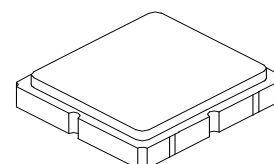


**SF2261E**

**880 MHz  
SAW Filter**



**SM3030-6**

- 880 MHz Low-loss SAW Filter, 60 MHz Bandwidth
- Surface Mount 3.0 x 3.0 x 1.3 mm Package
- Complies with Directive 2002/95/EC (RoHS)



#### Absolute Maximum Ratings

| Rating                                                  | Value      | Units |
|---------------------------------------------------------|------------|-------|
| Input Power Level                                       | 15         | dBm   |
| DC Voltage on any Non-ground Terminal                   | 3          | V     |
| Operating Temperature Range                             | -40 to +85 | °C    |
| Storage Temperature Range                               | -40 to +95 | °C    |
| Solder Reflow Temperature, 10 seconds, 5 cycles maximum | 260        | °C    |

#### Electrical Characteristics

| Characteristic                                                   | Sym                                     | Notes            | Min | Typ | Max | Units             |
|------------------------------------------------------------------|-----------------------------------------|------------------|-----|-----|-----|-------------------|
| Center Frequency                                                 | F <sub>C</sub>                          |                  |     | 880 |     | MHz               |
| 2 dB Passband, 850 to 910 MHz                                    |                                         |                  | 60  |     |     | MHz               |
| Minimum Passband Insertion Loss                                  | IL <sub>MIN</sub>                       |                  |     | 1.6 | 2.5 | dB                |
| Amplitude Variation 865 to 895 MHz                               |                                         |                  |     | 0.3 | 1.0 | dB <sub>P-P</sub> |
| Return Loss, 850 to 910 MHz                                      |                                         |                  | 8.0 | 9.0 |     | dB                |
| Attenuation, Referenced to 0 dB                                  |                                         |                  |     |     |     |                   |
| DC to 800 MHz                                                    |                                         |                  | 20  | 22  |     | dB                |
| 1003 to 1028 MHz                                                 |                                         |                  | 25  | 29  |     |                   |
| 1730 to 1780 MHz                                                 |                                         |                  | 25  | 32  |     |                   |
| Source Impedance                                                 | Z <sub>S</sub>                          |                  |     | 50  |     | Ω                 |
| Load Impedance                                                   | Z <sub>L</sub>                          |                  |     | 50  |     |                   |
| Case Style                                                       | SM3030-6 3.0 x 3.0 mm Nominal Footprint |                  |     |     |     |                   |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator | A14, YWWS                               |                  |     |     |     |                   |
| Standard Reel Quantity                                           | Reel Size 7 Inch                        | 500 Pieces/Reel  |     |     |     |                   |
|                                                                  | Reel Size 13 Inch                       | 3000 Pieces/Reel |     |     |     |                   |

