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RFM products are now Murata products.

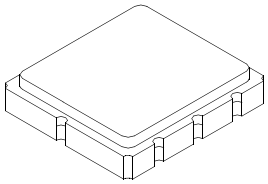
RF3417E

315.00 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)***

The RF3417E 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 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. Murata's advanced SAW design and fabrication technology is utilized to achieve high performance and very low loss with simple external impedance matching (not included).



SM3030-6 Case
3.0 x 3.0

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency @ 25°C	Absolute Frequency	f_C	1, 2, 3	314.900	315.00	315.100	MHz
Insertion Loss		IL	1		1.8	2.5	dB
3 dB Bandwidth		BW_3	1, 3	525	600	675	kHz
1 dB Bandwidth		BW_1	1, 3		450		kHz
Rejection	10 - 275 MHz		1, 3, 10, 11	40	60		dB
	275 - 306 MHz			40	45		
	306 - 313.2 MHz			25	30		
	313.2 - 314.2 MHz			7	15		
	315.8 - 317 MHz			12	15		
	317 - 321.8 MHz			25	30		
	321.8 - 326 MHz			12	17		
	326 - 355 MHz			37	45		
	355 - 1000 MHz			50	55		
Temperature	Freq. Temp. Coefficient	FTC	3, 4		0.032		ppm/°C^2
Turnover Temperature		To	3, 4	10		40	°C
Frequency Aging	Absolute Value during the First Year	|fA|	5		<±10		ppm/yr
Impedance @ f_C	Input $Z_{IN} = R_{IN}/C_{IN}$	Z_{IN}	1	3.7kΩ // 2.03pF			
	Output $Z_{OUT} = R_{OUT}/C_{OUT}$	Z_{OUT}		5.4kΩ // 2.17pF			
Lid Symbolization (in addition to Lot and/or Date Codes)		696 // YWWS					
Standard Reel Quantity	7 Inch Reel		9	500 Pieces/Reel			
Standard Reel Quantity	13 Inch Reel			3000 Pieces/Reel			

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system with VSWR ≤ 1.2:1. The test fixture L and C are adjusted for minimum insertion loss at the filter center frequency, f_c. Note that insertion loss and bandwidth are dependent on the impedance matching component values and quality.
2. The frequency f_c is defined as the midpoint between the 3dB frequencies.
3. Where noted, specifications apply over the entire specified operating temperature range of -40 to 90°C.
4. The turnover temperature, T_O, is the temperature of maximum (or turnover) frequency, f_o. The nominal frequency at any case temperature, T_c, may be calculated from: $f = f_o [1 - FTC (T_o - T_c)^2]$.
5. Frequency aging is the change in fc with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing significantly in subsequent years.
6. The design, manufacturing process, and specifications of this device are subject to change without notice.
7. One or more of the following U.S. Patents apply: 4,54,488, 4,616,197, and others pending.
8. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
9. Tape and Reel Standard for ANSI / EIA 481.
10. These values are attainable by using the optional pin out.
11. Typical rejection is defined as the typical rejection at the worst frequency in the band.

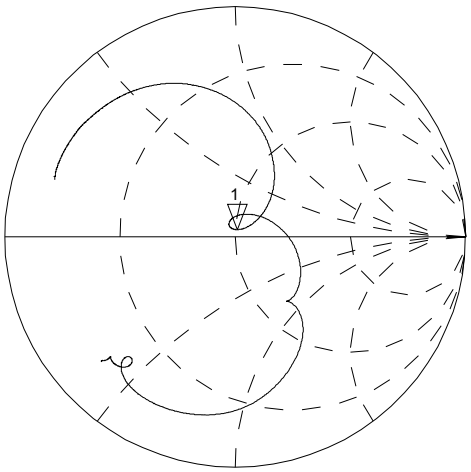
17 Apr 2007 11:50:38

CH1 S11 1 U FS 1 : 50 . 721 Ω 3 . 2051 Ω 1 . 6194 nH 315 . 000 000 MHz

RF3417E DEMO
FULL 2 PORTS CAL.

