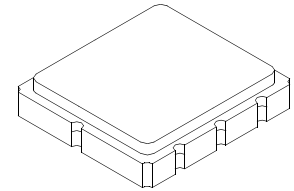


**SF2037C**

**76.500 MHz**  
**SAW Filter**



**SM5050-8**

- *Designed for SDARS IF Receiver*
- *5.0 X 5.0 mm Surface-mount Case*
- *Differential or Single-ended Input and Output*
- *Complies with Directive 2002/95/EC (RoHS)*
- *Moisture Sensitivity Level: 1*
- *AEC-Q200 Qualified*

**Absolute Maximum Ratings**

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

**Electrical Characteristics**

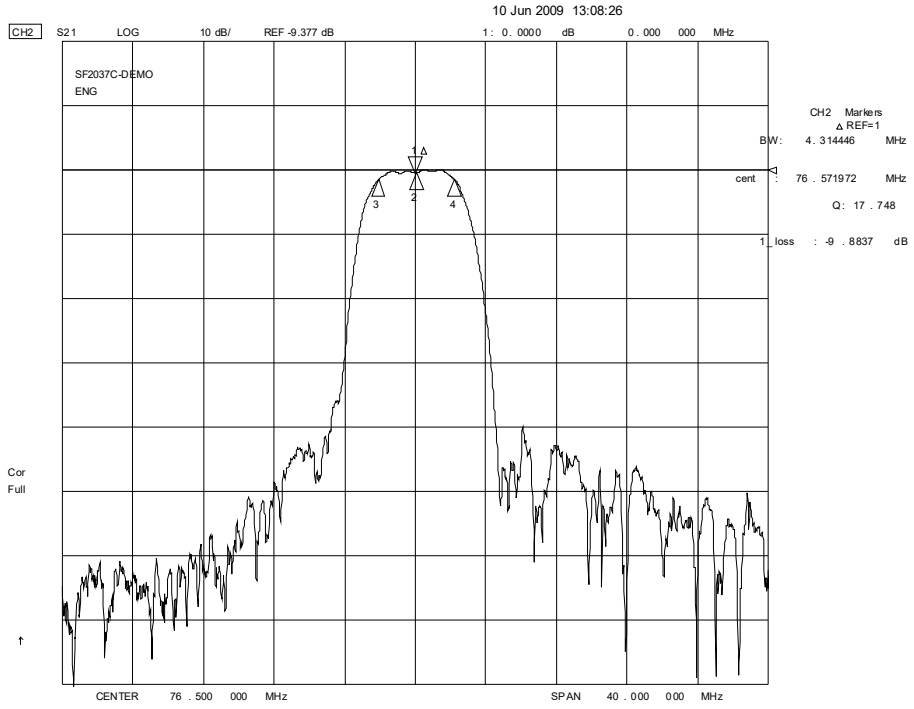
Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			76.500		MHz
Insertion Loss	IL			10.0	12.0	dB
1 dB Bandwidth	$BW_1$		3.8	4.4		MHz
15 dB Bandwidth	$BW_{15}$			7.1	7.4	MHz
30 dB Bandwidth	$BW_{30}$			8.2	8.5	MHz
Amplitude Ripple, $f_C \pm 1.9$ MHz				0.7	1.10	dB <sub>P-P</sub>
Group Delay Ripple, $f_C \pm 1.9$ MHz	GDV			55	150	ns <sub>P-P</sub>
Rejection:						dB
50 to 70.44 MHz			34	41		
70.44 to 72.04 MHz			31	37		
81.26 to 82.56 MHz			36	42		
82.56 to 86.50 MHz			36	43		
86.5 to 91.50 MHz			40	46		
91.50 to 100.00 MHz			42	51		
Operating Temperature Range	$T_A$		-40		+85	°C
Frequency Temperature Coefficient	FTC			-18		ppm/°C
Differential Input				175 ohms		
Differential Output				1000 ohms		
Case Style				SM5050-8 5 x 5 mm Nominal Footprint		
Lid Symbolization (Y=year, WW=week, S=shift)				912, <u>YWWS</u>		

