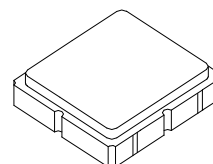


- Filter, 2535 MHz, 70 MHz BW, 2.2 dB Insertion Loss
- 3.0 x 3.0 x 1.4 mm Surface-Mount Case
- Complies with Directive 2002/95/EC (RoHS)



**SF2158E**

**2535.00 MHz  
SAW Filter**



**SM3030-6**

#### Absolute Maximum Ratings

| Rating                                                 | Value      | Units |
|--------------------------------------------------------|------------|-------|
| Input Power Level                                      | 10         | dBm   |
| DC Voltage on any Non-ground Terminal                  | 3          | V     |
| Operating Temperature Range                            | -40 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                   | $f_c$ |       |     | 2535 |       | MHz   |
| Insertion Loss, 2500 to 2570 MHz   | IL    |       |     | 2.2  | 3.6   | dB    |
| Amplitude Ripple, 2500 to 2570 MHz |       |       |     | 0.8  | 2.2   | dB    |
| VSWR, 2500 to 2570 MHz             |       |       |     | 2:1  | 2.2:1 |       |
| Attenuation Referenced to 0 dB:    |       |       |     |      |       | dB    |
| DC to 2100 MHz                     |       |       | 25  | 31   |       |       |
| 2100 to 2400 MHz                   |       |       | 27  | 34.5 |       |       |
| 2650 to 4000 MHz                   |       |       | 30  | 38   |       |       |
| 4000 to 5000 MHz                   |       |       | 20  | 23   |       |       |

|                                             |                                               |                  |  |  |  |  |
|---------------------------------------------|-----------------------------------------------|------------------|--|--|--|--|
| Case Style                                  | SM3030-6 3.0 x 3.0 x 1.4 mm Nominal Footprint |                  |  |  |  |  |
| Lid Symbolization, Y=year, WW=week, S=shift | 822 // YWWS                                   |                  |  |  |  |  |
| Standard Reel Quantity                      | Reel Size 7 Inch                              | 500 Pieces/Reel  |  |  |  |  |
|                                             | Reel Size 13 Inch                             | 3000 Pieces/Reel |  |  |  |  |

#### Electrical Connections

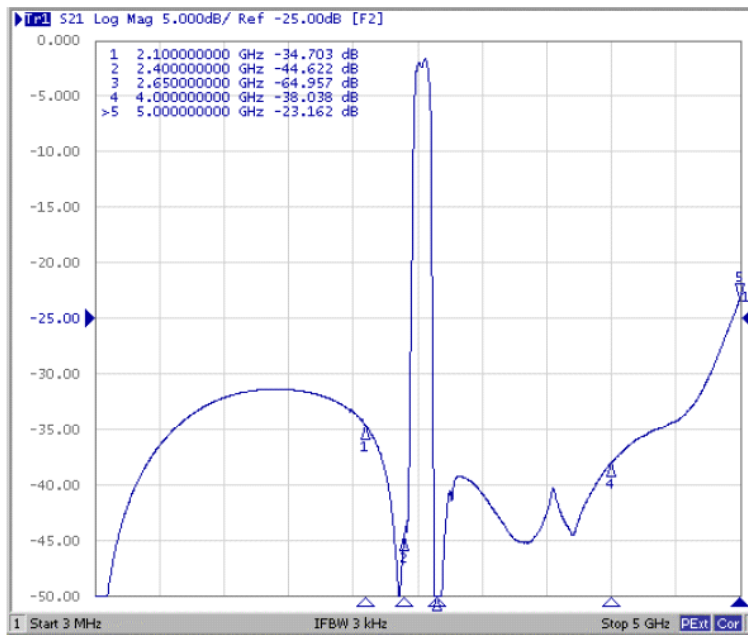
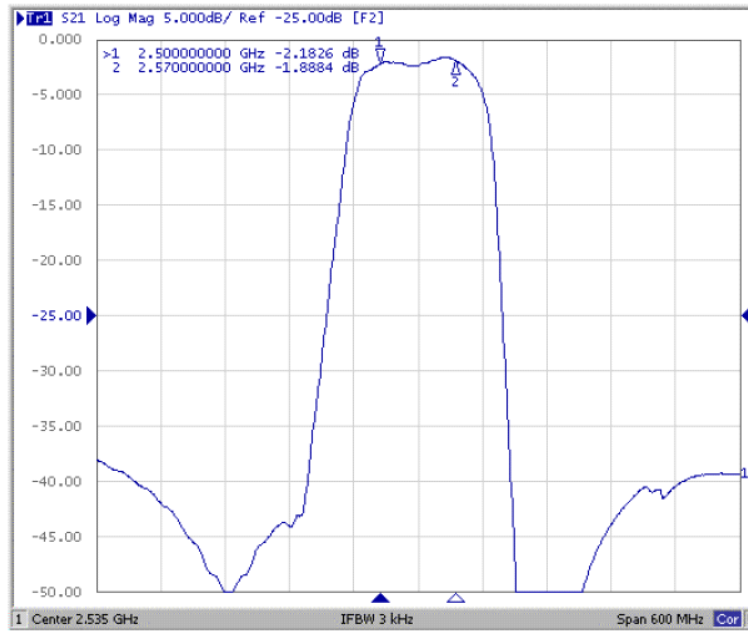
| Connection          | Terminals |
|---------------------|-----------|
| Port 1              | Input     |
| Port 2              | Output    |
|                     | Ground    |
| All others          |           |
| Dot indicates Pin 1 |           |



