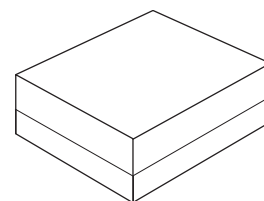


- **Miniature High Performance SAW Filter**
- **Low Passband Loss**
- **Hermetic 1.4 x 1.1 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**



SF2316K-1

**1588.655 MHz
SAW Filter**



SM1411-5

Absolute Maximum Ratings

| Rating | Value | Units |
|--|-----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Maximum DC Voltage On any Non-ground Terminal | 3 | VDC |
| Component Operating Temperature Range | -40 to +105 | °C |
| Storage Temperature Range in Tape and Reel | -40 to +105 | °C |
| Maximum Soldering Temperature Profile (5 cycles maximum) | 265 °C for 10 s | |

Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|--|------------|----------|----------|------|------|-------|
| Center Frequency | f_c | | 1588.655 | | | MHz |
| Insertion Loss, 1573.42 to 1577.42 MHz | IL_{MAX} | | | 1.25 | 1.90 | dB |
| Insertion Loss, 1571.42 to 1605.89 MHz | | | | 1.85 | 2.50 | |
| Amplitude Ripple, 1573.42 to 1577.42 MHz | | | | 0.25 | 1.20 | dB |
| Amplitude Ripple, 1571.42 to 1605.89 MHz | | | | 0.80 | 1.50 | |
| Attenuation | | | | | | dB |
| DC to 824 MHz | | | 32 | 36 | | |
| 824 to 849 MHz | | | 32 | 36 | | |
| 849 to 880 MHz | | | 32 | 36 | | |
| 880 to 915 MHz | | | 32 | 36 | | |
| 915 to 1452 MHz | | | 32 | 36 | | |
| 1452 to 1525 MHz | | | 35 | 39 | | |
| 1710 to 1785 MHz | | | 35 | 38 | | |
| 1785 to 1850 MHz | | | 30 | 37 | | |
| 1850 to 6000 MHz | | | 25 | 37 | | |
| I/O VSWR, 1573.42 to 1577.42 MHz | | | | 1.9 | 2.3 | |
| I/O VSWR, 1571.42 to 1605.89 MHz | | | | 2.0 | 2.3 | |
| Temperature Coefficient of Frequency | ppm/°C | | | -36 | | |
| Case Style | | SM1411-5 | | | | |
| Lid Symbolization | | R | | | | |

