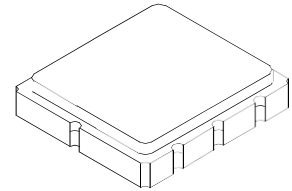


- **Low Insertion Loss SAW Filter**
- **5.0 x 5.0 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level:1**

**SF2507C**

**169.4 MHz  
SAW Filter**



**SM5050-8**

Absolute Maximum Ratings		
Ratings	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage on any Non-ground Terminal	6	V
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Specification Temperature Range	-40 to +85	°C
Operable Temperature Range	-40 to +105	°C
Maximum Soldering Profile	265 °C for 10 s	

#### Electrical Characteristics

Characteristic		Unit	Min.	Typ.	Max.
Center Frequency	Fc	MHz	-	169.4	-
3 dB BW		KHz	-	500	-
<b>Minimum insertion loss</b> Incl. loss of matching elements	IL (min)	dB	-	2.0	3.0
<b>Passband (relative to IL<sub>min</sub>)</b> 169.3~169.5 MHz		dB	-	0.4	3.0
<b>Attenuation (relative to IL<sub>min</sub>)</b> 10.00~165.00	MHz	dB	30	44	-
170.6~175.00	MHz	dB	15	20	-
175.0~1000.0	MHz	dB	30	37	-
Source Impedance		Ohm		50	
Load Impedance		Ohm		50	

Case Style	SM5050-8 5 x 5 mm Nominal Footprint
Lid Symbolization	B62, YWWS



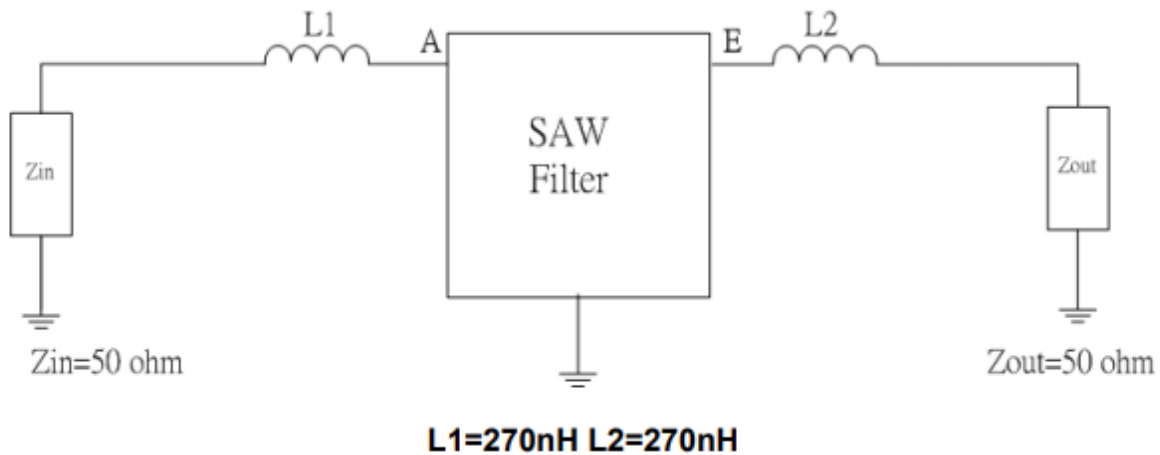
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

#### NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. This component was always RoHS compliant from the first date of manufacture.

## Measurement Circuit

The matching circuit is real by actual passive components.