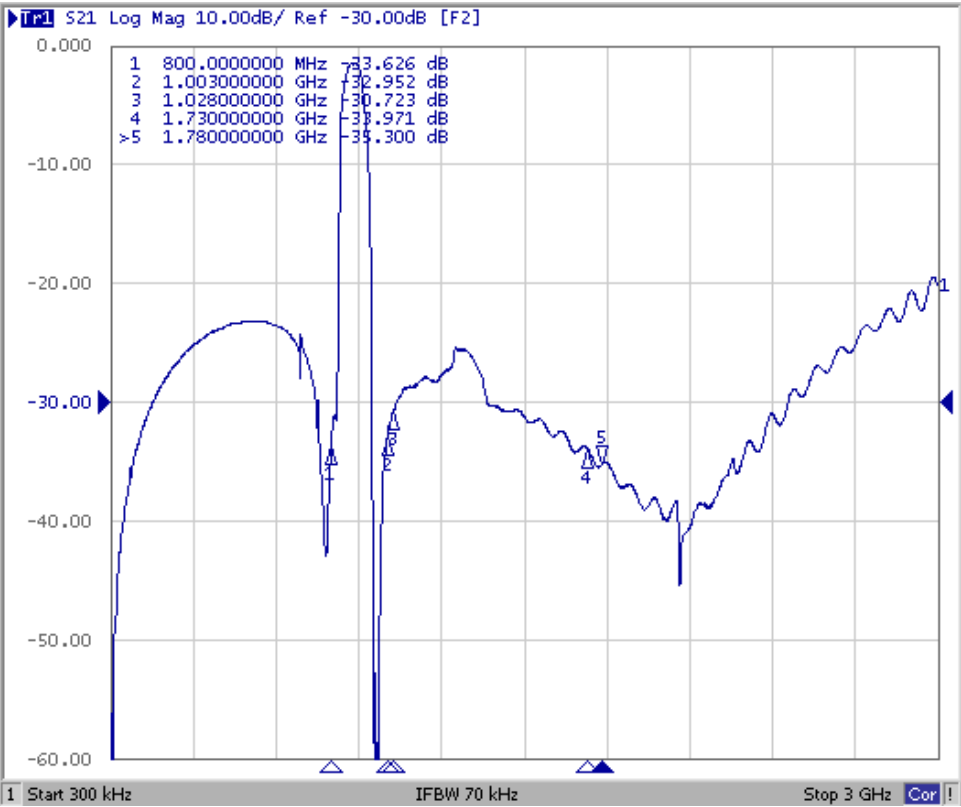
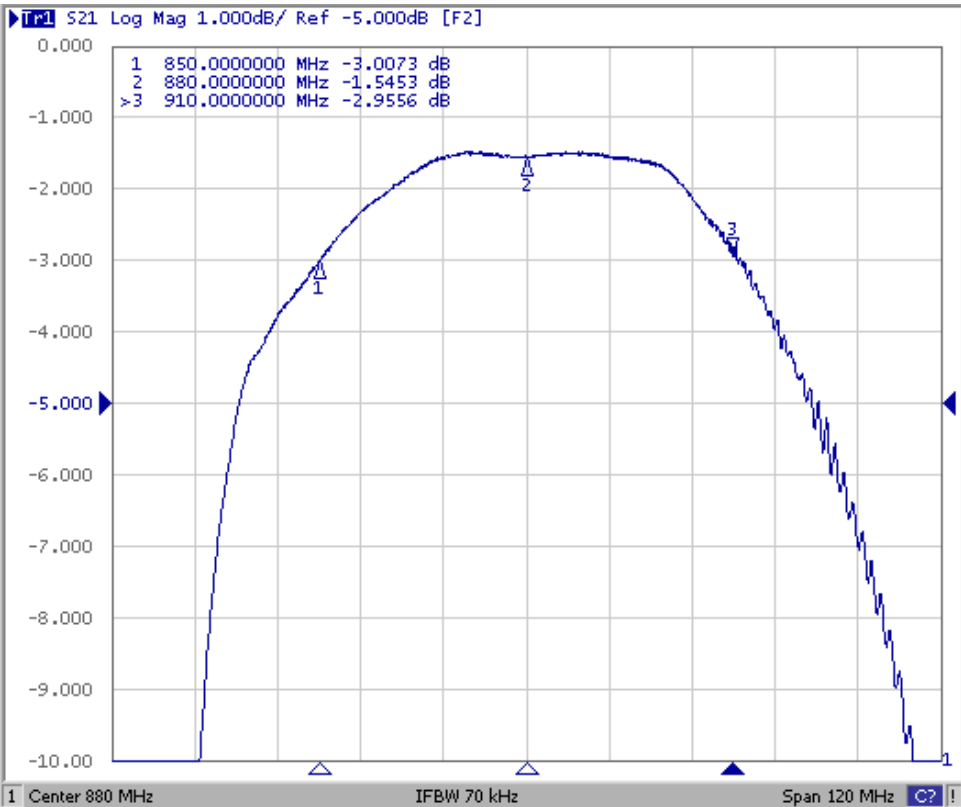


