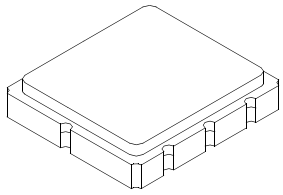
AEC-Q200
This component was always RoHS compliant from the first date of manufacture.

SF1189B-1

280.00 MHz SAW Filter

- ***Designed for WLAN IF Applications***
- ***Low Insertion Loss***
- ***5.0 x 5.0 x 1.7 mm Suface-mount Case***
- ***Single-ended Input***
- ***Single-ended or Differential Output***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM5050-8

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage on any Non-ground Terminal	0	VDC
Storage Temperature Range	-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
Nominal Center Frequency		f_C			280.0		MHz
Passband	Insertion Loss at fc	IL			8.3	10	dB
	3 dB Bandwidth	BW_3		18.5	19.8		MHz
	Amplitude Ripple, fc ±9.0 MHz				2.0	3.0	dB_{P-P}
	Group Delay Variation, fc ±9.0	GDV			60	125	ns_{P-P}
Rejection	fc -60 to fc -40 MHz			40	46		dB
	fc -40 to fc -22 MHz			37	39		
	fc -22 to fc -16 MHz			30	39		
	fc +16 to fc +22 MHz			25	33		
	fc +22 to fc +40 MHz			34	36		
	fc +40 to fc +60 MHz			40	45		
Operating Temperature Range		T_A		-10		+85	°C

Differential Input / Output Impedance Match	External L-C
Case Style	SM5050-8 5 X 5 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift)	457, YWWS

Electrical Connections

Connection		Terminals
Port 1	Single-ended Input	3
Port 2	Single-ended Ouput	7
	Differential Output	6,7
	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.

