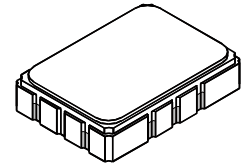


**SF2131B**

**92.16 MHz  
SAW Filter**



**SMP-03**

- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage Between any Two Terminals	30	VDC
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile	265 °C for 10 s	

**Electrical Characteristics**

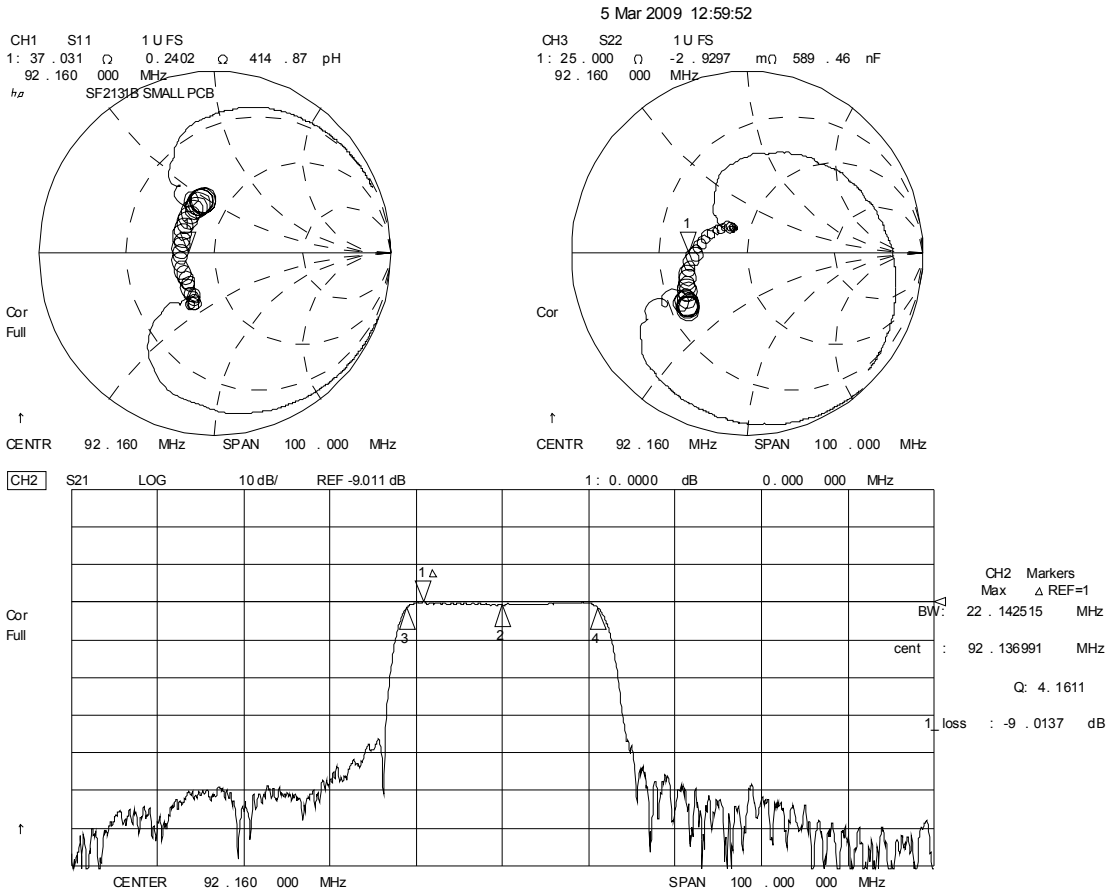
Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	$f_c$			92.16		MHz
1.5 dB Passband Bandwidth			20			MHz
Minimum Insertion Loss	$IL_{MIN}$			9	10.0	dB
Attenuation Relative to $IL_{MIN}$	0 to 40.72 MHz		42	50		dB
	40.72 to 66 MHz		45	49.5		
	61.44 and 122.88 MHz		52	56		
	109 to 143.6 MHz		40	45		
	143.6 to 153.6 MHz		56	60		
218 to 1000 MHz		58	63			
Amplitude Ripple		82.16 to 102.16 MHz		0.9	1.2	dB <sub>P-P</sub>
Group Delay Ripple		82.16 to 102.16 MHz		65	100	ns <sub>P-P</sub>
1 dB Compression Point		82.16 to 102.16 MHz	12	15		dBm
Input IP3			35	40		dBm
Operating Temperature Range			-40		+85	°C
Terminating Source/Load Impedance				50		ohm
Case Style	SMP-03 7 x 5 mm Nominal Footprint					
Lid Symbolization (YY=year, WW=week, S=shift, ## Sequence Code)	RFM, SF2131B, <u>YYWWS##</u>					