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

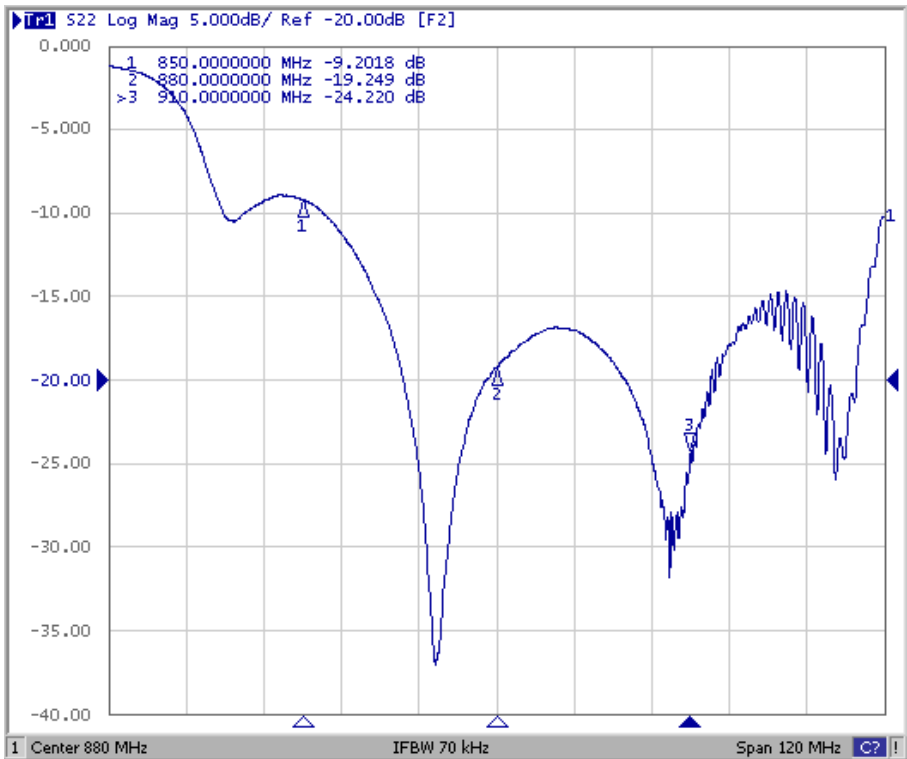
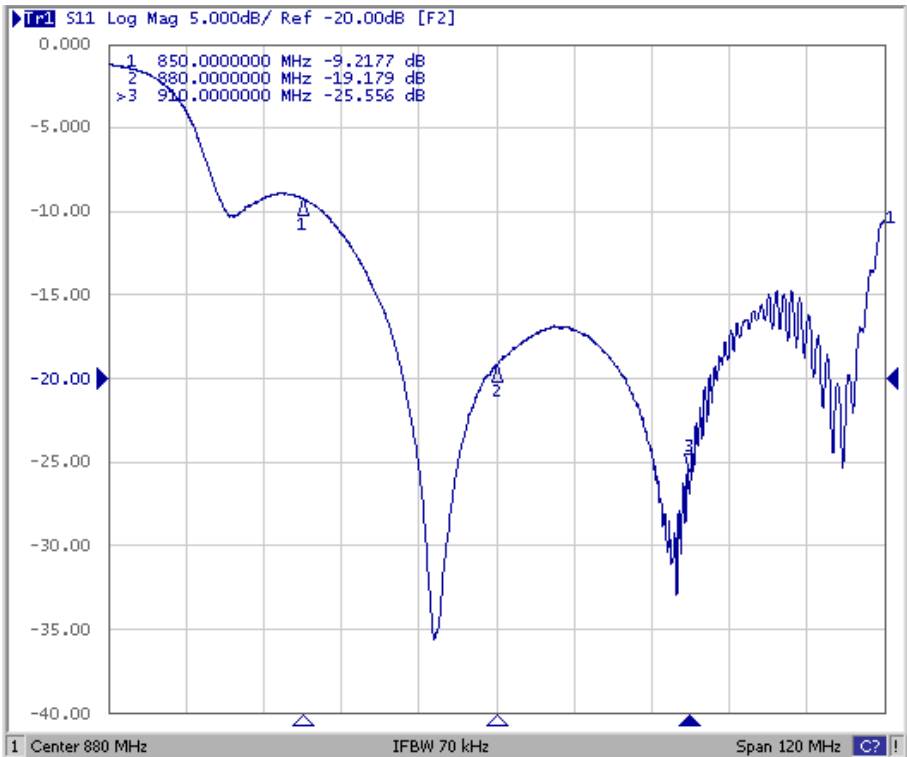
#### Notes:

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. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
7. US and international patents may apply.
8. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

# Filter Response Plots

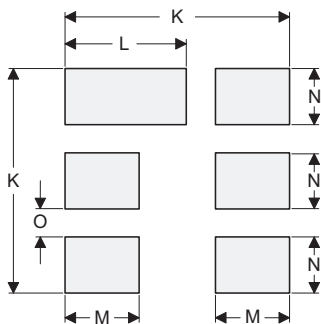
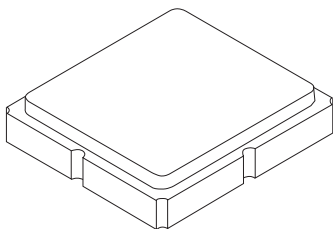