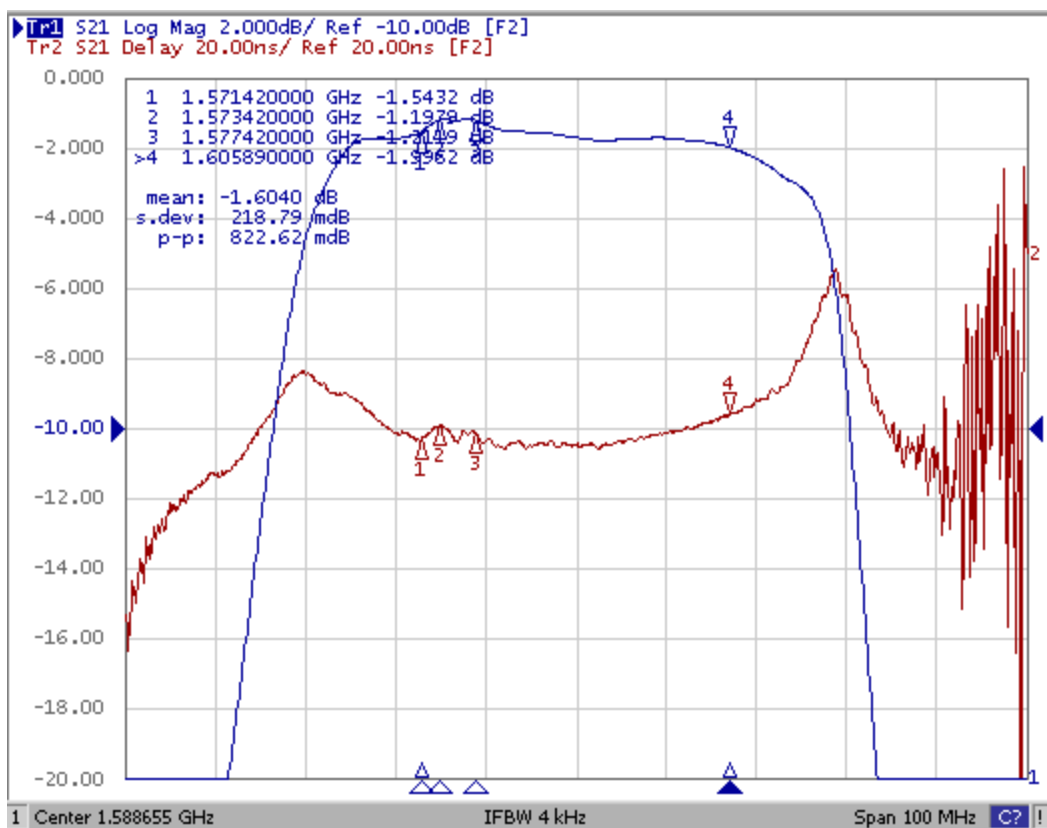
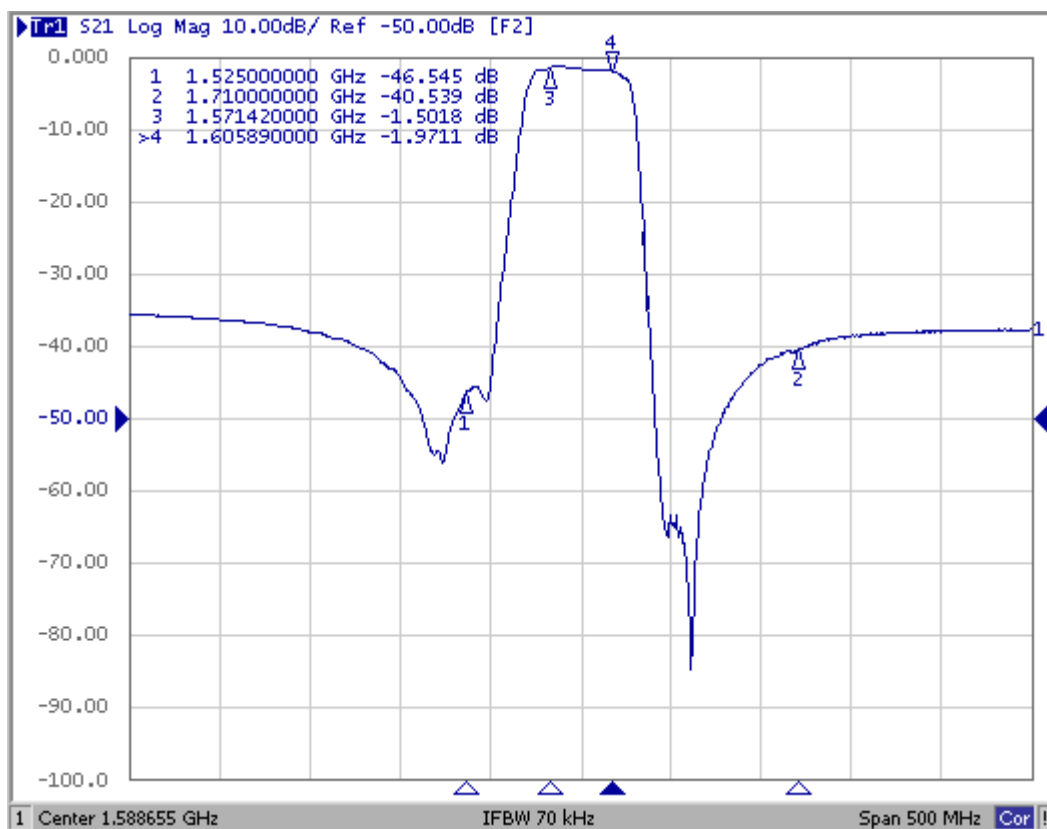


