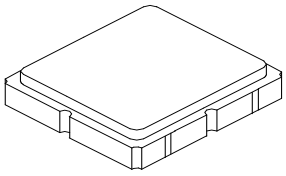
muRata
INNOVATOR IN ELECTRONICS

# SF2434E

# 1223 MHz SAW Filter

- ***Designed for Front-end GPS Applications***
- ***Low Insertion Loss***
- ***3.0 x 3.0 x 1.3 mm Surface-mount Case***
- ***No Matching Circuit Required***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Meets AEC-Q200 criteria***



**SM3030-6**

### Maximum Ratings at +25 °C Unless Stated Otherwise

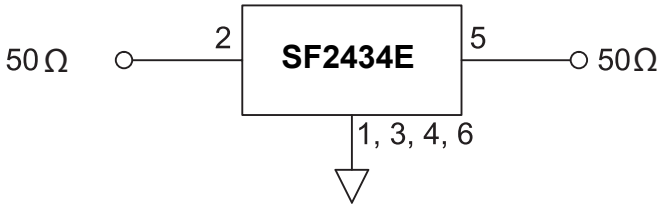
| Rating | Value | Units |
|---|---|---|
| Maximum Input Power Level | +10 | dBm |
| DC Voltage | 3 | Volts |
| Specification Temperature Range | -40 to +105 | °C |
| Operable Temperature Range | -45 to +125 | °C |
| Storage Temperature Range | -40 to +85 | °C |

### Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| Center Frequency | **Fc** | 1 | | 1223 | | MHz |
| Maximum Insertion Loss (1196 to 1250 MHz) | **IL** | | | 4.0 | 5.0 | dB |
| Amplitude Ripple (1196 to 1250 MHz) | | | | 1.4 | 2.0 | |
| Group Delay Ripple (1196 to 1250 MHz) | | | | 8 | 15 | ns |
| (1226.577 to 1228.623 MHz) | | | | 1.0 | 5 | |
| (1196.91 to 1217.37 MHz) | | | | 3.0 | 5 | |
| (1242.426 to 1249.886 MHz) | | | | 2.0 | 5 | |
| Attenuation Referenced to 0 dB: | | | | | | dB |
| 1051 - 1151 MHz | | | 15 | 20 | | |
| 1304 - 1354 MHz | | | 15 | 28 | | |
| Temperature Coefficient of Frequency | | | | -36 | | ppmk |
| Lid Symbolization (Y=year, WW=week, S=shift), dot = Pin 1 Indicator | 8Q, YWWS | | | | | |

### Electrical Connections

| Pin # | Description | Pin # | Description |
|---|---|---|---|
| 1 | Ground | 4 | Ground |
| 2 | Input | 5 | Output |
| 3 | Ground | 6 | Ground |