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

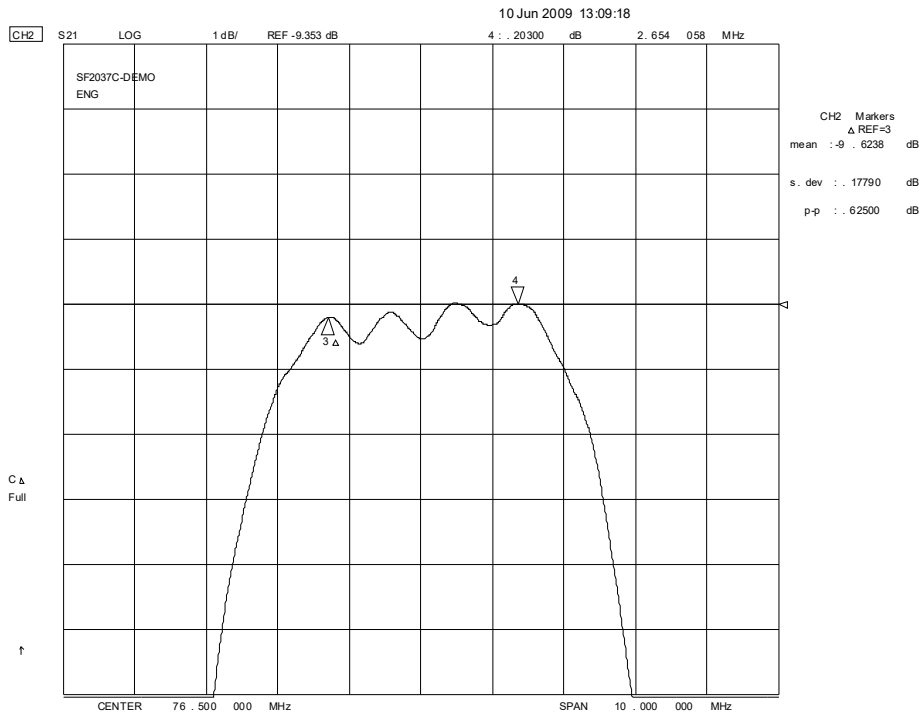
**NOTES:**

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.

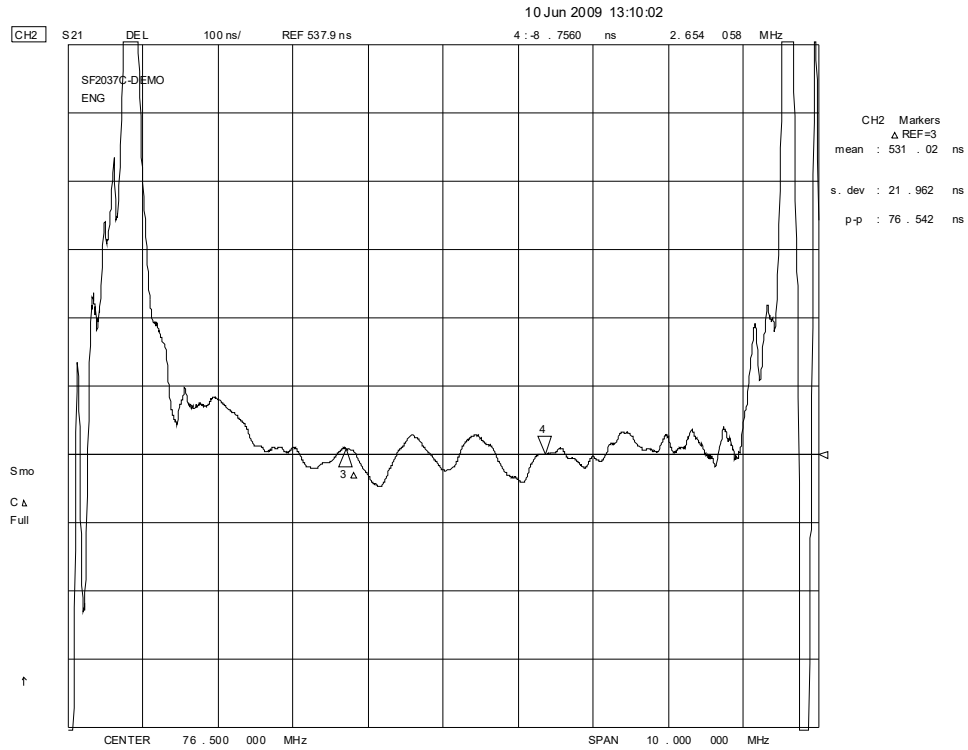
# Filter Amplitude Response Plot, 56.5 to 96.5 MHz