Amplitude Response

Note: Insertion loss of balun transformer -0.7 dB

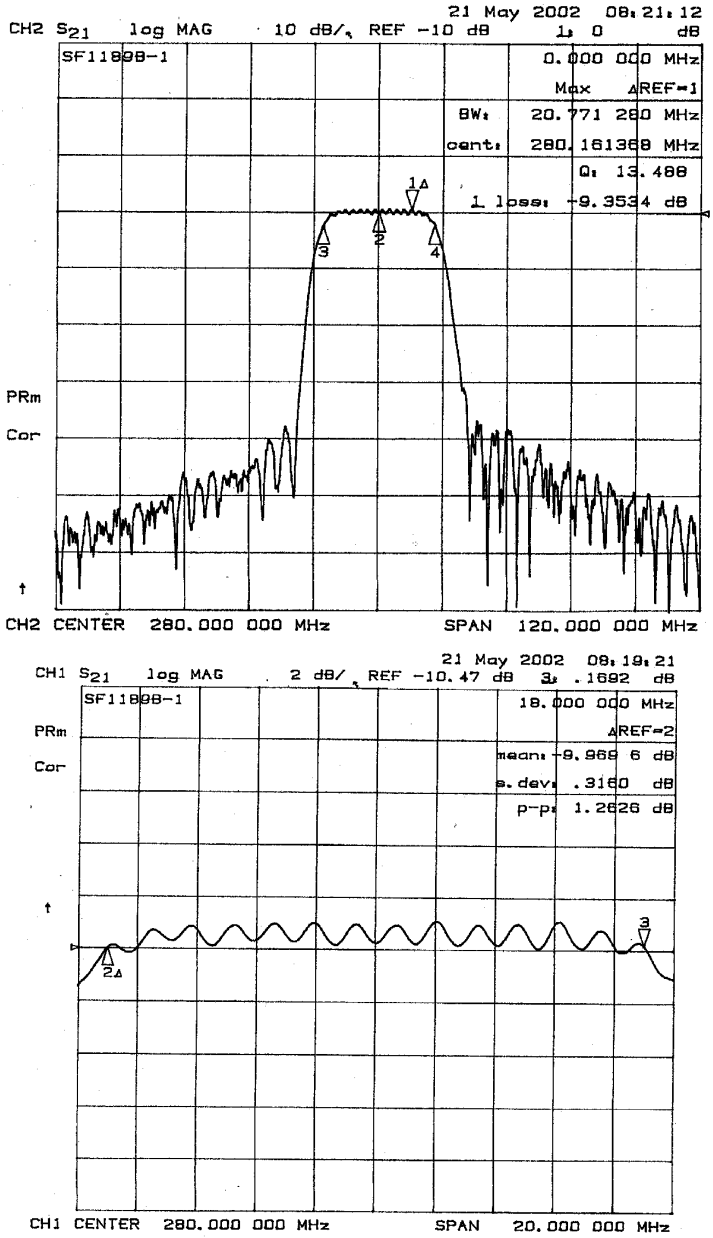
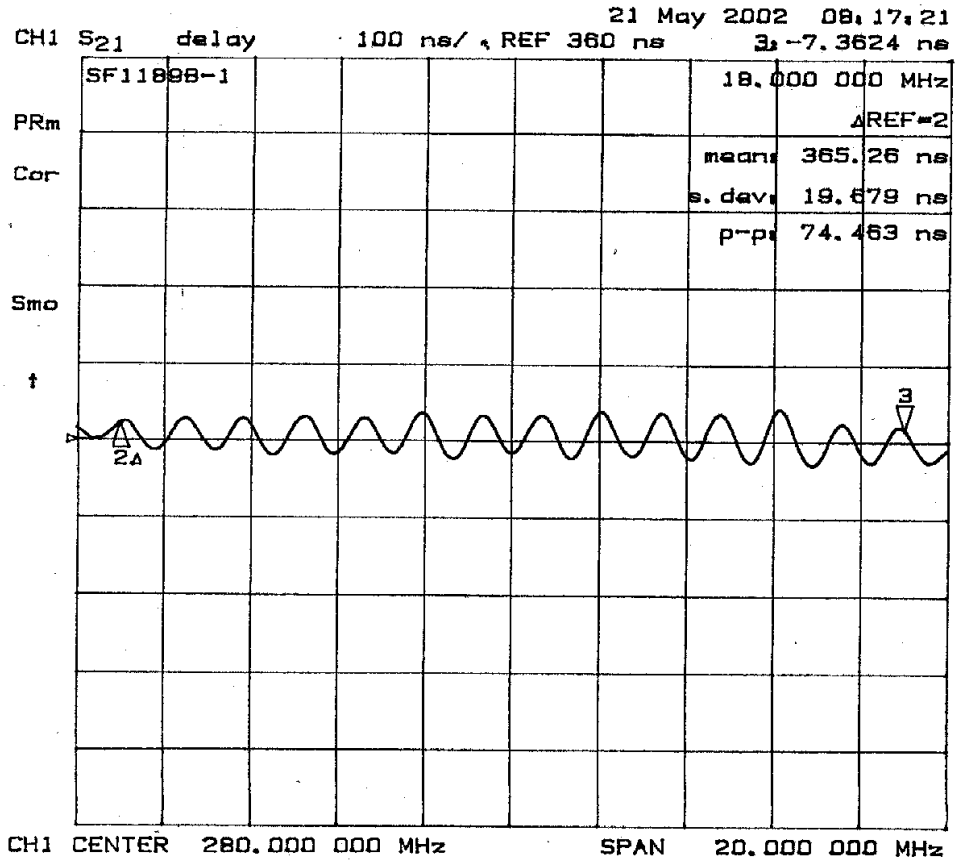
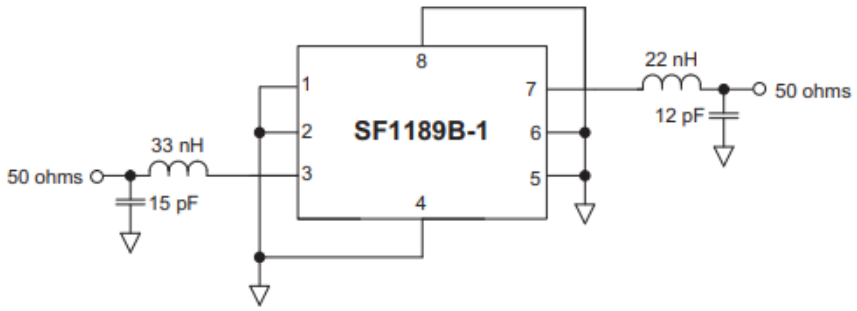


