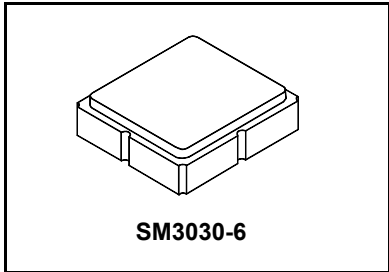


- Low-loss RF SAW Filter
- 3.0 x 3.0 x 1.4 mm Surface-mount Case
- No Matching Required for 50 Ω Operation
- Complies with Directive 2002/95/EC (RoHS)



**SF2252E**

**1590 MHz  
SAW Filter**



**Absolute Maximum Ratings**

| Rating  | Value      | Units |
|---|------------|-------|
| Incident Power in Passband                              | +10        | dBm   |
| DC Voltage on any Non-ground Terminal                   | 3          | VDC   |
| Operating Temperature Range                             | -55 to +85 | °C    |
| Storage Temperature Range in Tape and Reel              | -40 to +85 | °C    |
| Maximum Soldering Profile, 5 cycles/ 10 seconds maximum | 265        | °C    |

**Electrical Characteristics**

| Characteristic                              | Sym   | Notes | Min | Typ  | Max | Units             |
|---|---|-------|-----|------|-----|-------------------|
| Center Frequency                            | $f_C$   |       |     | 1590 |     | MHz               |
| Minimum Insertion Loss                      | IL  |       |     | 2.3  | 4.0 | dB                |
| Amplitude Ripple                            |   |       |     | 1.0  | 1.8 | dB <sub>P-P</sub> |
| 1.2 dB Bandwidth                            | BW <sub>1.2</sub>                                     |       | 55  | 59   | 65  | MHz               |
| 20 dB Bandwidth                             | BW <sub>20</sub>                                      |       |     | 97   | 125 | MHz               |
| Ultimate Rejection                          |   |       |     | 50   |     | dB                |
| Terminating Source impedance                | Z <sub>L</sub>  |       |     | 50   |     | Ω                 |
| Terminating Load impedance                  | Z <sub>L</sub>  |       |     | 50   |     | Ω                 |
| Single Ended Input / Output Impedance match | No matching network required for operation at 50 ohms |       |     |      |     |                   |
| Case Style                                  | SM3030-6  |       |     |      |     |                   |
| Lid Symbolization                           | 993   |       |     |      |     |                   |

