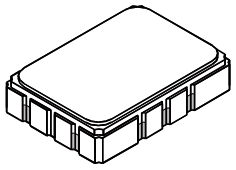
SF2141B

210.38 MHz SAW Filter

- ***Precision SAW Filter***
- ***Simple Matching to 50 ohms***
- ***5.0 x 7.0 mm Surface-mount Case***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***



SMP-03

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+10	dBm
DC Voltage on any Non-ground Terminal	3	V
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Temperature	265 °C for 10 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			210.38		MHz
Insertion Loss at f_C	IL			8.2	11	dB
Amplitude Ripple, f_C± 0.30 MHz	AR			0.4	1.3	dB_{P-P}
Group Delay				716		ns
Group Delay Ripple, f_C± 0.30 MHz				150		ns_{P-P}
Phase Linearity, f_C± 0.63 MHz	RMS			2.60	3.75	deg
5 dB Bandwidth			±0.63	±0.82		MHz
34 dB Bandwidth				±1.18	±1.25	
36 dB Bandwidth				±1.20	±1.55	
Attenuation Referenced to IL:						
f_C ± 1.25 MHz			35	48		dB
140 to 206 MHz			38	45		
214.76 to 280.00 MHz			38	48		
Specification Temperature Range	T_A		-25		+85	°C
Operable Temperature Range			-45		+125	°C
Case Style	SMP-03 7 x 5 mm Nominal Footprint					
Lid Symbolization, YY=year, WW=week, S=shift, ## = Sequence Code)	RFM, SF2141B, YYWWS##					

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.

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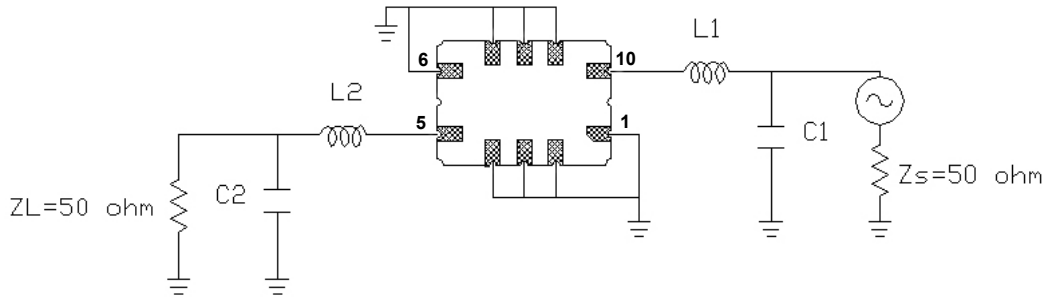
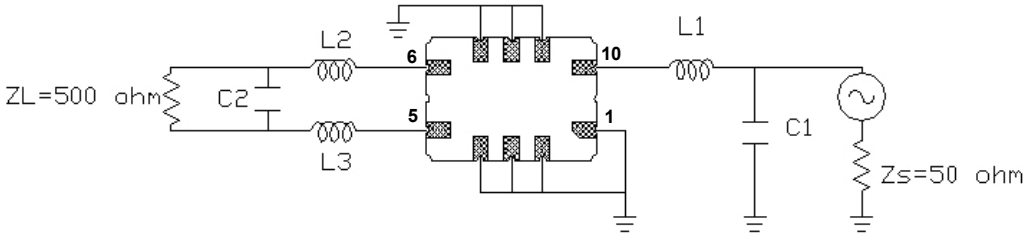
Single-ended 50 ohm input / output test circuit



