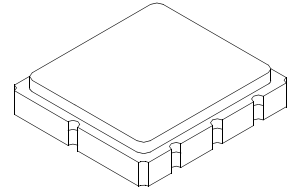


**SF2320C**

**163.00 MHz  
SAW Filter**



SM5050-8

- SAW Filter for W-CDMA
- 5.0 X 5.0 X 1.7 mm Surface-Mount Case
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1

**Maximum Rating**

Rating	Value	Units
Input Power Level	10	dBm
Operating Temperature Range	-10 to +50	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C

**ELECTRICAL CHARACTERISTICS:**

Terminating source impedance:  $Z_s = 50 \Omega$  (Single-ended)

Terminating load impedance:  $Z_L = 50 \Omega$  (Single-ended)

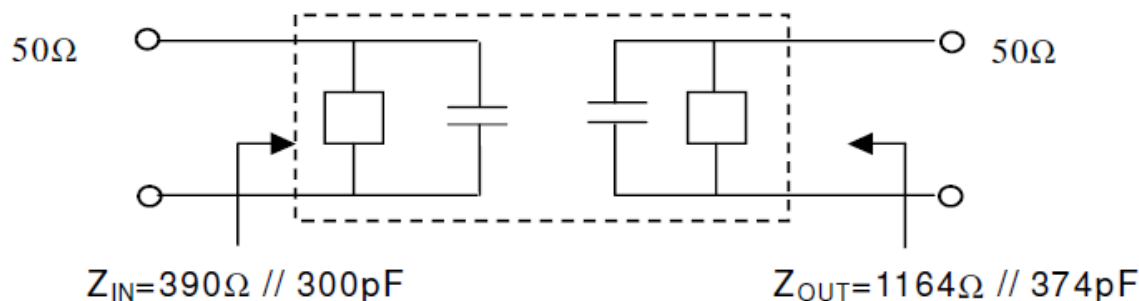
Parameters Description	Unit	Min.	Typ.	Max.	Note
<b>Center Frequency</b> $F_c$	MHz	-	163	-	1
<b>Insertion Loss</b> (Within $F_c \pm 4$ MHz)	dB	-	6.0	6.5	1
<b>Pass band Ripple</b> (Within $F_c \pm 4$ MHz)	dB	-	1.3	2.1	-
<b>Attenuation</b> (Reference level from 0dB)					
$F_c - 100$ MHz to $-38.8$ MHz	dB	50	57	-	1
$F_c + 38.8$ MHz to $+100$ MHz	dB	42	47	-	1
Impedance at $F_c$ ; Input, $Z_{IN} = R_{IN} // C_{IN}$	390 $\Omega$ // 300 pF				2
Impedance at $F_c$ ; Output, $Z_{OUT} = R_{OUT} // C_{OUT}$	1164 $\Omega$ // 374 pF				2

Note 1: The standard definitions is in JIS C 6703

Note 2:

Source impedance

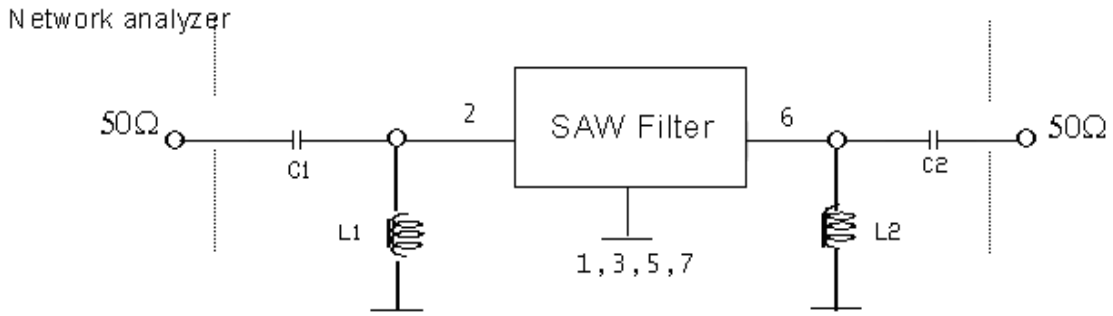
Load impedance



 **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.

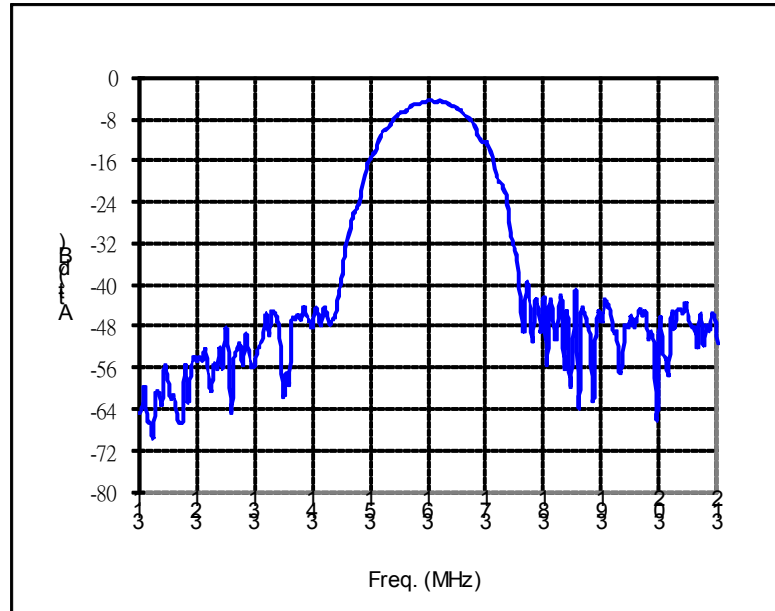
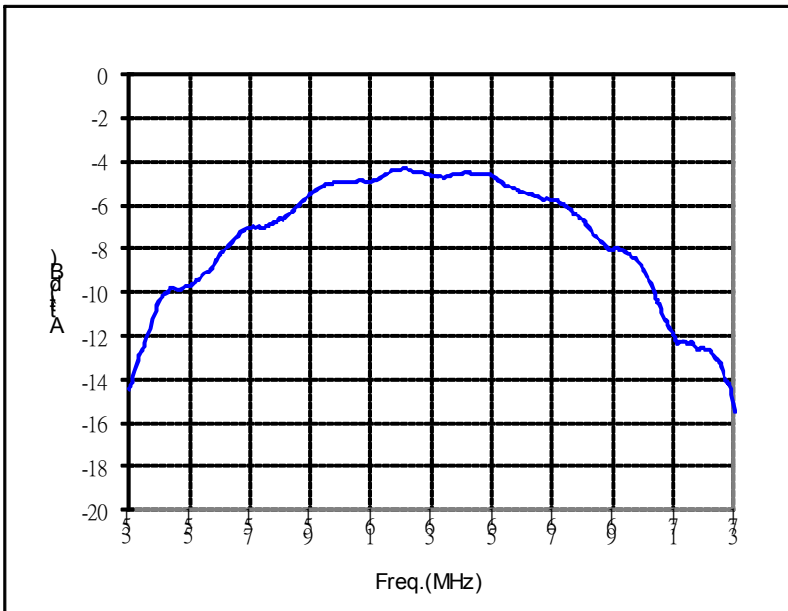
## MEASUREMENT CIRCUIT



