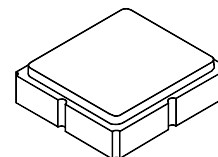


RFM products are now  
Murata products.

# SF2167E

**1382.24 MHz**  
**SAW Filter**



SM3030-8

- **SAW Filter for Digital Television**
- **Complies with Directive 2002/95/EC (RoHS)**



### Characteristics :

## Balance-to-balanced operation

Terminating source/load impedance:  $Z_S = 150 \, \Omega$ 

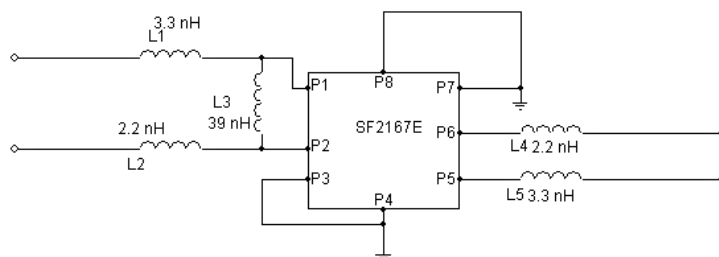
### Maximum Rating

| Rating  | Value      | Units |
|---|------------|-------|
| Input Power Level                                       | 0          | dBm   |
| DC Voltage on any Non-ground Terminal                   | 3          | V     |
| Operating Temperature Range                             | -40 to +85 | °C    |
| Storage Temperature Range                               | -50 to +95 | °C    |
| Maximum Soldering Profile, 5 cycles/ 10 seconds maximum | 265        | °C    |

| Characteristic                             | Sym            | Notes | Min | Typ     | Max | Units             |
|--|----------------|-------|-----|---------|-----|-------------------|
| Center Frequency                           | f <sub>C</sub> |       |     | 1382.24 |     | MHz               |
| Insertion Loss, 1362.24 to 1402.24 MHz     | IL             |       |     | 3.4     | 4.5 | dB                |
| Amplitude Ripple, 1362.24 to 1402.24 MHz   |                |       |     | 0.5     | 2.0 | dB                |
| Group Delay Ripple, 1362.24 to 1402.24 MHz |                |       |     | 10      | 30  | ns <sub>p-p</sub> |
| Attenuation, 0 dB Reference:               |                |       |     |         |     |                   |
| 500 to 1300.18 MHz                         |                |       | 42  | 52      |     | dB                |
| 1464.30 to 1490 MHz                        |                |       | 45  | 50      |     |                   |
| 1490 to 2000 MHz                           |                |       | 40  | 50      |     |                   |

|  |   |
|--|---|
| Case Style   | SM3030-8 3.0 x 3.0 mm Nominal Footprint |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator | 854, YWWS                               |
| Standard Reel Quantity   | 500 Pieces/Reel                         |
| Reel Size 7 inch   |   |
| Reel Size 13 inch  | 3000 Pieces/Reel                        |

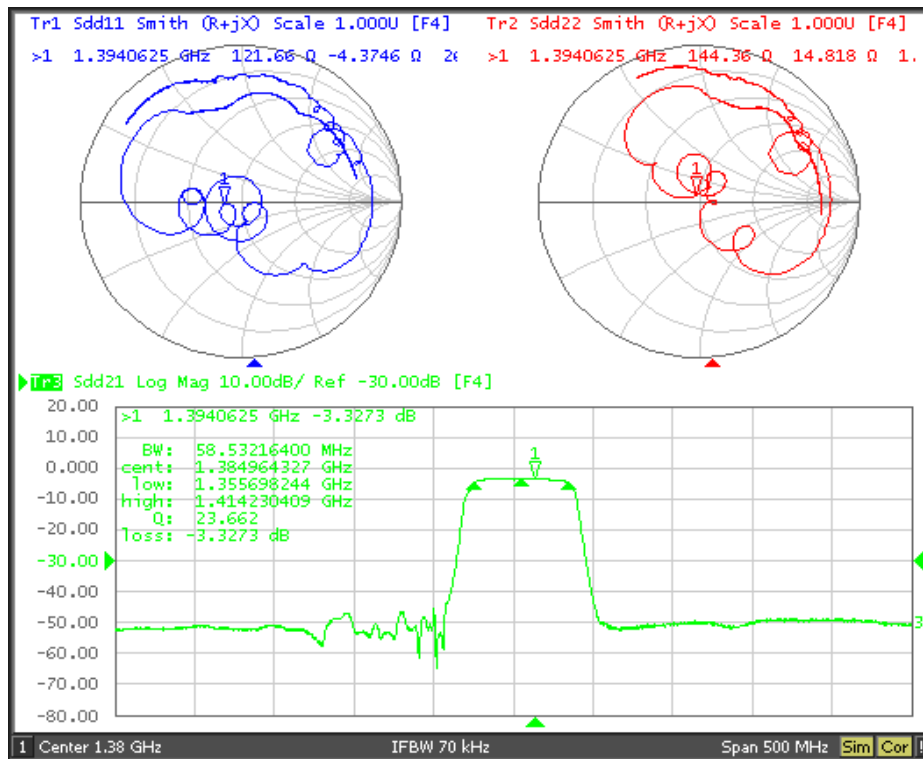
Tuning Network, 150 ohm Balanced Source/Load