Fig-1 S21 Response

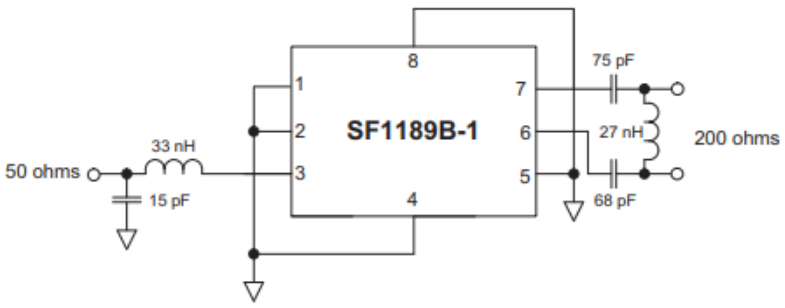
Group Delay Response



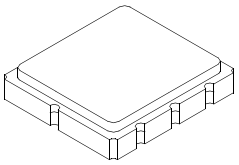
Matching for Single-ended Input and Output

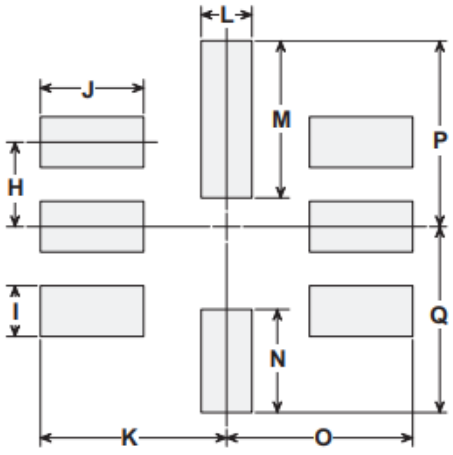


Matching for Single-ended Input, Balanced Output



SM5050-8 Ceramic Surface-mount Case
5.0 X 5.0 mm Nominal Footprint





Typical PCB Land

Case Dimensions

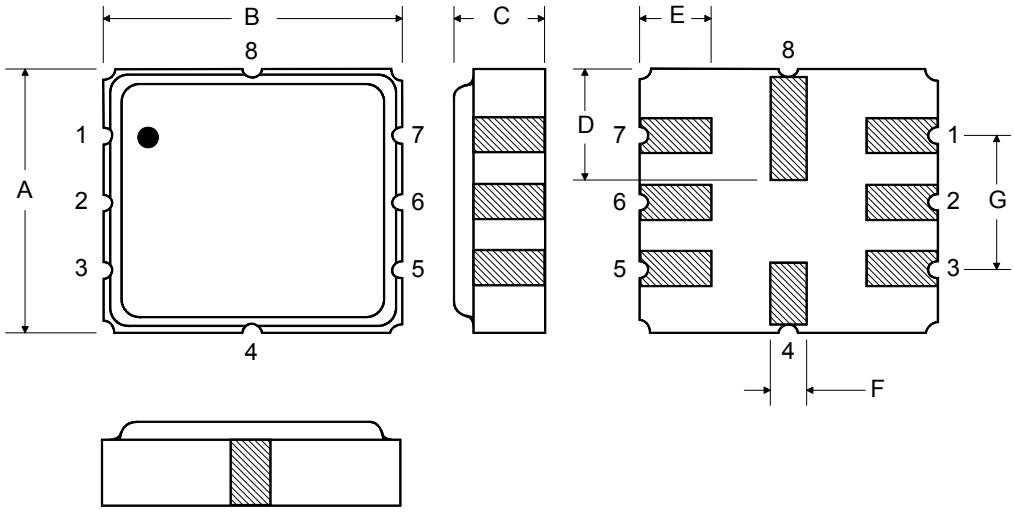
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	4.80	5.00	5.20	0.189	0.197	0.205
B	4.80	5.00	5.20	0.189	0.197	0.205
C	1.30	1.50	1.70	0.050	0.060	0.067
D	1.98	2.08	2.18	0.078	0.082	0.086
E	1.07	1.17	1.27	0.042	0.046	0.050
F	0.50	0.64	0.70	0.020	0.025	0.028
G	2.39	2.54	2.69	0.094	0.100	0.106
H		1.27			0.050	
I		0.76			0.030	
J		1.55			0.061	
K		2.79			0.110	
L		0.76			0.030	
M		2.36			0.093	
N		1.55			0.061	
O		2.79			0.110	
P		2.79			0.110	
Q		2.79			0.110	

