RFMi
A BRAND OF AKOUSTIS

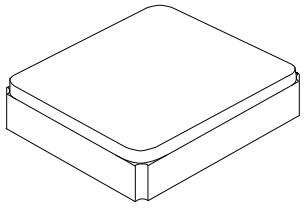
Preliminary

RoHS compliant

# SF2441H

# 908.42 MHz SAW Filter

- ***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)***
- ***Moisture Sensitivity Level: 1***



**SM2016-4**

**Absolute Maximum Ratings**

| Rating | Value | Units |
|---|---|---|
| Maximum Incident Power in Passband | +10 | dBm |
| Maximum DC Voltage Between any Two Terminals | 5 | VDC |
| Operable Temperature | -40 to +125 | °C |
| Operating Temperature Range | -30 to +80 | °C |
| Storage Temperature Range | -40 to +95 | °C |
| Maximum Soldering Profile | 265°C for 10 s | |

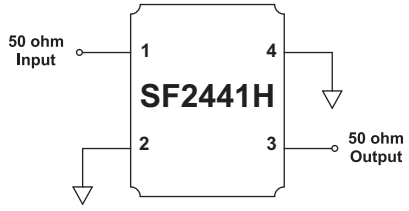
**Electrical Characteristics**

| Characteristic | | Sym | Notes | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|---|
| Center Frequency | | $f_C$ | | | 908.42 | | MHz |
| Maximum Insertion Loss | 898.92 to 917.92 MHz | $IL_{MAX}$ | | | 2.2 | 4.0 | dB |
| Amplitude Ripple | 898.92 to 917.92 MHz | | | | 0.5 | 2.0 | |
| VSWR | 898.92 to 917.92 MHz | | | | 1.8 | 2.5 | |
| Attenuation (Reference to 0 dB) | D.C. to 827.9 MHz | | | 35 | 62 | | dB |
| | 853.92 to 872.92 MHz | | | 20 | 50 | | |
| | 943.92 to 962.92 MHz | | | 20 | 27 | | |
| | 988.92 to 1200 MHz | | | 35 | 55 | | |
| | 1200 to 2000 MHz | | | 20 | 50 | | |
| Source impedance | | $Z_S$ | | | 50 | | Ω |
| Load impedance | | $Z_L$ | | | 50 | | |
| Temperature Coefficient of Frequency | | | | | -36 | | Ppm/°C |

| | |
|---|---|
| Single-ended Input / Output Impedance Match | No matching network required for operation at 50 ohms |
| Case Style | SM2016-4 |
| Lid Symbolization ( Y=year, W=week) | 8V, YW |