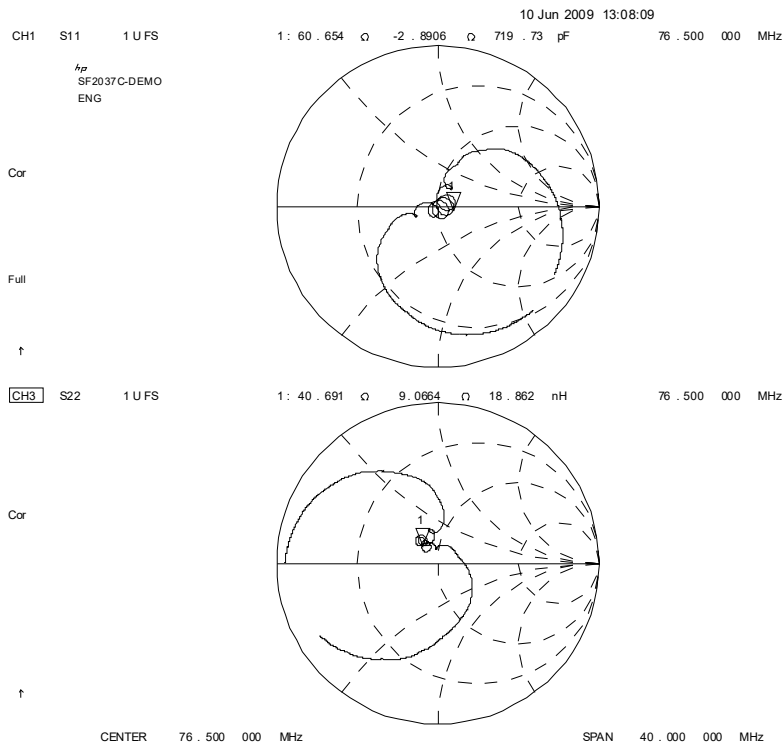
# Filter Passband Amplitude Plot



# Filter Passband Group Delay Plot

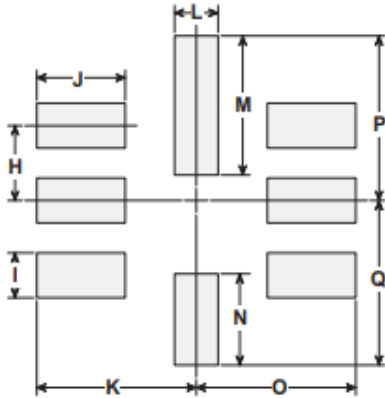
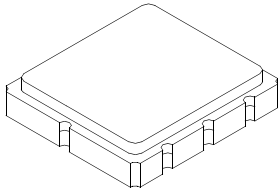


# Filter Input and Output Impedance Plots



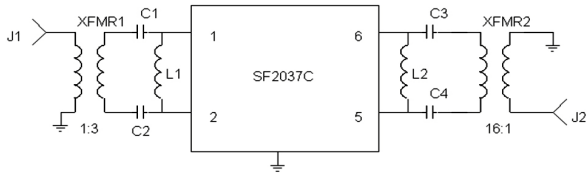
# SM5050-8 Surface-Mount 8-Terminal Ceramic Case

## 5.0 X 5.0 mm Nominal Footprint



**PCB Footprint**

SF2037C Demo Board



- C1,C2      501-0621-090 9pF 0603
- C3,C4      501-0621-180 18pF 0603
- L1,L2      501-1068-331 330nH 0603CS
- XFMR1      501-0912-003 3:1 Transformer
- XFMR2      501-0912-004 16:1 Transformer
- PCB        401-1706-001 5x5 PCB pins 1, 2 & 5, 6
- J1, J2      500-1241-001 SMA e-snap fem gold conn.

