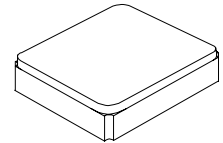




- RF Filter Designed for Front End GPS Applications
- Low Insertion Loss
- Improved Rejection
- 2.0 x 1.6 mm Surface-mount Case
- Complies with Directive 2002/95/EC (RoHS)

**SF1186H-3****1575.42 MHz  
SAW Filter****SM2016-4****Absolute Maximum Ratings**

| Rating                                          | Value          | Units |
|-------------------------------------------------|----------------|-------|
| Maximum Incident Power in Passband              | +10            | dBm   |
| Maximum DC Voltage on any Non-grounded Terminal | 3              | VDC   |
| Filter Operating Temperature Range              | -40 to +105    | °C    |
| Filter Storage Temperature Range                | -55 to +105    | °C    |
| Storage Temperature Range in Tape & Reel        | -40 to +85     | °C    |
| Maximum Soldering Profile                       | 265°C for 10 s |       |

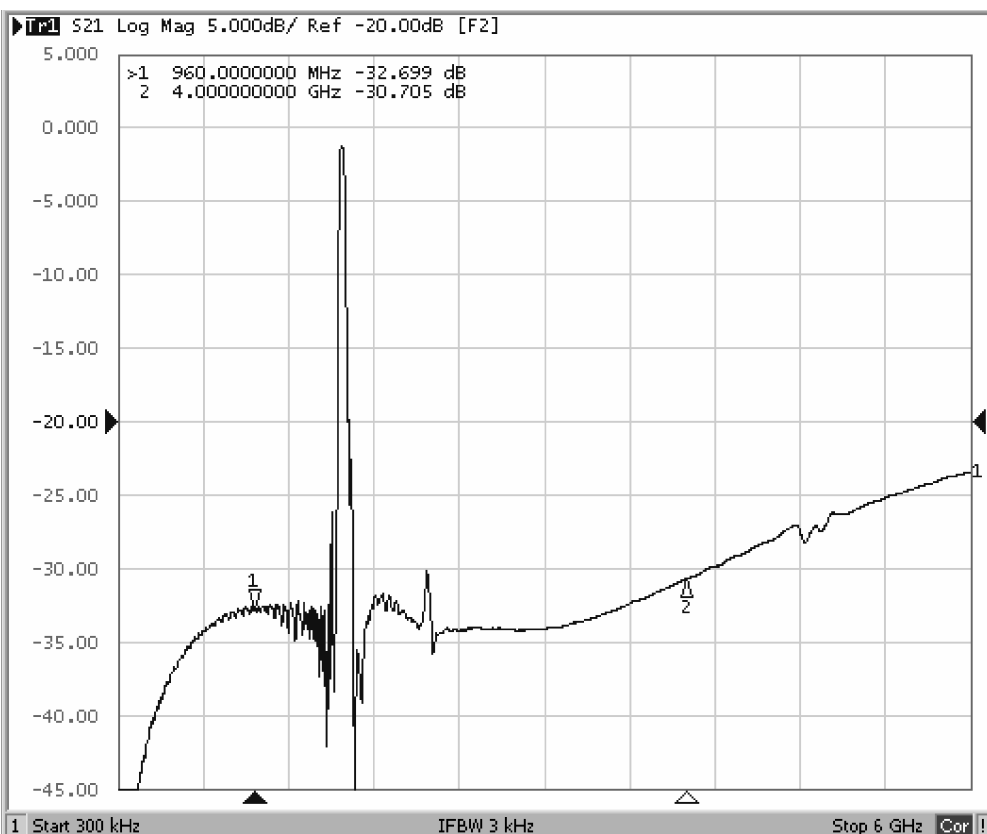
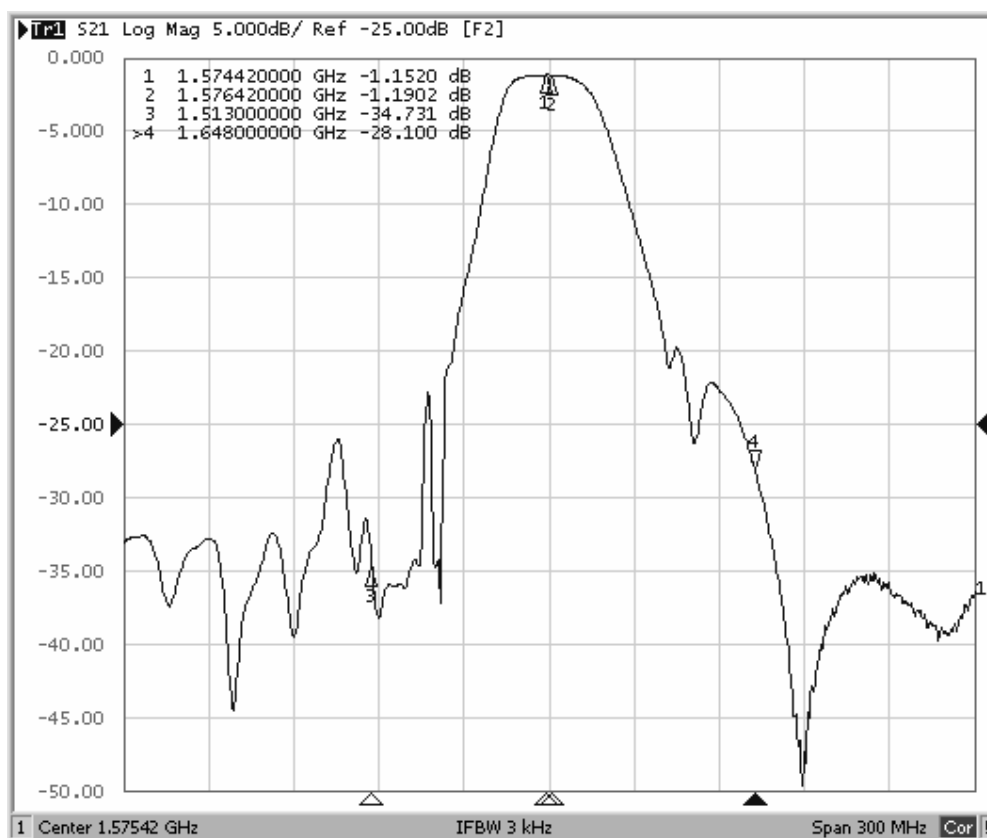
**Electrical Characteristics**

