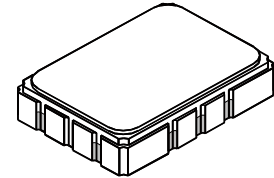


- *Narrow-band SAW Filter*
- *5 x 7 mm Surface-mount Package*
- *Complies with Directive 2002/95/EC (RoHS)*



**SF2331B**

**246 MHz  
SAW Filter**



**SMP-03**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	0	dBm
Maximum DC Voltage on any Non-ground Terminals	3	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	$f_C$			246		MHz
Minimum Insertion Loss	$IL_{MIN}$			5.0	6.5	dB
3 dB Bandwidth	$BW_3$			600		kHz
Amplitude Ripple, $f_C \pm 225$ kHz				1.2	2.0	dB <sub>P-P</sub>
Rejection Referenced to $IL_{MIN}$ :						dB
10 MHz to $f_C$ -20 MHz			45.0	55.0		
$f_C$ -20MHz to $f_C$ -1.2MHz			40.0	45.0		
$f_C$ +1.2MHz to $f_C$ +20MHz			40.0	45.0		
$f_C$ +20MHz to 1GHz			45.0	55.0		
Operating Temperature Range			-20		+70	°C

Case Style	SMP-03 7 x 5 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S = shift) dot=pin 1 indicator	RFM, SF2331B, YYWWS					
Standard Reel Quantity	Reel Size 7 Inch					500 Pieces/Reel
	Reel Size 13 Inch					3000 Pieces/Reel

