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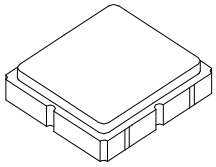
# SF2136E

## 433.92 MHz SAW Filter

- ***Steep Roll-off Filter for 433.92 MHz Unlicensed Band***
- ***No Matching Required for Operation in 50Ω Environment***
- ***Complies with Directive 2002/95/EC (RoHS)***



**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 | $f_C$ | | | 433.92 | | MHz |
| 3 dB Bandwidth | | | | 5 | | MHz |
| Insertion Loss, 433.05 to 434.79 MHz | IL | | | 2.0 | 3.3 | |
| Amplitude Ripple, p-p, 433.05 to 434.79 MHz | | | | 0.3 | 1.5 | |
| Attenuation Referenced to 0 dB: | | | | | | |
| 389.0 to 392.0 MHz | | | 42 | 54 | | dB |
| 411.0 to 414.0 MHz | | | 40 | 50 | | |
| 454.0 to 457.0 MHz | | | 40 | 51 | | |
| 475.0 to 478.5 MHz | | | 42 | 52 | | |
| 863.0 to 870.0 MHz | | | 41 | 35 | | |
| Source Impedance | $Z_S$ | | | 50 | | Ω |
| Load Impedance | $Z_L$ | | | 50 | | Ω |

| | | |
|---|---|---|
| Case Style | | SM3030-6 3.0 x 3.0 mm Nominal Footprint |
| Lid Symbolization, Y=year, WW=week, S=shift, Dot=pin 1 indicator | | 682, YWWS |
| Standard Reel Quantity | Reel Size 7 Inch | 500 Pieces/Reel |
| | Reel Size 13 Inch | 3000 Pieces/Reel |

### Electrical Connections

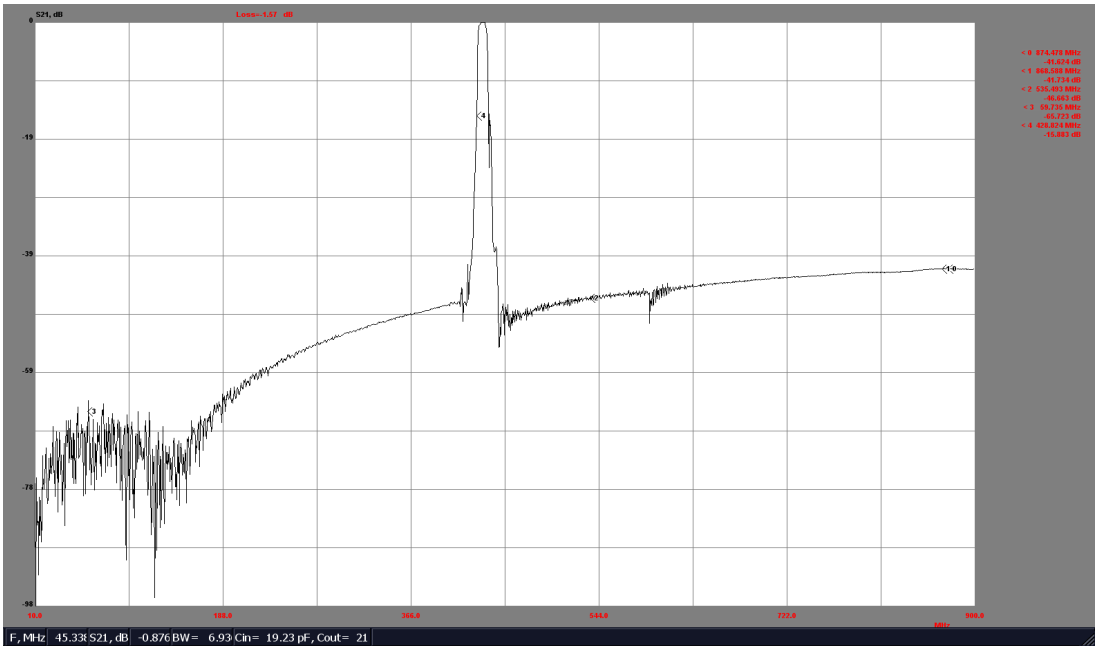
| Connection | Terminals |
|---|---|
| Input | 2 |
| Output | 5 |
| Case Ground | All others |