| Characteristic                                 | Sym                                                   | Notes | Min     | Typ  | Max | Units             |
|------------------------------------------------|-------------------------------------------------------|-------|---------|------|-----|-------------------|
| Center Frequency                               | $f_c$                                                 |       | 1575.42 |      |     | MHz               |
| Maximum Insertion Loss, 1574.42 to 1576.42 MHz | $IL_{MAX}$                                            |       |         | 1.15 | 1.8 | dB                |
| Amplitude Ripple, 1574.42 to 1576.42 MHz       |                                                       |       |         | 0.1  | 0.5 | dB <sub>P-P</sub> |
| VSWR, 1574.42 to 1576.42 MHz                   |                                                       |       |         | 1.2  | 1.9 |                   |
| Attenuation:                                   |                                                       |       |         |      |     | dB                |
| 100 to 960 MHz                                 |                                                       |       | 31      | 33   |     |                   |
| 960 to 1460 MHz                                |                                                       |       | 31      | 33   |     |                   |
| 1460 to 1513 MHz                               |                                                       |       | 22      | 26   |     |                   |
| 1648 to 1710 MHz                               |                                                       |       | 22      | 28   |     |                   |
| 1710 to 1990 MHz                               |                                                       |       | 25      | 32   |     |                   |
| 1990 to 2300 MHz                               |                                                       |       | 25      | 30   |     |                   |
| 2300 to 4000 MHz                               |                                                       |       | 29      | 31   |     |                   |
| 4000 to 6000 MHz                               |                                                       |       | 20      | 24   |     |                   |
| Source impedance                               | $Z_S$                                                 |       |         | 50   |     | $\Omega$          |
| Load impedance                                 | $Z_L$                                                 |       |         | 50   |     | $\Omega$          |
| Single-ended Input / Output Impedance Match    | No matching network required for operation at 50 ohms |       |         |      |     |                   |
| Case Style                                     | SM2016-4                                              |       |         |      |     |                   |
| Lid Symbolization, Device, Date Code           | 3A                                                    |       |         |      |     |                   |