### 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

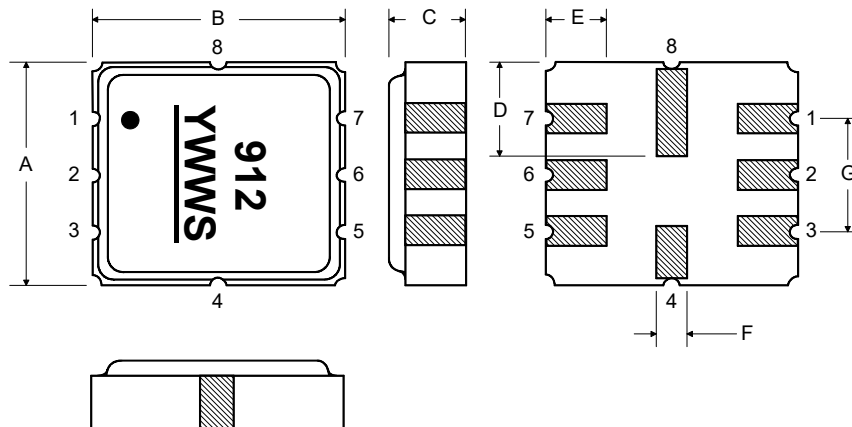
Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic

### Electrical Connections

Connection		Terminals
Port 1	Differential Input	1, 2
Port 2	Differential Output	5, 6
	Ground	All others
Single-ended Operation		Return is ground
Differential Operation		Return is hot
Dot indicates Pin 1		

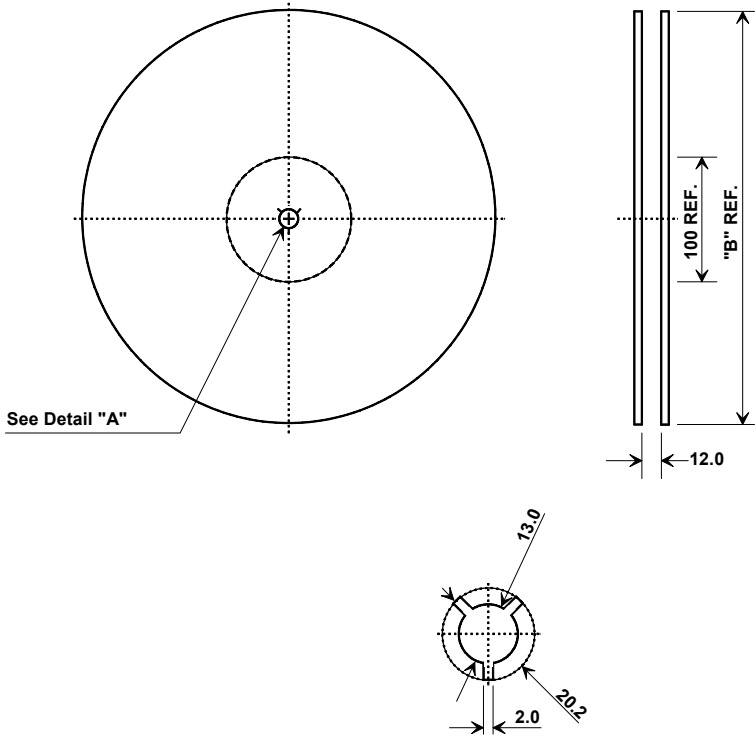
**TOP VIEW**

**BOTTOM VIEW**



## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481



"B"		Quantity Per Reel
Nominal Size		
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