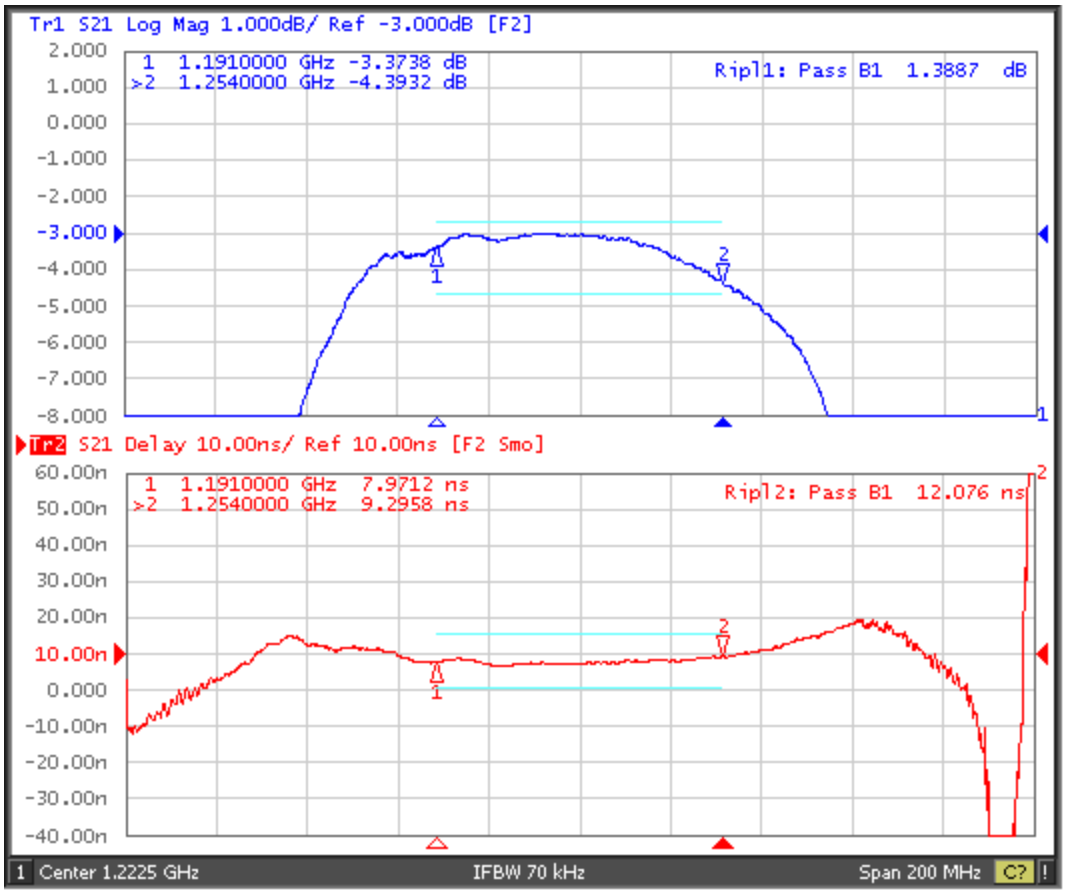


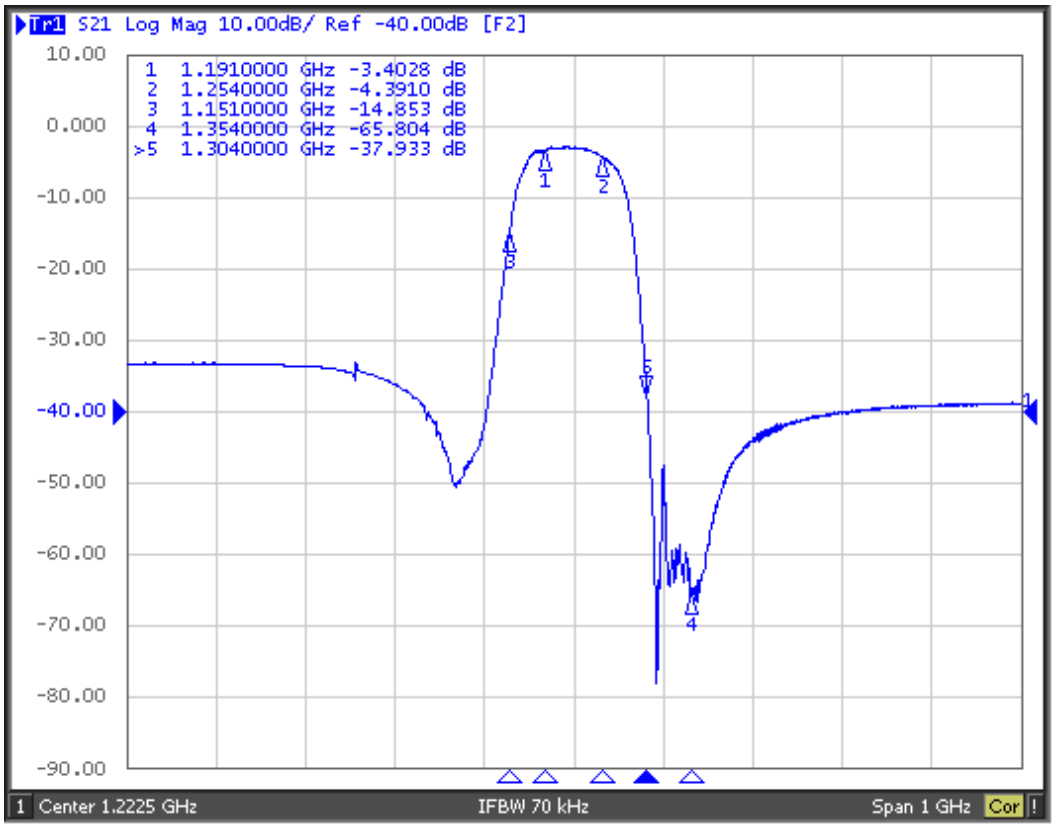

**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board without impedance matching and measured with 50 Ω network analyzer.
2. The design, manufacturing process, and specifications of this filter are subject to change.
3. 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.
4. US and international patents may apply.
5. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.
6. Tape and Reel Standard Per ANSI/EIA 481.

