RFMi
A BRAND OF AKOUSTIS

RoHS compliant

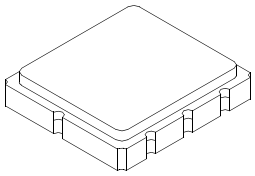
RF3171D

418.0 MHz SAW Filter

- ***Ideal Front-End Filter for Wireless Receiver in the US and UK***
- ***Low-Loss, Coupled-Resonator Quartz Design***
- ***Surface-Mount Ceramic Case with 50 mm^2 Footprint***
- ***Simple External Impedance Matching***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Tape and Reel Standard per ANSI/EIA-481***
- ***Moisture Sensitivity Level: 1***

The RF3171D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 418.0 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 operating in the USA under FCC Part 15.

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.



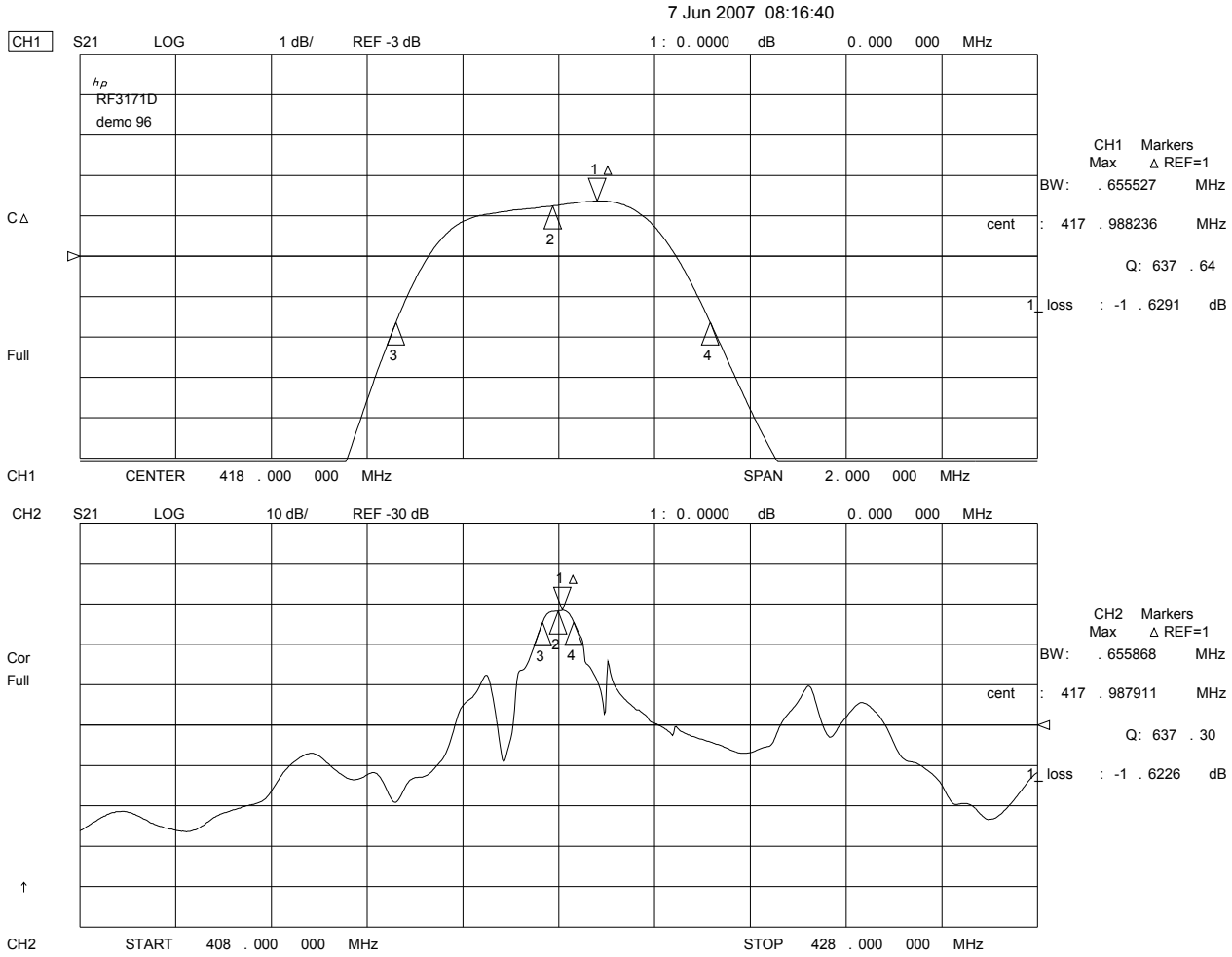
SM3838-8 Case
3.8 x 3.8

