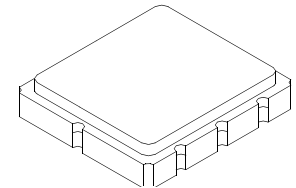


# RF1211D

## 315.0 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 2011/65/EU (RoHS)**
- **Tape & reel standard ANSI/EIA481**



The RF1211D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 315.0 MHz receivers. Receiver designs using this filter include superhet with 10.7 MHz or 500 kHz IF, direct conversion and superregen. Typical applications of these receivers are wireless remote-control and security devices (especially for automotive keyless entry) operating in the USA under FCC Part 15, in Canada under RSS-210, and in Italy

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.

### Electrical Characteristics

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C      Absolute Frequency	$f_c$		314.85	315.00	315.15	MHz
Insertion Loss	$IL_{MIN}$			1.6	2.5	dB
Passband Ripple (Relative to $IL_{MIN}$ ) $F_c \pm 150$ kHz				0.7	1.2	dB
3 dB Bandwidth	$BW_3$		500	600	800	kHz
Rejection Attenuation: (relative to $IL_{min}$ )						dB
10 - 295 MHz			44	49		
295 - 305 MHz			40	45		
305 - 310 MHz			31	36		
310 - 313 MHz			14	19		
313 - 314 MHz			6	8		
316.5 - 320 MHz			22	27		
320 - 325 MHz			15	18		
325 - 335 MHz			33	38		
335 - 600 MHz			46	49		
600 - 1000 MHz			75	80		
Temperature      Freq. Temp. Coefficient	FTC			0.032		ppm/°C <sup>2</sup>
Frequency Aging      Absolute Value during the First Year	IfAI			≤10		ppm/yr
Impedance @ $f_c$ Input $Z_{IN}=R_{IN}  C_{IN}$	$Z_{IN}$			5.0Ω//2.2pf		
Output $Z_{OUT}=R_{OUT}  C_{OUT}$	$Z_{OUT}$			9.3Ω//1.7pf		
Lid Symbolization (Y=year WW=week S=shift)				476, YWWS		
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.**

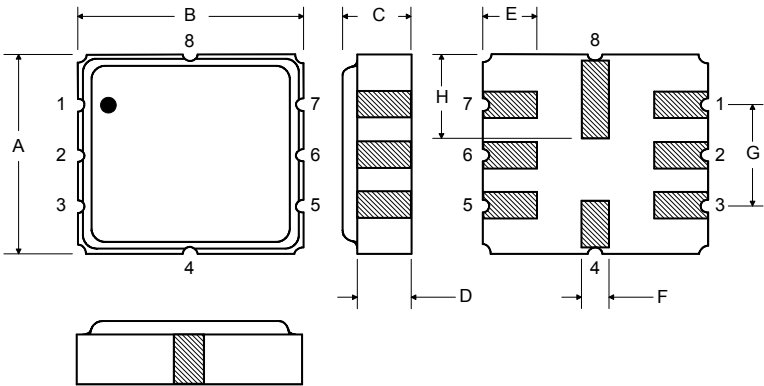
### NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.

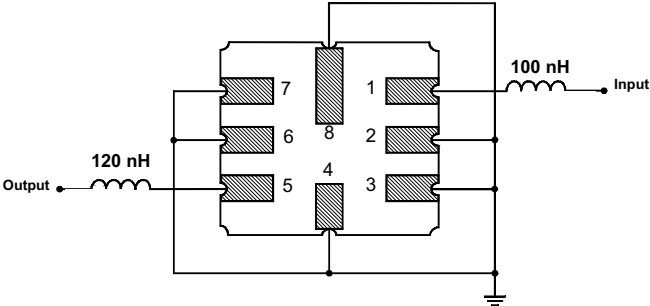
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +125	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260 °C

