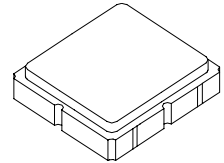




- No External Matching Required
- 3.8 x 3.8 x 1.4 mm Surface-mount Package
- Complies with Directive 2002/95/EC (RoHS)

**SF2188D****340 MHz  
SAW Filter****SM3838-8****Absolute Maximum Ratings**

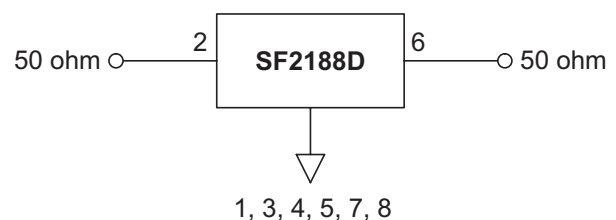
| Rating                                                       | Value          | Units |
|--------------------------------------------------------------|----------------|-------|
| Maximum Incident Power in Passband                           | +10            | dBm   |
| Maximum DC Voltage between any Two Terminals                 | 3              | VDC   |
| Storage Temperature Range                                    | -40 to +85     | °C    |
| Suitable for Lead-free Soldering - Maximum Soldering Profile | 260°C for 30 s |       |

**Electrical Characteristics**

| Characteristic                               | Sym   | Notes                                   | Min | Typ | Max | Units             |
|----------------------------------------------|-------|-----------------------------------------|-----|-----|-----|-------------------|
| Nominal Center Frequency                     | $F_C$ | 1                                       | 339 | 340 | 341 | MHz               |
| Insertion Loss                               | IL    | 1                                       |     | 2.0 | 3.0 | dB                |
| 1 dB Bandwidth                               |       | 1                                       |     | 8   | 11  | MHz               |
| Passband Ripple, 336 to 344 MHz              |       | 1                                       |     | 0.4 | 1.0 | dB <sub>p-p</sub> |
| Absolute Attenuation (referenced from 0 dB)  |       |                                         |     |     |     |                   |
| 10 to 300 MHz                                |       | 2                                       | 50  | 54  |     | dB                |
| 300 to 320 MHz                               |       | 2                                       | 40  | 47  |     | dB                |
| 375 to 800 MHz                               |       | 2                                       | 40  | 45  |     | dB                |
| Frequency Temperature Coefficient            |       |                                         |     | -36 |     | ppm/°C            |
| Source Impedance                             |       |                                         |     | 50  |     | ohm               |
| Load Impedance                               |       |                                         |     | 50  |     | ohm               |
| Operating Temperature Range                  |       |                                         | -40 |     | +85 | °C                |
| Case Style                                   |       | SM3838-8 3.8 x 3.8 mm Nominal Footprint |     |     |     |                   |
| Lid Symbolization (Y=year, WW=week, S=shift) |       | RFM 876 YWWS                            |     |     |     |                   |