## Frequency Characteristics

### (1) Wide band Response:

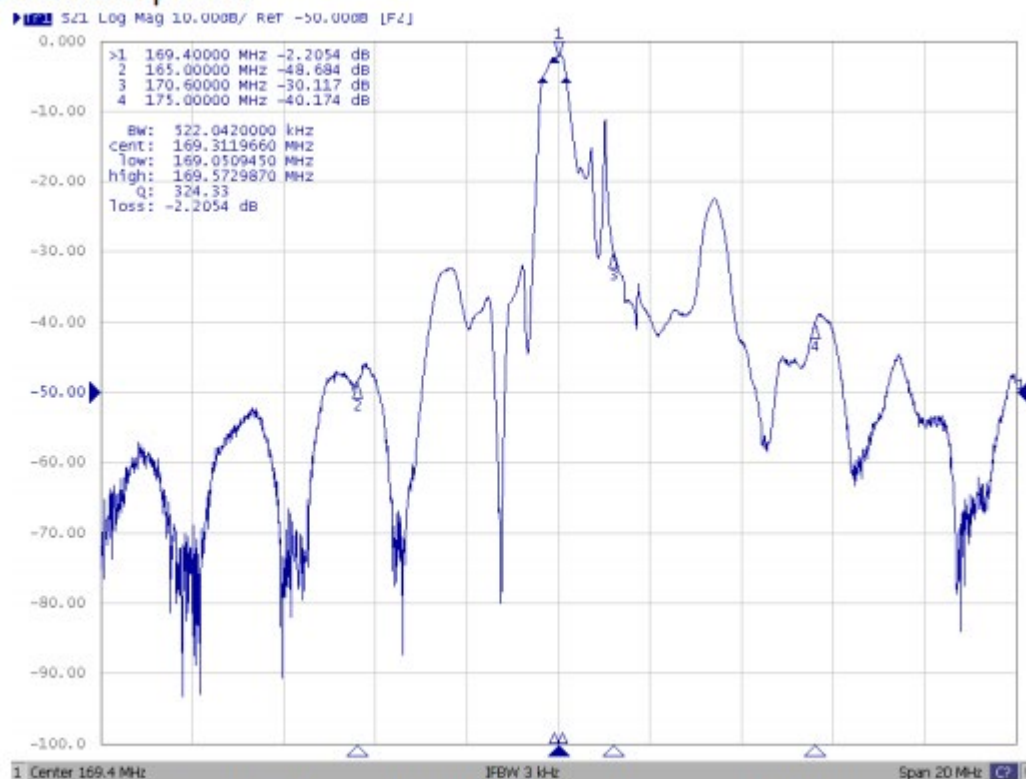


Fig1. Horizontal: 2MHz/Div Vertical: 10dB/Div

(2) Pass band Response Response:

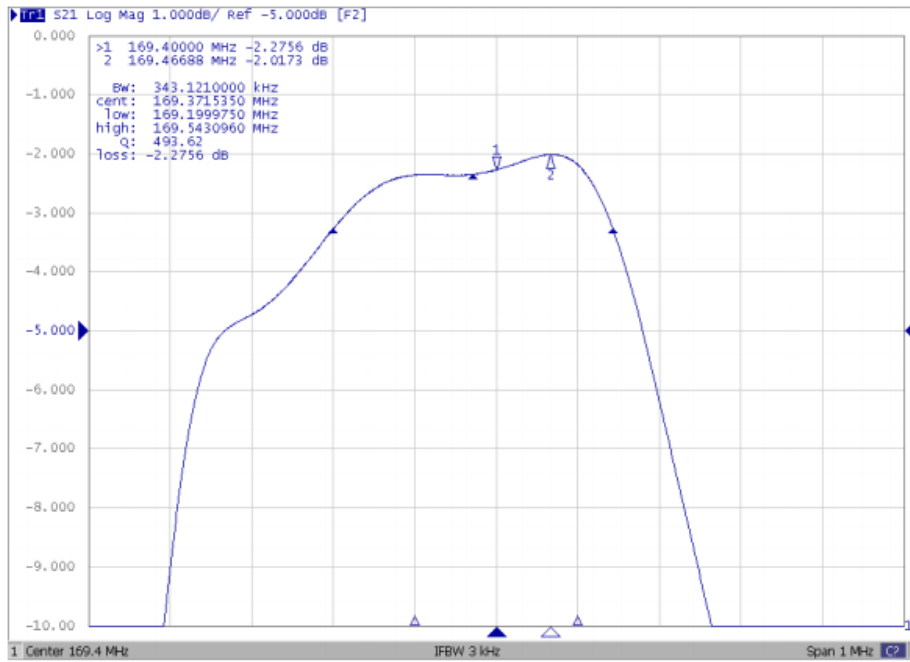
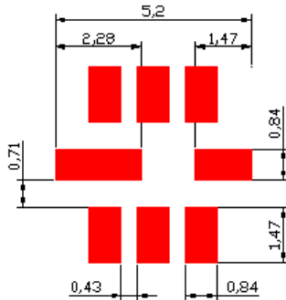
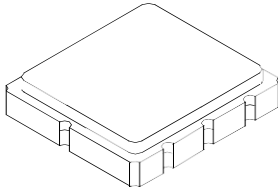


Fig2. Horizontal: 0.1MHz/Div Vertical: 1dB/Div

# 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	4.85	5.00	5.15	0.191	0.197	0.203
B	4.85	5.00	5.15	0.191	0.197	0.203
C	1.03	1.15	1.27	0.041	0.045	0.050
D	1.93	2.08	2.23	0.076	0.082	0.088
E	1.05	1.20	1.35	0.041	0.047	0.053
F	0.55	0.60	0.65	0.022	0.024	0.026
G	2.44	2.54	2.64	0.096	0.100	0.104