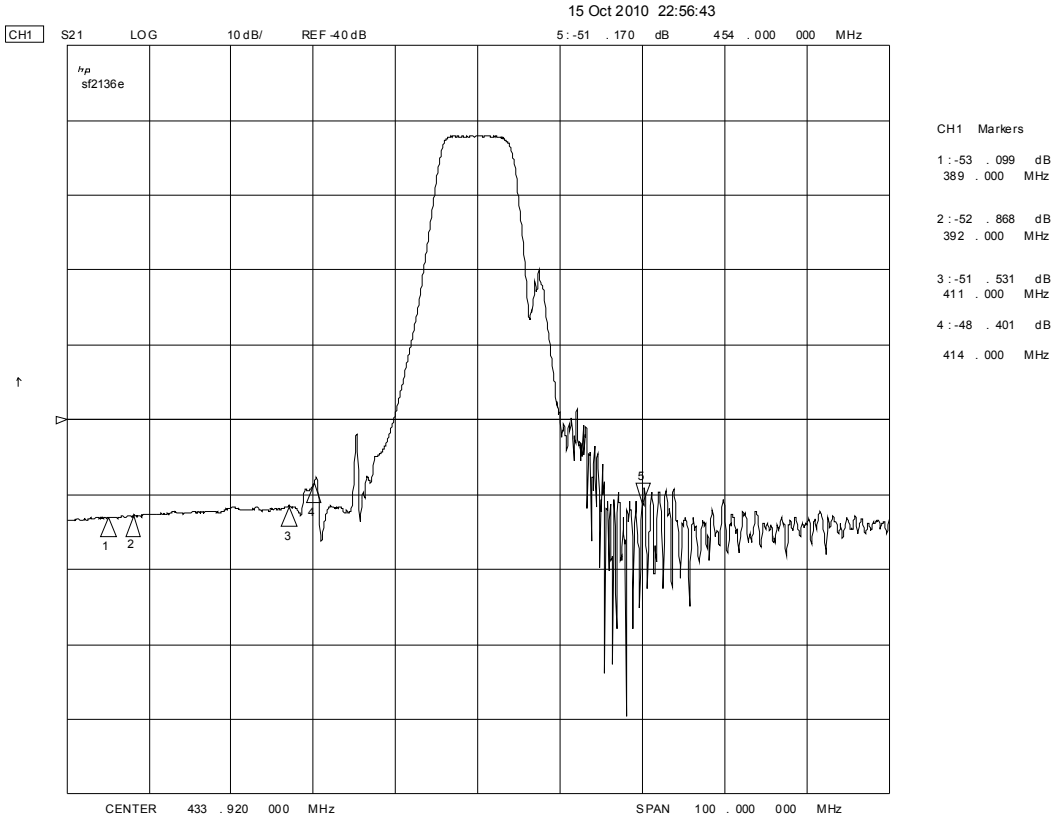
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

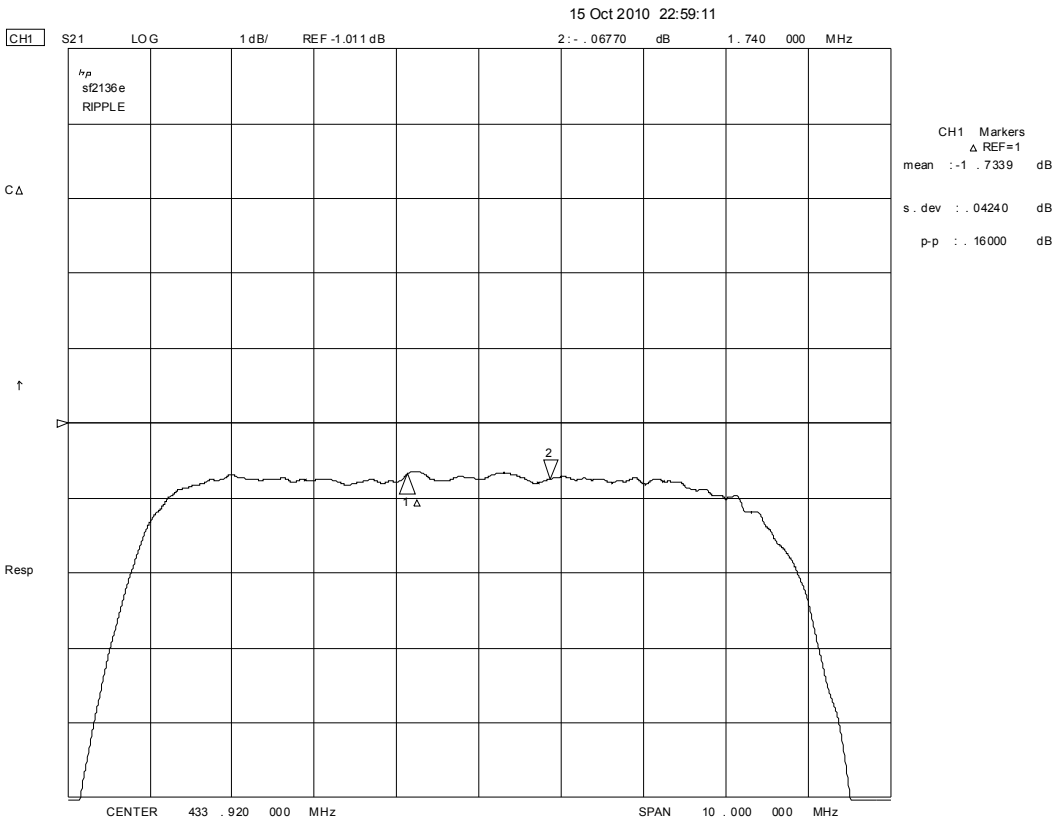
### NOTES:

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 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
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.