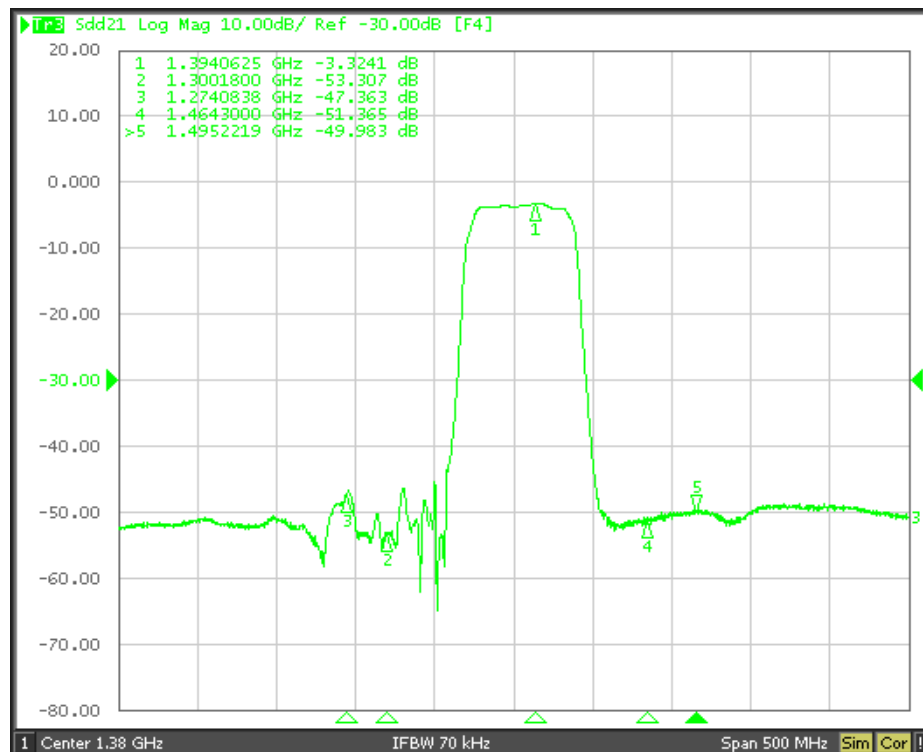
**NOTES:**

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.
3. Electrostatic Sensitive Device. Observe precautions for handling.

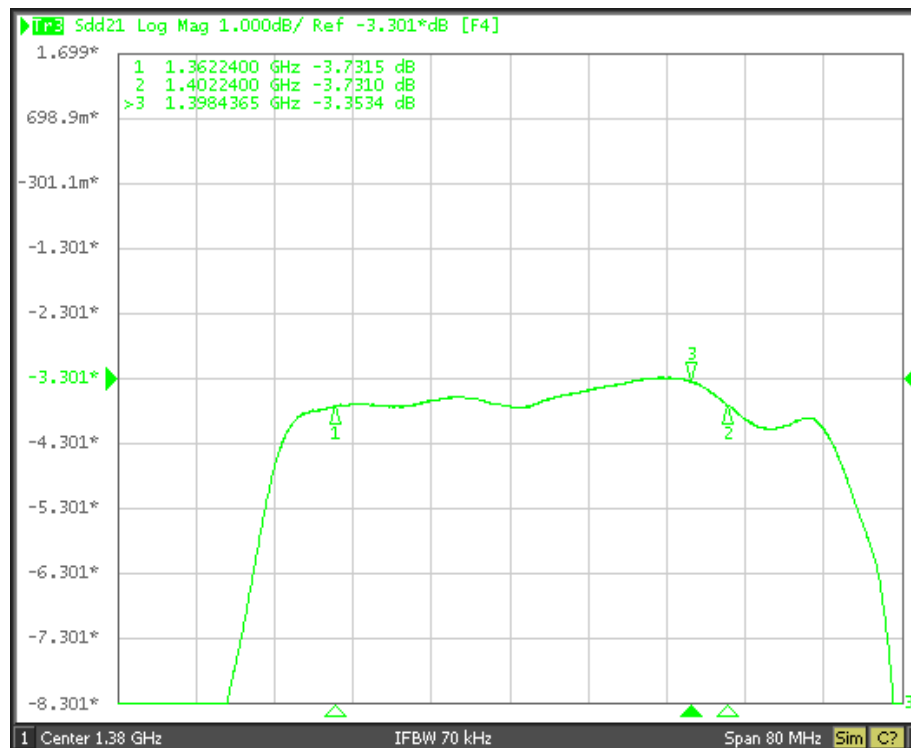
## Filter Wideband S21, S11 and S22 Plots