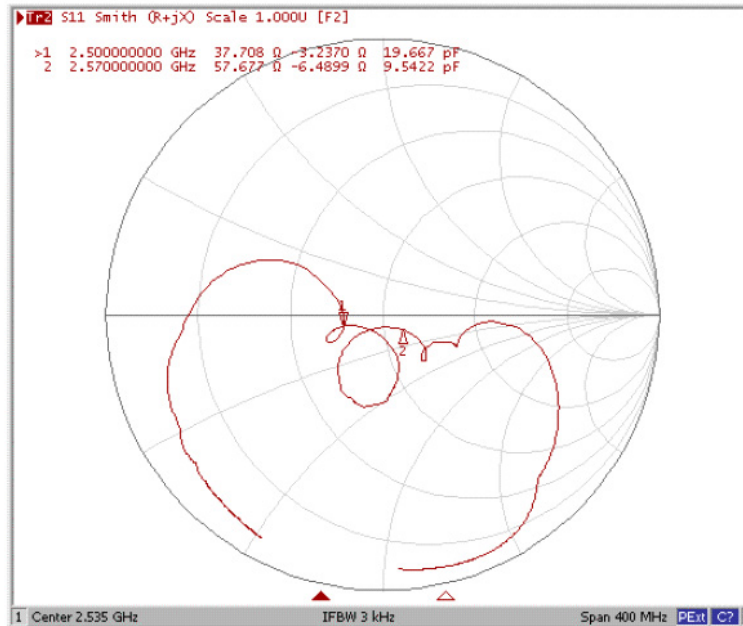
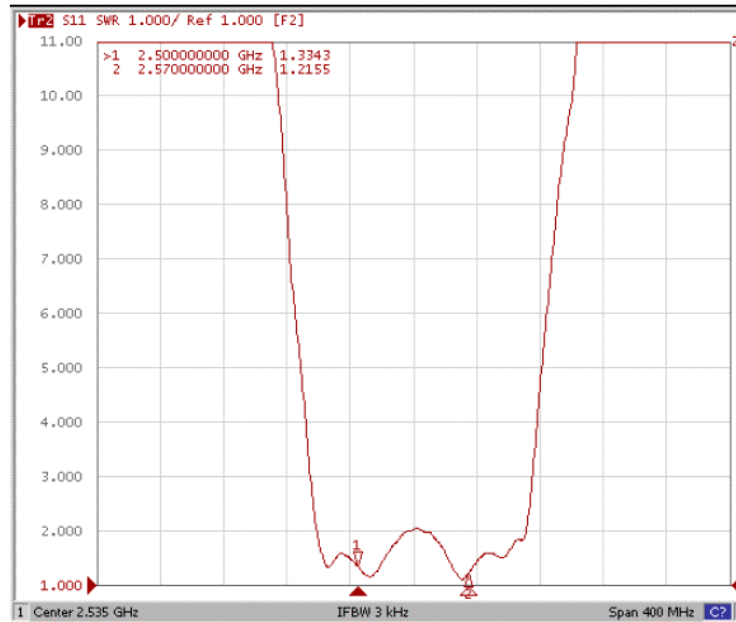
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