## Measurement Circuit

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



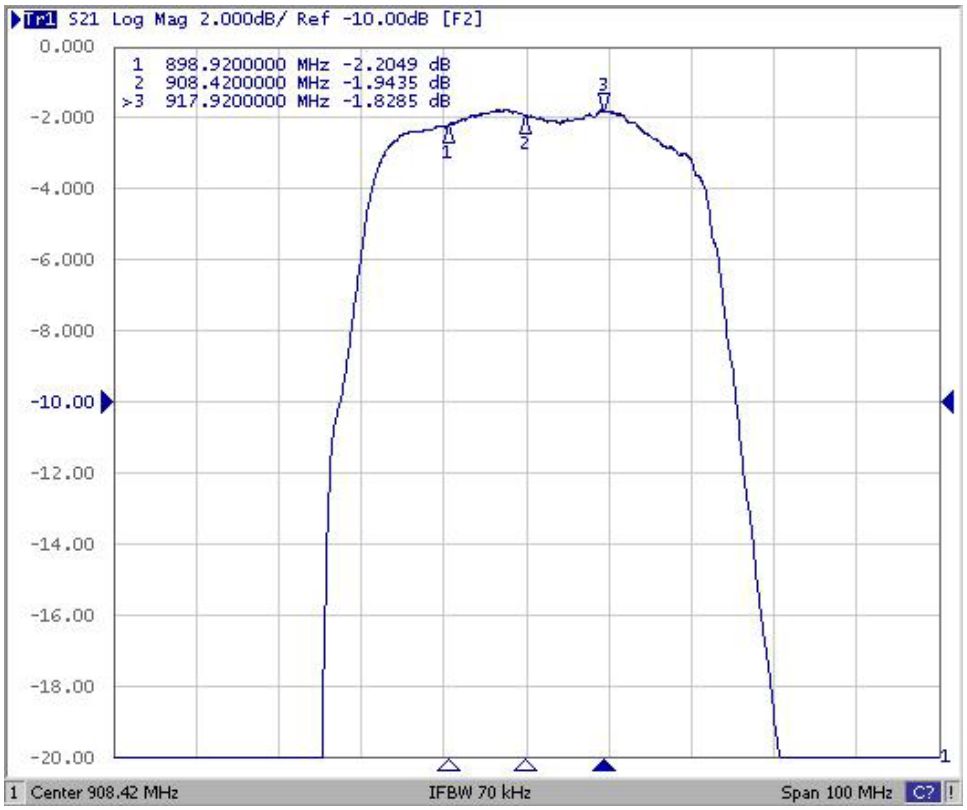

**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

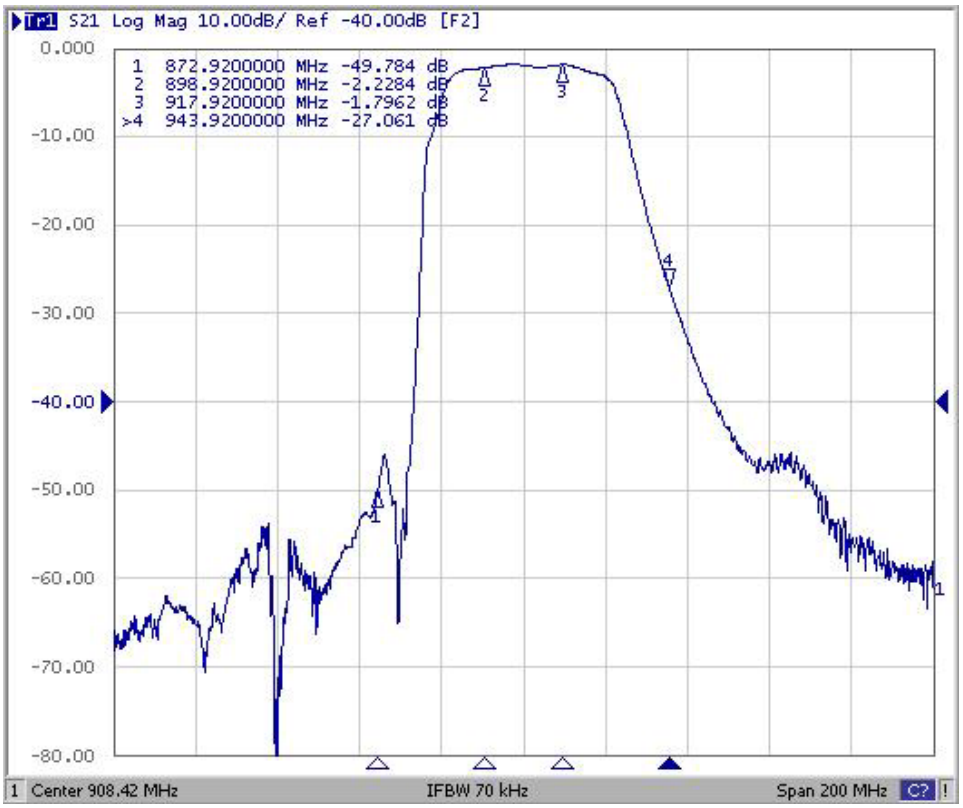
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# Frequency Characteristics

