

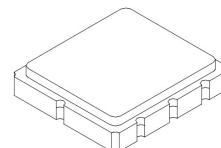
- **RF Front-end Filter for European Wireless Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**

The RF3396D 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.

RF3396D

434.420 MHz SAW Filter



SM3838-8 Case
3.8 x 3.8

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C Absolute Frequency		f _c	1, 2, 3		434.420		MHz
Insertion Loss		IL _{MIN}	1, 3		1.8	2.5	dB
Passband Ripple (Relative to IL _{MIN}) Fc ±200kHz			1, 3		0.5	1.0	dB
3 dB Bandwidth		BW ₃	1, 3	850	900	950	kHz
Rejection Attenuation: (relative to ILmin) 10 - 420 MHz 420 - 427 MHz 427 - 431 MHz 431 - 433.2 MHz 435.92 - 439 MHz 439 - 447 MHz 447 - 1000 MHz			1, 3	40	43		dB
				33	36		
				27	30		
				10	13		
				6	10		
				20	23		
				34	37		
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} 							

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:



- 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.
- The frequency f_c is defined as the midpoint between the 3dB frequencies.
- Where noted specifications apply over the entire specified operating temperature range of -40°C to +90°C.
- The turnover temperature, T_O , is the temperature of maximum (or turnover) frequency, f_c . The nominal frequency at any case temperature, T_c , may be calculated from:
 $f = f_o [1 - FTC (T_o - T_c)^2]$.
- Frequency aging is the change in f_c 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.
- The design, manufacturing process, and specifications of this device are subject to change.
- One or more of the following U.S. Patents apply: 4,54,488, 4,616,197, and others pending.
- All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
- Tape and Reel Standard Per ANSI / EIA 481.

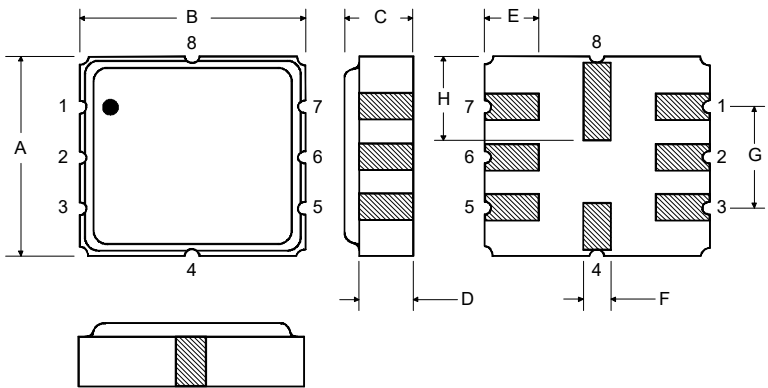
Discontinued

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

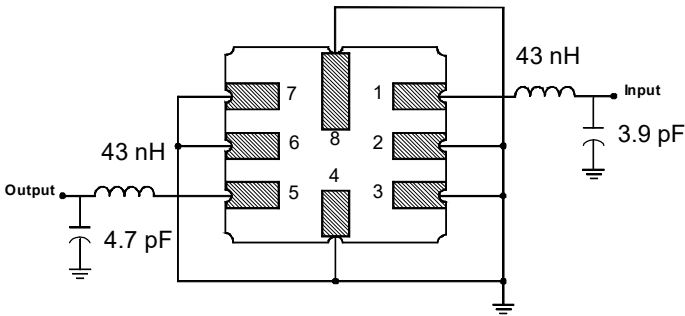
PRIMARY

Electrical Connections

Pin	Connection
1	Input
2	Input Ground
3	Ground
4	Case Ground
5	Output
6	Output Ground
7	Ground
8	Case Ground



Matching Circuit to 50Ω



Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.14	0.15	0.16
B	3.6	3.8	4.0	0.14	0.15	0.16
C	1.00	1.20	1.40	0.04	0.05	0.055
D	0.95	1.10	1.25	0.033	0.043	0.05
E	0.90	1.0	1.10	0.035	0.04	0.043
F	0.50	0.6	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080