#### Notes:

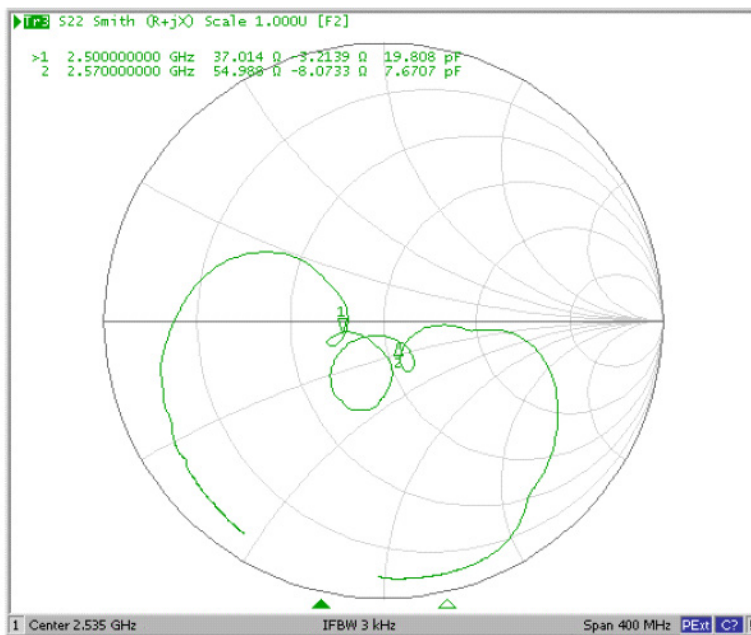
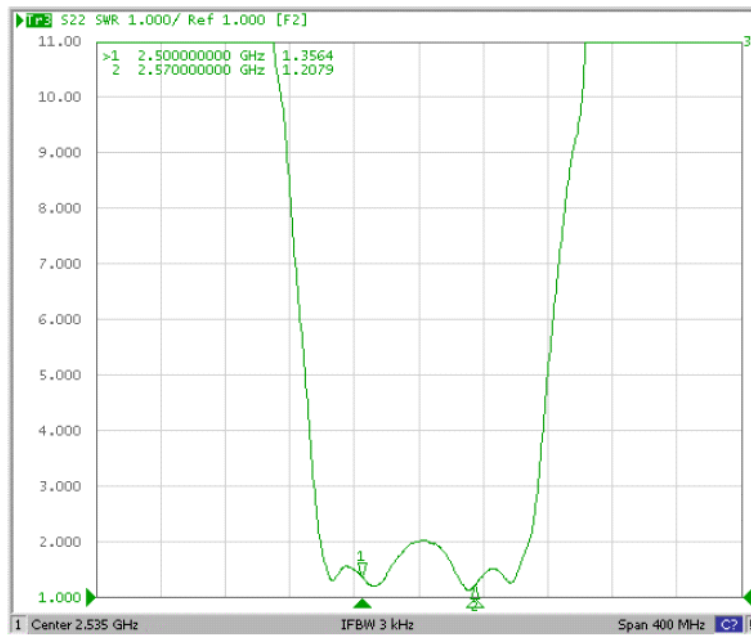
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_c$ .
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. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.



# S11

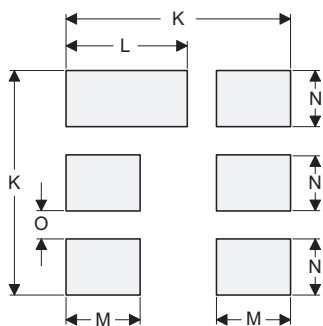
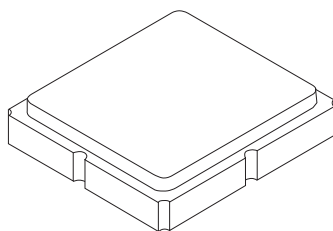


## S22



# SM3030-6 Case

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



PCB Footprint Top View

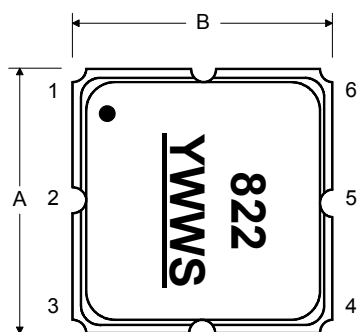
Case and PCB Footprint Dimensions

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

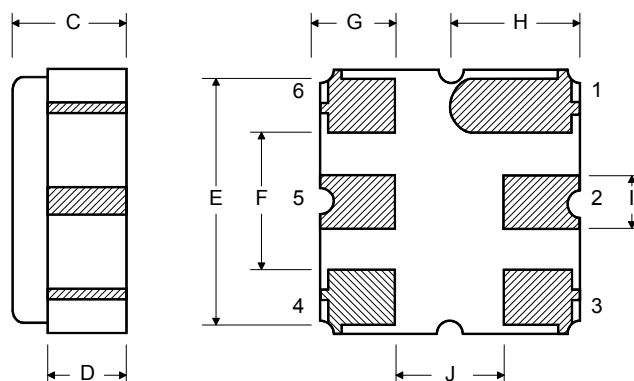
Case Materials

| 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                   |
| Pb Free            |                                                          |

Top View



Bottom View



Technical drawing of a circular component. The main view is a top-down view showing a large outer circle and a smaller concentric inner circle. A central crosshair indicates the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle. To the right, a side view shows the component's profile, which is a thin, elongated shape. Dimensions for the side view include a total length of 100 REF. and a width of 12.0. Below the main view, a cross-section view (Detail A) shows a circular cross-section with a central hole. Dimensions for this view include a total diameter of 20.2, an inner hole diameter of 13.0, and a wall thickness of 2.0.

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

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