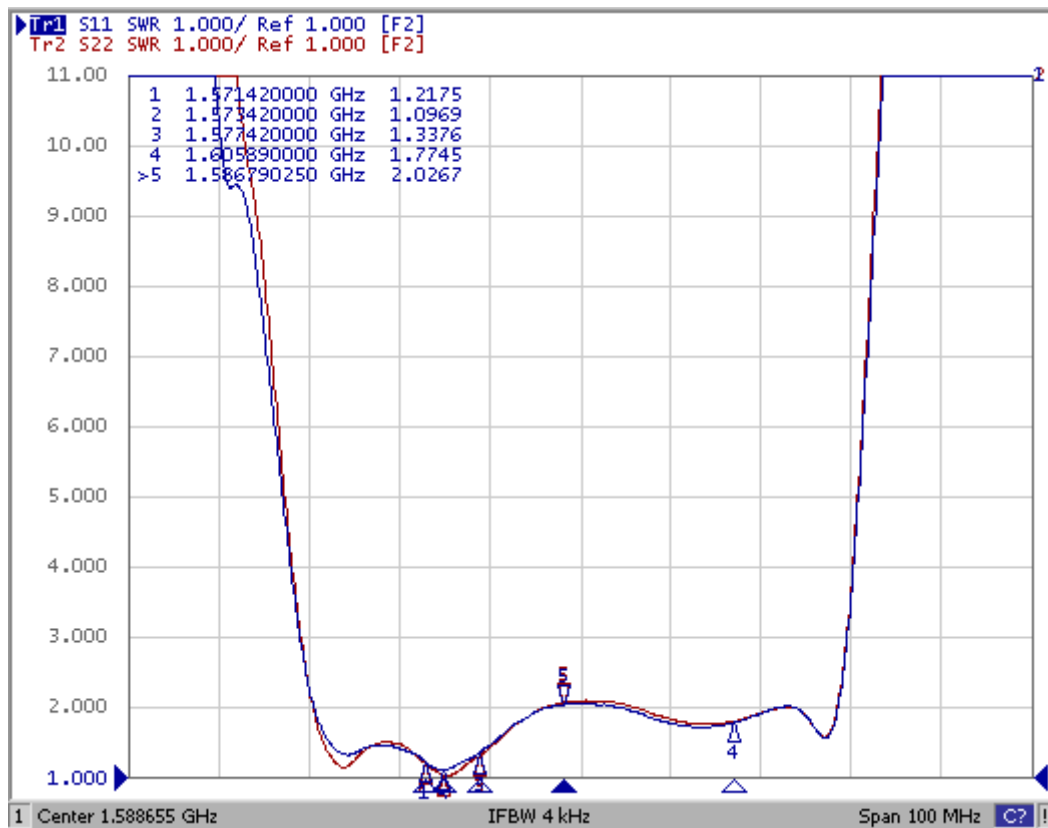
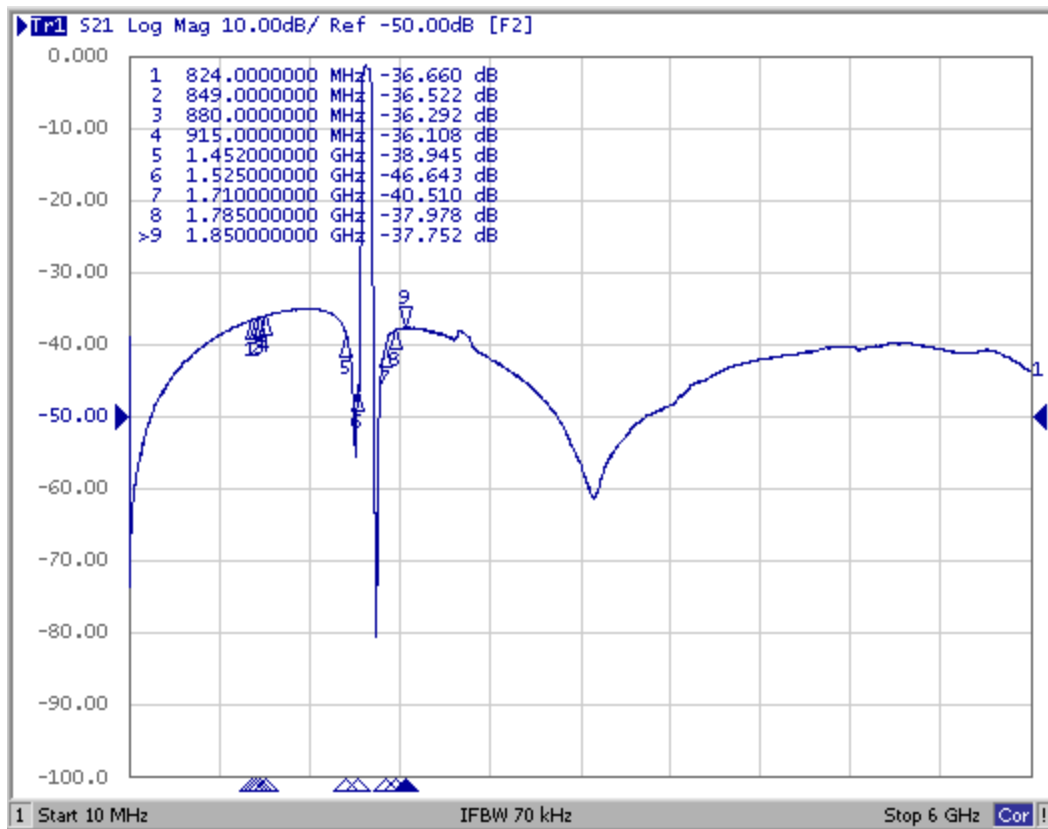
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