## 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

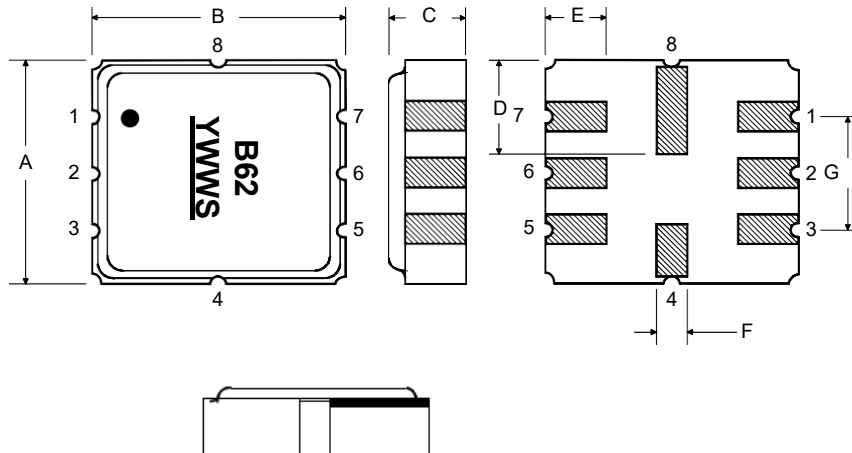
## Electrical Connections

Connection		Terminals
Port 1	Input	6
Port 2	Output	2
	Ground	All others

Dot indicates Pin 1

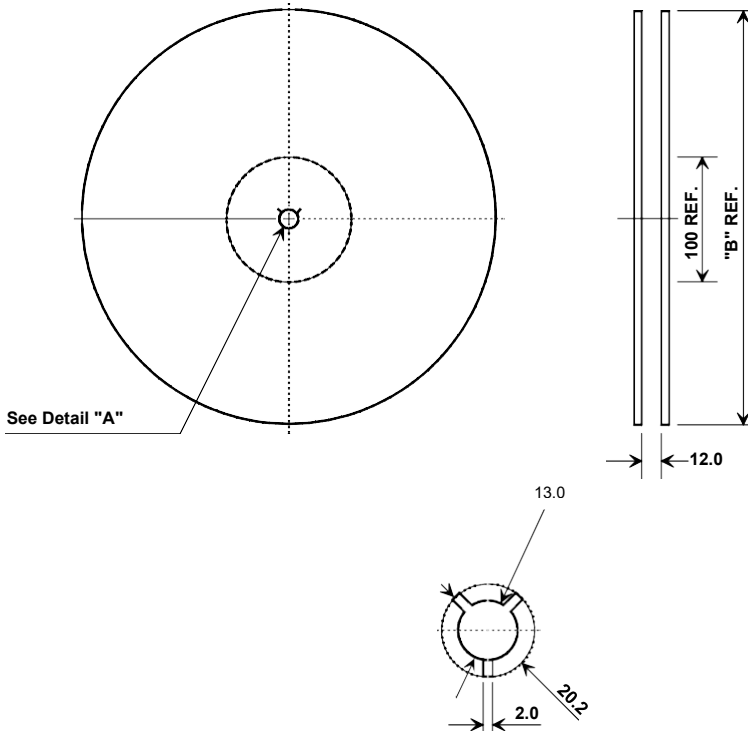
TOP VIEW

BOTTOM VIEW



## Tape and Reel Specifications

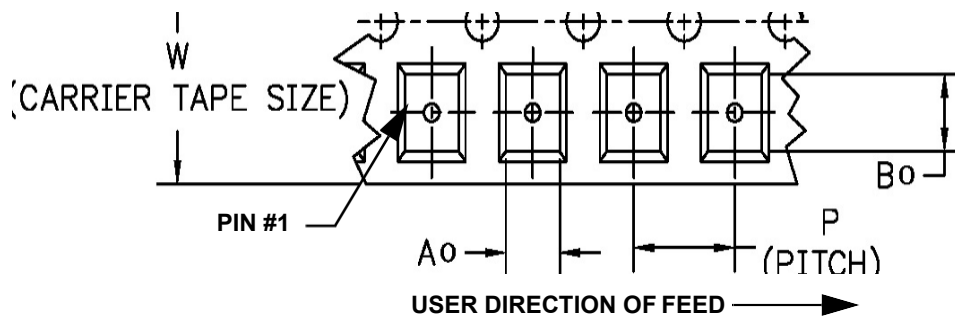
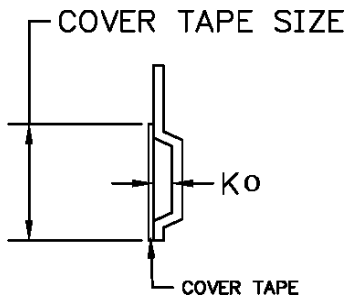
Tape and Reel Standard per ANSI/EIA-481



"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



## 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.