Cor

Full



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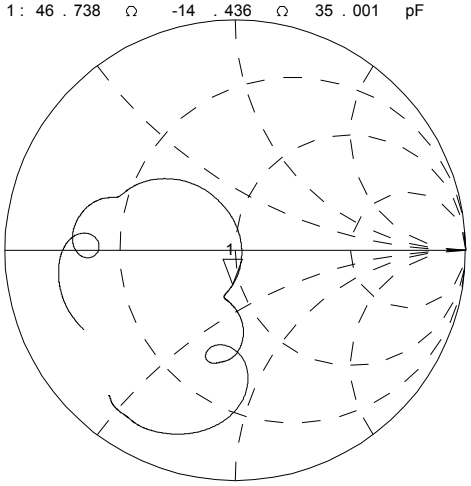
CH2 S22 1 U FS 1 : 46 . 738 Ω -14 . 436 Ω 35 . 001 pF 315 . 000 000 MHz

Cor
Full



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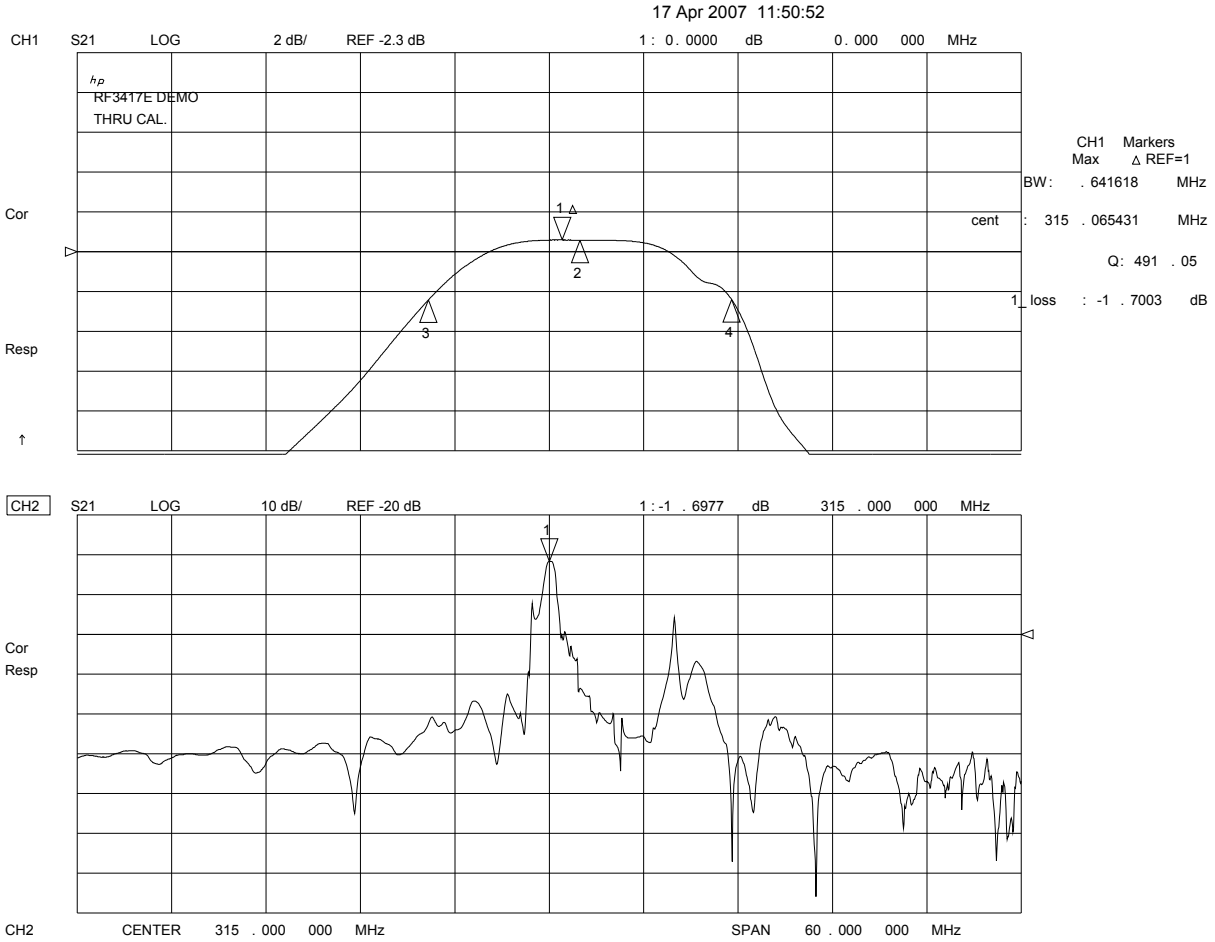
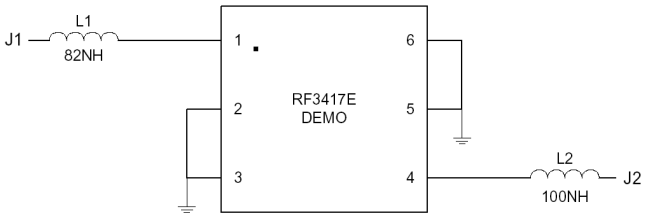
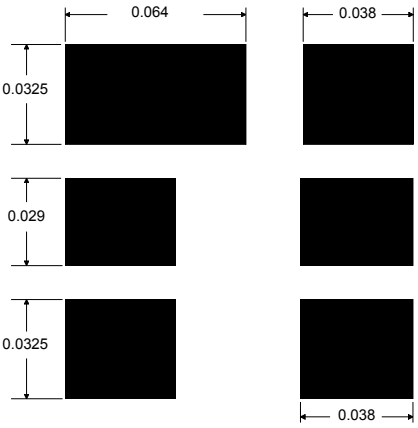
CENTER 315 . 000 000 MHz SPAN 2 . 000 000 MHz





