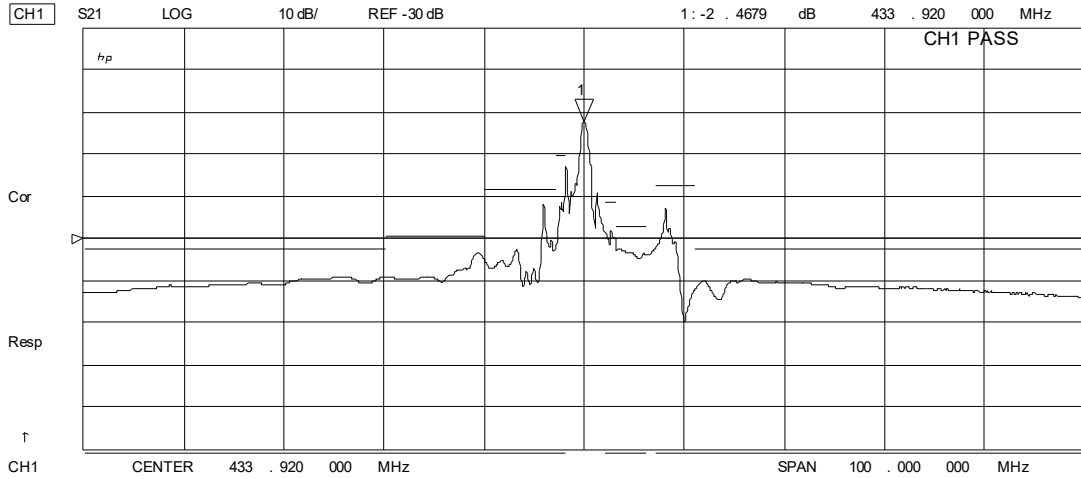
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CENTER 433.920000 MHz

SPAN 2.000000 MHz

11 Jan 2008 10:22:38



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.

