

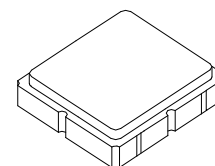
# Preliminary



## SF2114D

## 413.76 MHz SAW Filter

- **Low Insertion Loss**
- **3.8 X 3.8 X 1.0 mm Surface Mount Case**
- **Differential Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**



**SM3838-6**

### Absolute Maximum Ratings


Rating	Value	Units
Maximum Incident Power in Passband	+28	dBm
Max. DC voltage between any 2 Terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for lead-free soldering - Max. Soldering Profile	260°C for 30 s	

### Electrical Characteristics

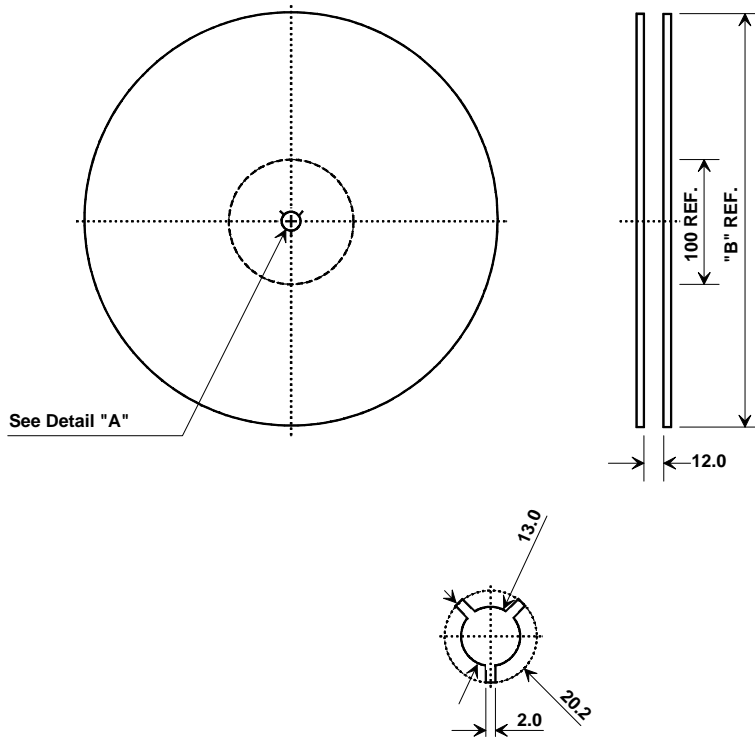
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_o$	1		413.76		MHz
Source Impedance (single ended)				50		$\Omega$
Load Impedance (single ended)				50		$\Omega$
Absolute Attenuation			300 kHz to 308 MHz	35		dB
			308 MHz to 403.7 MHz	30		
			421.67 MHz to 425.85 MHz	45		
			425.85 MHz to 2000 MHz	30		
Maximum Insertion Loss in 411.67 MHz -415.85 MHz				1.4	2.8	dB
Amplitude Variation in 411.67 MHz -415.85 MHz				0.4	1.8	dB
Input VSWR in 411.67 MHz - 415.85 MHz				1.4:1	1.8:1	
Output VSWR in 411.67 MHz - 415.85 MHz				1.4:1	1.8:1	
Operating Temperature			-10		+85	°C

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

### 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  $\Omega$  and measured with 50  $\Omega$  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. The design, manufacturing process, and specifications of this filter are subject to change.
5. 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.
6. US and international patents may apply.
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9. Electrostatic Sensitive Device. Observe precautions for handling 

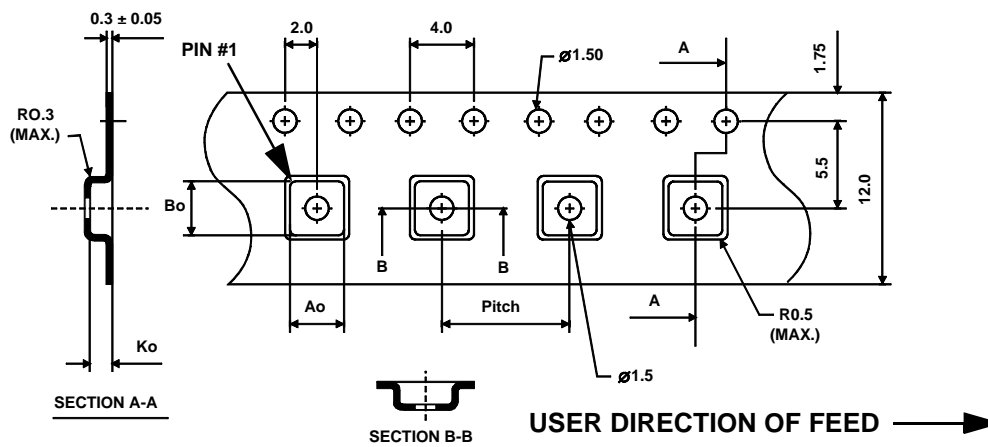
## Tape and Reel Specifications



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

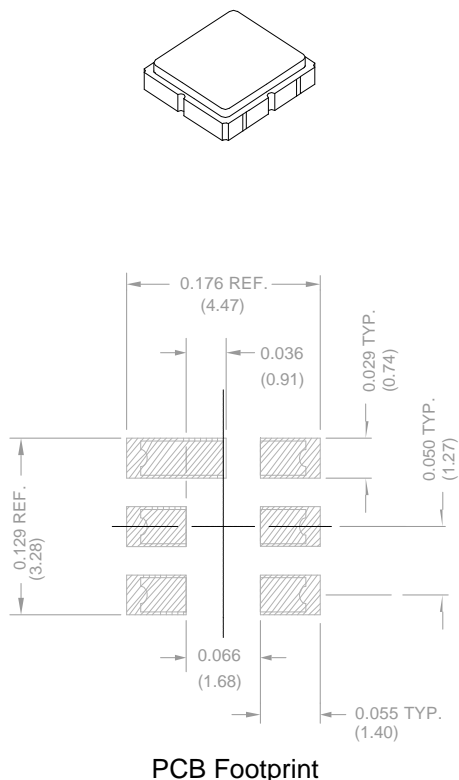
## COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
<b>Ao</b>	4.25 mm
<b>Bo</b>	4.25 mm
<b>Ko</b>	1.30 mm
<b>Pitch</b>	8.0 mm
<b>W</b>	12.0 mm



# SM3838-6 Case

## 6-Terminal Ceramic Surface-Mount Case 3.8 X 3.8 mm Nominal Footprint



Case Dimensions						
Dimension	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 Termination	Au plating 30 - 60 μinches (76.2-152 μm) over 80-200 μinches (203-508 μm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μinches Thick
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