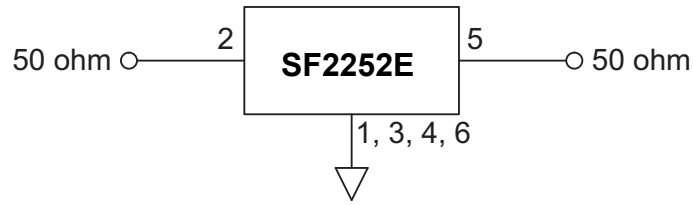


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

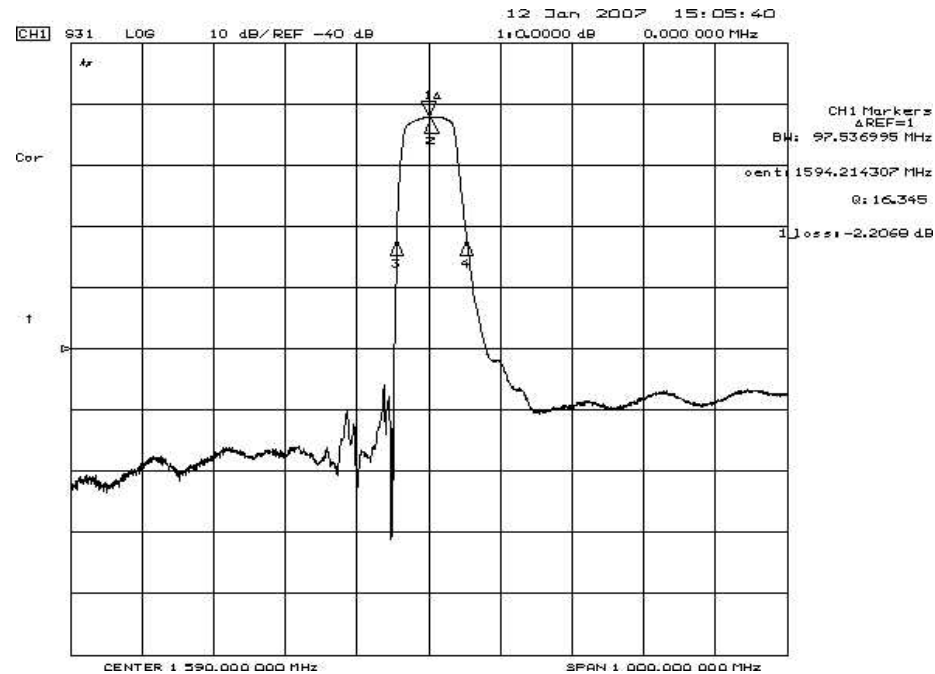
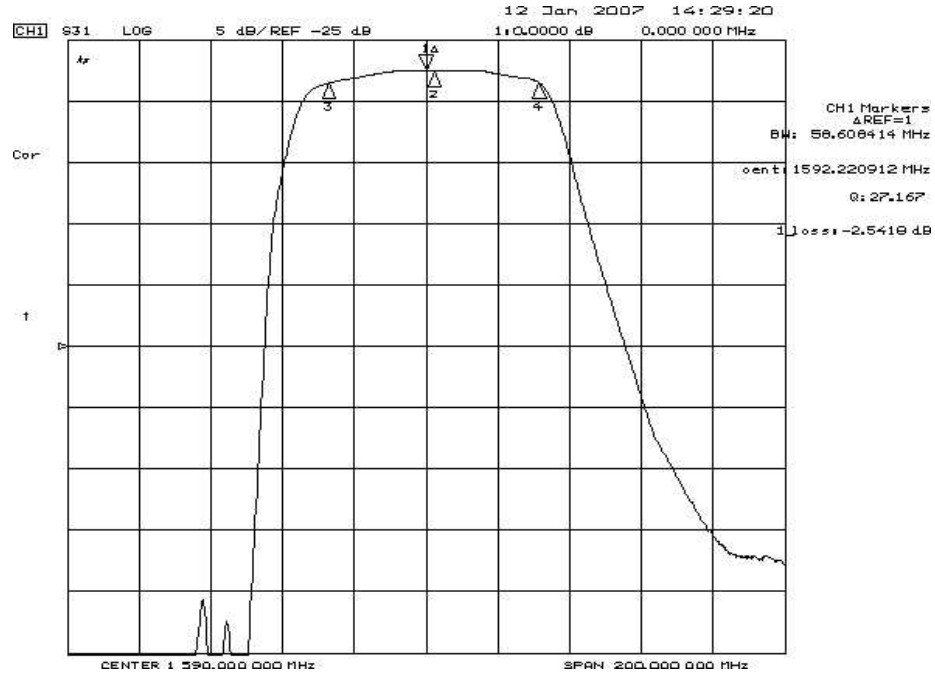
**NOTES:**