# SF2136E Frequency Response Plots

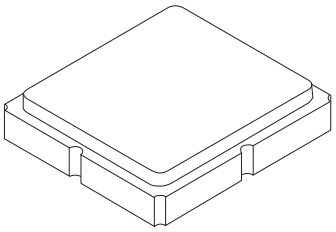


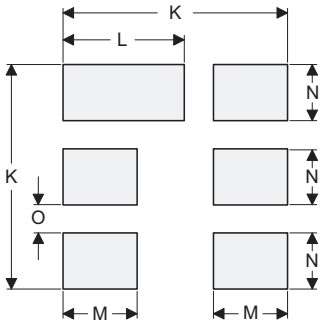





# SM3030-6 Case

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






**PCB Footprint Top View**

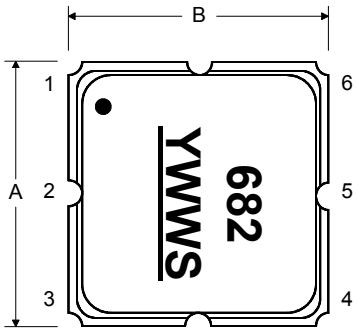
**Case and PCB Footprint Dimensions**

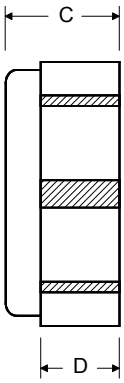
| Dimension | mm | | | Inches | | |
|---|---|---|---|---|---|---|
| | Min | Nom | Max | Min | Nom | Max |
| **A** | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| **B** | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| **C** | 1.12 | 1.25 | 1.30 | 0.044 | 0.049 | 0.051 |
| **D** | 0.77 | 0.90 | 1.03 | 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**

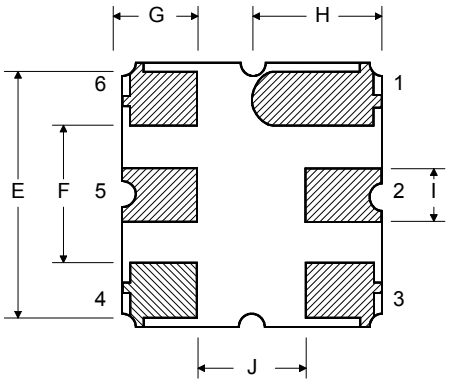
| Materials | |
|---|---|
| Solder Pad Plating | 0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel |
| Lid Plating | 2.0 to 3.0 µm Nickel |
| Body | $Al_2O_3$ Ceramic |
| Pb Free | |

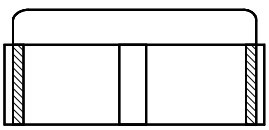
**Top View**



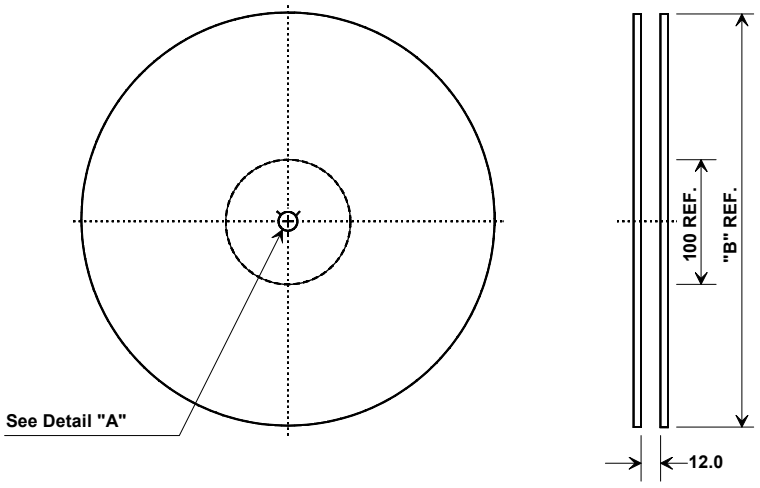



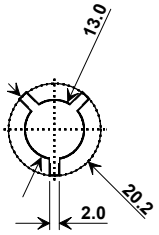

**Bottom View**



**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 |