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

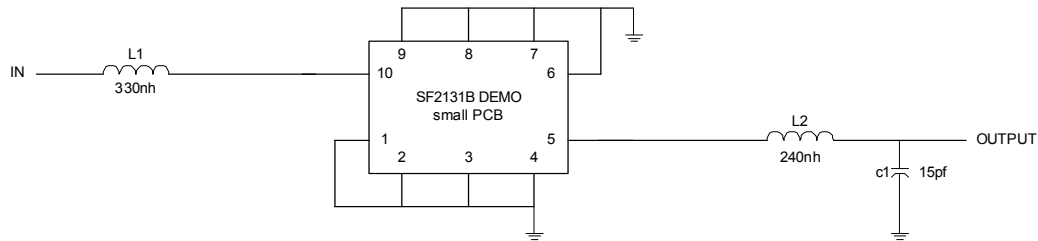
**NOTES:**

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.

# SF2131B I/O Impedance (matched) and Amplitude Plots



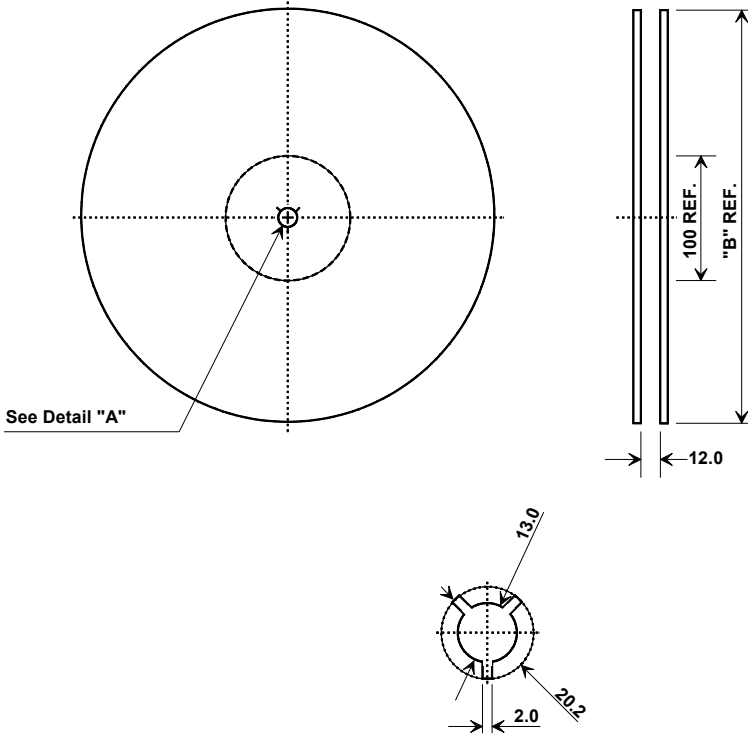
## SF2131B Matching Network



PCB	400-1608-001	small PCB, 5X7	PCB
IND	501-0782-331	0805, 330 nH	L1
IND	501-0782-241	0805, 240 nH	L2
CAP	501-1275-150	0805, 15 pF	C1

## Tape and Reel Specifications

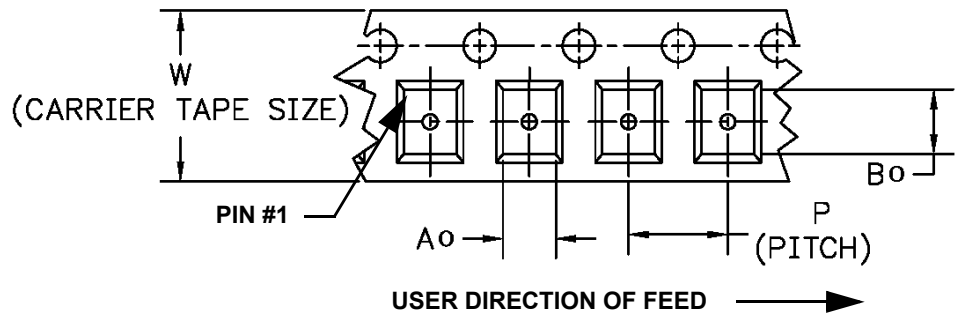
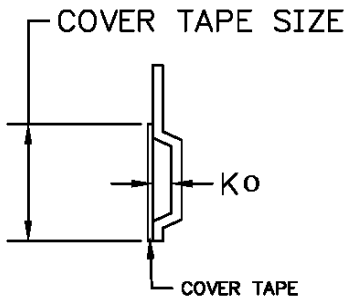
Tape and Reel Standard per ANSI/EIA-481