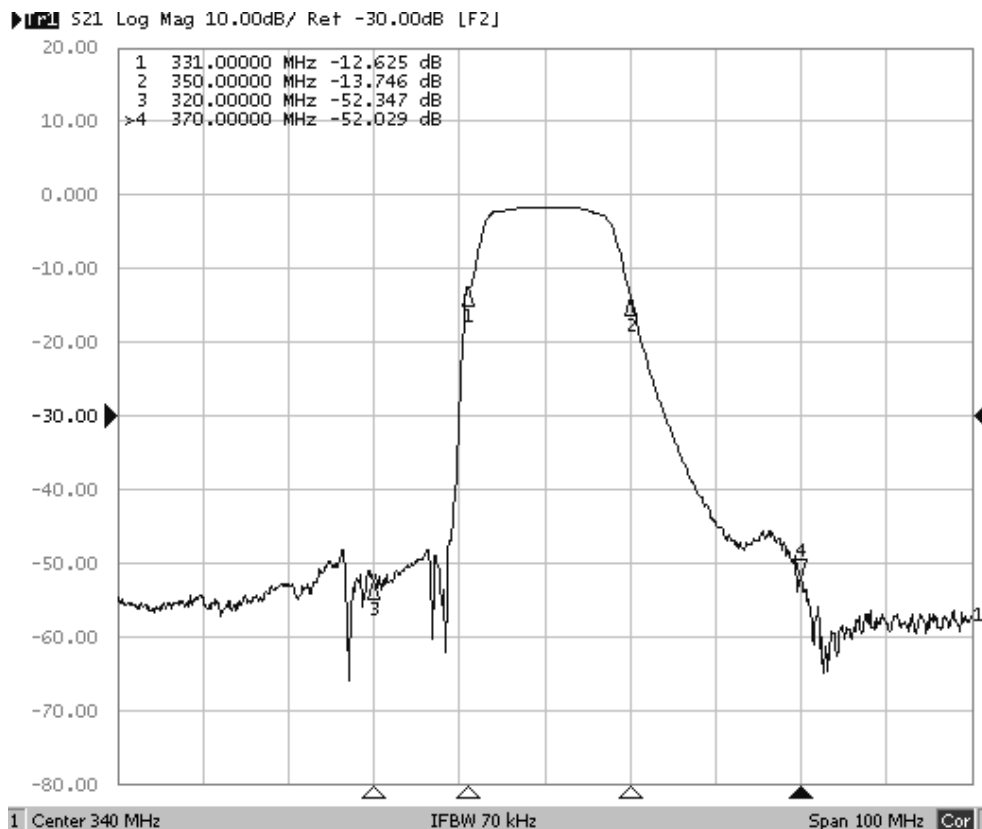
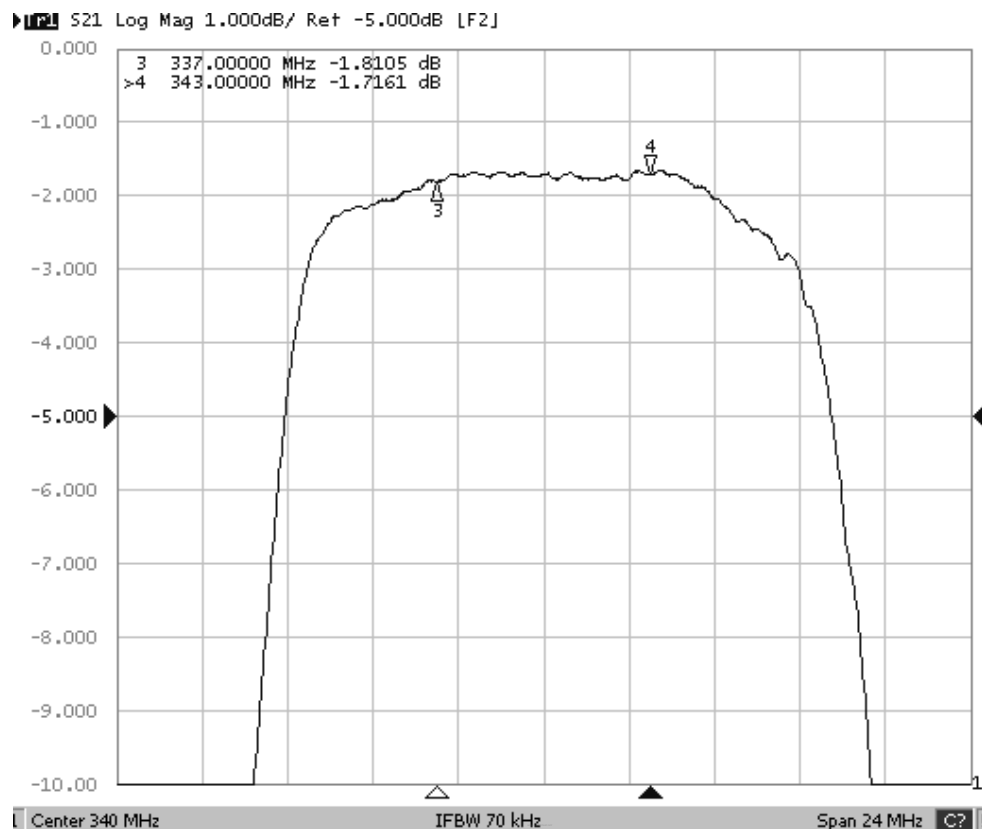
**Electrical Connections**

| Connection  | Terminals  |
|-------------|------------|
| Port 1      | 2          |
| Port 2      | 6          |
| 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  $\Omega$  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 absolute attenuation (0 dB reference). Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. 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.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