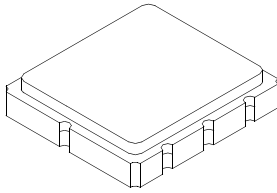
C1 = 12 pF L1 = 47 nH

C2 = 8 pF L2 = 47 nH

## FREQUENCY CHARACTERISTICS:

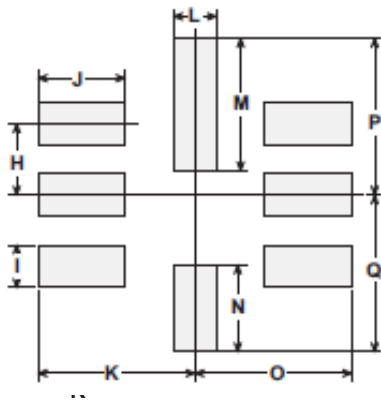


# SM5050-8 Surface-Mount 8-Terminal Ceramic Case 5.0 X 5.0 mm Nominal Footprint



### 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	

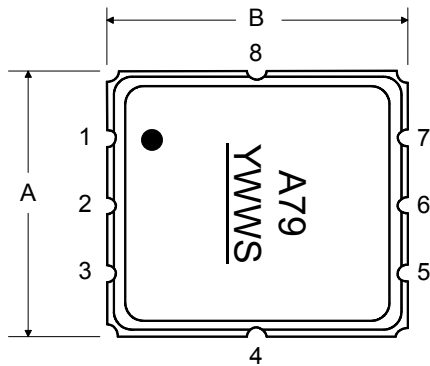


PCB Footprint

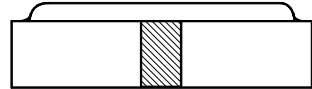
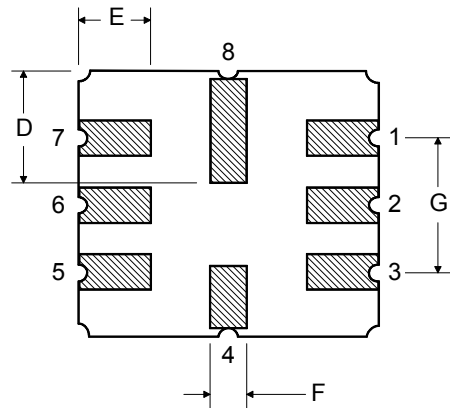
### Case Materials

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

### TOP VIEW



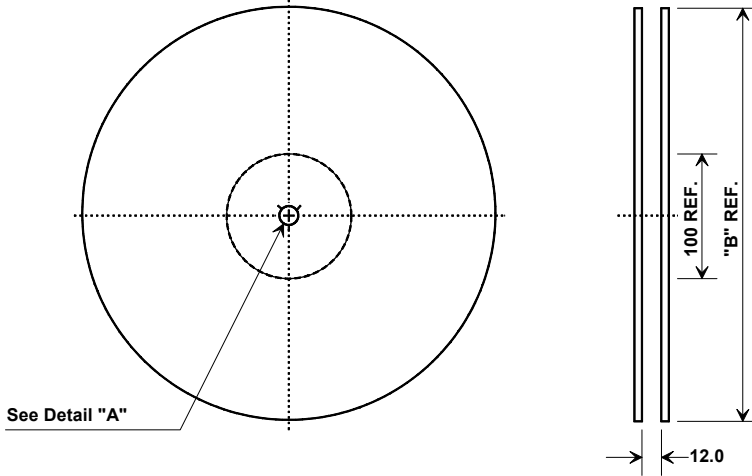
### BOTTOM VIEW



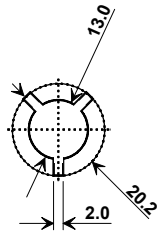
Y = Year, WW = Week, S = Shift

## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

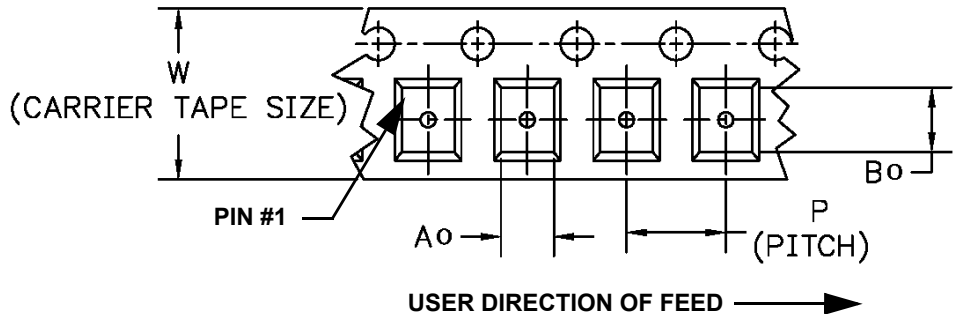
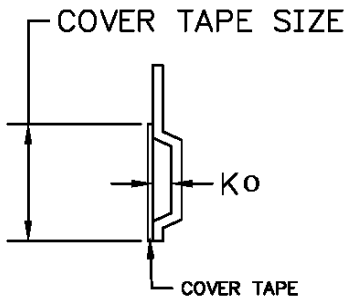


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



### 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.

