

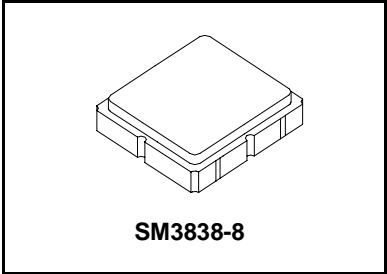


- Low Insertion Loss SAW Filter
- Balanced 200 ohm Input, Single-ended 50 ohm Output
- Complies with Directive 2002/95/EC (RoHS)



**RF3702D**

**426.44 MHz  
SAW Filter**



**Absolute Maximum Ratings**

| Rating                                     | Value      | Units |
|--|------------|-------|
| Input Power Level                          | +20        | dBm   |
| DC Voltage                                 | ±10        | V     |
| Operating Temperature Range                | -20 to +70 | °C    |
| Storage Temperature Range in Tape and Reel | -30 to +85 | °C    |

**Electrical Characteristics**

| Characteristic                                   | Sym        | Notes | Min | Typ    | Max | Units             |
|--|------------|-------|-----|--------|-----|-------------------|
| Center Frequency                                 | $f_c$      |       |     | 426.44 |     | MHz               |
| 3 dB Bandwidth                                   | $BW_3$     |       | 1.0 |        |     | MHz               |
| Maximum Insertion Loss, 426.22 to 426.66 MHz     | $IL_{MAX}$ |       |     | 2.0    | 3.0 | dB                |
| Amplitude Ripple, 426.22 to 426.66 MHz           |            |       |     | 0.6    | 1.0 | dB <sub>P-P</sub> |
| Rejection Referenced to 0 dB:                    |            |       |     |        |     |                   |
| 404.64 to 405.44 MHz, [426.44 -(21 to 21.8) MHz] |            |       | 50  | 54     |     | dB                |
| 405.44 to 421.44 MHz                             |            |       | 30  | 36     |     |                   |
| 436.44 to 447.84 MHz                             |            |       | 20  | 40     |     |                   |
| 470.0 to 770.0 MHz                               |            |       | 50  | 59     |     |                   |
| 800.0 to 2010.0 MHz                              |            |       | 40  | 65     |     |                   |
| Balanced Source Impedance                        | $Z_S$      |       |     | 200    |     | $\Omega$          |
| Load Impedance                                   | $Z_L$      |       |     | 50     |     | $\Omega$          |

|  |   |  |  |  |  |                  |
|--|---|--|--|--|--|------------------|
| Case Style   | SM3838-8 3.8 x 3.8 mm Nominal Footprint |  |  |  |  |                  |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator | 948, YWWS                               |  |  |  |  |                  |
| Standard Reel Quantity   | Reel Size 7 Inch                        |  |  |  |  | 500 Pieces/Reel  |
|  | Reel Size 13 Inch                       |  |  |  |  | 3000 Pieces/Reel |

**Electrical Connections**

| Connection     | Terminals     |
|----------------|---------------|
| Balanced Input | 1,2           |
| Output         | 5             |
| Case Ground    | 3, 4, 6, 7, 8 |