L1=39nH C1=36pF L1=47nH C2=36pF

Single-ended 50 ohm input / 500 ohm balanced output test circuit



L1=36nH C1=39pF L2=L3=47nH C2=10pF

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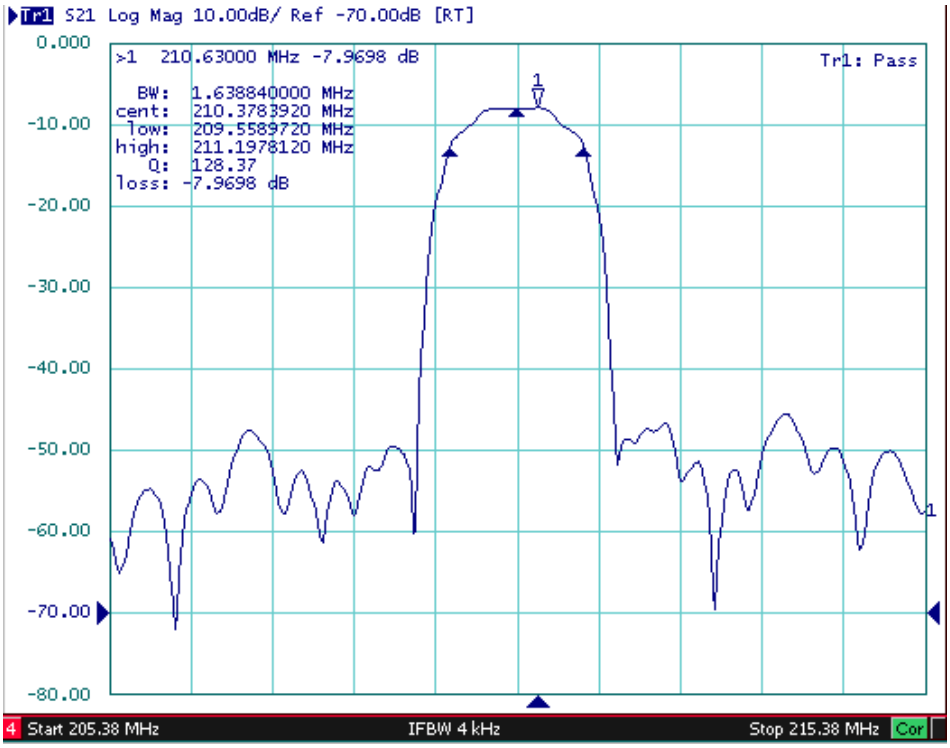
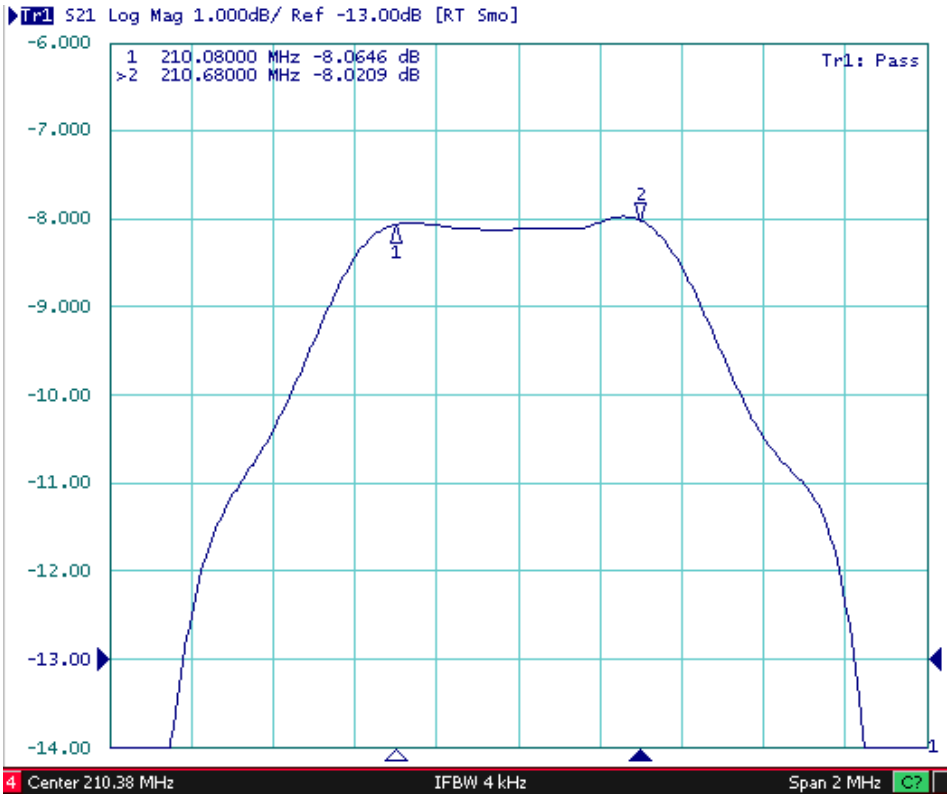
Filter Broadband Amplitude Response