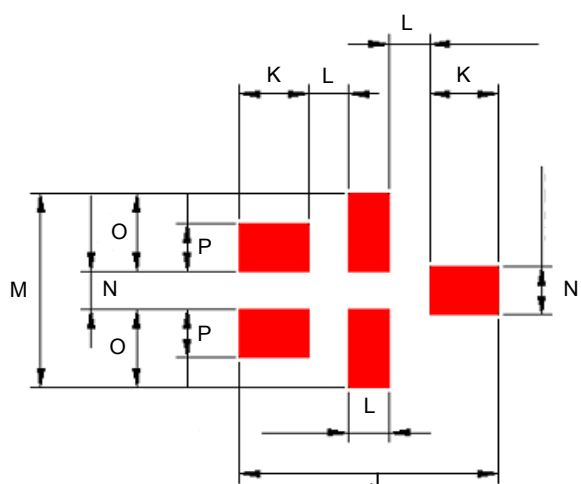
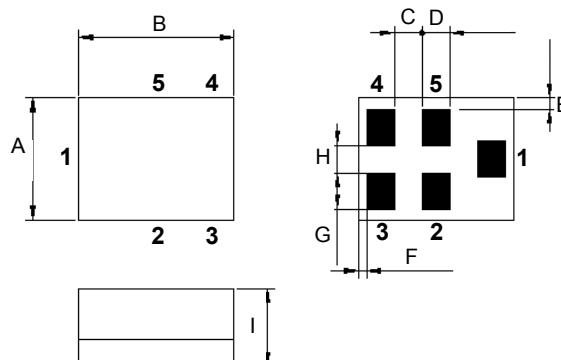
1. US and international patents may apply.
2. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