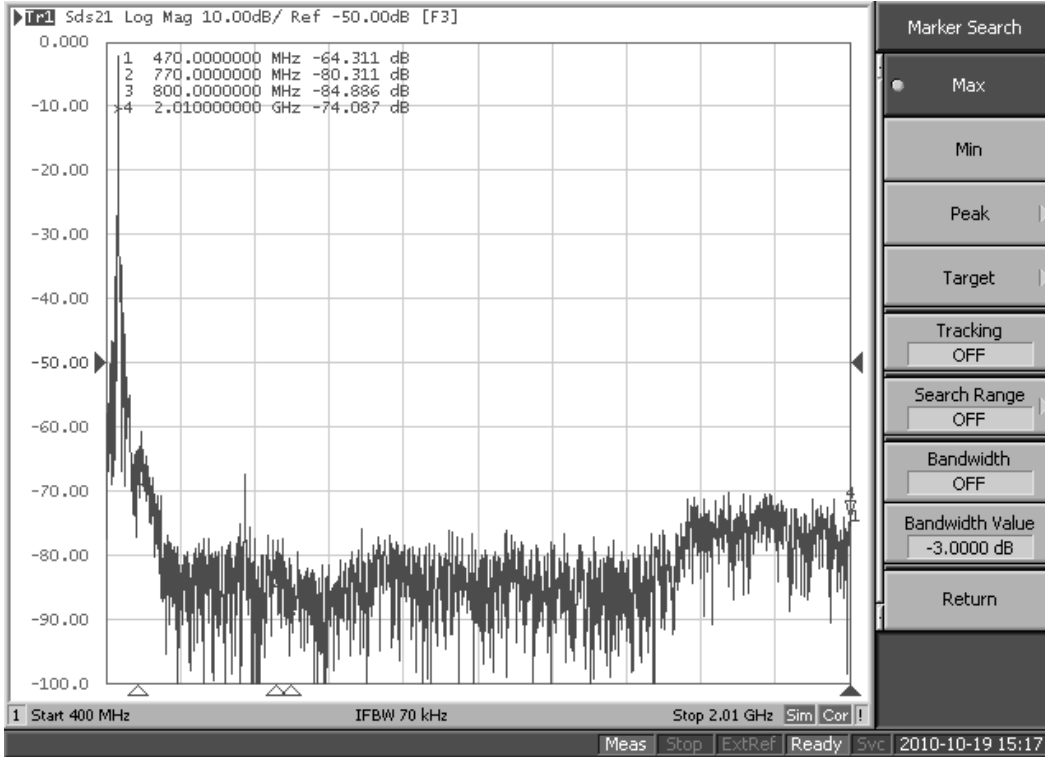


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**Notes:**

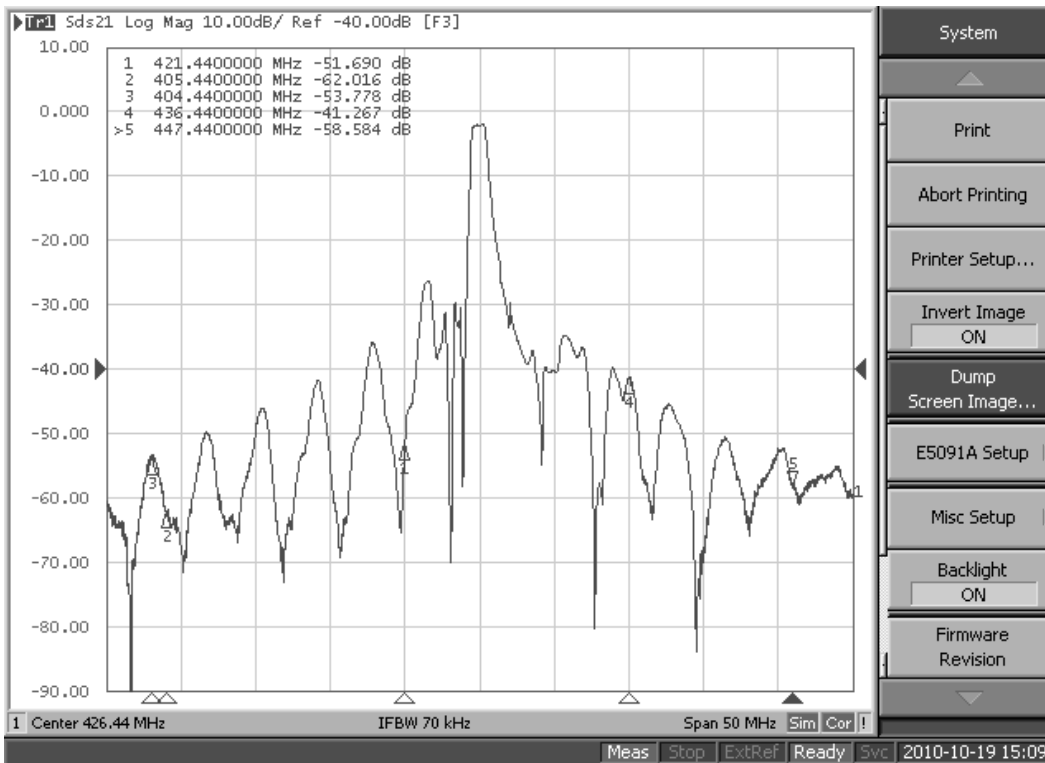
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced 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. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