Filter Passband Amplitude Response



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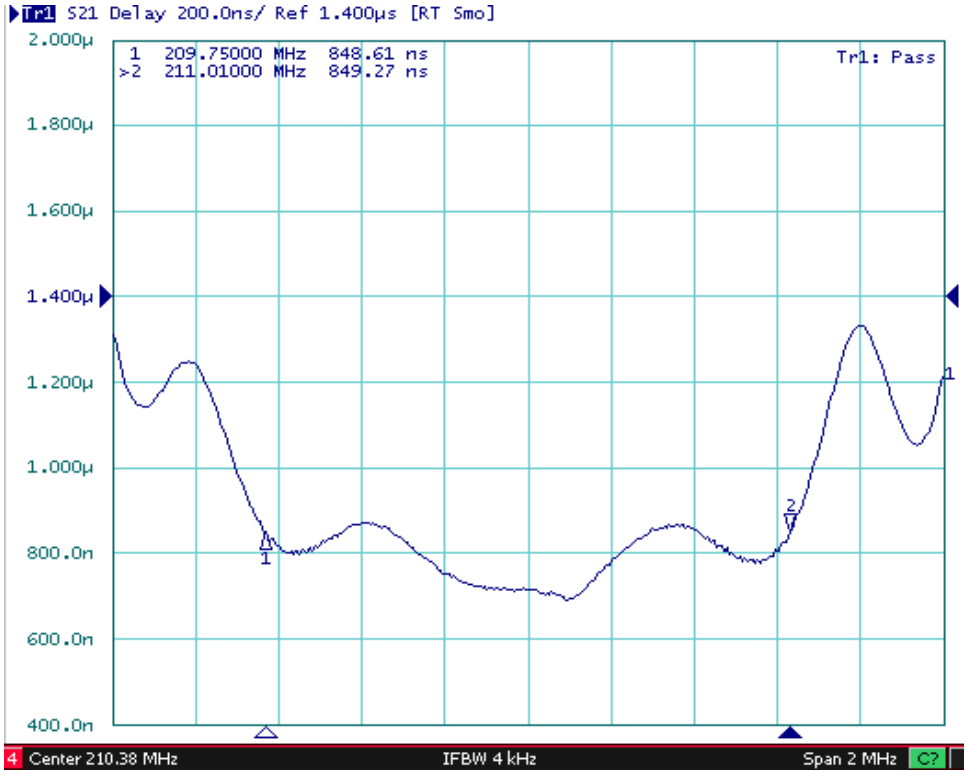
Filter Passband Group Delay



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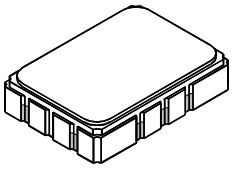
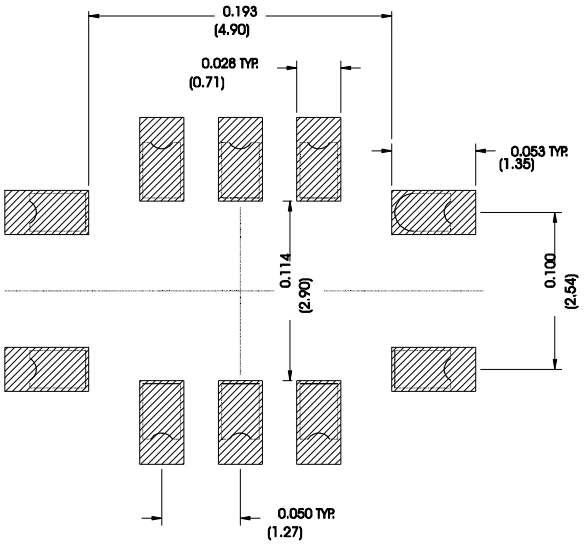
SMP-03 Case

