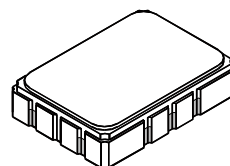


- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 x 7.0 mm Surface-mount Case**
- **Differential or Single-ended Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

SF2138B-1

144.132 MHz
SAW Filter



SMP-03

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	-40 to +85	°C
Operable Temperature Range	-45 to +125	°C
Max Soldering Profile	265 °C for 10 s	

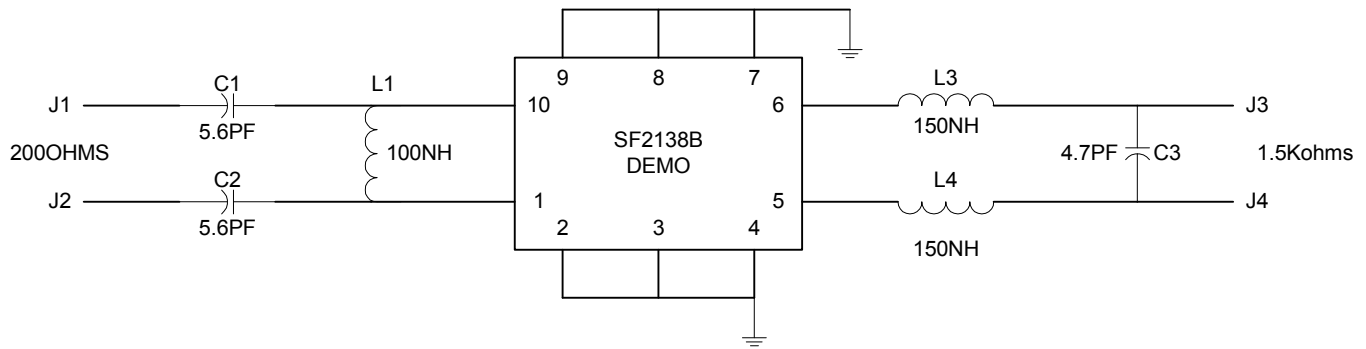
Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal Center Frequency	f_C		144.132			MHz
Passband Width @ +25 °C			137.882		150.382	dB
B 1dB	BW ₁		12.5	13.3		MHz
B 15dB	BW ₁₅			15.9	16.2	MHz
B 30dB	BW ₃₀			16.9	18.2	MHz
Minimum Insertion Loss, including the Matching Network	IL _{MIN}			13.7	16.5	dB
Terminating source impedance			ZS = 200 ohms (differential)			
Terminating load impedance			ZL = 1.5K ohms (differential)			
Amplitude Ripple						
TDM1 (137.882 - 142.382 MHz)				1	1.7	dB _{P-P}
COFDM (141.882 - 146.182 MHz)				0.5	1.5	
TDM2 (145.882 - 150.382 MHz)				1	1.7	
Attenuation Relative to the Insertion Loss at Center Frequency:						dBc
122.882 127.882 MHz			45	50		
127.882 132.882 MHz			43	47		
154.137 159.137 MHz			38	42		
159.137 162.882 MHz			43	47		
162.882 177.882 MHz			48	53		
Group Delay Ripple:						ns _{P-P}
TDM1 (137.882 - 142.382 MHz)				30	150	
COFDM (141.882 - 146.182 MHz)				28	100	
TDM2 (145.882 - 150.382 MHz)				30	150	
Specification Temperature Range	T _A		-40		+105	°C
Case Style	SMP-03 7 x 5 mm Nominal Footprint					
Lid Symbolization, YY=year, WW=week, S=shift, ## = Sequence Code	RFM, SF2138B-1, 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.