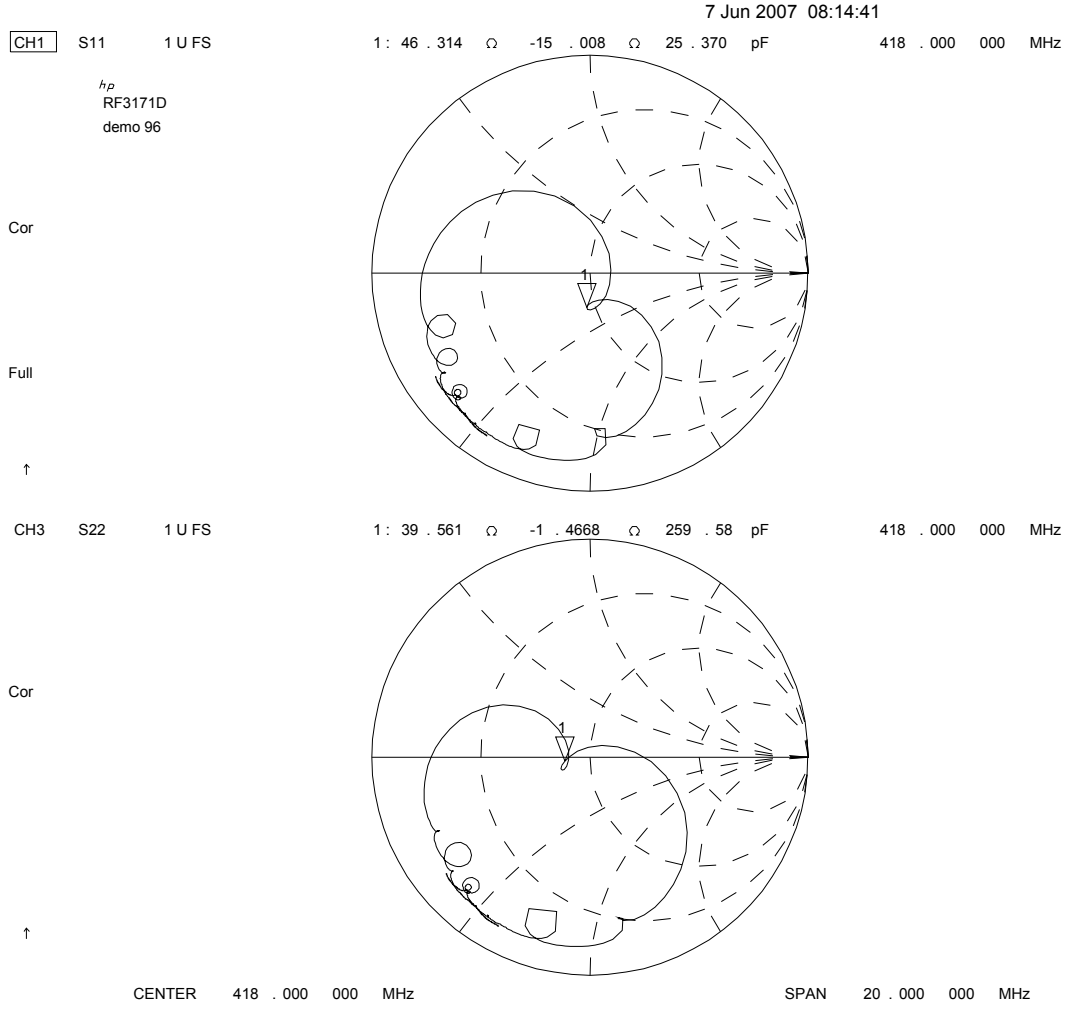
Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency		F_C			418.0		MHz
Minimum I.L.		IL_{min}			1.6	2.5	dB
Pass bandwidth (relative to IL_{min})		BW_3		500	620	800	kHz
Attenuation: (relative to IL_{min})	10.00 - 400.00 MHz			50	60		dB
	400.00 - 413.00 MHz			30	35		
	413.00 - 417.00 MHz			13	15		
	419.00 - 426.00 MHz			10	11		
	426.00 - 435.00 MHz			35	38		
	435.00 - 1000 MHz			50	56		
Impedance at F_C ; Input	$Z_{IN}=R_{IN}//C_{IN}$			2.58 kΩ // 3.37 pF			Ω//pF
Impedance at F_C ; Output	$Z_{OUT}=R_{OUT}//C_{OUT}$			1.92 kΩ // 3.55 pF			Ω//pF
Frequency Aging	Absolute Value during the First Year	|fA|			≤10		ppm/yr
Lid Symbolization (Y = Year, WW = Week, S = Shift)		775, 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.

