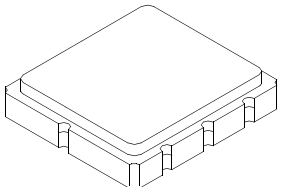
RFMi
A BRAND OF AKOUSTIS

RoHS compliant

RF1211D

315.0 MHz SAW Filter

- ***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***
- ***Moisture Sensitivity Level: 1***
- ***AEC-Q200 Qualified***



SM3838-8

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}) Fc ±150kHz					0.7	1.2	dB
3 dB Bandwidth		BW_3		500	600	800	kHz
Rejection Attenuation: (relative to ILmin)	10 - 295 MHz			44	49		dB
	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^2
Frequency Aging	Absolute Value during the First Year	|fA|			≤10		ppm/yr
Impedance @ fc	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.

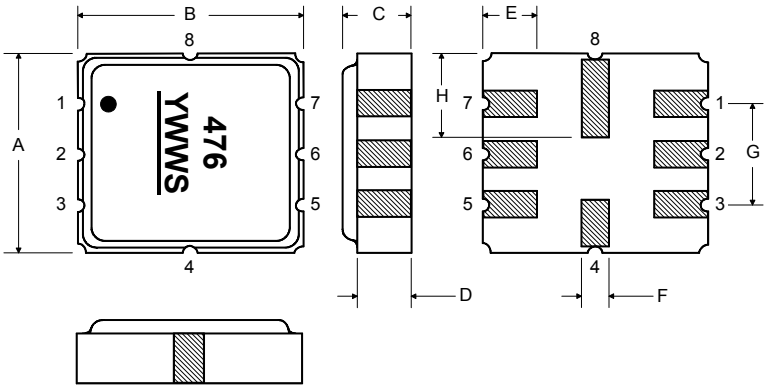
NOTES:

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

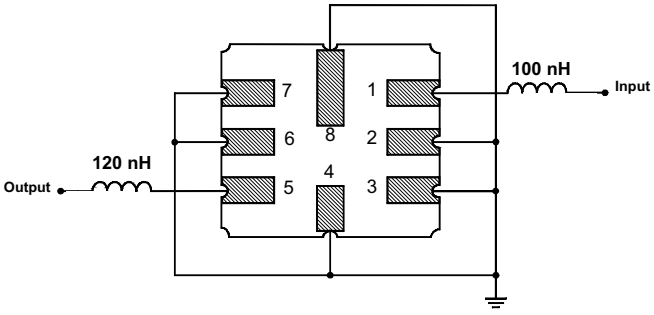
Rating		Value	Units
Input Power Level		10	dBm
DC Voltage		12	VDC
Storage Temperature		-40 to +125	°C
Operable Temperature Range		-40 to +125	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260	°C

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

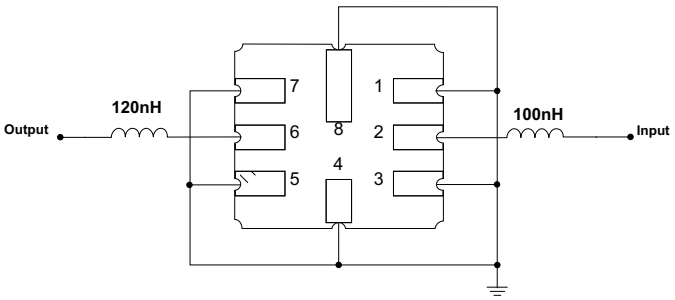
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.14	0.15	0.16
B	3.6	3.8	4.0	0.14	0.15	0.16
C	1.00	1.20	1.40	0.04	0.05	0.055
D	0.95	1.10	1.25	0.037	0.043	0.05
E	0.90	1.0	1.10	0.035	0.04	0.043
F	0.50	0.6	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069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

Optional

Electrical Connections

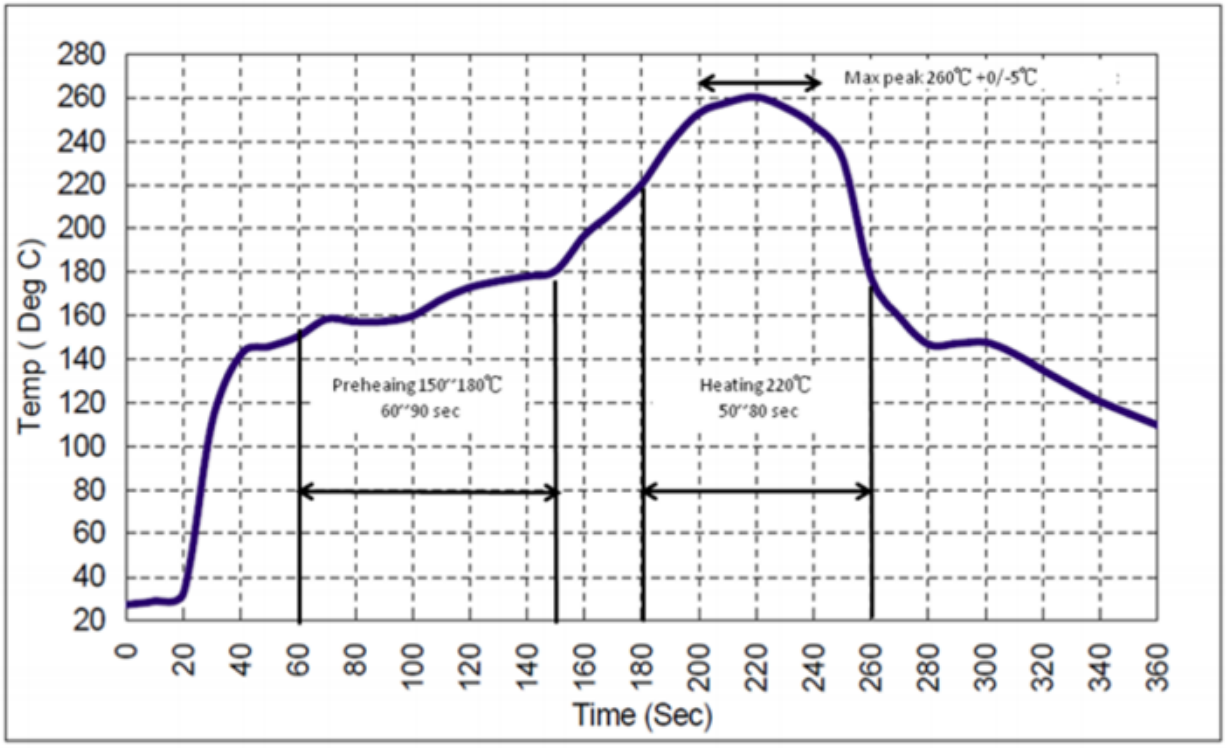
Pin	Connection
1	Input Ground
2	Input
3	Ground
4	Case Ground
5	Output Ground
6	Output
7	Ground
8	Case Ground

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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