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

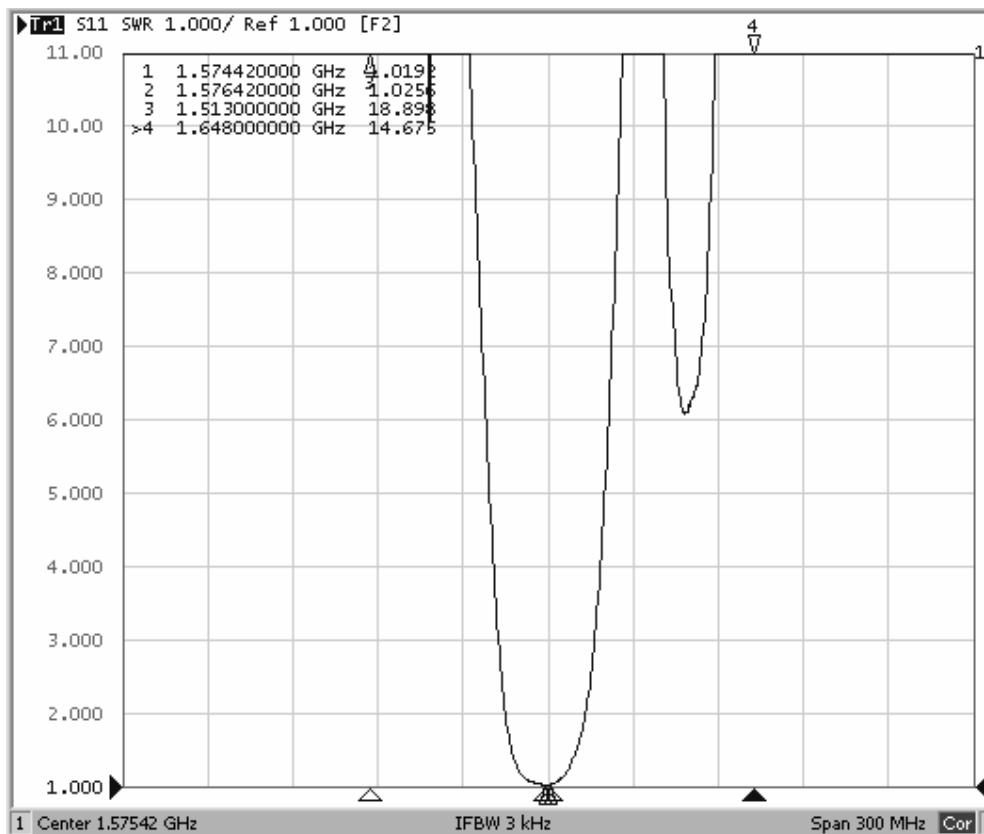
1. US and international patents may apply.
2. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

## Frequency Characteristics

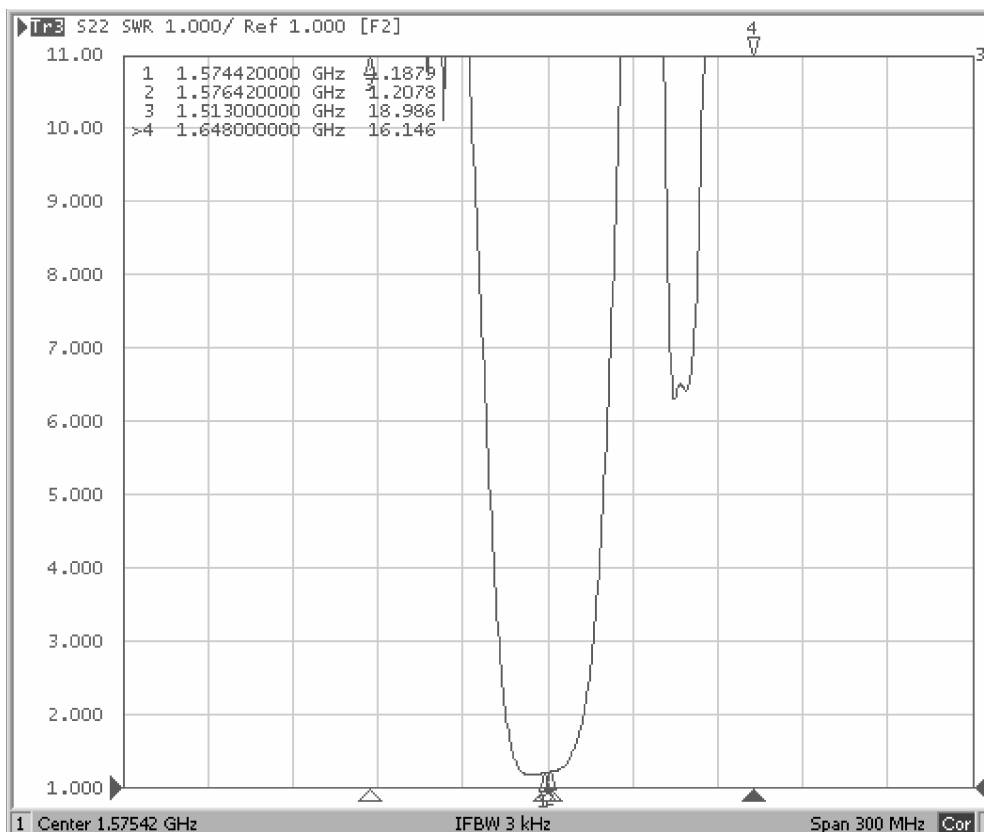


## Reflection Functions

S11



S22



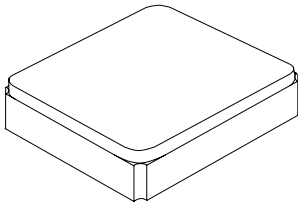
# SM2016-4 Case

## 4-Terminal Ceramic Surface-Mount Case 2.0 X 1.6 mm Nominal Footprint

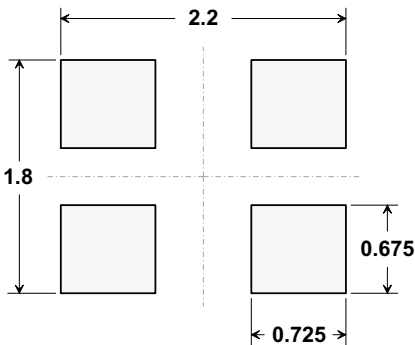
### Electrical Connections

| Connection | Terminals |
|------------|-----------|
| Input      | 1         |
| Output     | 3         |
| Ground     | 2, 4      |

| Dimensions | Millimeters |      |     | Inches |     |     |
|------------|-------------|------|-----|--------|-----|-----|
|            | Min         | Nom  | Max | Min    | Nom | Max |
| A          |             | 1.60 |     |        |     |     |
| B          |             | 2.00 |     |        |     |     |
| C          |             | 0.90 |     |        |     |     |
| D          |             | 0.10 |     |        |     |     |
| E          |             | 0.10 |     |        |     |     |
| F          |             | 0.70 |     |        |     |     |
| G          |             | 0.50 |     |        |     |     |
| H          |             | 0.10 |     |        |     |     |

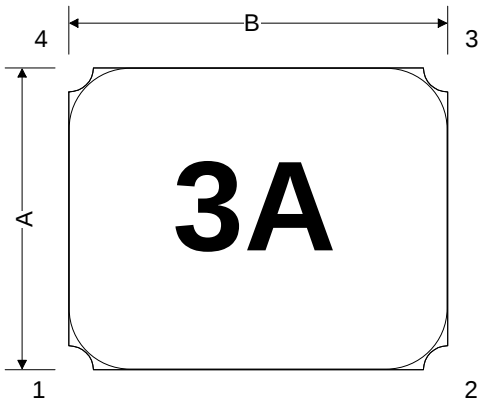


PCB PAD LAYOUT

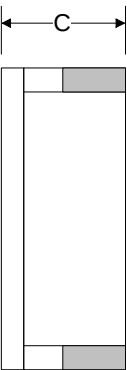


Dimensions in mm  
All pads have the same dimensions

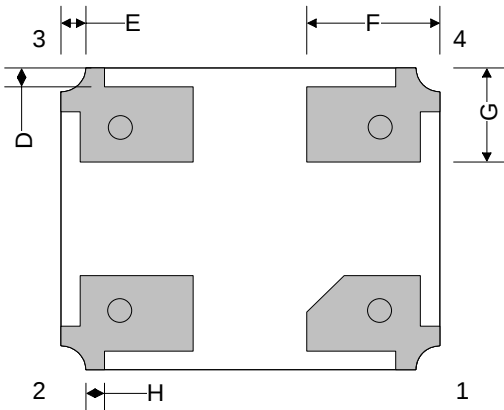
TOP VIEW



SIDE VIEW



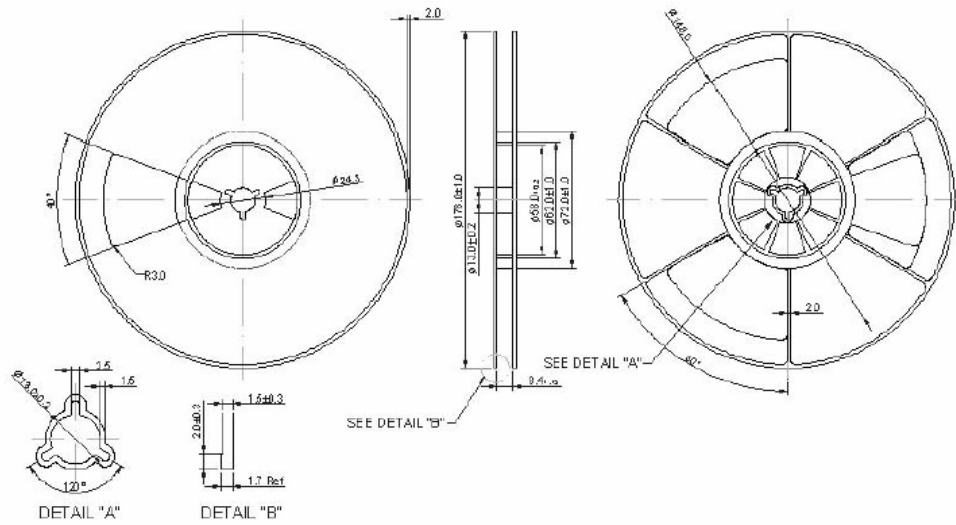
BOTTOM VIEW



## F. PACKING:

### 1. REEL DIMENSION

( Reel Count : 7"=2000 typ. ; 13"=10000 typ.)



### 2. TAPE DIMENSION