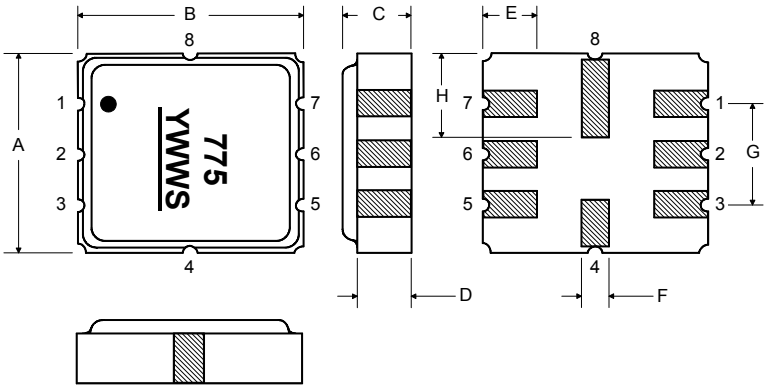



7 Jun 2007 08:14:41
CH1 S11 1 U FS
1 : 46 . 314 Ω -15 . 008 Ω 25 . 370 pF
418 . 000 000 MHz
RF3171D
demo 96
Cor
Full
CH3 S22 1 U FS
1 : 39 . 561 Ω -1 . 4668 Ω 259 . 58 pF
418 . 000 000 MHz
Cor
CENTER 418 . 000 000 MHz
SPAN 20 . 000 000 MHz

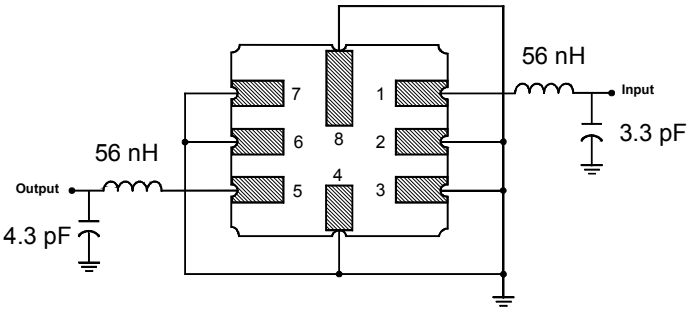
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +125	°C
Operable Temperature Range	-40 to +125	°C
Soldering Temperature (10 sec. max.)	260	°C

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

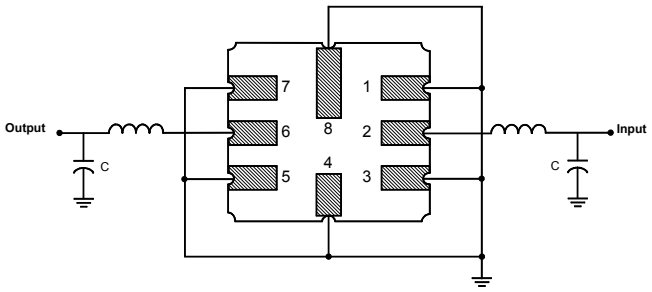
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.14	0.15	0.16
B	3.6	3.8	4.0	0.14	0.15	0.16
C	1.00	1.20	1.40	0.04	0.05	0.055
D	0.95	1.10	1.25	0.033	0.043	0.05
E	0.90	1.0	1.10	0.035	0.04	0.043
F	0.50	0.6	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080

Optional

Electrical Connections

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

Matching Circuit to 50Ω



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.