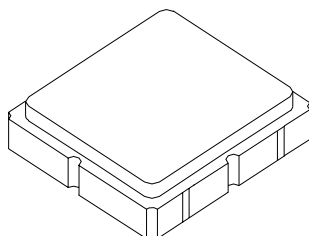
# SF2188D Frequency Response



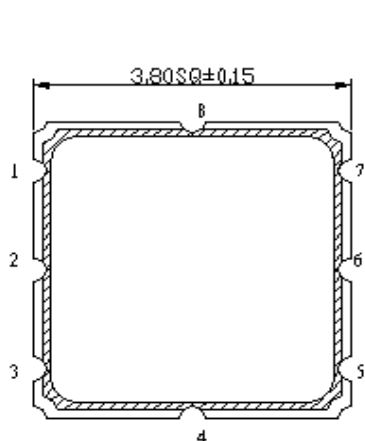
# SM3838-8 Case

8-Terminal Ceramic Surface-Mount Case

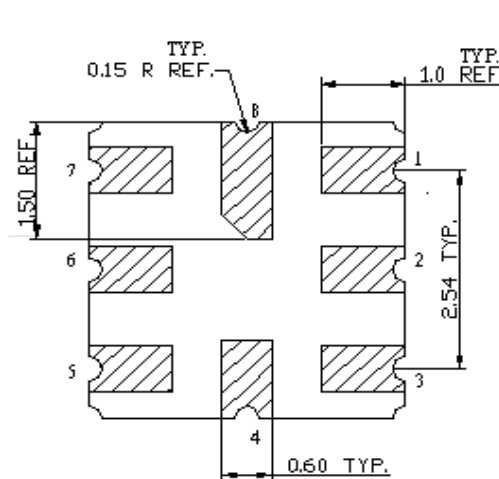
3.8 X 3.8 mm Nominal Footprint



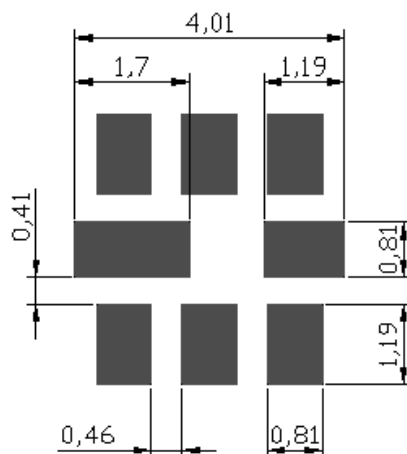
Top View



Bottom View



PCB Footprint



Technical drawing of a circular component, likely a flange or end plate, showing three views: a top view, a side view, and a detail view.

**Top View:** A large circle with a smaller concentric circle in the center. A horizontal dashed line and a vertical dashed line intersect at the center. A small circle with a crosshair is located at the center of the inner circle. An arrow points from the text "See Detail 'A'" to this central feature.

**Side View:** Two vertical lines representing the thickness of the component. The total thickness is dimensioned as 12.0. The distance from the centerline to the outer edge is dimensioned as 100 REF. The distance from the centerline to the inner edge is dimensioned as "B" REF.

**Detail View:** A cross-sectional view of the central feature. It shows a circular hole with a diameter of 13.0. The hole is surrounded by a ring with a thickness of 2.0. The outer diameter of the ring is dimensioned as 20.2.

| “B “<br>Nominal Size |             | Quantity Per Reel |
|----------------------|-------------|-------------------|
| Inches               | millimeters |                   |
| 7                    | 178         | 1000              |
| 13                   | 330         | 3000              |

| Carrier Tape Dimensions |         |
|-------------------------|---------|
| Ao                      | 4.25 mm |
| Bo                      | 4.25 mm |
| Ko                      | 1.30 mm |
| Pitch                   | 8.0 mm  |
| W                       | 12.0 mm |

