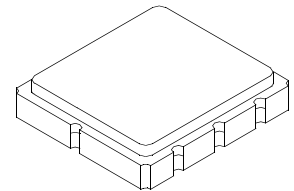


# RF1385D

## 869.85 MHz SAW Filter



SM3838-8

- **Ideal Front-End Filter for Wireless Receivers**
- **Low-Loss, Coupled-Resonator Quartz Design**
- **Simple External Impedance Matching**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

The RF1385D is a low-loss, compact, and economical surface-acoustic-wave (SAW) filter designed to provide front-end selectivity in 869.85 MHz receivers.

### Electrical Characteristics

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency @ 25°C	Absolute Frequency	$f_c$			869.85		MHz
	Tolerance from 869.85	$\Delta f_c$			$\pm 150$		kHz
Insertion Loss		IL			5.0	8.5	dB
3 dB Bandwidth		$BW_3$		600	900	1200	kHz
Rejection	at $f_c - 21.4$ MHz (Image)			37	44		dB
	at $f_c - 10.7$ MHz (LO)			15	30		
	Ultimate				80		
Temperature	Operating Case Temp.	$T_C$		-40		+85	°C
	Turnover Temperature	$T_O$		25	35	50	°C
	Turnover Frequency	$f_O$			$f_c$		MHz
	Freq. Temp. Coefficient	FTC			0.032		ppm/°C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	fA			< $\pm 10$		ppm/yr
Impedance @ $f_c$	Input $Z_{IN} = R_{IN}/C_{IN}$	$Z_{IN}$		88.8 // 4.78pf			
	Output $Z_{OUT} = R_{OUT}/C_{OUT}$	$Z_{OUT}$		29.16 // 4.98pf			
Lid Symbolization (Y= Year, WW = Week, S = Shift)		502, YWWS					
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel					
Standard Reel Quantity	Reel Size 13 Inch	3000 Pieces/Reel					

 **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

#### NOTES:

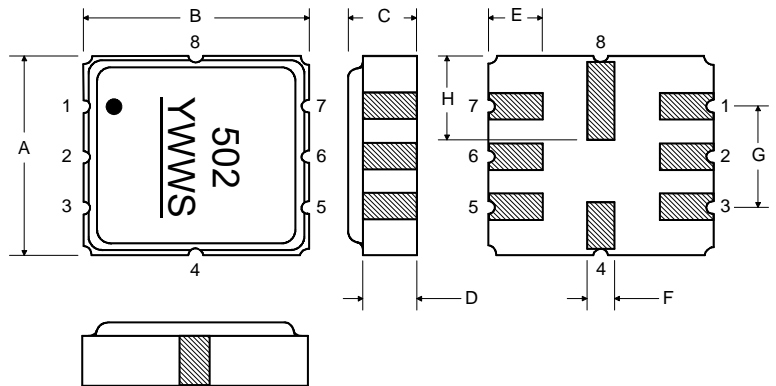
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

### Absolute Maximum Ratings

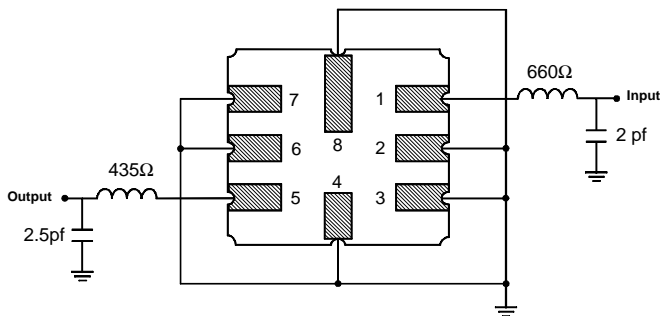
Rating	Value	Units
Input Power Level	10	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +85	°C
Soldering Temperature (10 seconds / 5 cycles MAX.)	260	°C

### Electrical Connections

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



### Matching Circuit to 50W



### 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

## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