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 50Ω



Case Dimensions

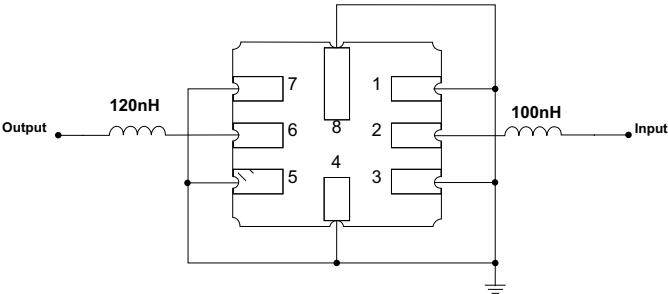
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.14	0.15	0.16
B	3.6	3.8	4.0	0.14	0.15	0.16
C	1.00	1.20	1.40	0.04	0.05	0.055
D	0.95	1.10	1.25	0.037	0.043	0.05
E	0.90	1.0	1.10	0.035	0.04	0.043
F	0.50	0.6	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080

Optional

Electrical Connections

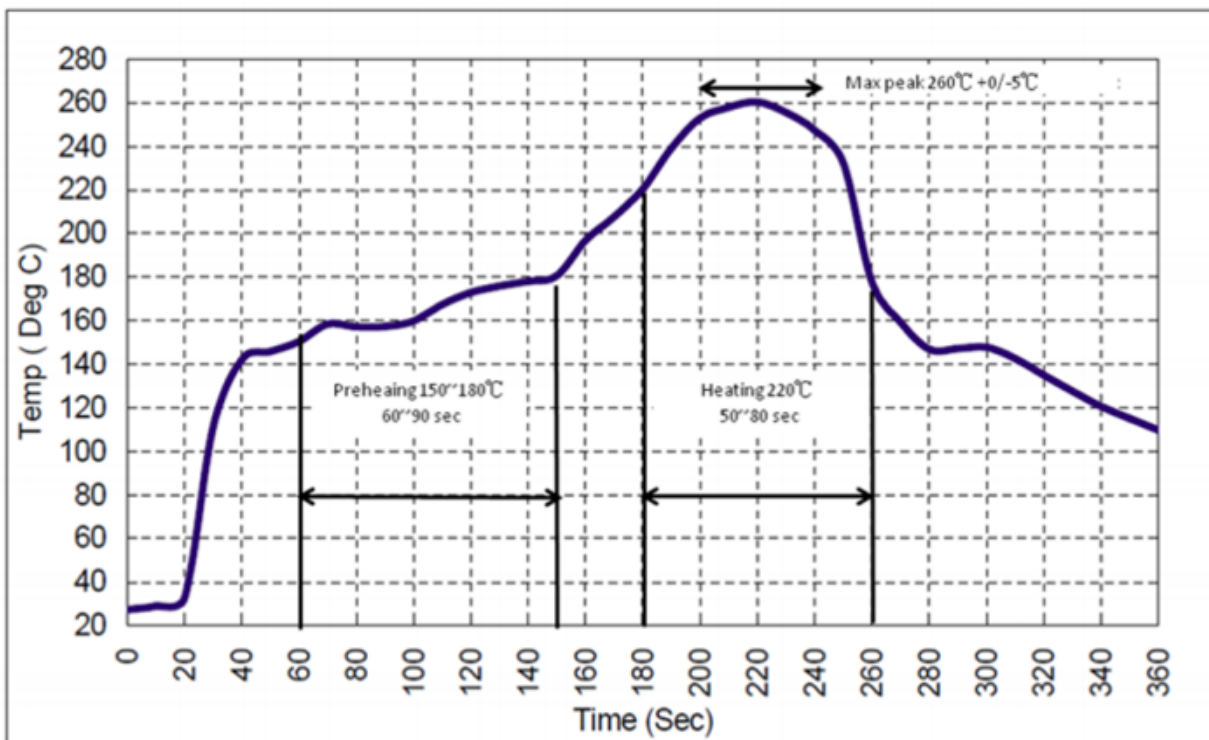
Pin	Connection
1	Input Ground
2	Input
3	Ground
4	Case Ground
5	Output Ground
6	Output
7	Ground
8	Case Ground

Matching Circuit to 50Ω



## Recommended Reflow Profile

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



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