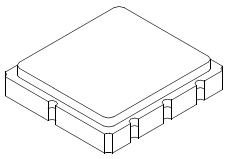
muRata
INNOVATOR IN ELECTRONICS

RF3446E

433.92 MHz SAW Filter

- ***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)***

The RF3446E 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.



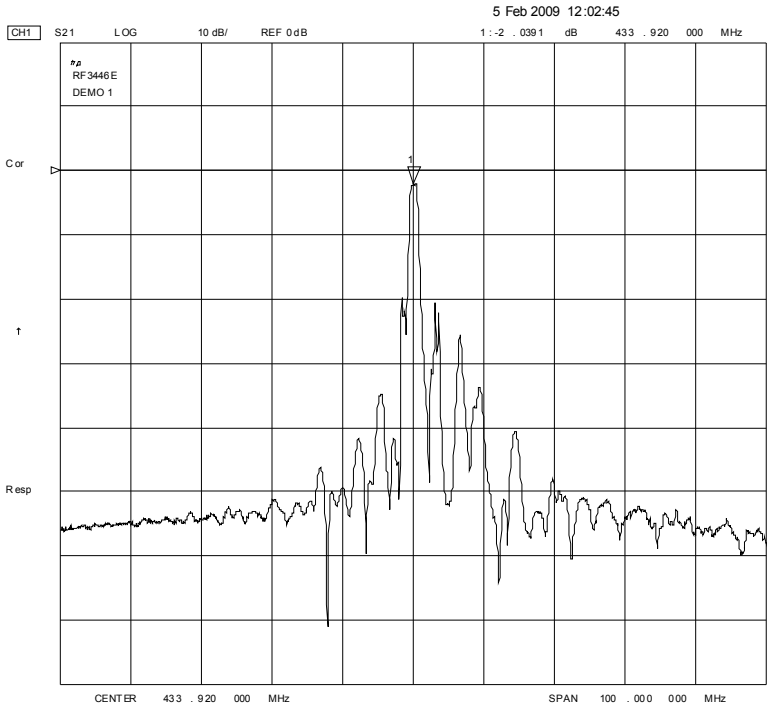
SM3030-6 Case
3.0 x 3.0

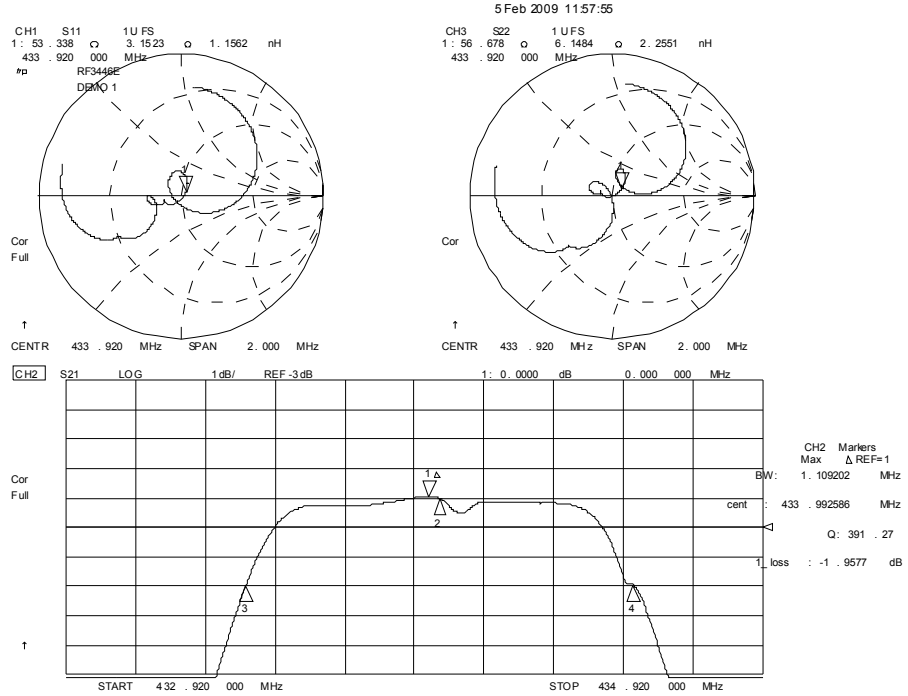
Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C	Absolute Frequency	f_c	1, 2, 3		433.92		MHz
Passband Ripple	433.52 to 434.32 MHz				0.5	1.2	dB
Insertion Loss (433.760 - 434.080)		IL_{MIN}	1, 3		2.0	3.0	dB
3 dB Bandwidth		BW_3	1, 3	960	1080	1150	kHz
Rejection Attenuation: (relative to ILmin)	10 - 418 MHz		1, 3	47	50		dB
	418 - 423.7 MHz			44	47		
	423.7 - 430 MHz			33	36		
	430 - 432.5 MHz			16	19		
	436 - 438.5 MHz			18	21		
	438.5 - 446 MHz			21	24		
	446 - 452 MHz			38	41		
	452 - 1000 MHz			45	48		
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	130 Ω || 2.5 pF			
	Output $Z_{OUT} = R_{OUT} \| C_{OUT}$	Z_{OUT}		134.5 Ω || 2.48 pF			
Lid Symbolization (Y=year WW=week S=shift)		776 // 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 +90°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.

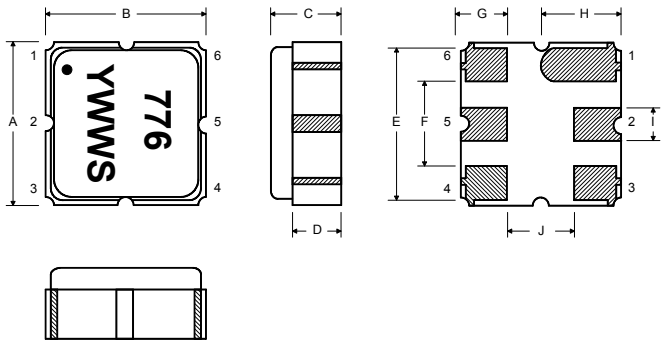




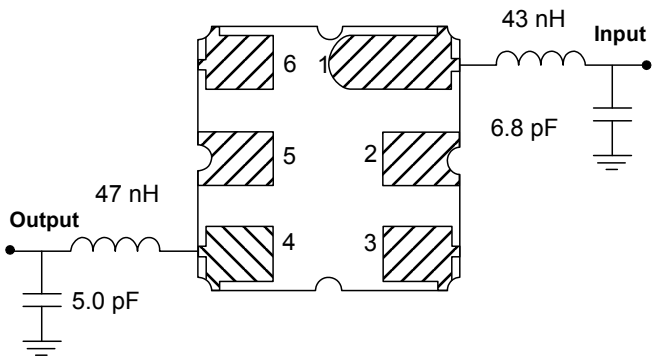
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-55 to +125	°C
Operable Temperature Range	-40 to +105	°C
Soldering Temperature (10 seconds/5 cycles Max..)	260	°C

Electrical Connections

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



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