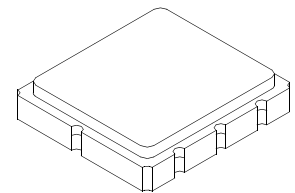


- Ideal Front-End Filter for European Wireless Receivers
- Low-Loss, Coupled-Resonator Quartz Design
- Simple External Impedance Matching
- Complies with Directive 2002/95/EC (RoHS)
- Qualified per AEC-Q200 requirements



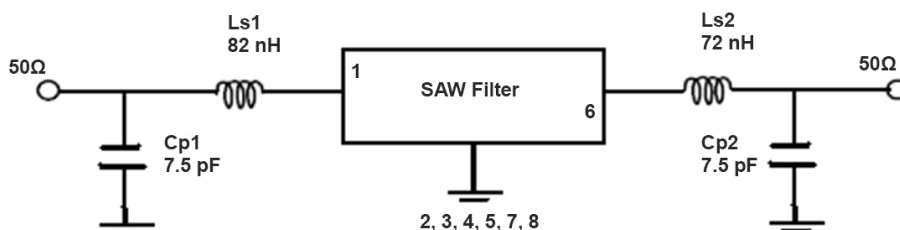
Rating	Value	Units
Input Power Level	13	dBm
DC Voltage	0	VDC
Operable Temperature Range	-45 to +125	°C
Storage Temperature	-40 to +105	°C
Specification Temperature Range	-40 to +105	°C
Soldering Temperature (10 sec/ 5 cycles max.)	260	°C

RF3709D

**433.92 MHz**  
**SAW Filter**

**SM3838-8 Case**  
**3.8 x 3.8**

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency	f <sub>c</sub>			433.92		MHz
Minimum Insertion Loss (Relative to α min)	α min					dB
Including loss of matching elements    433.385 to 434.455 MHz				3.0	3.5	
Excluding loss in matching elements    433.385 to 434.455 MHz				2.0	2.5	
Passband (relative to α min)    433.385 to 434.455 MHz				1.3	2.8	dB

## Measurement Circuit



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



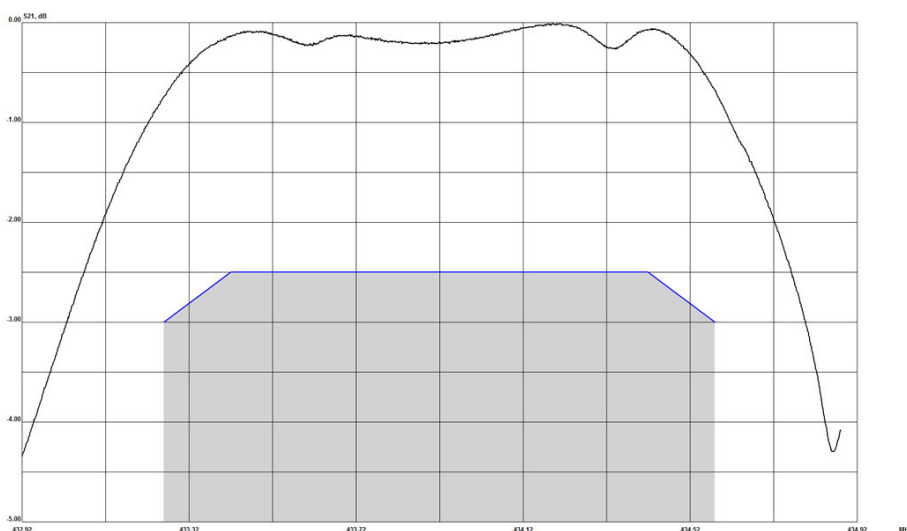
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