**Electrical Connections**

Connection	Terminals
Input Port	10
Output Port	5
Ground	All others

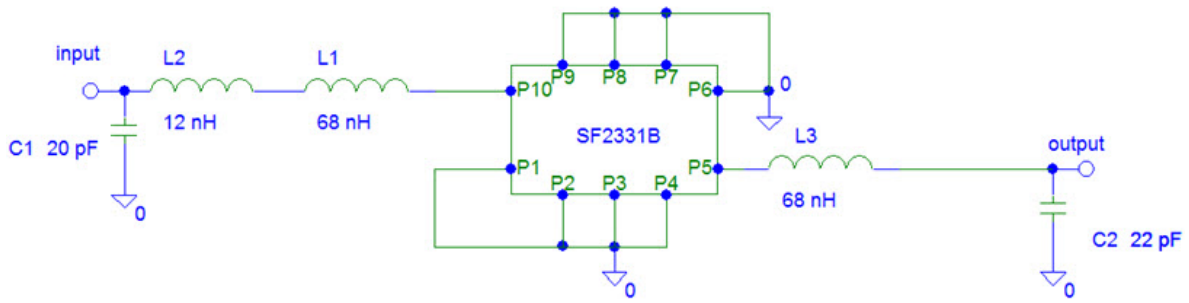


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

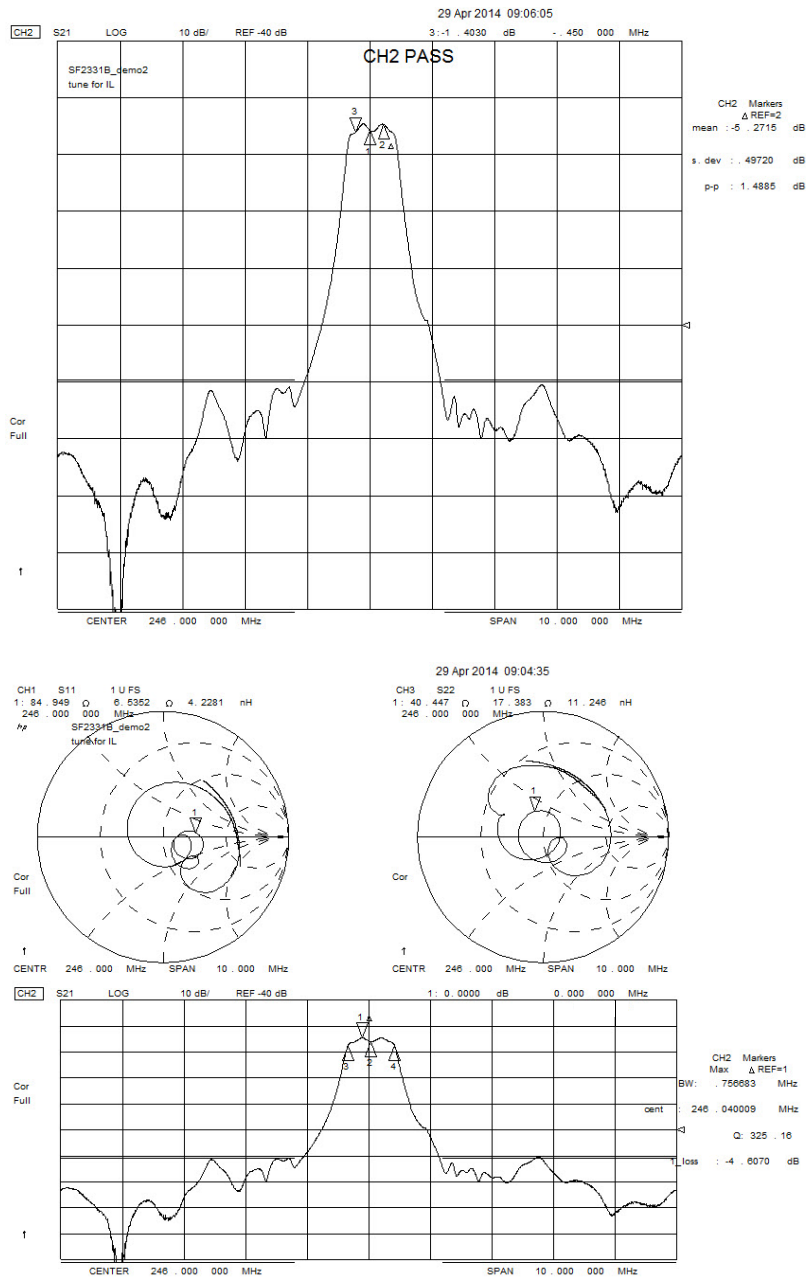
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.

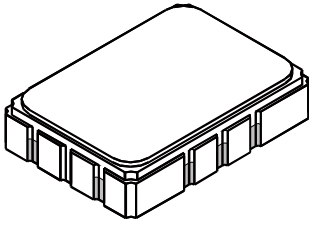
# Typical Tuning Network



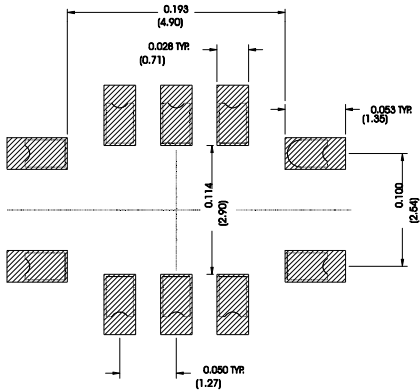
# Filter Response Plot



# SMP-03 10-Terminal Ceramic Surface-mount Case 5 x 7 mm Nominal Footprint



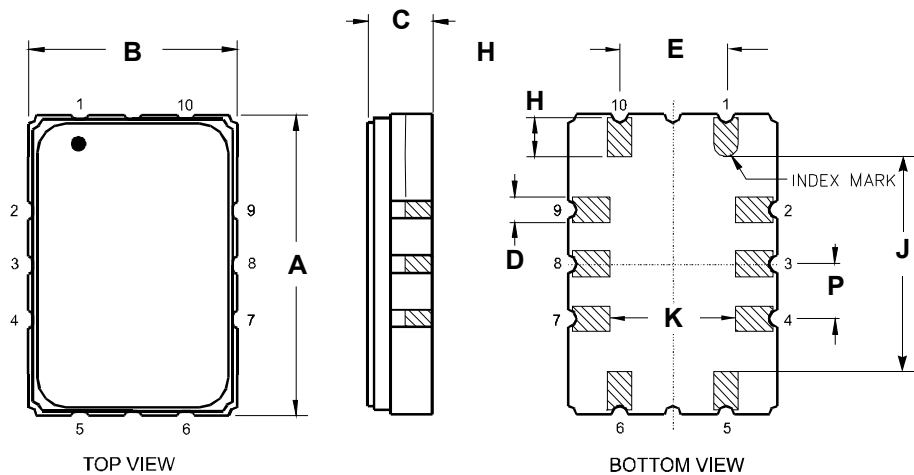
## Recommended PCB Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C	-	1.65	2.00	-	0.065	0.079
D	0.47	0.60	0.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

