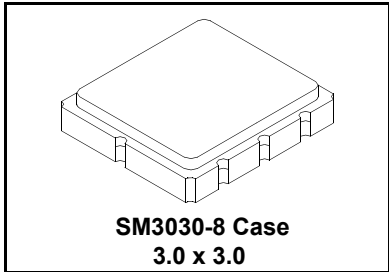



**RF3600E**

**868.60 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 RF3600E is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 868.6 MHz receivers. Receiver designs using this filter include superheterodyne with 10.7 MHz or lower intermediate frequencies, plus direct conversion and superregeneratives. 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 @ 25°C	$f_c$	1, 2, 3		868.60		MHz
Insertion Loss	IL	1, 3		1.8	2.3	dB
3 dB Bandwidth	$BW_3$	1, 2, 3		1600	2100	kHz
Passband Ripple, 868 to 870 MHz				0.8	1.5	dB <sub>P-P</sub>
Attenuation: (relative to $IL_{MIN}$ )	10 to 800 MHz	1, 3	47	50		dB
	800 to 858 MHz		32	35		
	858 to 862 MHz		25	28		
	862 to 864 MHz		17	20		
	872 to 876 MHz		19	22		
	876 to 888 MHz		15	18		
	888 to 890 MHz		32	35		
902 to 1000 MHz	35	38				
Temperature	Freq. Temp. Coefficient	FTC	3, 4	0.032		ppm/°C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	fA	5	<±10		ppm/yr
Impedance @ $f_c$	Input $Z_{IN} = R_{IN} \parallel C_{IN}$	$Z_{IN}$	1	4.7 K $\Omega$    1.57 pF		
	Output $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	$Z_{OUT}$		3.8 K $\Omega$    1.74 pF		
Lid Symbolization (in addition to Lot and/or Date Codes)				816 // 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.**

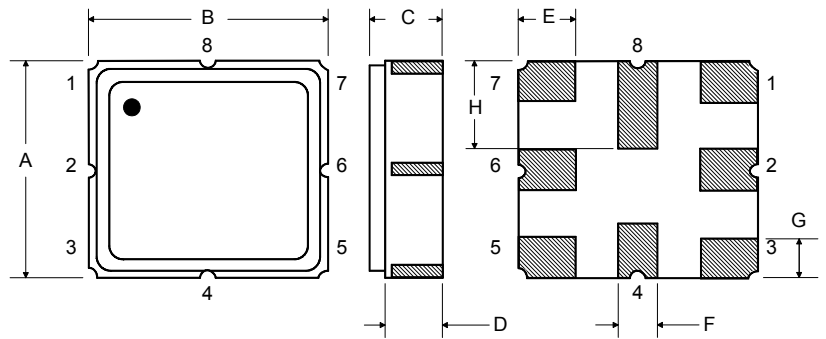
**NOTES:**

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50  $\Omega$  test system with VSWR  $\leq$  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 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.

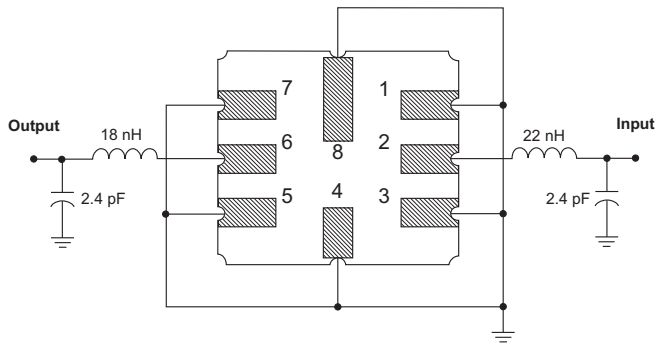
Rating	Value	Units
Input Power Level	+10 (Continuous Wave) +15 (1% duty)	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +125	°C
Soldering Temperature (10 seconds / 5 cycles maximum)	260	°C

### Electrical Connections

Pin	Connection
1	Input Ground
2	Input
3	Ground
4	Case Ground
5	Output Ground
6	Output
7	Ground
8	Case 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	1.14	1.27	1.40	0.045	0.050	0.055
D	0.79	0.92	1.05	0.031	0.036	0.041
E	0.62	0.75	0.88	0.024	0.029	0.034
F	0.47	0.60	0.73	0.018	0.024	0.029
G	0.47	0.60	0.73	0.018	0.024	0.029
H	1.07	1.20	1.33	0.042	0.047	0.052

### OPTIONAL

#### 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 50 Ω

