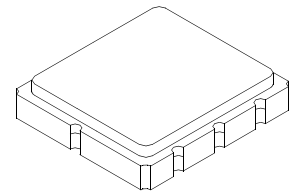


# RF3210D

## 303.825 MHz SAW Filter



**SM3838-8 Case**  
3.8 x 3.8

- **Ideal Front-End Filter for Domestic 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**

The RF3210D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 303.825 MHz receivers. Receiver designs using this filter include superheterodyne with 10.7 MHz or lower IF frequencies, direct conversion receivers and superregenerative receivers.

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. RFM's advanced SAW design and fabrication technology is utilized to achieve high performance and very low loss with simple external impedance matching.

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency @ 25°C	$f_C$			303.825		MHz
Minimum Insertion Loss, 303.620 to 303.980 MHz	$IL_{MIN}$			1.6	2.5	dB
Passband Loss Relative to $IL_{MIN}$ :						
303.595 to 304.025 MHz				1.0	3.0	dB
303.535 to 304.085 MHz				1.5	6.0	
3 dB Bandwidth	$BW_3$		500	650	800	kHz
Attenuation Relative to $IL_{MIN}$ :						
10 to 260 MHz			45	55		dB
260 to 297 MHz			35	45		
297 to 302.5 MHz			11.5	15		
304.8 to 320 MHz			14	20		
320 to 400 MHz			37	40		
400 to 1000 MHz			45	55		
Frequency Temperature Coefficient	FTC			0.032		ppm/°C <sup>2</sup>
Frequency Aging, Absolute Value During the First Year	fA			≤10		ppm/yr
Impedance @ $F_C$	Input $Z_{IN}=R_{IN}  C_{IN}$	$Z_{IN}$		11.7 KΩ    1.8 pF		
	Output $Z_{OUT}=R_{OUT}  C_{OUT}$	$Z_{OUT}$		6.63 KΩ    2.2 pF		
Lid Symbolization (Y=year WW=week S=Shift)				675, <u>YWWS</u>		
Standard Reel Quantity	Reel Size 7 Inch			500 Pieces/Reel		
	Reel Size 13 Inch			3000 Pieces/Reel		

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

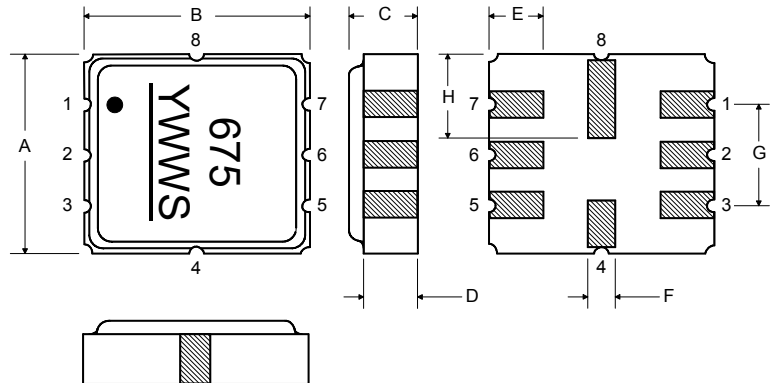
**NOTES:**

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.

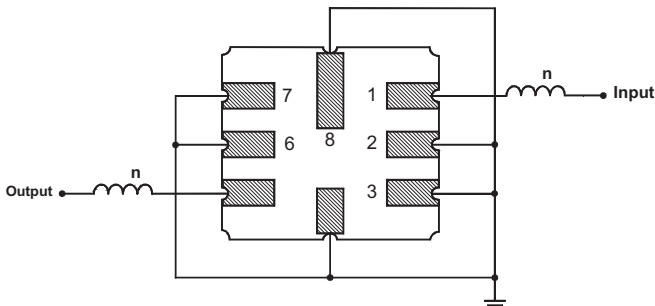
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +125	°C
Soldering Temperature, 10 seconds / 5 cycles maximum	260	°C

### Electrical Connections

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



### Matching Circuit to 50 Ω



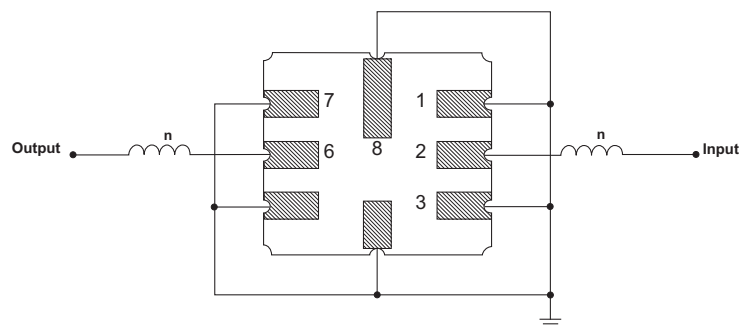
### Optional Electrical Connections

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

### 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

### Optional Matching Circuit to 50 Ω



## 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.



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