Case Materials

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
Pb Free	

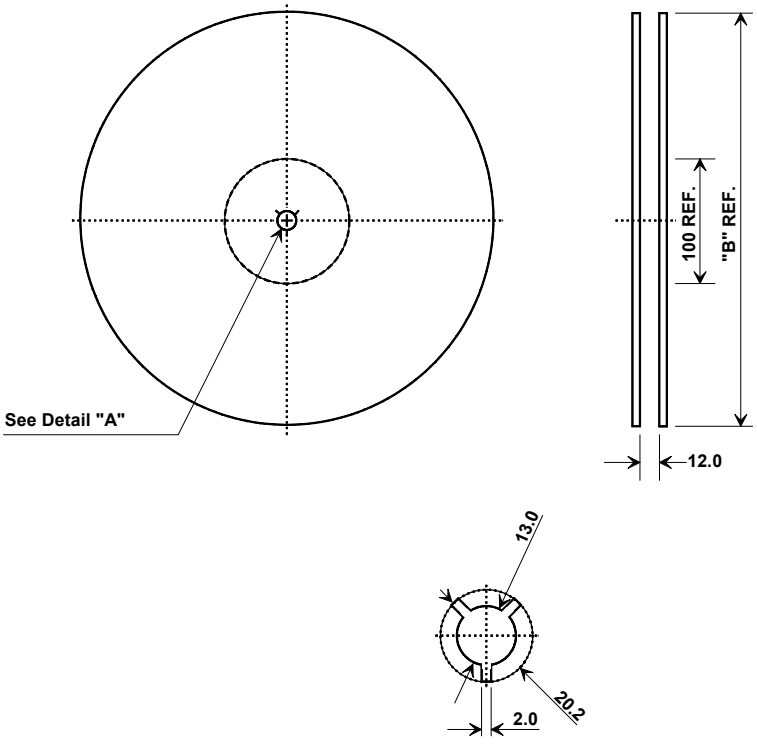
TOP VIEW

BOTTOM VIEW



Tape and Reel Specifications

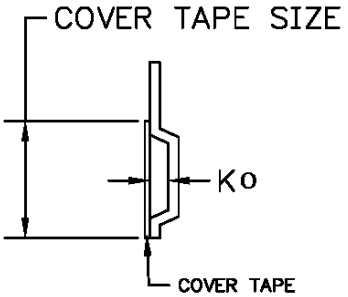
Tape and Reel Standard per ANSI/EIA-481

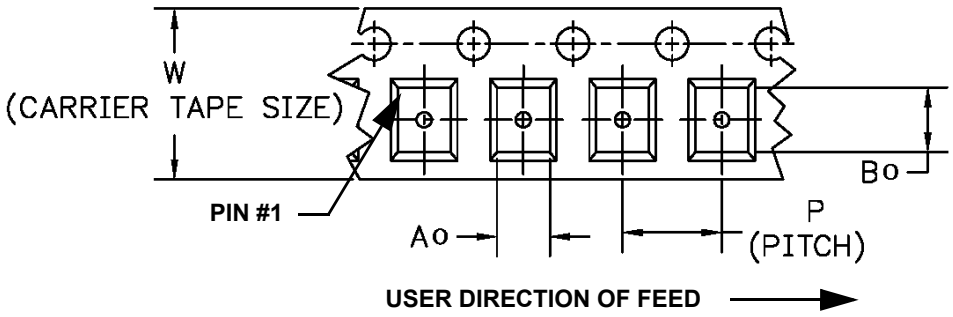