10-Terminal Ceramic Surface-mount Case

7 x 5 mm Nominal Footprint



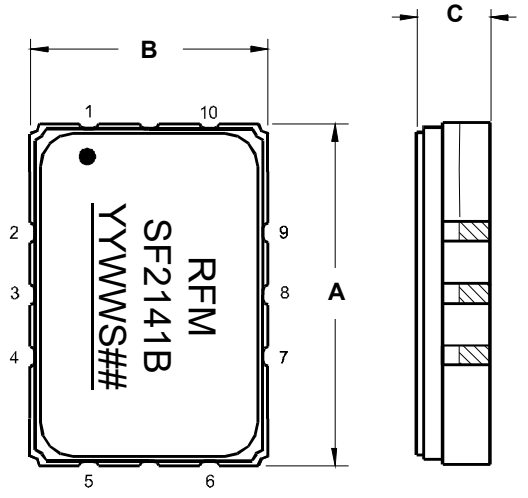
Recommended PCB Footprint



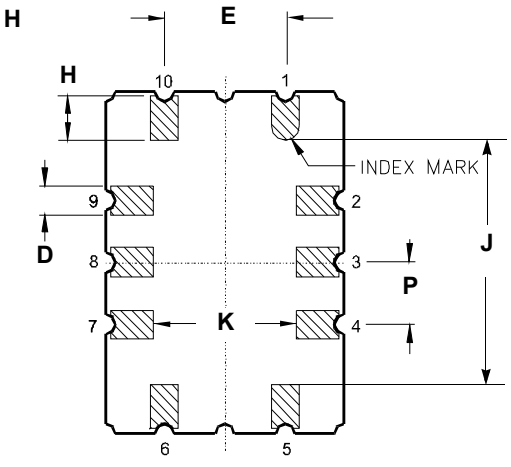
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C		1.65	2.00		0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
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
Input	10
Input Ground	1
Output	5
Output Ground	6
Ground	All others

Case	
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic



TOP VIEW



BOTTOM VIEW

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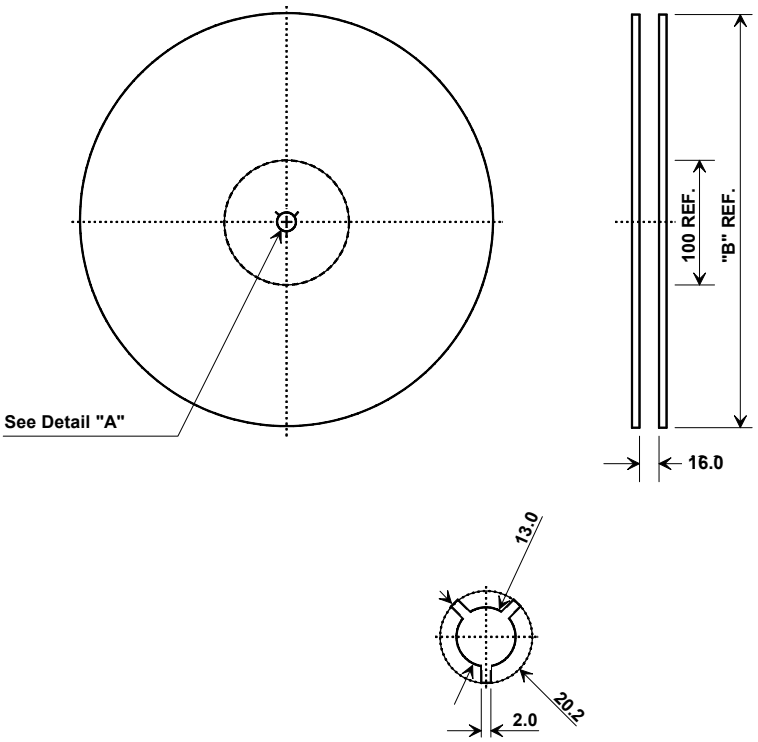
Tape and Reel Specifications