1. US and international patents may apply.
2. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

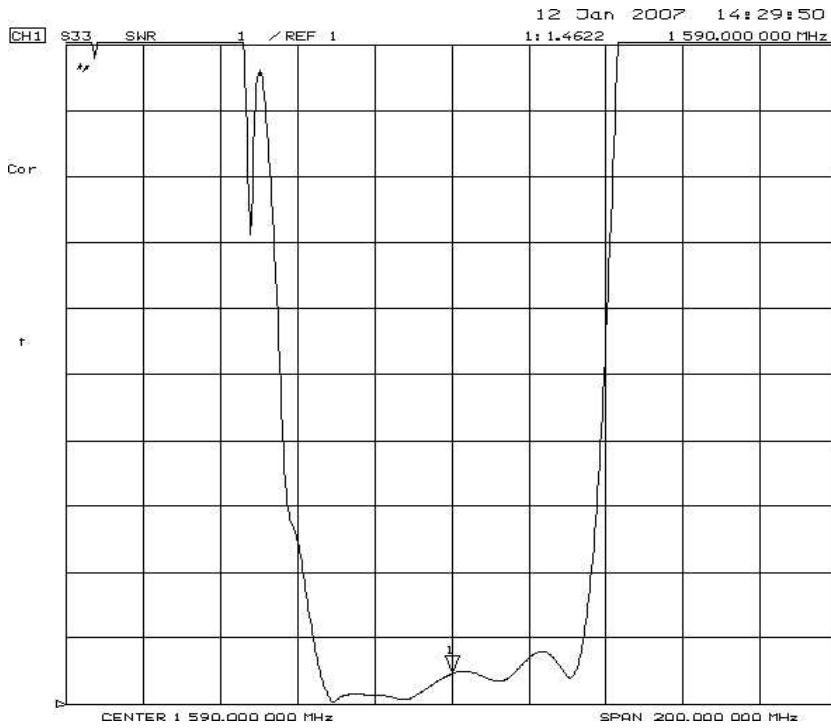
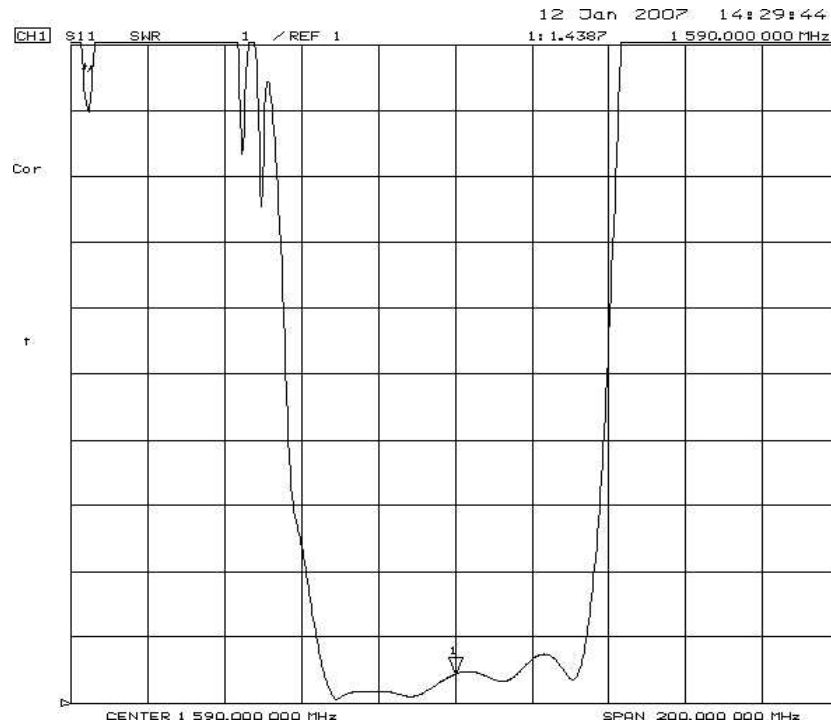
# Matching Circuit



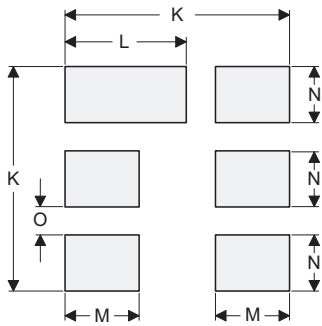
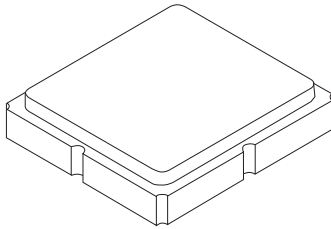
# Frequency Response Plots



