RoHS Compliance
This component is compliant with RoHS directive.
This component was always RoHS compliant from the first date of manufacture.

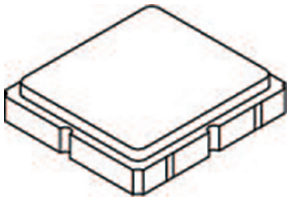
RF3396E

434.420 MHz SAW Filter

- ***Ideal Front-End Filter for European Wireless Receivers***
- ***Low-Loss, Coupled-Resonator Quartz Design***
- ***Simple External Impedance Matching***

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. Murata's advanced SAW design and fabrication technology is utilized to achieve high performance and very low loss with simple external impedance matching.



SM3030-6 Case
3.0 x 3.0

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C	Absolute Frequency	f_c	1, 2, 3		434.42		MHz
	Tolerance from MHz	Δf_c	1, 2		±100		kHz
Insertion Loss (433.760 - 434.080)		IL_{MIN}	1, 3		1.8	2.5	dB
3 dB Bandwidth		BW_3	1, 3	850	900	950	kHz
Rejection Attenuation: (relative to ILmin)	10 - 420 MHz		1, 3	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		To	3, 4	10	25	40	°C
Temperature	Freq. Temp. Coefficient	FTC			0.032		ppm/°C^2
Frequency Aging	Absolute Value during the First Year	|fA|	5		≤10		ppm/yr
Impedance @ fc	Input $Z_{IN} = R_{IN} \| C_{IN}$	Z_{IN}	1	TBD			
	Output $Z_{OUT} = R_{OUT} \| C_{OUT}$	Z_{OUT}		TBD			
Lid Symbolization (Y=year WW=week S=shift)		781 // YWWS					
Standard Reel Quantity	Reel Size 7 Inch		9	500 Pieces/Reel			
	Reel Size 13 Inch			3000 Pieces/Reel			

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

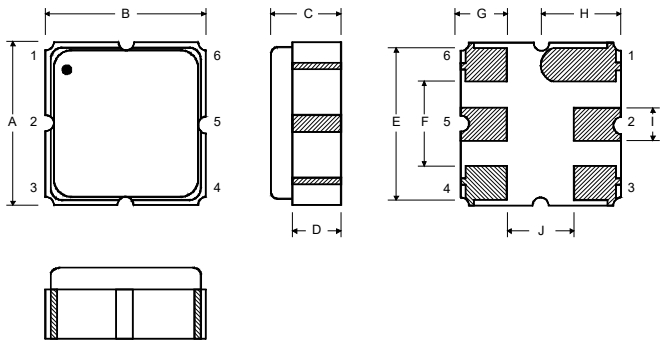
Notes:

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system with VSWR ≤ 1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f_c. Note that insertion loss and bandwidth and passband shape are dependent on the impedance matching component values and quality.
2. The frequency f_c is defined as the midpoint between the 3dB frequencies.
3. Where noted specifications apply over the entire specified operating temperature range of -40°C to +105°C.
4. The turnover temperature, T_O, is the temperature of maximum (or turnover) frequency, f_o. The nominal frequency at any case temperature, T_c, may be calculated from: $f = f_o [1 - FTC (T_o - T_c)^2]$.
5. Frequency aging is the change in fc with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing significantly in subsequent years.
6. The design, manufacturing process, and specifications of this device are subject to change.
7. One or more of the following U.S. Patents apply: 4,54,488, 4,616,197, and others pending.
8. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
9. Tape and Reel Standard Per ANSI / EIA 481.

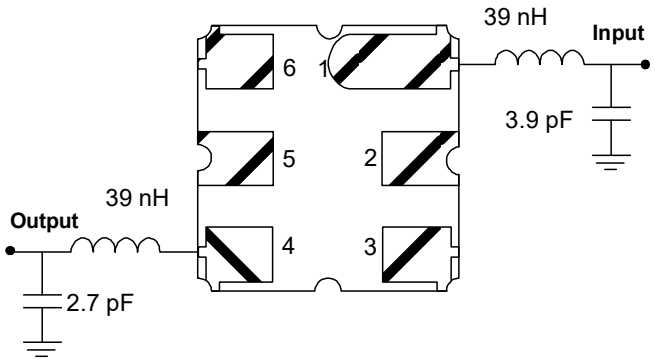
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +105	°C
Soldering Temperature (10 seconds/5 cycles Max..)	260	°C

Electrical Connections

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



Matching Circuit to 50Ω



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

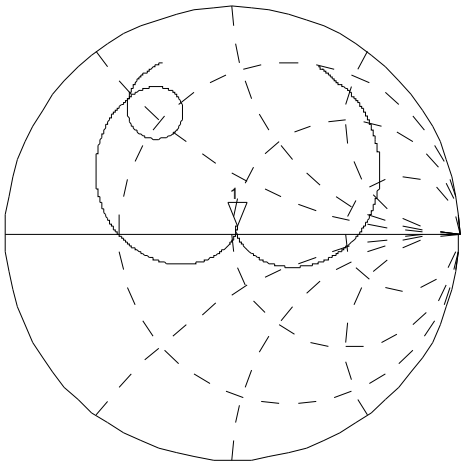
CH1 S11 1 U FS 1: 51 . 947 Ω 3 . 0938 Ω 1. 1347 nH 433 . 920 000 MHz

hp
RF3404E DEMO
USING 401-1564-001 PCB.

Cor

PRm

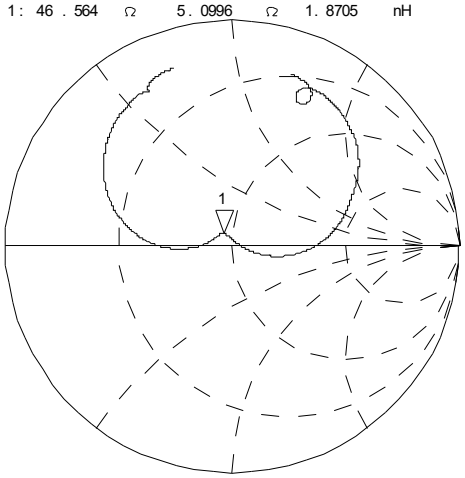
Full



CH2 S22 1 U FS 1: 46 . 564 Ω 5 . 0996 Ω 1. 8705 nH 433 . 920 000 MHz

Cor
Full

PRm



CENTER 433 . 920 000 MHz SPAN 2. 000 000 MHz