# Frequency Response Plots



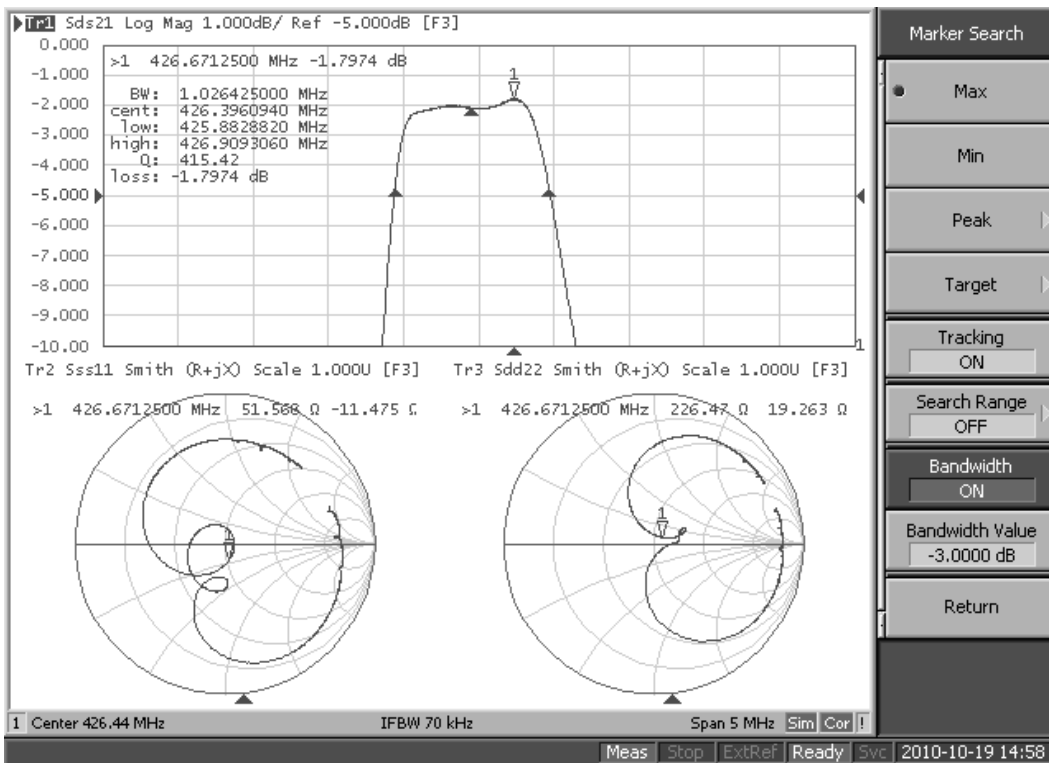
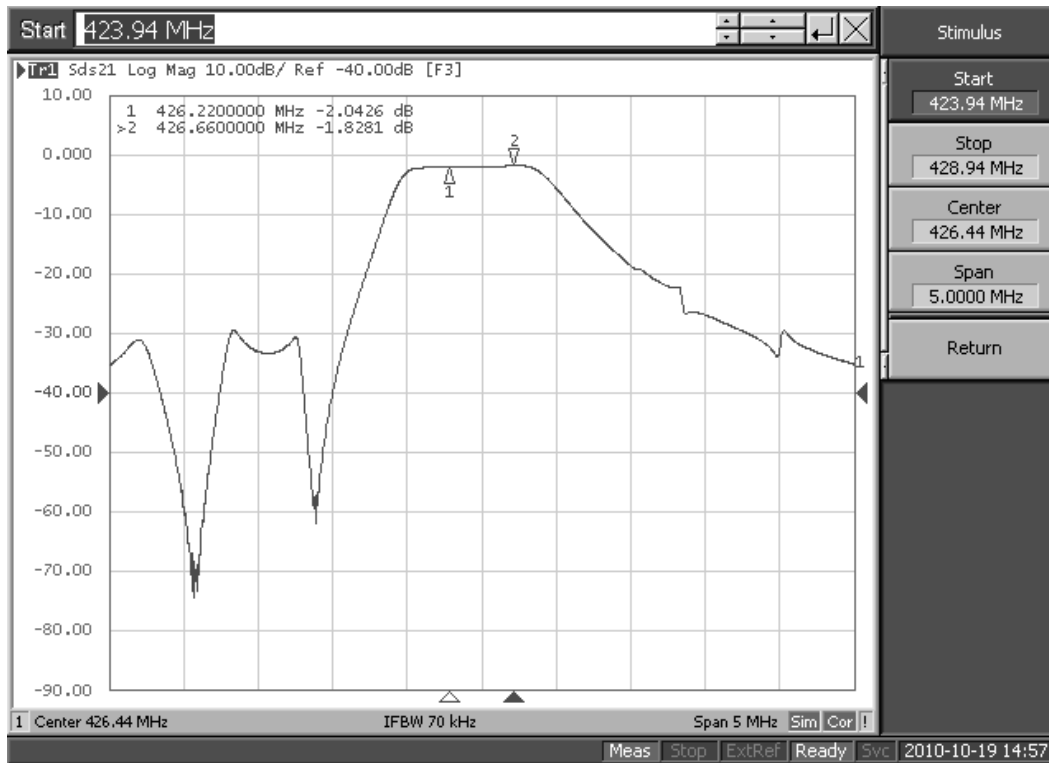
Marker Search

- Max
- Min
- Peak
- Target
- Tracking OFF
- Search Range OFF
- Bandwidth OFF
- Bandwidth Value -3.0000 dB
- Return



