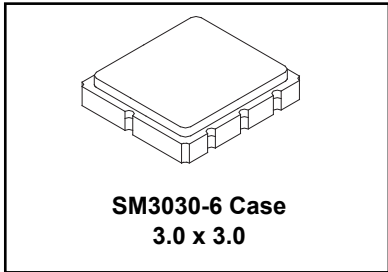


RF3446E

**433.92 MHz
SAW Filter**



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

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.

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 IL_{min})		1, 3	10 - 418 MHz	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	T_o	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 @ f_c	Input $Z_{IN} = R_{IN} C_{IN}$	1	Z_{IN}		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			

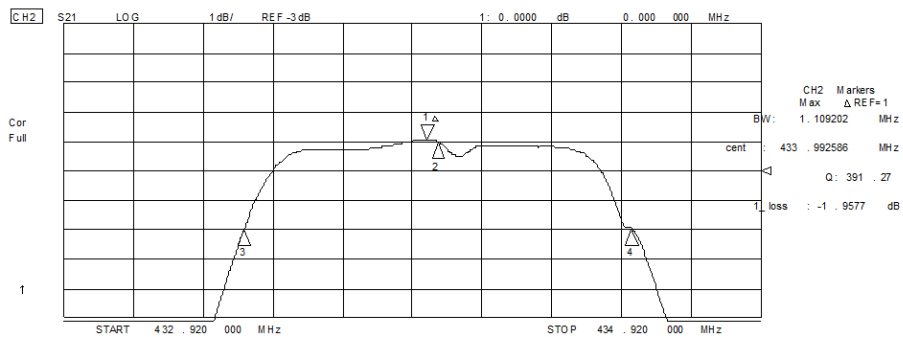
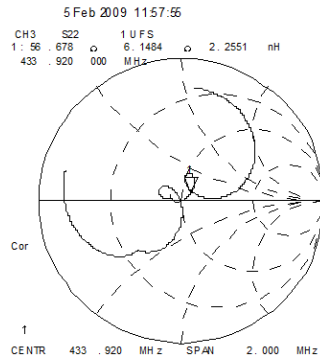
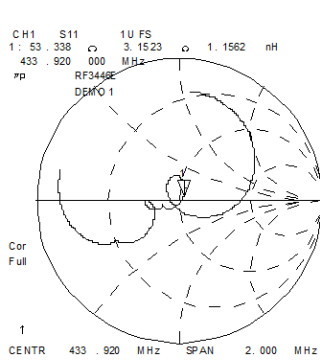
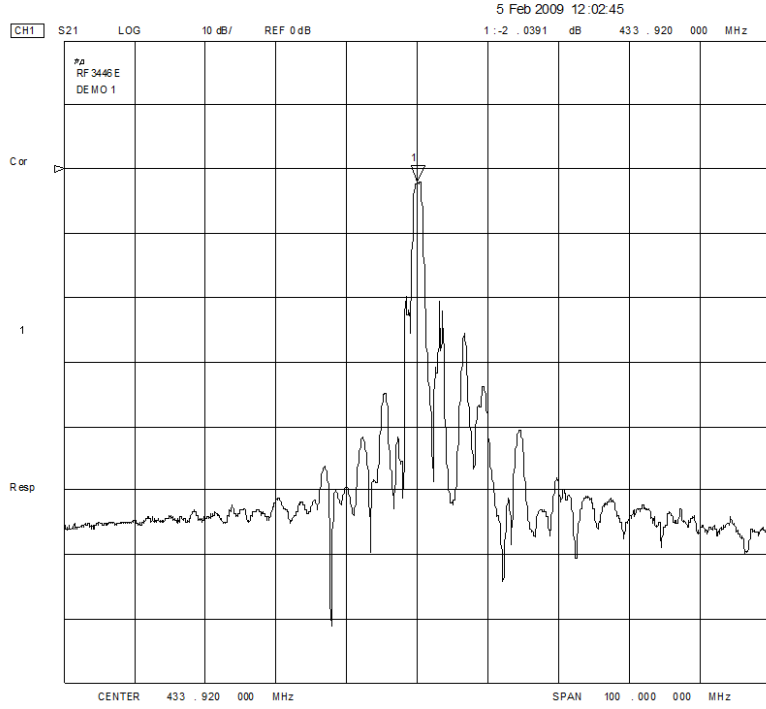


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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 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.
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.

Discontinued



Discontinued

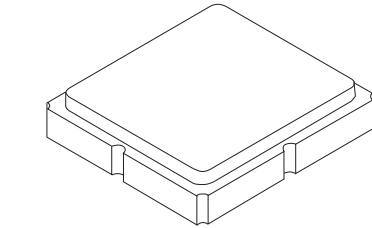
Rating		Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-55 to +125	°C
Operable Temperature Range	-40 to +105	°C
Soldering Temperature (10 seconds/5 cycles Max..)	260	°C

Case and PCB Footprint Dimensions

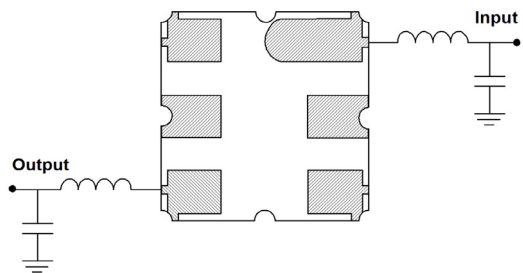
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	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
K		3.20			0.126	
L		1.70			0.067	
M		1.05			0.041	
N		0.81			0.032	
O		0.38			0.015	

Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel
Lid Plating	2.0 to 3.0 μm Nickel
Body	Al_2O_3 Ceramic
	Pb Free

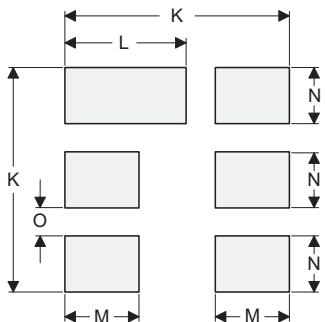


Electrical Connections

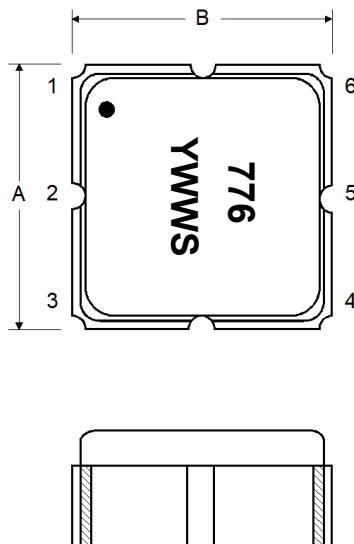


Pin	Connection
1	Input
2	Input Return
3	Ground
4	Output
5	Output Return
6	Ground

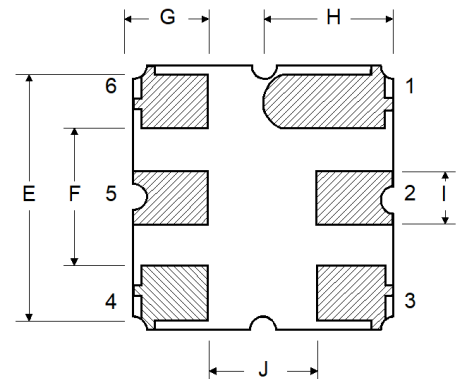
PCB Footprint Top View



TOP VIEW

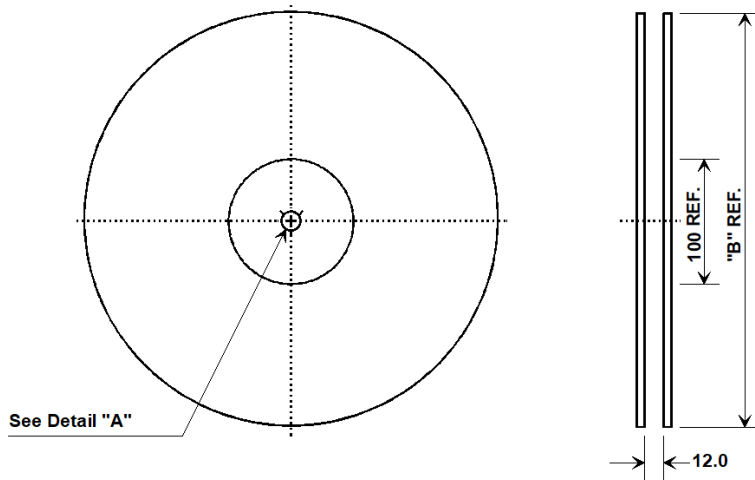


BOTTOM VIEW

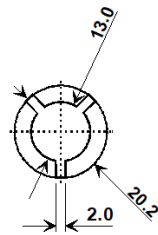


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Tape and Reel Specifications

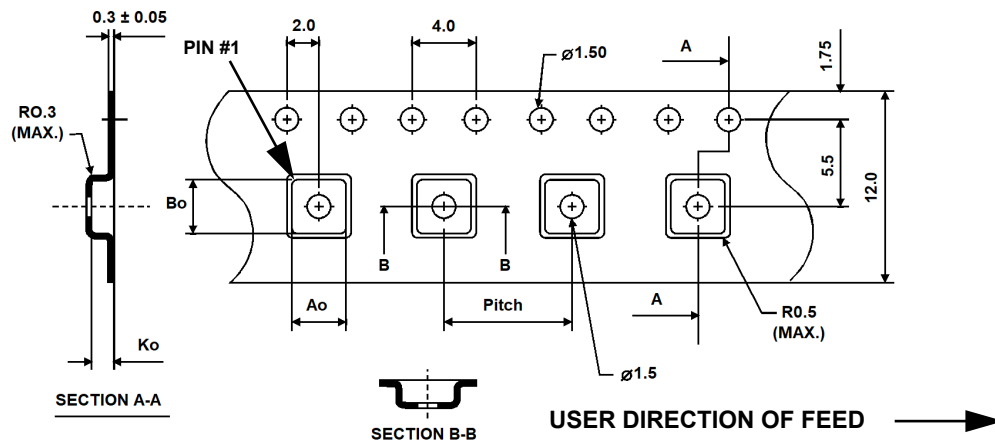


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 mm
Pitch	8.0 mm
W	12.0 mm



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