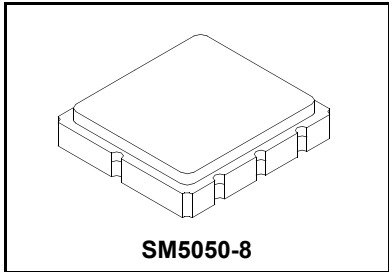


**SF1189B-1**

**280.00 MHz  
SAW Filter**



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



**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	$f_c$	1	280.0			MHz
Passband Insertion Loss at $f_c$ 3 dB Bandwidth Amplitude Ripple, $f_c \pm 9.0$ MHz Group Delay Variation, $f_c \pm 9.0$	IL	1, 2		8.3	10	dB
	$BW_3$		18.5	19.8		MHz
	GDV			2.0	3.0	dB <sub>P-P</sub>
					60	125
Rejection $f_c - 60$ to $f_c - 40$ MHz $f_c - 40$ to $f_c - 22$ MHz $f_c - 22$ to $f_c - 16$ MHz $f_c + 16$ to $f_c + 22$ MHz $f_c + 22$ to $f_c + 40$ MHz $f_c + 40$ to $f_c + 60$ MHz		1, 2, 3	40	46		dB
			37	39		
			30	39		
			25	33		
			34	36		
			40	45		
Operating Temperature Range	$T_A$	1	-10		+85	°C

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

**Electrical Connections**

Connection	Terminals
Port 1 Single-ended Input	3
Port 2 Single-ended Output Differential Output	7
	6,7
Ground	All others



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production"
5. and "ENG" or "E" indicates "engineering prototypes." The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