400-1749-001

501-0782-101

501-0782-151

501-1275-056

501-1275-047

0805 COIL CRAFT, 100NH

0805 COIL CRAFT, 150NH

0805, 5.6PF

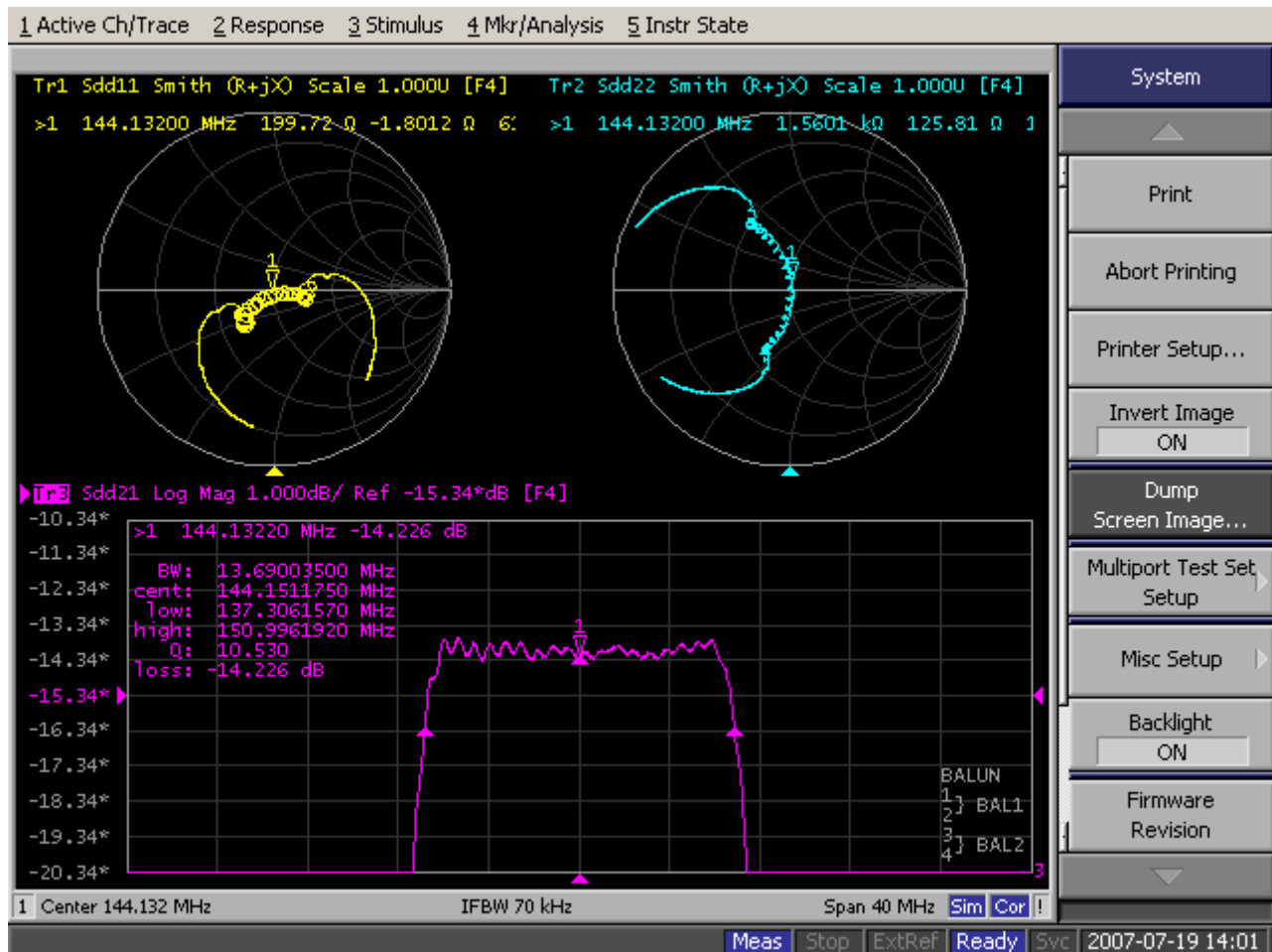
0805, 4.7PF

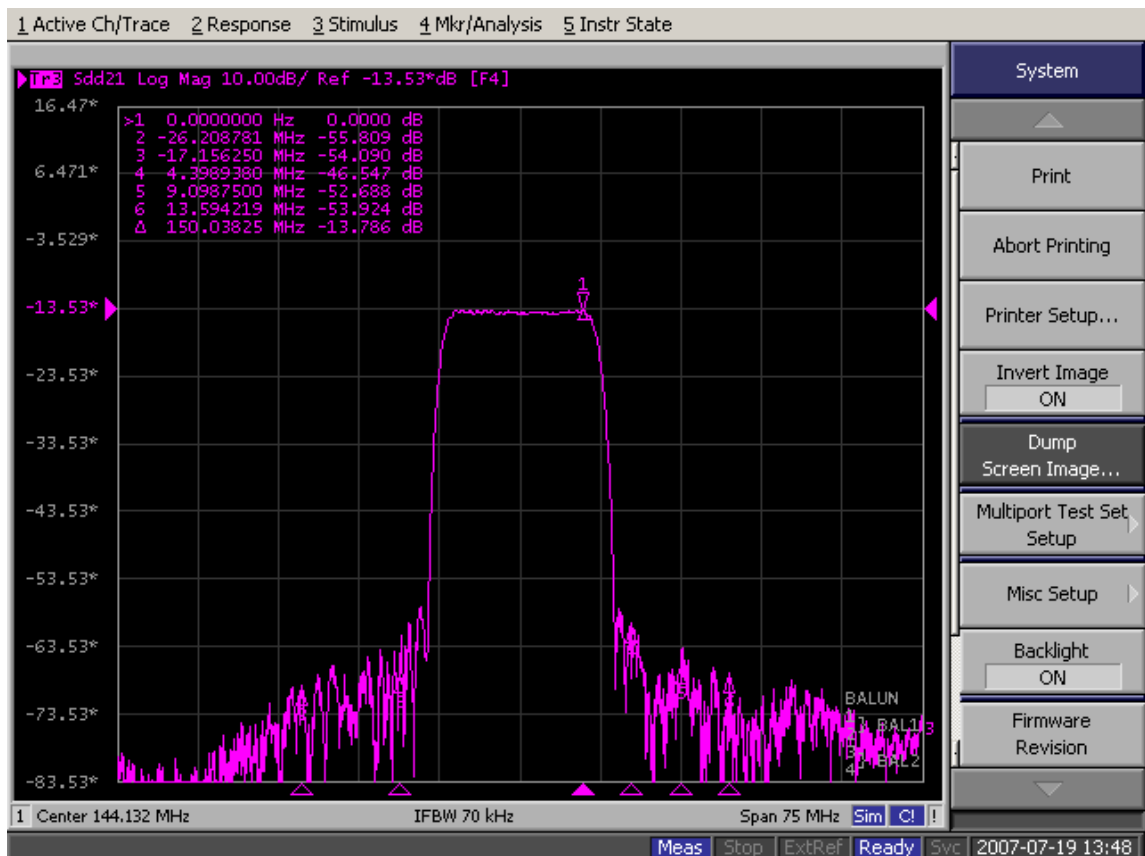
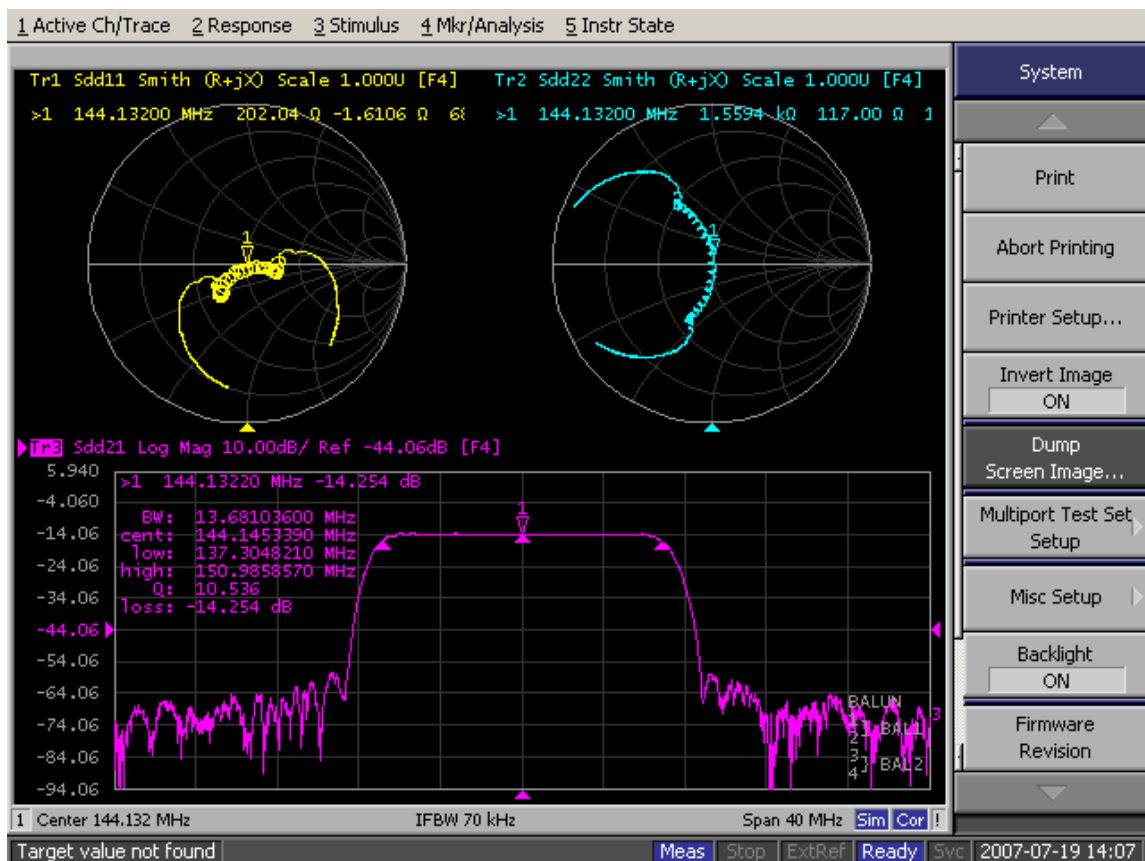
L1

