RF1407D

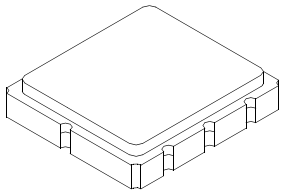
868.60 MHz SAW Filter

- ***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)***
- ***Tape and Reel Standard per ANSI/EIA-481***
- ***Moisture Sensitivity Level: 1***
- ***AEC-Q200 Qualified***

RoHS Compliant

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).



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 IL_{min})		BW_3		1200	1800		kHz
Rejection (relative to IL_{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^2
Operating Temperature Range				-45		+90	°C
Impedance @ fc	Input $Z_{IN} = R_{IN} \parallel C_{IN}$	Z_{IN}		117Ω ll 3.7pf			
	Output $Z_{OUT} = R_{OUT} \parallel C_{OUT}$	Z_{OUT}		117Ω ll 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.

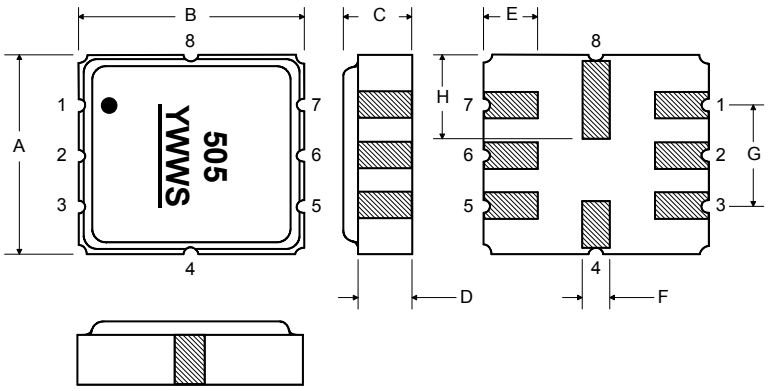
NOTES:

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.

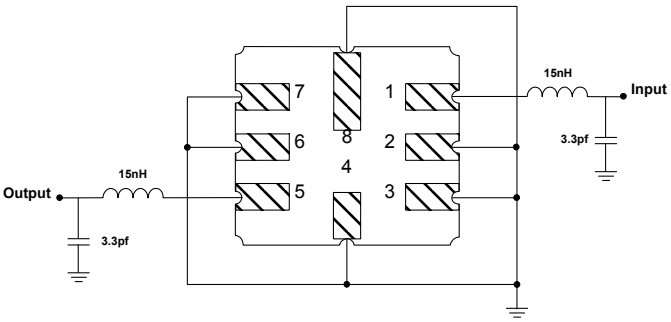
Rating		Value	Units
Input Power Level		+10	dBm
DC Voltage		12	VDC
Storage Temperature		-45 to +90	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260	°C

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