#### NOTES:

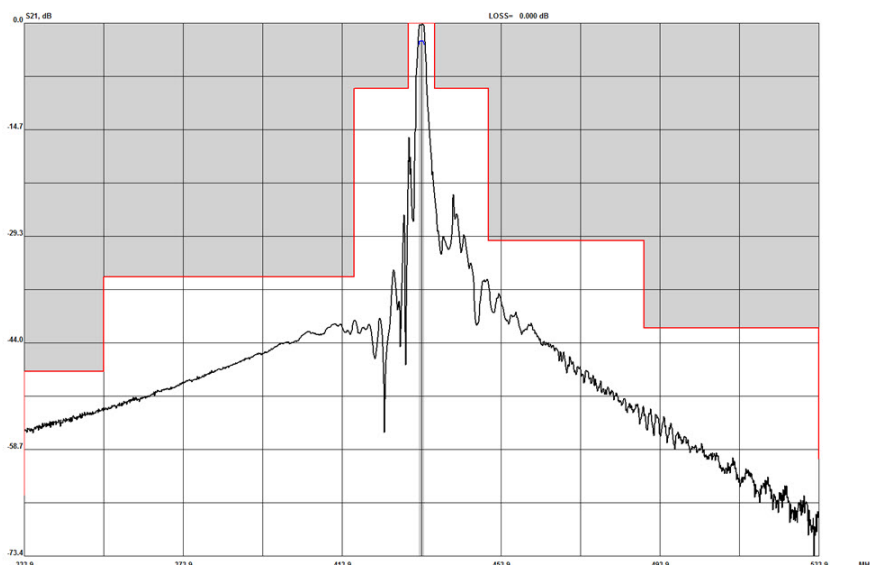
1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50  $\Omega$  test system with VSWR  $\leq$  1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency,  $f_c$ . Note that 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°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:  $f = f_o [1 - \text{FTC} (T_o - T_c)^2]$ .
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.
9. Tape and Reel Standard Per ANSI / EIA 481.
10. This product complies with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

