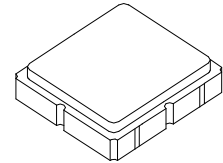




**SF2008D**

**930.5 MHz  
SAW Filter**



**SM3838-6**

- RF Filter for Pager Applications
- High Rejection Out of Band
- Complies with Directive 2002/95/EC (RoHS)



**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	0	dBm
Maximum DC Voltage Between Any Two Terminals	30	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260 °C for 30 s	

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$	1		930.5		MHz
Passband Insertion Loss, 928.5 to 932.5 MHz	$IL_{MAX}$				4.5	dB
Passband Amplitude Ripple, 928.5 to 932.5 MHz		1, 2			2.0	dB <sub>P-P</sub>
Rejection Referenced to $IL_{MAX}$						
400 to 880 MHz		1, 2, 3	35			dB
884.8 to 890.2 MHz			40			
906.8 to 911.2 MHz			30			
980 to 1300 MHz			35			
Operating Temperature Range	$T_A$	1	-20		+70	°C
Input Impedance at $f_C$			50 - j57 ohm			
Output Impedance at $f_C$			50 - j57 ohm			

Case Style	SM3838-6 3.8 x 3.8 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	455, YWWS					
Standard Reel Quantity	Reel Size 7 Inch					1000 Pieces/Reel
	Reel Size 13 Inch					3000 Pieces/Reel

**Electrical Connections**

Connection	Terminals
Port 1	2
Port 2	5
Case Ground	All others

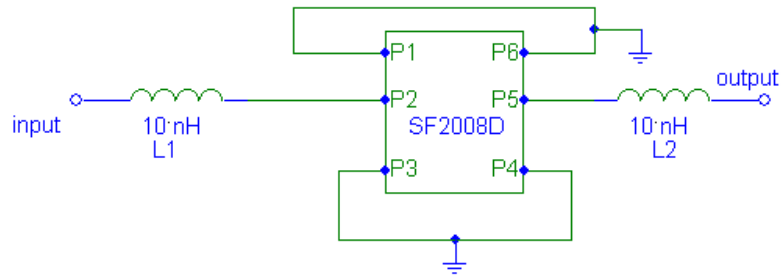


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

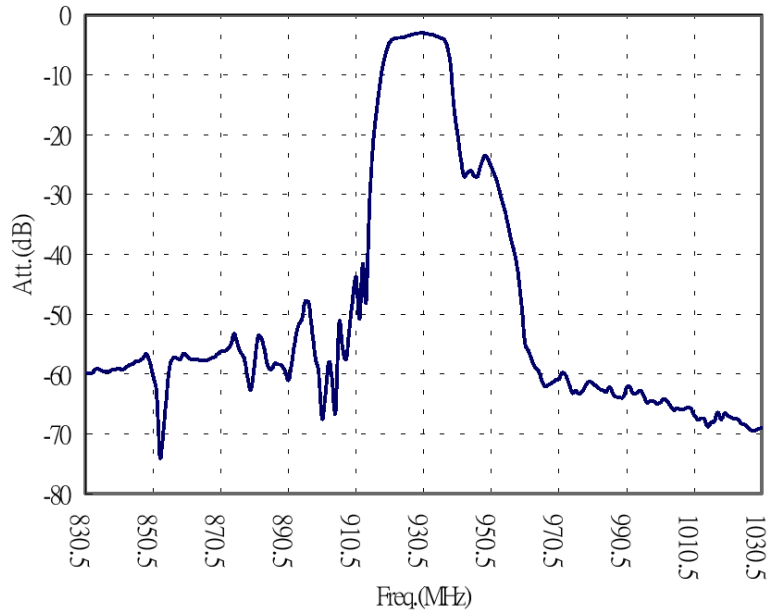
**Notes:**

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_C$ .
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered