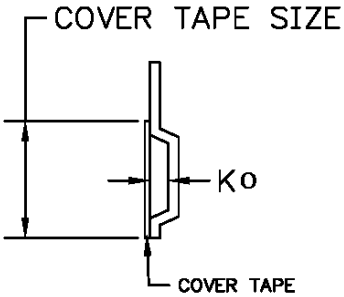
Tape and Reel Standard per ANSI/EIA-481

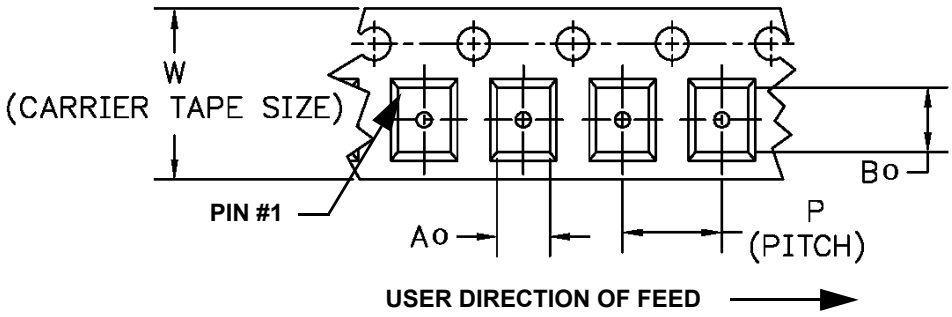


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.5 mm
Bo	7.5 mm
Ko	2.0 mm
Pitch	8.0 mm
W	16.0 mm





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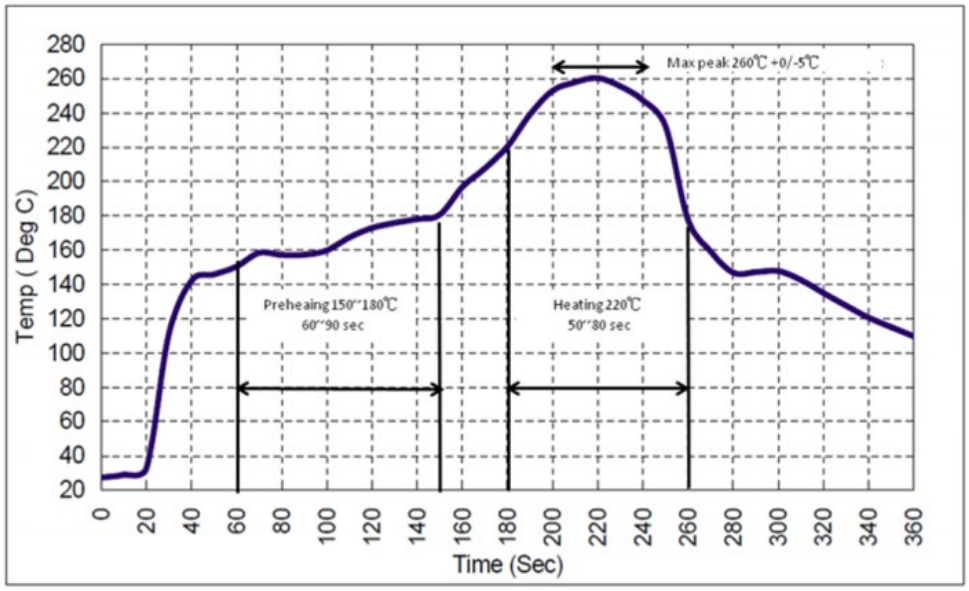
Recommended Reflow Profile

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



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