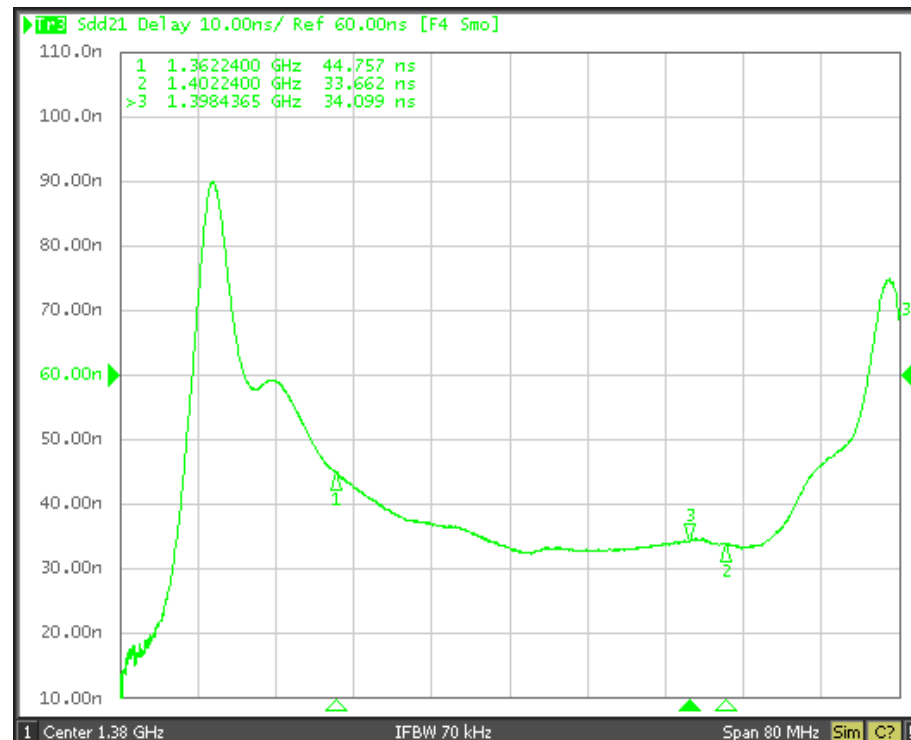
## Filter Shape Factor Plot



## Filter Passband Plot

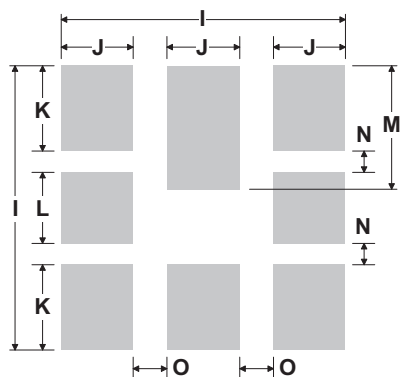
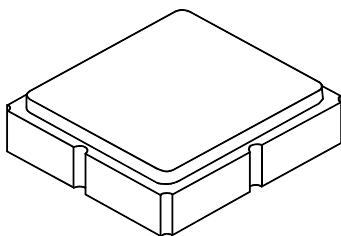