## Frequency Characteristics

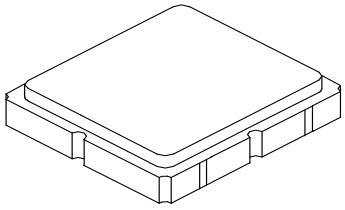


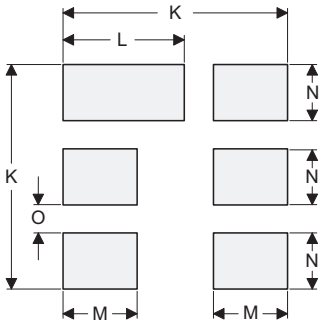



# SM3030-6 Case

## 6-Terminal Ceramic Surface-Mount Case

## 3.0 X 3.0 mm Nominal Footprint





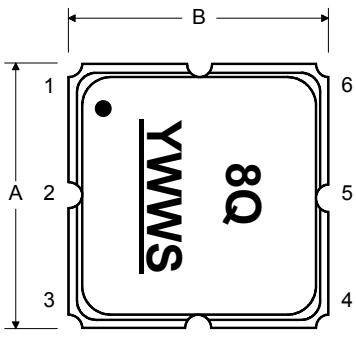

**PCB Land Pattern**
**Top View**

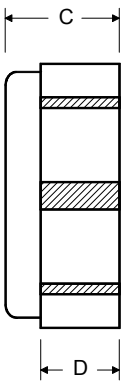
**Case and PCB Footprint Dimensions**

| 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 | |

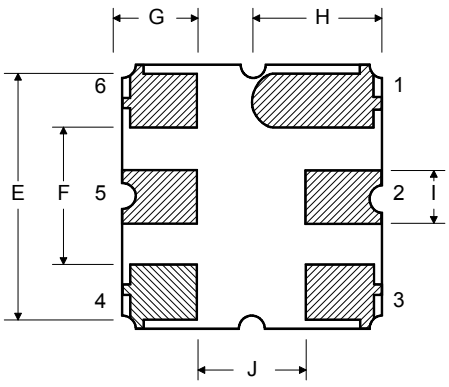
| Case Materials | |
|---|---|
| Solder Pad Plating | 0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel |
| Lid Plating | 2.0 to 3.0 µm Nickel |
| Body | $Al_2O_3$ Ceramic |
| Pb Free | |

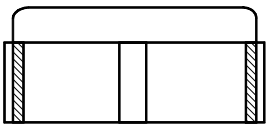
**TOP VIEW**



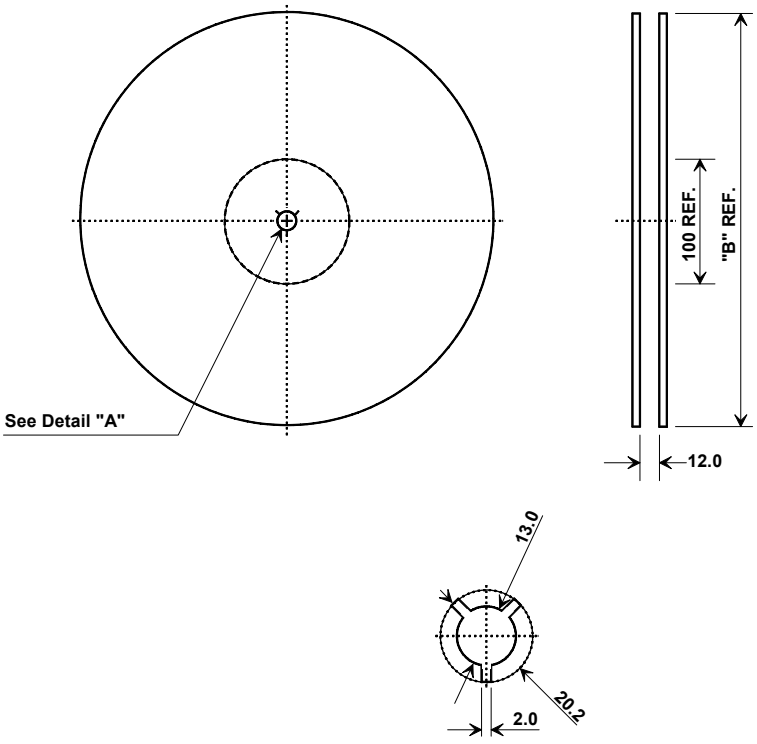




**BOTTOM VIEW**



## Tape and Reel Specifications




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

**COMPONENT ORIENTATION**