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000

COMPONENT ORIENTATION and DIMENSIONS

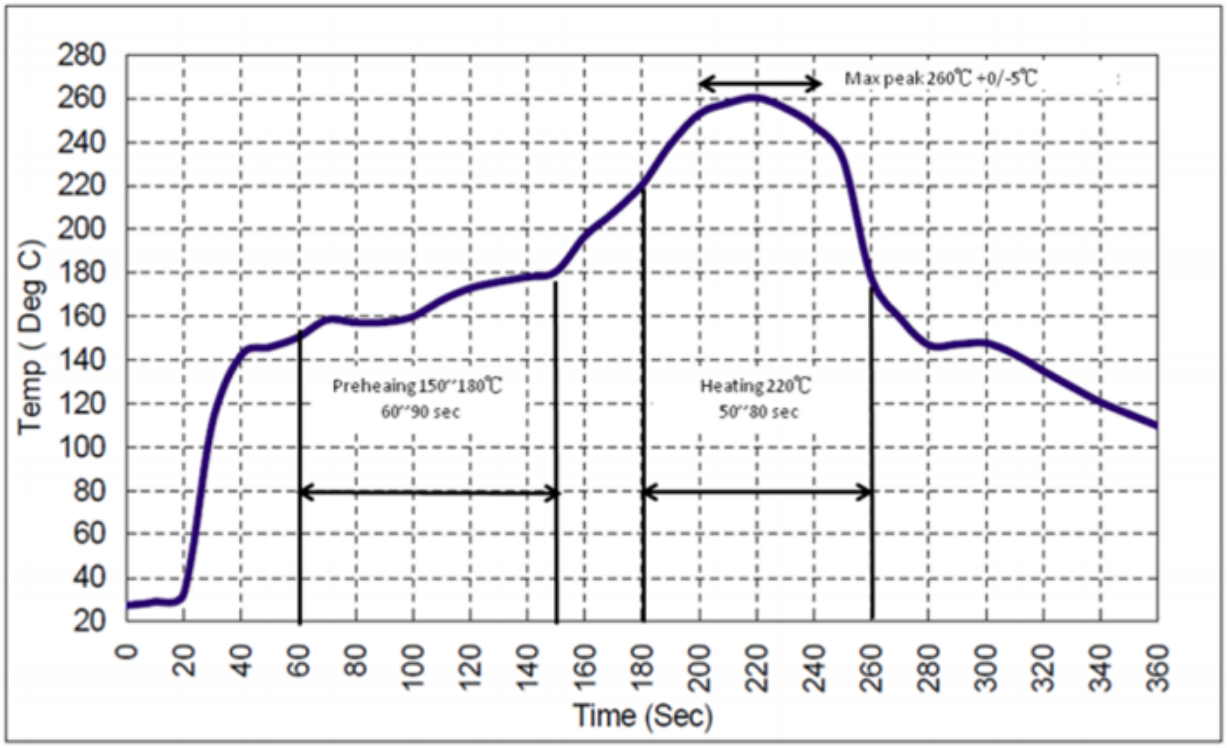
Carrier Tape Dimensions	
Ao	5.3 mm
Bo	5.3 mm
Ko	2.0 mm
Pitch	8.0 mm
W	12.0 mm





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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