Frequency Response Plots





SM1411-5 1.4 X 1.1 mm 5-Terminal Surface-mount Case

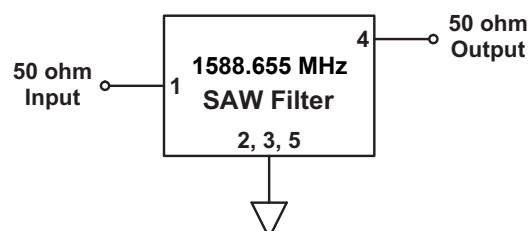


| Dimension | mm | | | Inches | | |
|-----------|-----|-------|-------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | - | 1.10 | - | - | 0.043 | - |
| B | - | 1.40 | - | - | 0.055 | - |
| C | - | 0.25 | - | - | 0.009 | - |
| D | - | 0.25 | - | - | 0.009 | - |
| E | - | 0.10 | - | - | 0.003 | - |
| F | - | 0.075 | - | - | 0.002 | - |
| G | - | 0.325 | - | - | 0.012 | - |
| H | - | 0.25 | - | - | 0.009 | - |
| I | - | - | 0.700 | - | - | 0.027 |
| J | - | 1.60 | - | - | 0.062 | - |
| K | - | 0.425 | - | - | 0.016 | - |
| L | - | 0.25 | - | - | 0.009 | - |
| M | - | 1.30 | - | - | 0.051 | - |
| N | - | 0.325 | - | - | 0.012 | - |
| O | - | 0.525 | - | - | 0.020 | - |
| P | - | 0.325 | - | - | 0.012 | - |

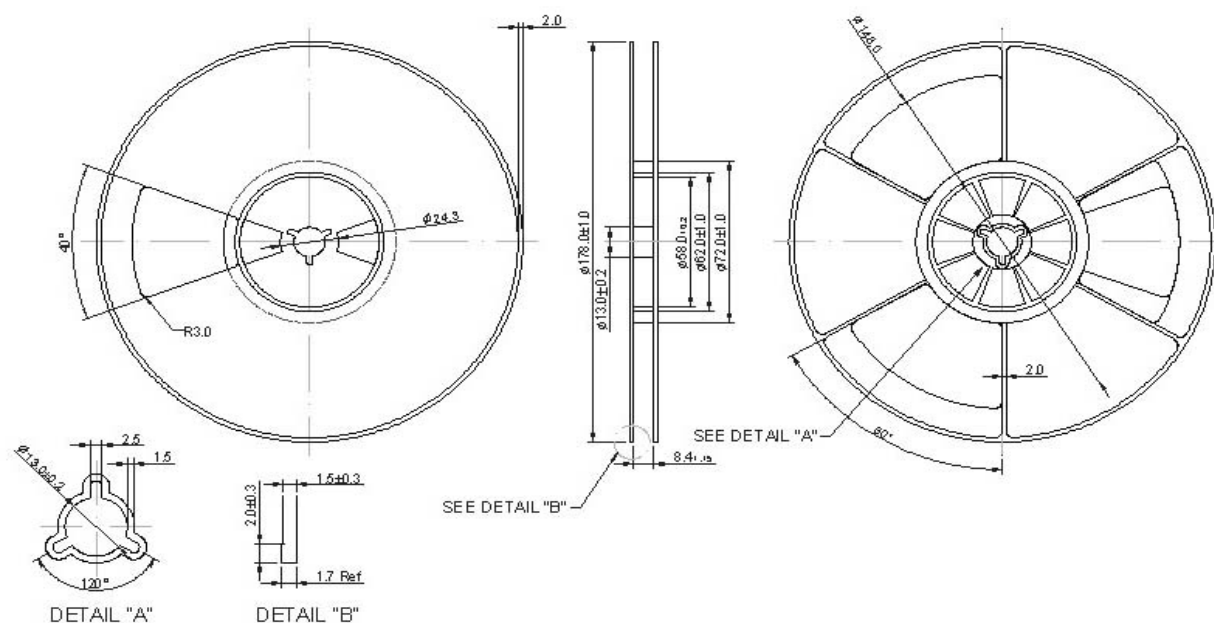
PCB Footprint

| Materials | |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel |
| Body | Al ₂ O ₃ Ceramic |
| Pb Free | |

Test Circuit



Reel Dimensions - 7 inch Reel, 3000 Filters



Tape Dimensions