### Amplitude Response

Note: Insertion loss of balun transformer -0.7 dB

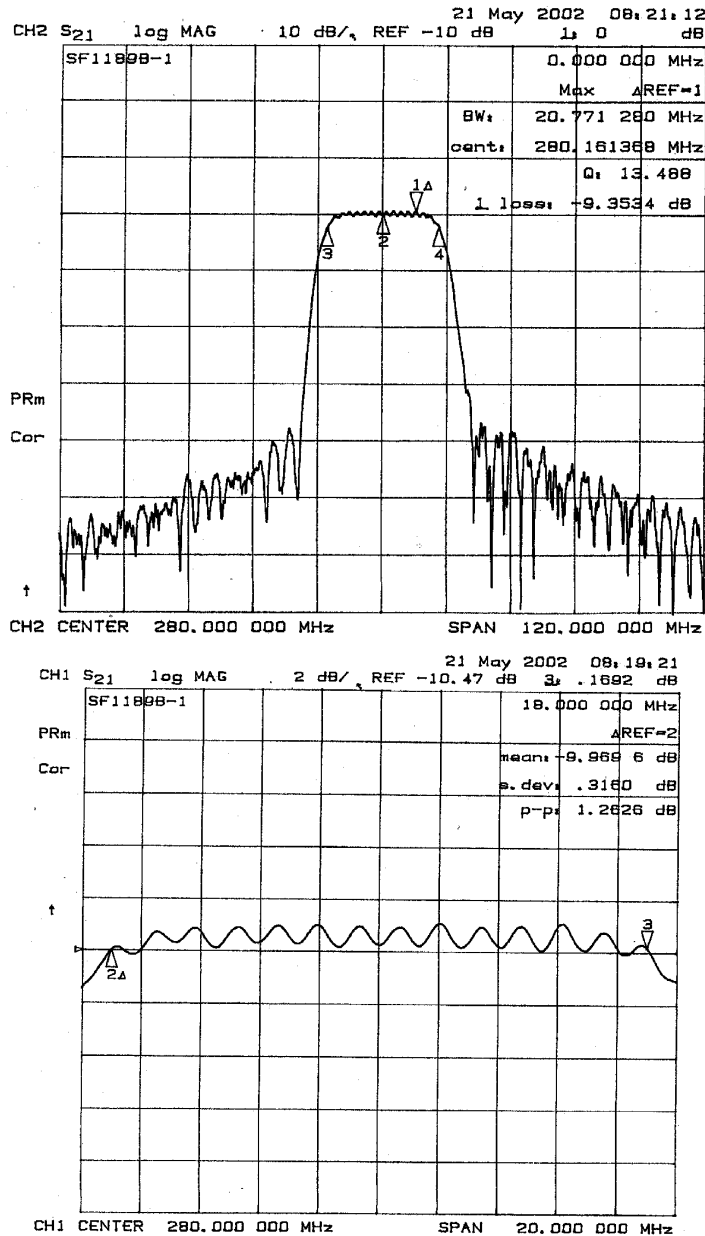
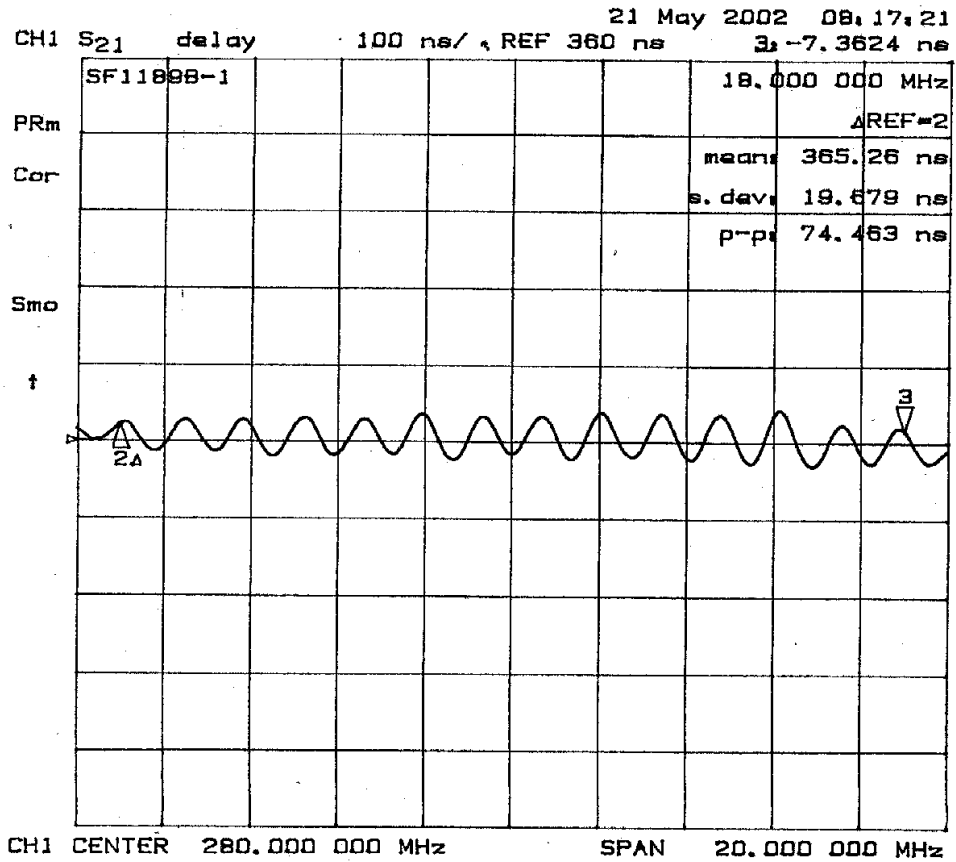
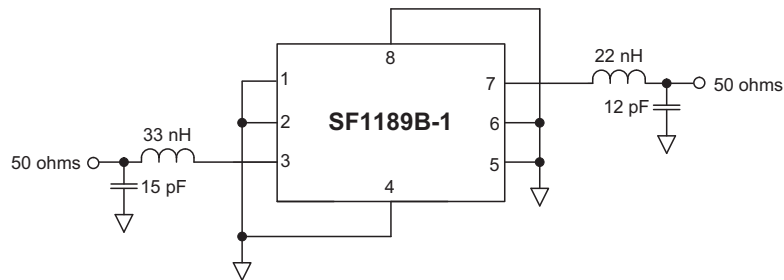