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

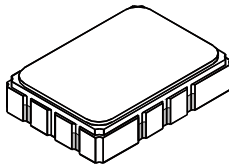
### COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
<b>Ao</b>	9.4 mm
<b>Bo</b>	7.4 mm
<b>Ko</b>	2.0 mm
<b>Pitch</b>	8.0 mm
<b>W</b>	16.0 mm

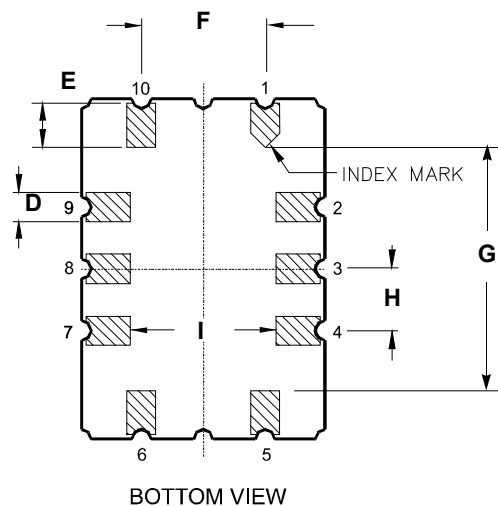
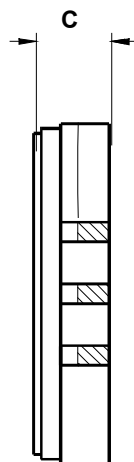
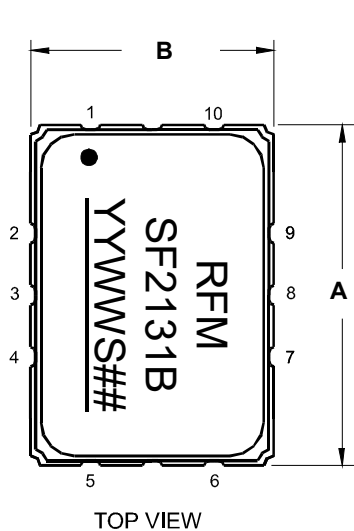
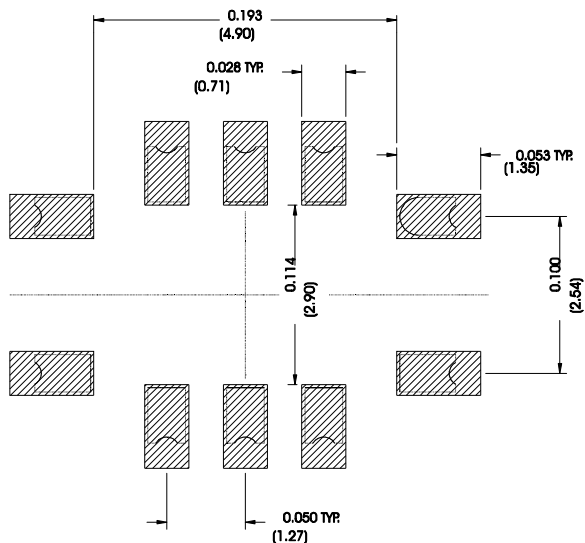


# SMP-03 Case

## 10-Terminal Ceramic Surface-Mount Case 7 x 5 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	0.87	1.00	1.13	0.034	0.039	0.044
F	2.41	2.54	2.67	0.094	0.100	0.105
G	4.87	5.00	5.13	0.192	0.197	0.202
H	1.14	1.27	1.40	0.044	0.050	0.055
I	2.87	3.00	3.13	0.112	0.118	0.123

Electrical Connections		
	Connection	Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
	Ground	All others
	Single-ended Operation	Return is ground
	Differential Operation	Return is hot

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

## 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.