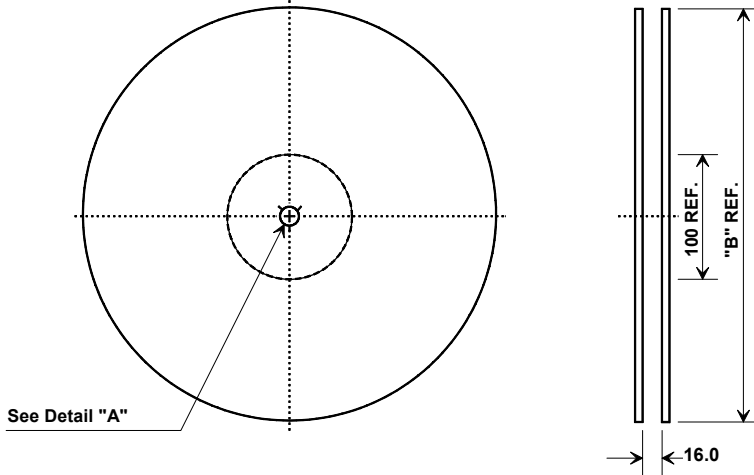
Electrical Connections		
Connection		Terminals
Port 1	Single-ended Input	10
Port 2	Single-ended Output	5
	Ground	All others

Case 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

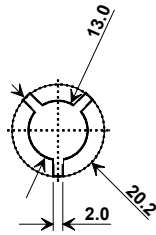


## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

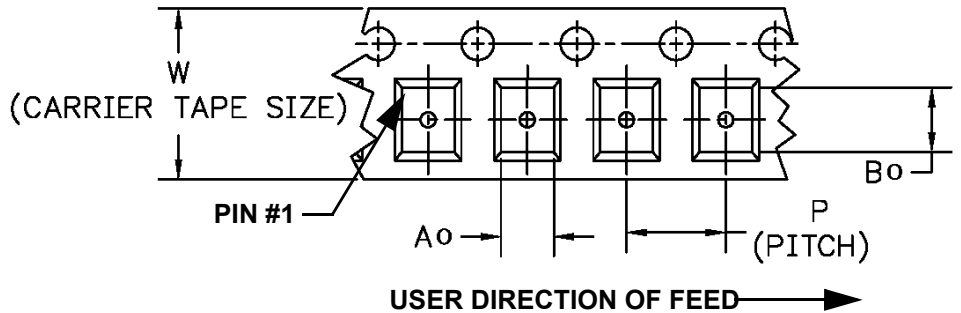
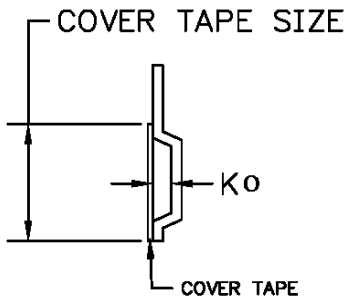


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000



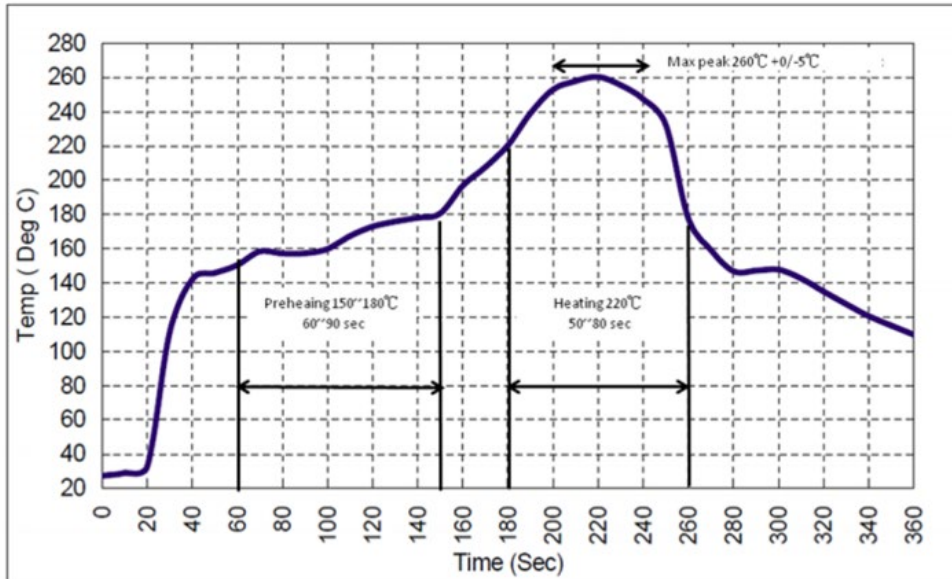
### COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.6 mm
Bo	7.6 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm



## 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.



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