

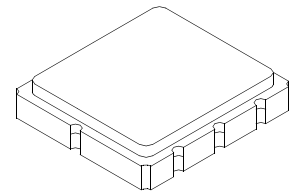
- **Ideal Front-End Filter for European Wireless Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Tape and Reel Standard per ANSI/EIA-481**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

The RF1407D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 868.60 MHz receivers. Receiver designs using this filter include superhet 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, in Germany under FTZ 17 TR 2100, in the United Kingdom under DTI MPT 1340 (for automotive only), in France under PTT Specifications ST/PAA/TPA/AGH/1542, and in Scandinavia.

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. RFMi's advanced SAW design and fabrication technology is utilized to achieve high performance and very low loss with simple external impedance matching (not included).

**RF1407D**

**868.60 MHz  
SAW Filter**



**SM3838-8 Case  
3.8 x 3.8**

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency @ 25°C	$f_c$			868.60		MHz
Minimum I.L. (868.210-868.990 MHz)				3.0	4.2	dB
1dB Bandwidth 868.05-869.15		-45°C to +90°C	960			kHz
		-25°C to +60°C	1000			
Pass Bandwidth (relative to $I_{L_{min}}$ )	$BW_3$		1200	1800		kHz
Rejection (relative to $I_{L_{min}}$ )		10-700 MHz	50	55		dB
		700-830 MHz	40	45		
		830-850 MHz	32	37		
		850-865.02 MHz	25	28		
		871-874.5 MHz	11	14		
		874.5-883 MHz	16	21		
		883-900 MHz	30	33		
		900-1000 MHz	40	45		
Temperature Coeff			0.032			ppm/°C <sup>2</sup>
Operating Temperature Range			-45		+90	°C
Impedance @ $f_c$	Input $Z_{IN} = R_{IN} \parallel C_{IN}$	$Z_{IN}$	117Ω    3.7pf			
	Output $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	$Z_{OUT}$	117Ω    3.7pf			
Lid Symbolization (in addition to Lot and/or Date Codes)	505, YWWS					
Standard Reel Quantity	7 Inch Reel			500 Pieces/Reel		
	13 Inch Reel			3000 Pieces/Reel		

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

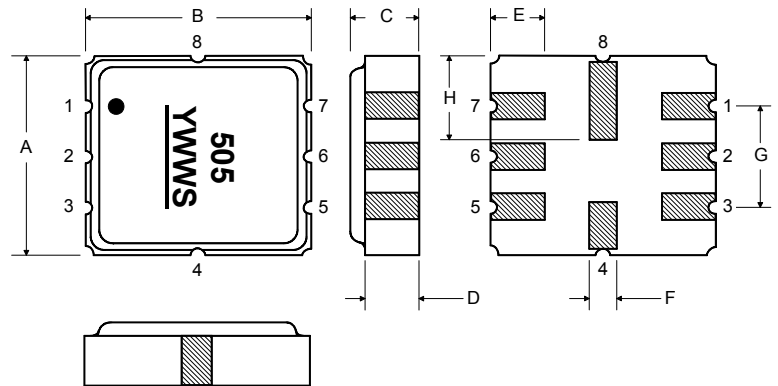
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

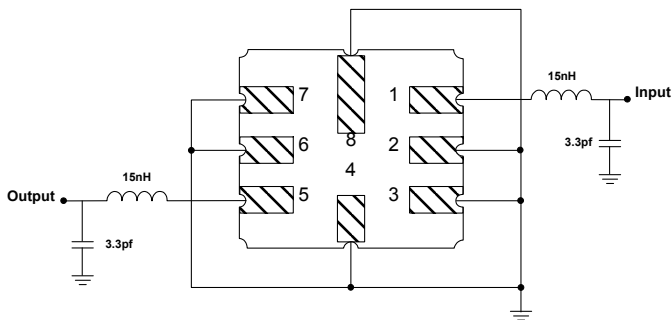
Rating	Value	Units
Input Power Level	+10	dBm
DC Voltage	12	VDC
Storage Temperature	-45 to +90	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	°C

### Electrical Connections

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

## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