## Frequency Characteristics

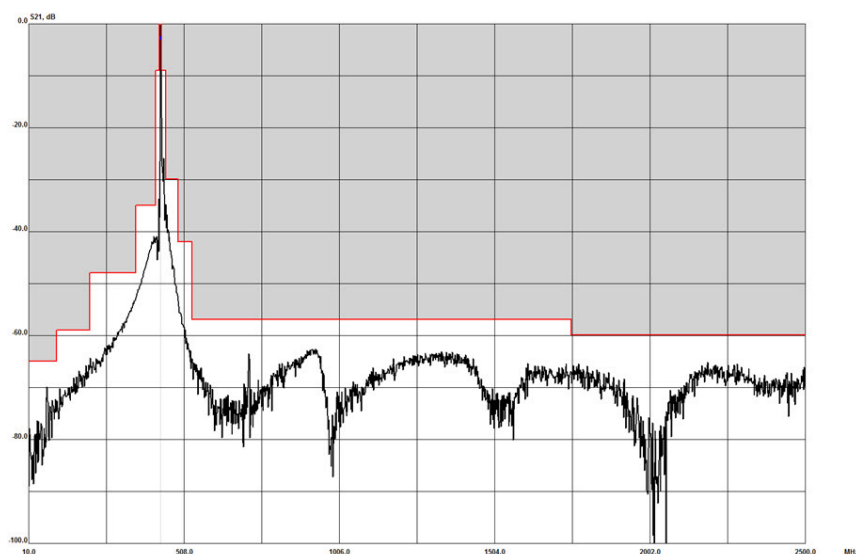
### S21 Response: Span - 2 MHz



### S21 Response: Span - 20 MHz

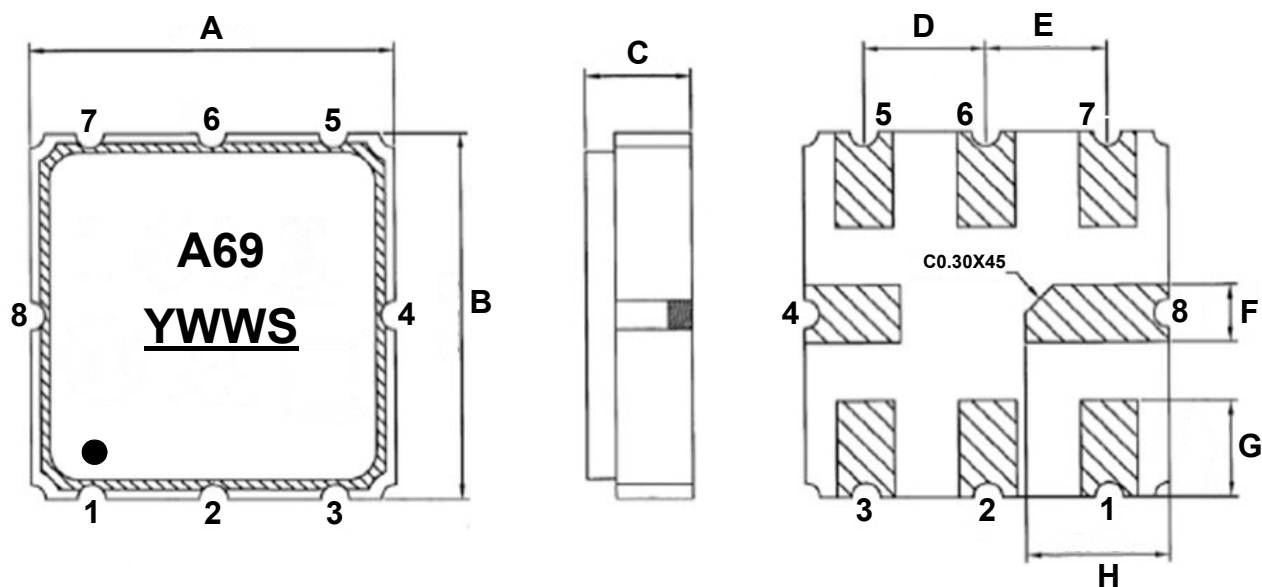


## S21 Response: Span - 10 MHz to 2.5 GHz

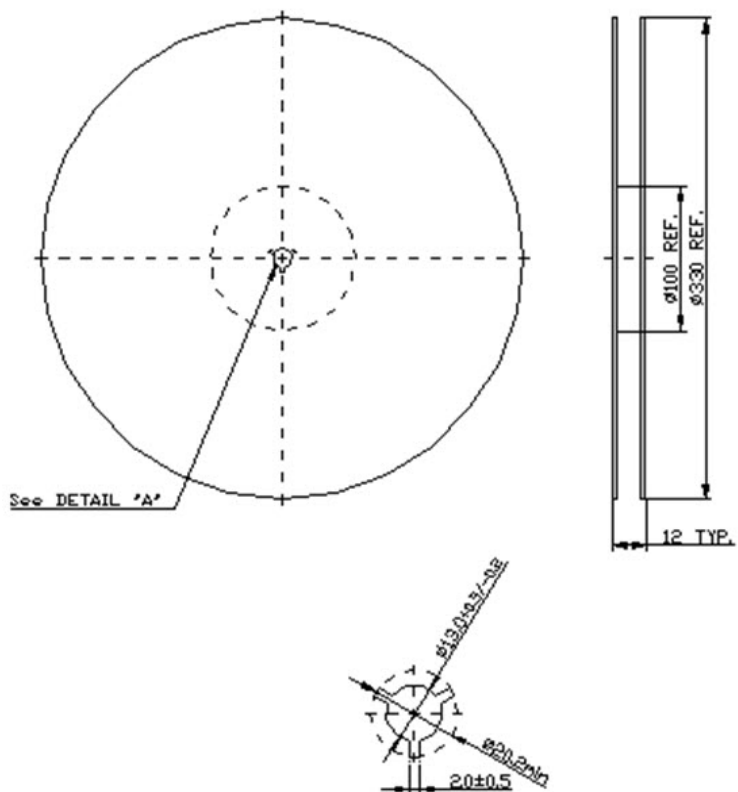


## Case Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.65	3.8	3.95	0.143	0.149	0.155
B	3.65	3.8	3.95	0.143	0.149	0.155
C	-	-	1.40	-	-	0.055
D	-	1.27	-	-	0.050	-
E	-	1.27	-	-	0.050	-
F	-	0.60	-	-	0.023	-
G	-	1.00	-	-	0.039	-
H	-	1.50	-	-	0.059	-



## Reel Dimensions



## Tape Dimensions