# Filter I/O Return Loss Plots



# 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

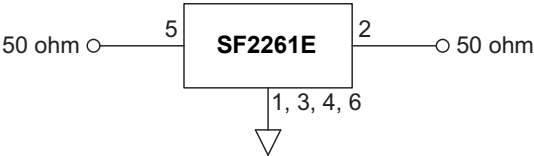
| Dimension | mm   |      |      | Inches |       |       |
|-----------|------|------|------|--------|-------|-------|
|           | Min  | Nom  | Max  | Min    | Nom   | Max   |
| A         | 2.87 | 3.00 | 3.13 | 0.113  | 0.118 | 0.123 |
| B         | 2.87 | 3.00 | 3.13 | 0.113  | 0.118 | 0.123 |
| 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

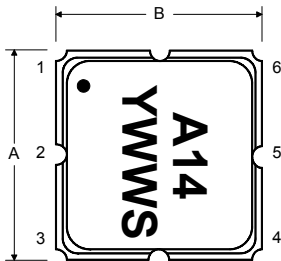
| Materials          |                                                          |
|--------------------|----------------------------------------------------------|
| Solder Pad Plating | 0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel |
| Lid Plating        | 2.0 to 3.0 $\mu$ m Nickel      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

Electrical Connections

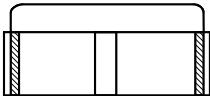
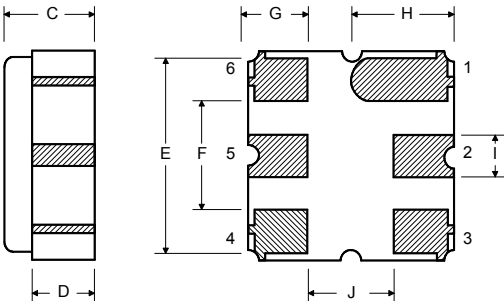
| Connection | Terminals  |
|------------|------------|
| Input      | 2          |
| Output     | 5          |
| Ground     | All Others |



TOP VIEW



BOTTOM VIEW



Technical drawing of a circular component, likely a flange or end plate, showing three views: a top view, a side view, and a detail view.

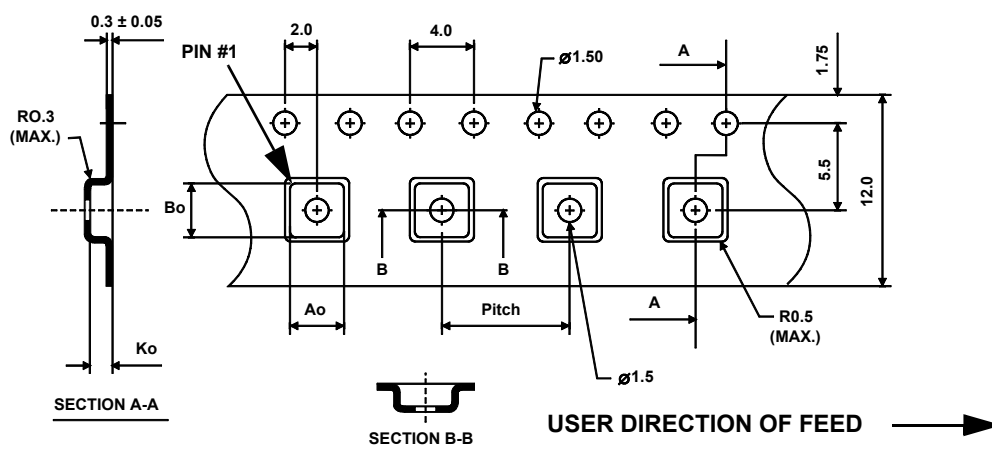
**Top View:** A large circle with a smaller concentric circle in the center. A crosshair indicates the center. A leader line points from the text "See Detail 'A'" to the central hole.

**Side View:** A vertical cross-section showing the thickness of the component. The total thickness is dimensioned as 12.0. The central hole has a diameter of 100 REF. The outer diameter is dimensioned as "B" REF.

**Detail View (Detail A):** A cross-section of the central hole. It shows a circular hole with a diameter of 20.2. The hole is surrounded by a ring with a thickness of 2.0. The outer diameter of this ring is dimensioned as 13.0.

| “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 |



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