Fig-1 S21 Response

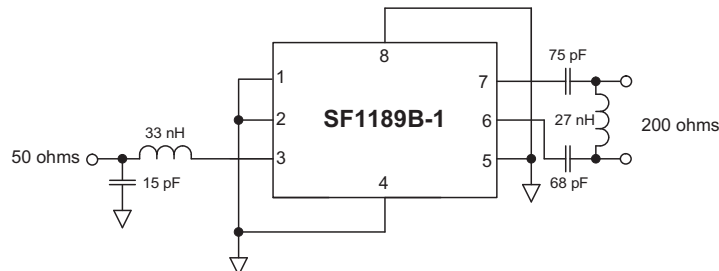
# Group Delay Response



## Matching for Single-ended Input and Output

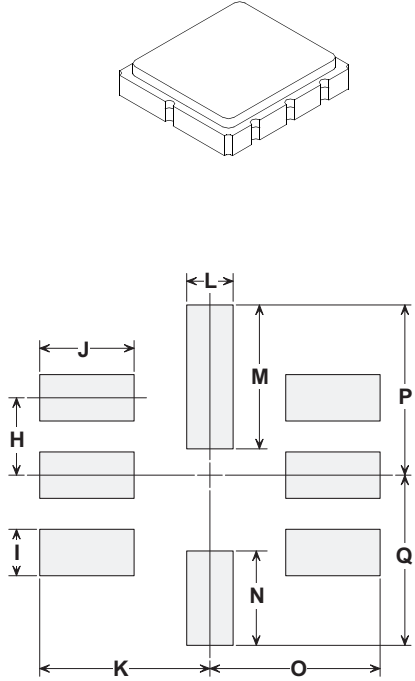


## Matching for Single-ended Input, Balanced Output



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

## Case Dimensions



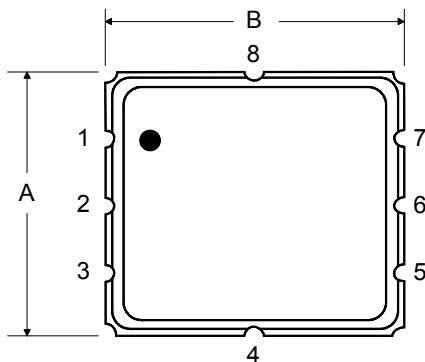
**Typical PCB Land**

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	

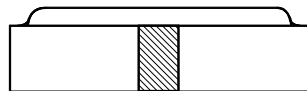
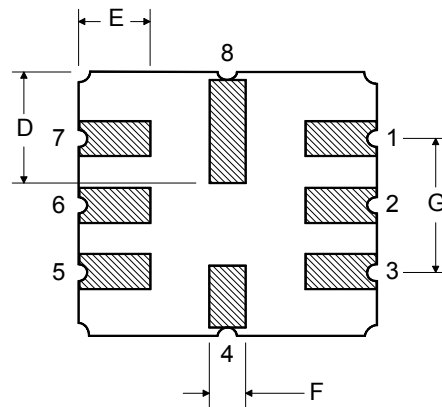
## Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ 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	

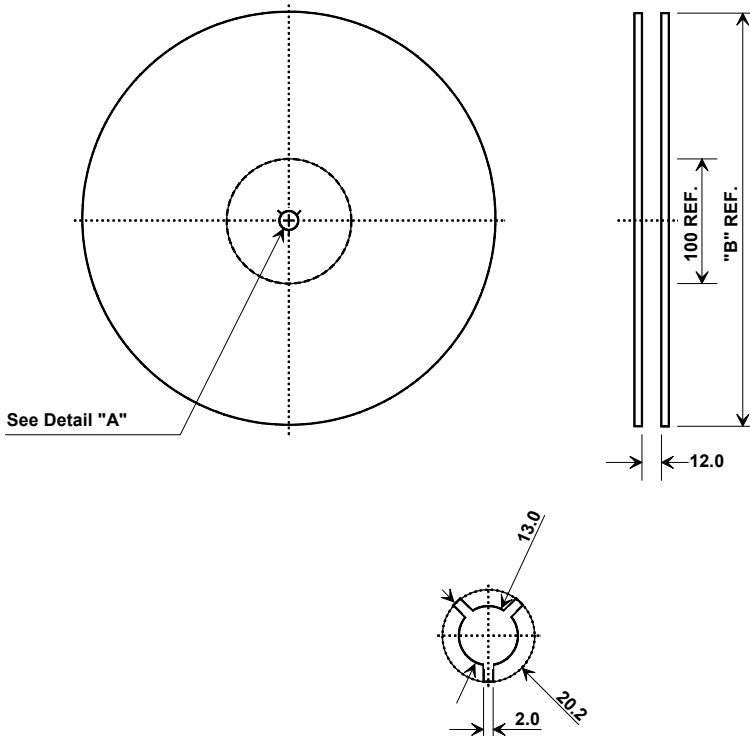
TOP VIEW



BOTTOM VIEW



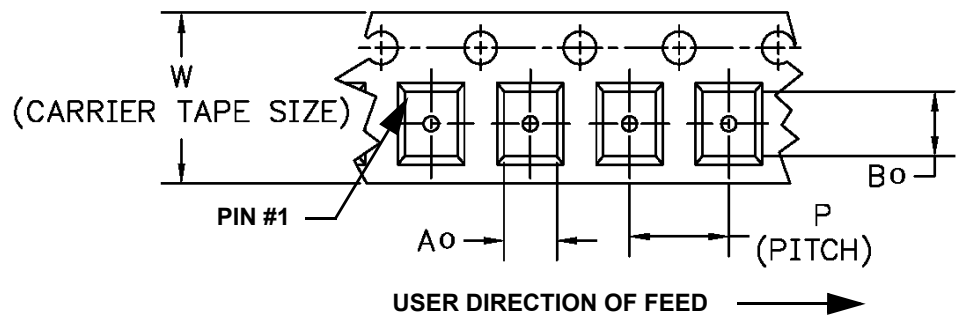
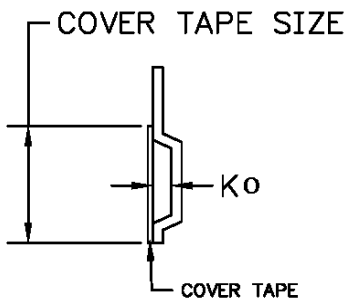
## Tape and Reel Specifications



"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



## Данный компонент на территории Российской Федерации

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<http://moschip.ru/get-element>

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Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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