L2, L3

C1, C2

C3

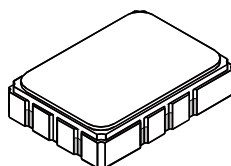




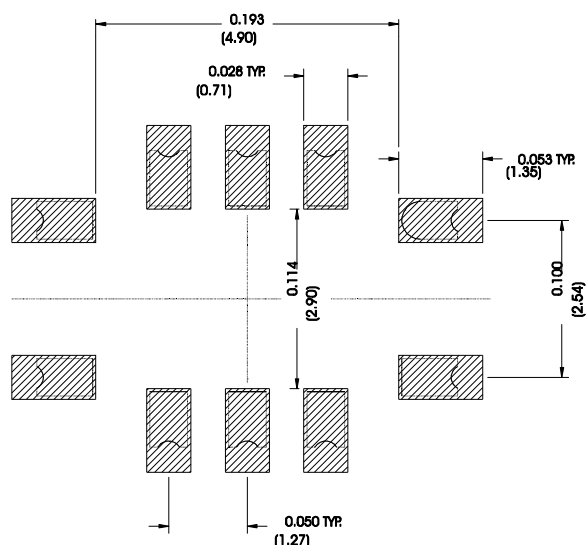
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



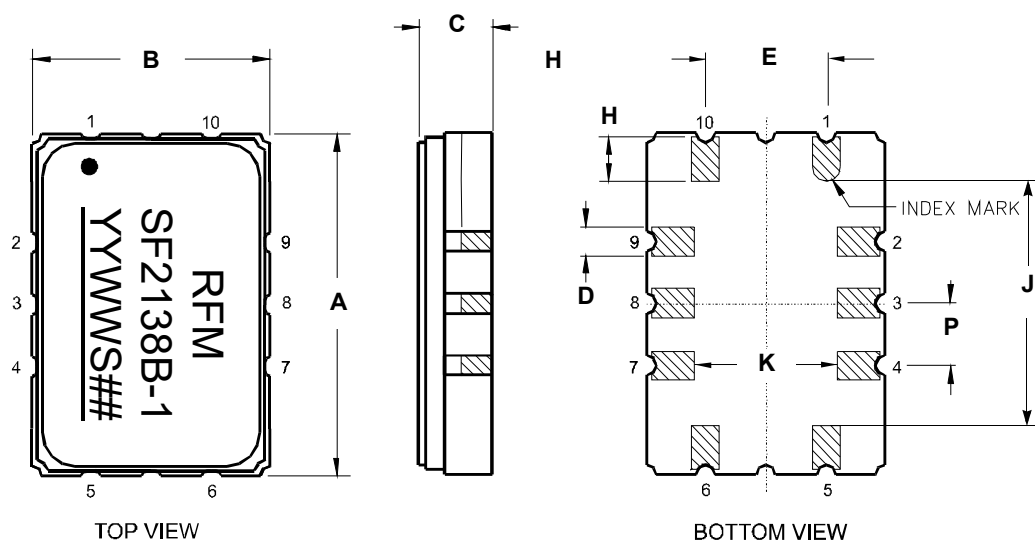
Recommended PCB Footprint



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
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