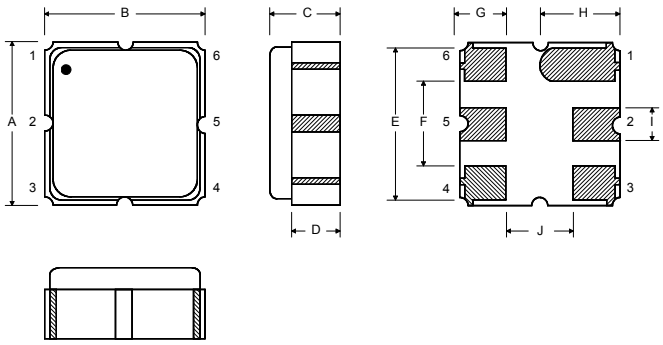


PCB Pad Layout in Inches

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

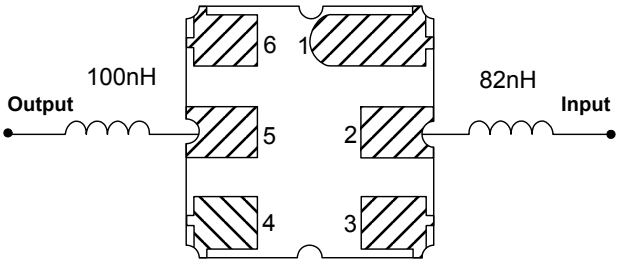
Electrical Connections

Pin	Connection
1	Input Ground
2	Input
3	Ground
4	Output Ground
5	Output
6	Ground



Case Dimensions

Matching Circuit to 50Ω



Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.0	3.13	0.113	0.118	0.123
B	2.87	3.0	3.13	0.113	0.118	0.123
C	1.12	1.25	1.38	0.044	0.049	0.054
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.6	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.5	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
J	1.17	1.30	1.43	0.046	0.051	0.056

Optional Electrical Connections

Pin	Connection
1	Input
2	Input Ground
3	Ground
4	Output
5	Output Ground
6	Ground

Matching Circuit to 50Ω