# VSWR Plots



## 6-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



**PCB Footprint Top View**

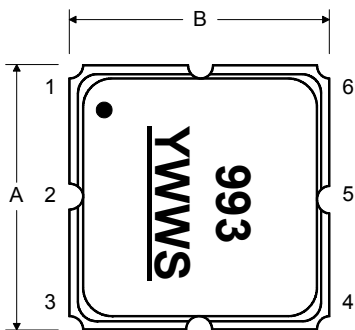
### Case and PCB Footprint Dimensions

| Dimension | mm   |      |      | Inches |       |       |
|-----------|------|------|------|--------|-------|-------|
|           | Min  | Nom  | Max  | Min    | Nom   | Max   |
| <b>A</b>  | 2.87 | 3.00 | 3.13 | 0.113  | 0.118 | 0.123 |
| <b>B</b>  | 2.87 | 3.00 | 3.13 | 0.113  | 0.118 | 0.123 |
| <b>C</b>  | 1.12 | 1.25 | 1.38 | 0.044  | 0.049 | 0.054 |
| <b>D</b>  | 0.77 | 0.90 | 1.03 | 0.030  | 0.035 | 0.040 |
| <b>E</b>  | 2.67 | 2.80 | 2.93 | 0.105  | 0.110 | 0.115 |
| <b>F</b>  | 1.47 | 1.60 | 1.73 | 0.058  | 0.063 | 0.068 |
| <b>G</b>  | 0.72 | 0.85 | 0.98 | 0.028  | 0.033 | 0.038 |
| <b>H</b>  | 1.37 | 1.50 | 1.63 | 0.054  | 0.059 | 0.064 |
| <b>I</b>  | 0.47 | 0.60 | 0.73 | 0.019  | 0.024 | 0.029 |
| <b>J</b>  | 1.17 | 1.30 | 1.43 | 0.046  | 0.051 | 0.056 |
| <b>K</b>  |      | 3.20 |      |        | 0.126 |       |
| <b>L</b>  |      | 1.70 |      |        | 0.067 |       |
| <b>M</b>  |      | 1.05 |      |        | 0.041 |       |
| <b>N</b>  |      | 0.81 |      |        | 0.032 |       |
| <b>O</b>  |      | 0.38 |      |        | 0.015 |       |

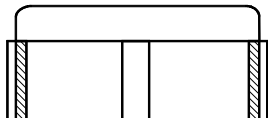
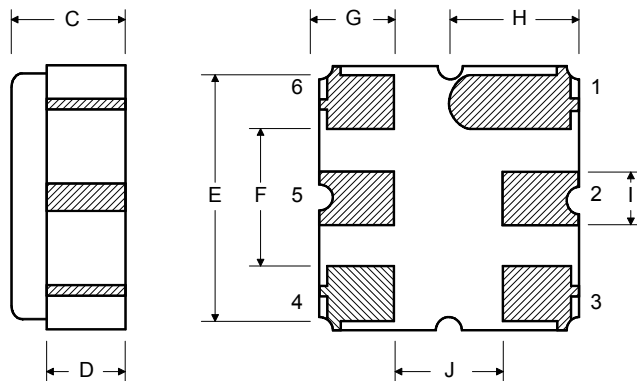
### Case Materials

| 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            |  |

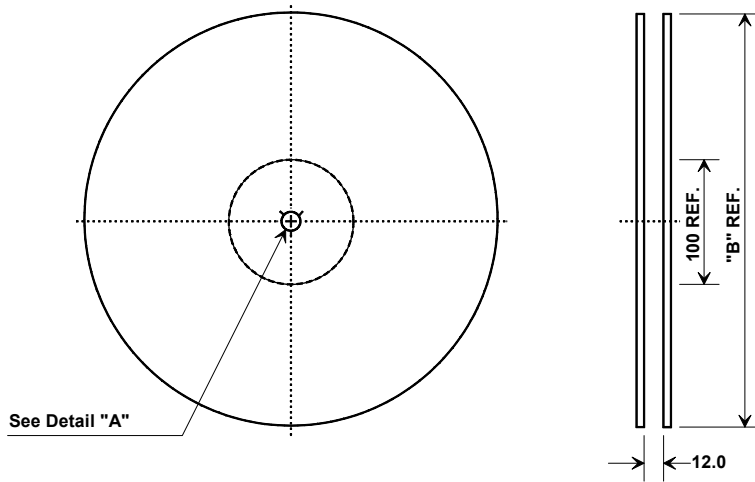
### TOP VIEW



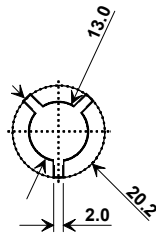
### BOTTOM VIEW



## Tape and Reel Specifications



| "B"    |             | Quantity Per Reel |
|--------|-------------|-------------------|
| Inches | millimeters |                   |
| 7      | 178         | 500               |
| 13     | 330         | 3000              |



## COMPONENT ORIENTATION and DIMENSIONS

| Carrier Tape Dimensions |         |
|-------------------------|---------|
| Ao                      | 3.35 mm |
| Bo                      | 3.35 mm |
| Ko                      | 1.40 mm |
| Pitch                   | 8.0 mm  |
| W                       | 12.0 mm |