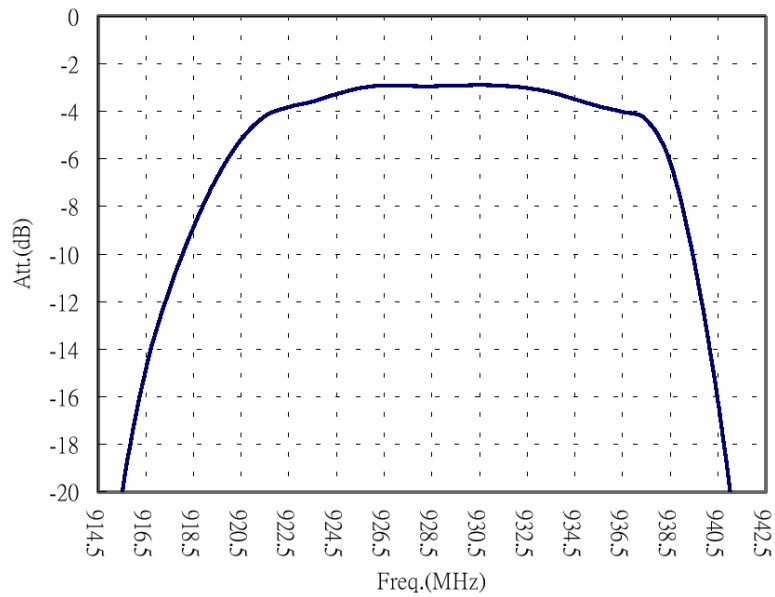
## Matching Circuit



## S21 Wide Span



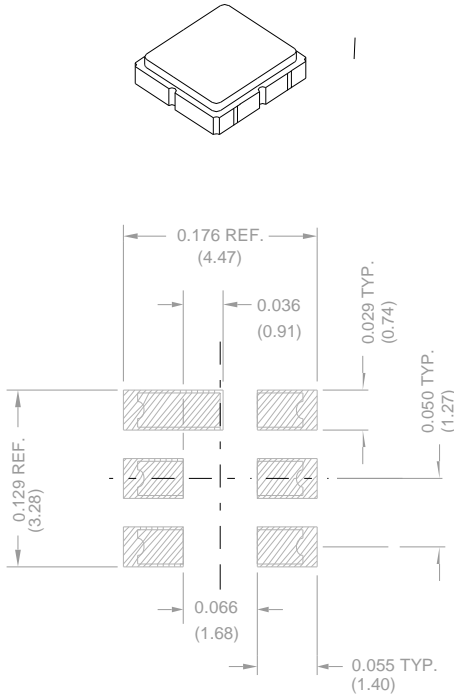
## S21 Narrow Span



# SM3838-6 Case

## 6-Terminal Ceramic Surface-Mount Case

### 3.8 X 3.8 mm Nominal Footprint

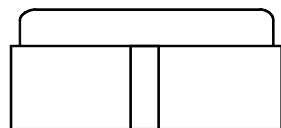
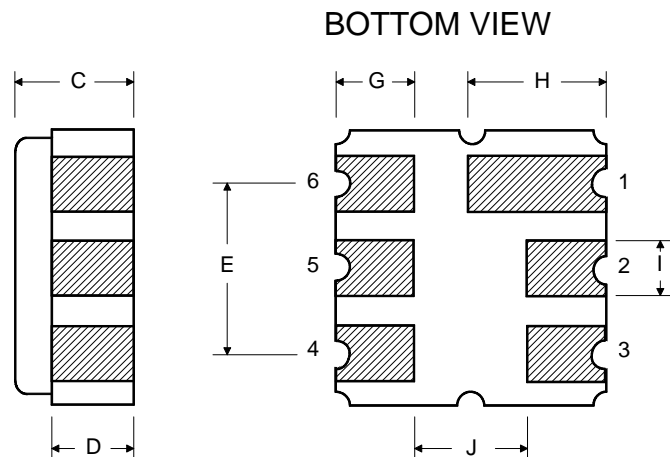
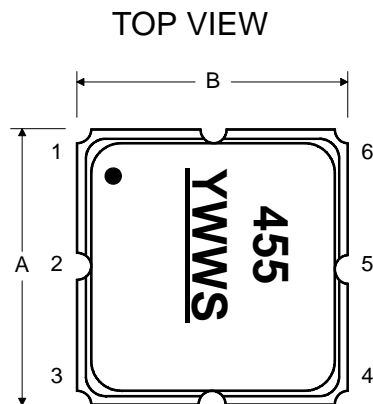


PCB Footprint

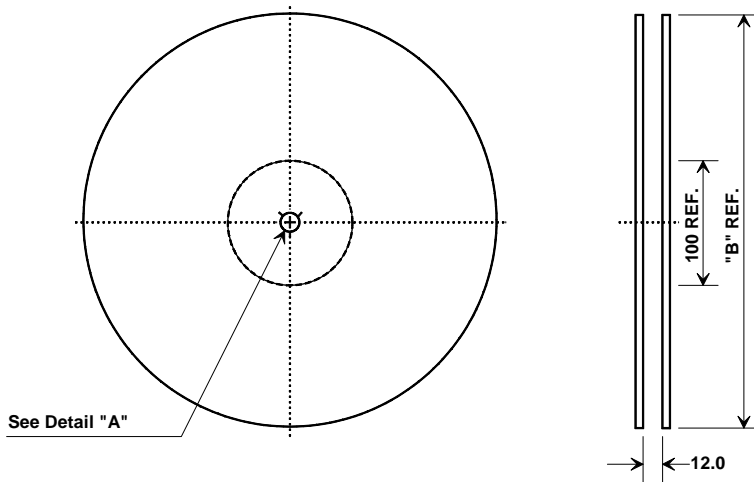
Dimension	Case Dimensions					
	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.60	3.80	4.0	0.14	0.15	0.16
B	3.60	3.80	4.0	0.14	0.15	0.16
C	1.30	1.50	1.70	0.05	0.06	0.067
D	0.95	1.10	1.25	0.037	0.043	0.05
E	2.39	2.54	2.69	0.090	0.10	0.110
G	0.90	1.0	1.10	0.035	0.04	0.043
H	1.90	2.0	2.10	0.75	0.08	0.83
I	0.50	0.6	0.70	0.020	0.024	0.028
J	1.70	1.8	1.90	0.067	0.07	0.075

Electrical Connections		
Connection	Terminals	
Port 1	Single-ended Input	2
Port 2	Single-ended Output	5
	Ground	All others
<b>Single-ended Operation Only</b>		
Dot indicates Pin 1		

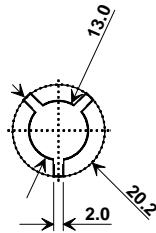
Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	



## Tape and Reel Specifications



"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	1000
13	330	3000



## COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm