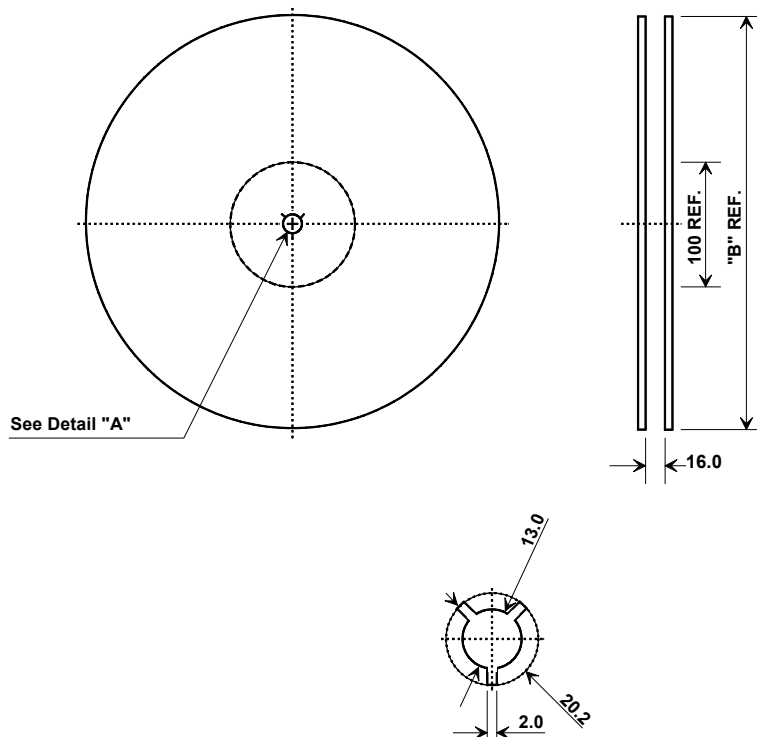
Materials	
Solder Pad Plating	0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel
Lid Plating	2.0 to 3.0 μ m Nickel
Body	Al ₂ O ₃ Ceramic



Tape and Reel Specifications

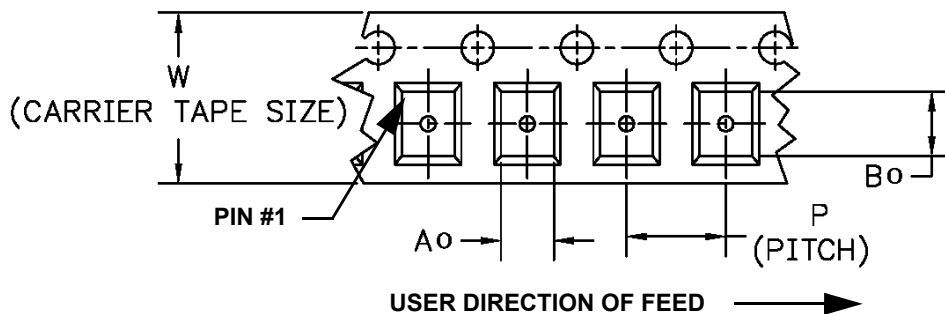
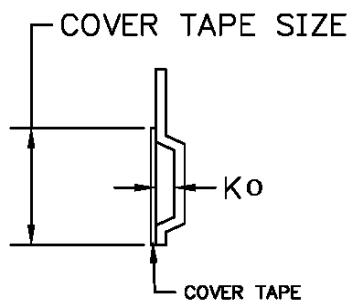
Tape and Reel Standard per ANSI/EIA-481

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



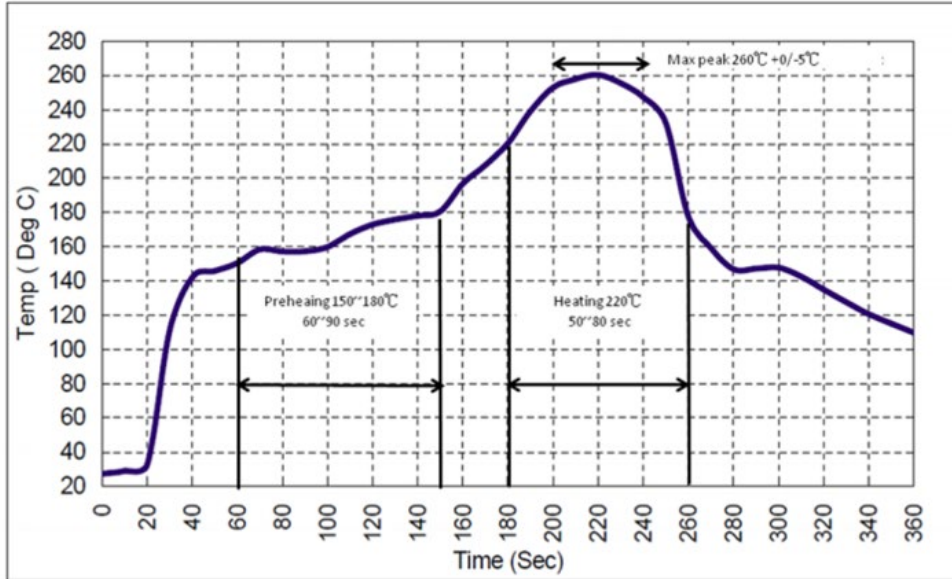
COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	5.5 mm
Bo	7.5 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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