## Filter Group Delay Plot



## 8-Terminal Ceramic Surface-Mount Case

### 3.0 X 3.0 mm Nominal Footprint



PCB Footprint Top View

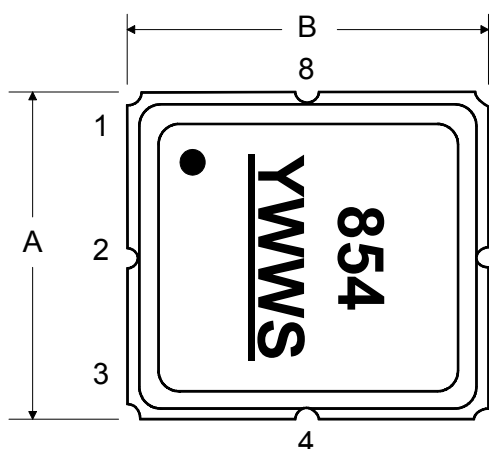
Case and PCB Footprint Dimensions

| Dimension | mm   |      |      | Inches |       |       |
|-----------|------|------|------|--------|-------|-------|
|           | Min  | Nom  | Max  | Min    | Nom   | Max   |
| A         | 2.87 | 3.0  | 3.13 | 0.113  | 0.118 | 0.123 |
| B         | 2.87 | 3.0  | 3.13 | 0.113  | 0.118 | 0.123 |
| C         | 1.14 | 1.27 | 1.40 | 0.045  | 0.050 | 0.055 |
| D         | 0.79 | 0.92 | 1.05 | 0.031  | 0.036 | 0.041 |
| E         | 0.62 | 0.75 | 0.88 | 0.024  | 0.029 | 0.034 |
| F         | 0.47 | 0.60 | 0.73 | 0.018  | 0.024 | 0.029 |
| G         | 0.47 | 0.60 | 0.73 | 0.018  | 0.024 | 0.029 |
| H         | 1.07 | 1.20 | 1.33 | 0.042  | 0.047 | 0.052 |
| I         |      | 3.19 |      |        | 0.126 |       |
| J         |      | 0.81 |      |        | 0.032 |       |
| K         |      | 0.96 |      |        | 0.038 |       |
| L         |      | 0.81 |      |        | 0.032 |       |
| M         |      | 1.39 |      |        | 0.055 |       |
| N         |      | 0.23 |      |        | 0.009 |       |
| O         |      | 0.38 |      |        | 0.015 |       |

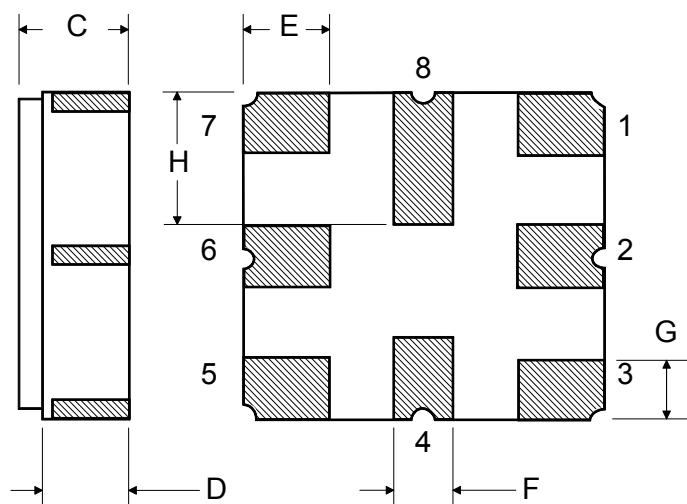
Case Materials

| 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            |  |

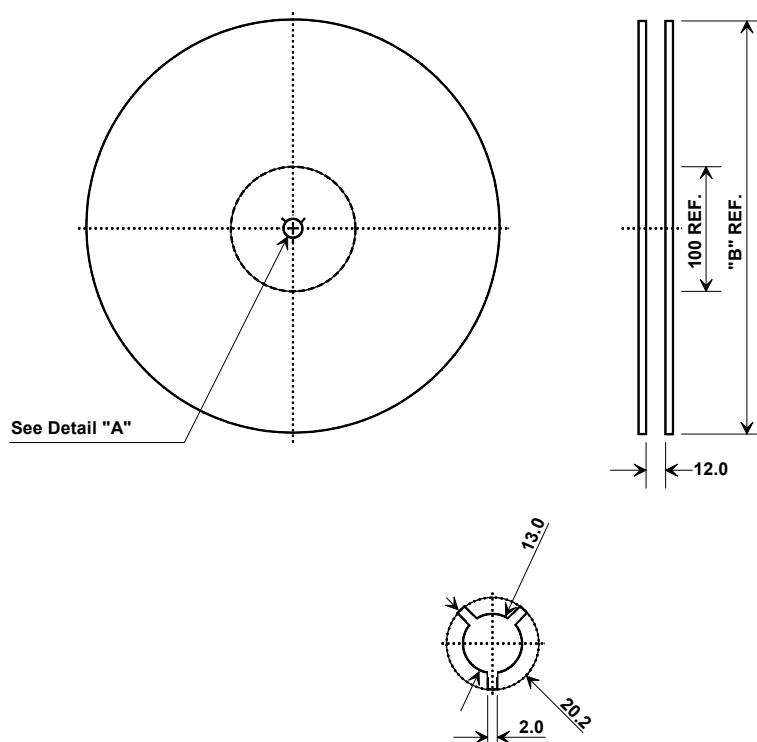
TOP VIEW



BOTTOM VIEW



## 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 |

