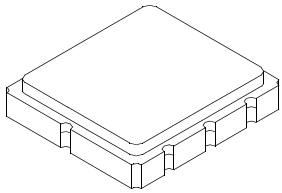
RF1419D

403.5 MHz SAW Filter

- ***Medical Band (402-405 MHz) Front-End Filter***
- ***Low-Loss, Coupled-Resonator (Lithium Tantalate) LiTa03 Design***
- ***Complies with Directive 2002/95/EC (RoHS)***[10]

The RF1419D is a surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in the 402-405 MHz band. This filter is ideal for short range wireless medical data applications where small size and low power consumption are required features. Receiver designs using this filter include superhet, direct conversion or superregen. RFM's advanced SAW design and fabrication technology is utilized to achieve high performance and optimum loss with simple external impedance matching.



SM3838-8 Case
3.8 x 3.8

Electrical Characteristics

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at 25°C Absolute Frequency		f_c	1, 2, 3		403.5		MHz
Insertion Loss		IL_{MIN}	1, 3		1.60	2.5	dB
Passband Ripple (Relative to ILMIN) 402-405 MHz			1, 3		1.10	1.25	dB
3 dB Bandwidth		BW_3	1, 3	3.0	7.5		MHz
Rejection Attenuation: (relative to ILmin)	358.5 MHz		1, 3	40	65		dB
	358.5 - 384 MHz			35	50		
	415 - 423 MHz			25	35		
	423 - 503 MHz			40	50		
Temperature	Freq. Temp. Coefficient	FTC			-37		ppm/k
Frequency Aging	Absolute Value during the First Year	|fA|	5		≤10		ppm/yr
Impedance Match	Input/Output		1	50 Ohms			
Lid Symbolization (Y=year WW=week S=shift)		560 // YWWS					
Standard Reel Quantity	Reel Size 7 Inch		9	500 Pieces/Reel			
	Reel Size 13 Inch			3000 Pieces/Reel			

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:

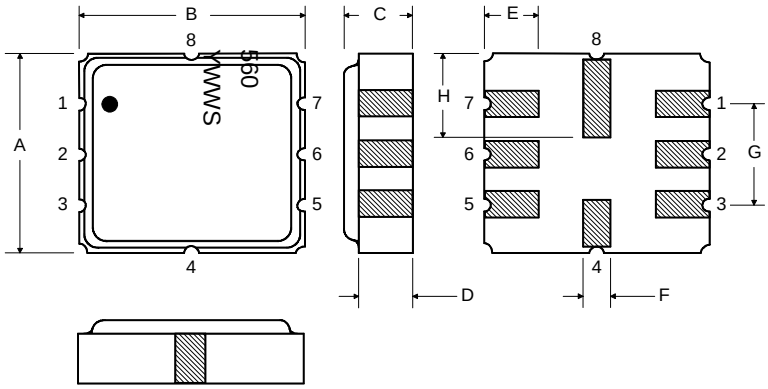
1. Unless noted otherwise, all measurements are made with the filter installed in the specified test fixture which is connected to a 50 Ω test system.
2. The frequency f_c is defined as the midpoint between the 3dB frequencies.
3. Where noted specifications apply over the entire specified operating temperature range of -10°C to +60°C.
4. 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.
5. The design, manufacturing process, and specifications of this device are subject to change.
6. One or more of the following U.S. Patents apply: 4,54,488, 4,616,197, and others pending.
7. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
8. Tape and Reel Standard Per ANSI / EIA 481.
9. This product complies with Directive 2002/95/EC of the European Parlament and of the Council of 27 January 2003 on the restriction of the use of certain hazadous substances in electrical and electronic equipment.

Absolute Maximum Ratings

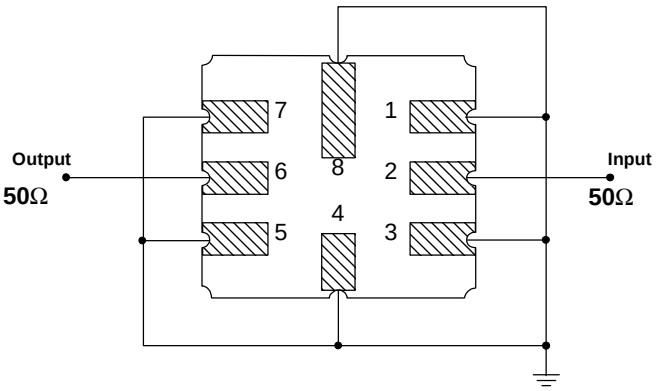
Rating		Value	Units
Input Power Level		10	dBm
DC Voltage		3	VDC
Storage Temperature		-40 to +85	°C
Soldering Temperature	(10 seconds / 5 cycles max.)	260	°C

Electrical Connections

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