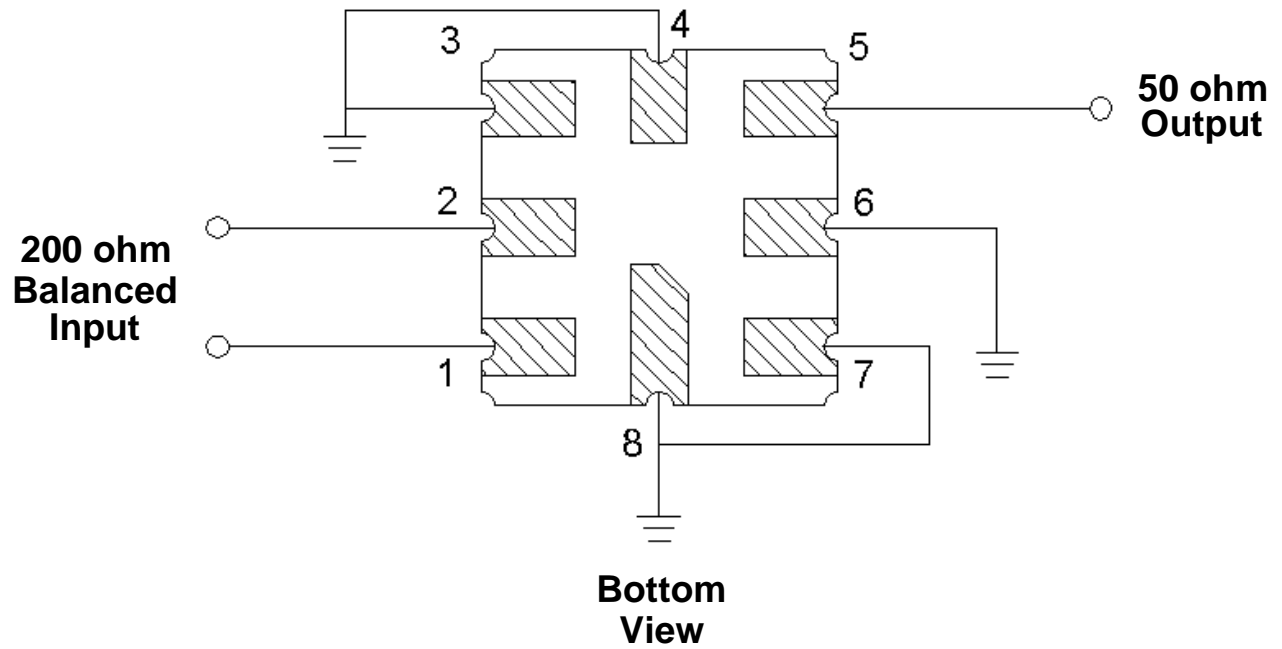
System

- Print
- Abort Printing
- Printer Setup...
- Invert Image ON
- Dump Screen Image...
- E5091A Setup
- Misc Setup
- Backlight ON
- Firmware Revision



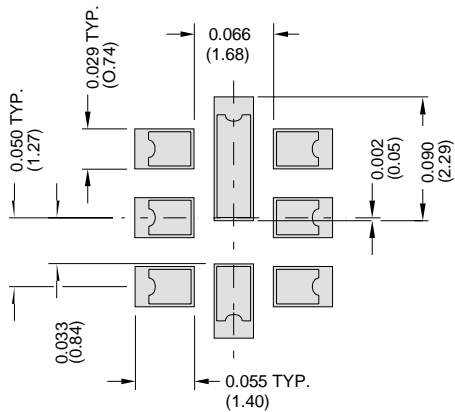
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## Application Circuit



# SM3838-8 Case

## 8-Terminal Ceramic Surface-Mount Case 3.8 X 3.8 mm Nominal Footprint



PCB Footprint

| Dimension | mm   |      |      | Inches |       |       |
|-----------|------|------|------|--------|-------|-------|
|           | Min  | Nom  | Max  | Min    | Nom   | Max   |
| A         | 3.6  | 3.8  | 4.0  | 0.142  | 0.150 | 0.157 |
| B         | 3.6  | 3.8  | 4.0  | 0.142  | 0.150 | 0.157 |
| C         | 0.90 | 1.00 | 1.1  | 0.035  | 0.040 | 0.043 |
| D         | 0.80 | 0.90 | 1.0  | 0.031  | 0.035 | 0.040 |
| E         | 0.90 | 1.00 | 1.10 | 0.035  | 0.040 | 0.043 |
| F         | 0.50 | 0.60 | 0.70 | 0.020  | 0.024 | 0.028 |
| G         | 2.39 | 2.54 | 2.69 | 0.090  | 0.100 | 0.110 |
| H         | 1.40 | 1.75 | 2.05 | 0.055  | 0.069 | 0.080 |

| Materials          |  |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel |
| Lid Plating        | 2.0 to 3.0 $\mu\text{m}$ Nickel                                      |
| Body               | $\text{Al}_2\text{O}_3$ Ceramic                                      |
| Pb Free            |  |

TOP VIEW

BOTTOM VIEW