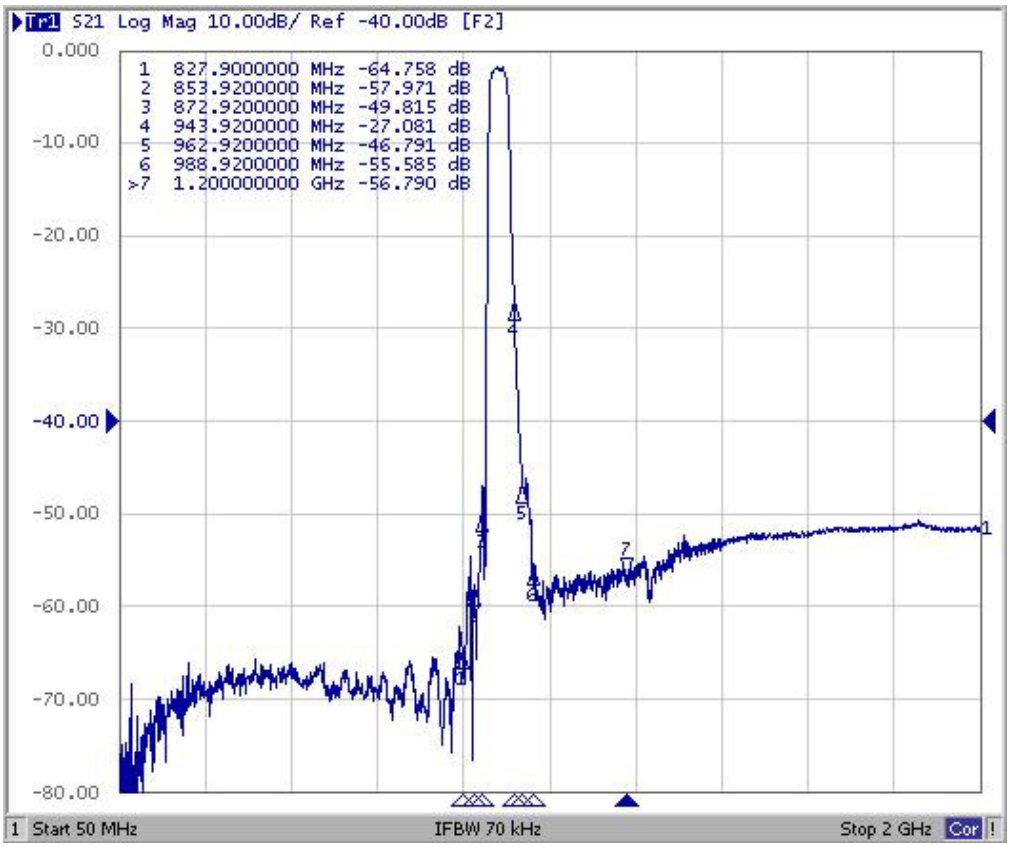
## Transfer Function



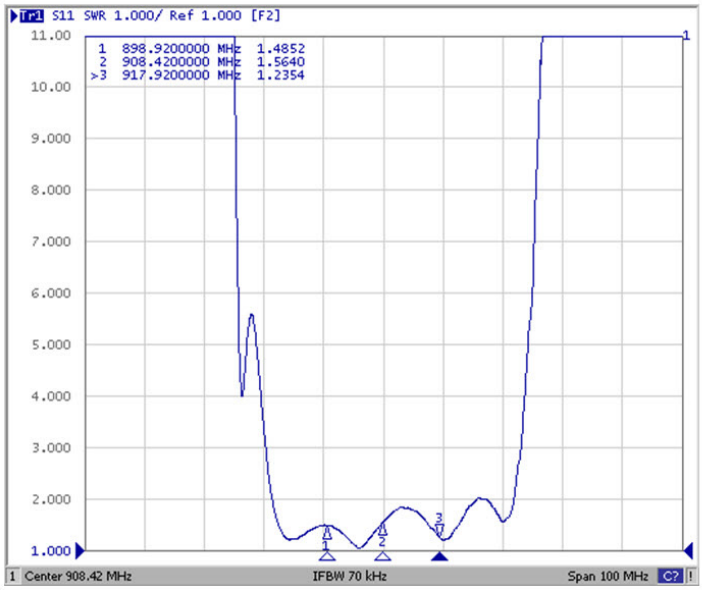
# Frequency Characteristics

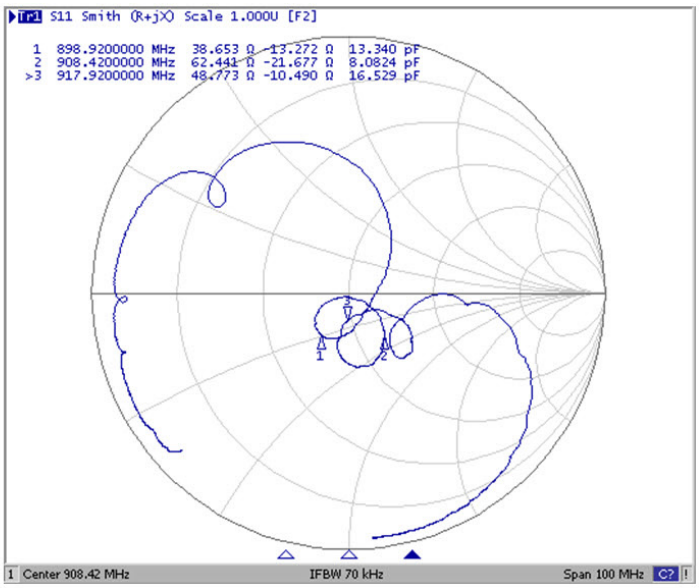
## Wideband



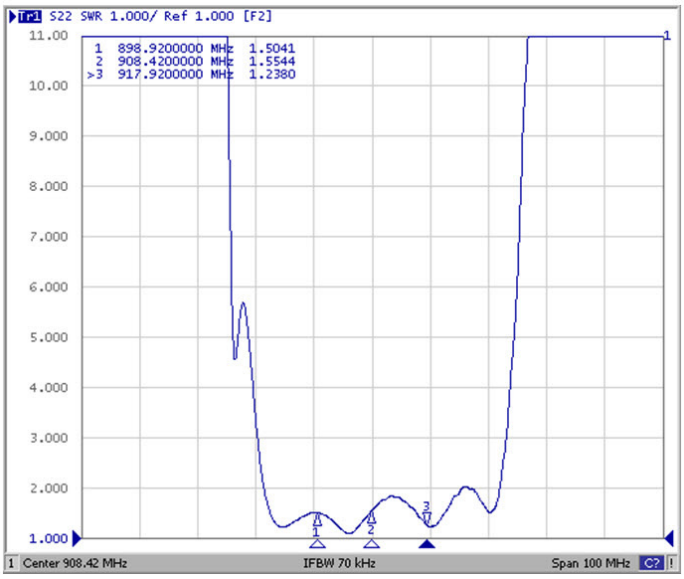
# Frequency Characteristics

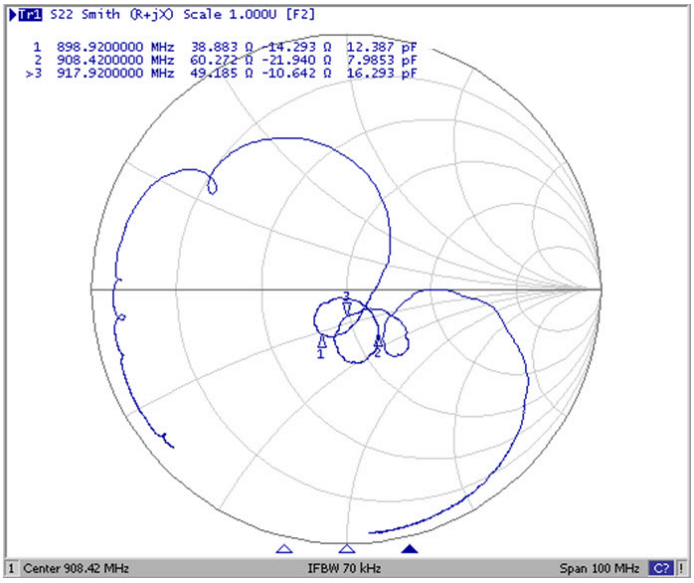
## S11 VSWR




## S22 VSWR



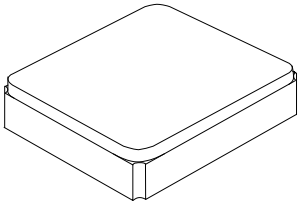
# SM2016-4 Case

## 4-Terminal Ceramic Surface-Mount Case

## 2.0 X 1.6 mm Nominal Footprint

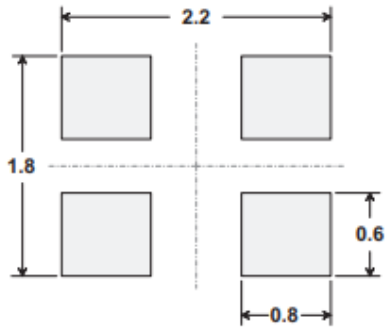
**Electrical Connections**

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

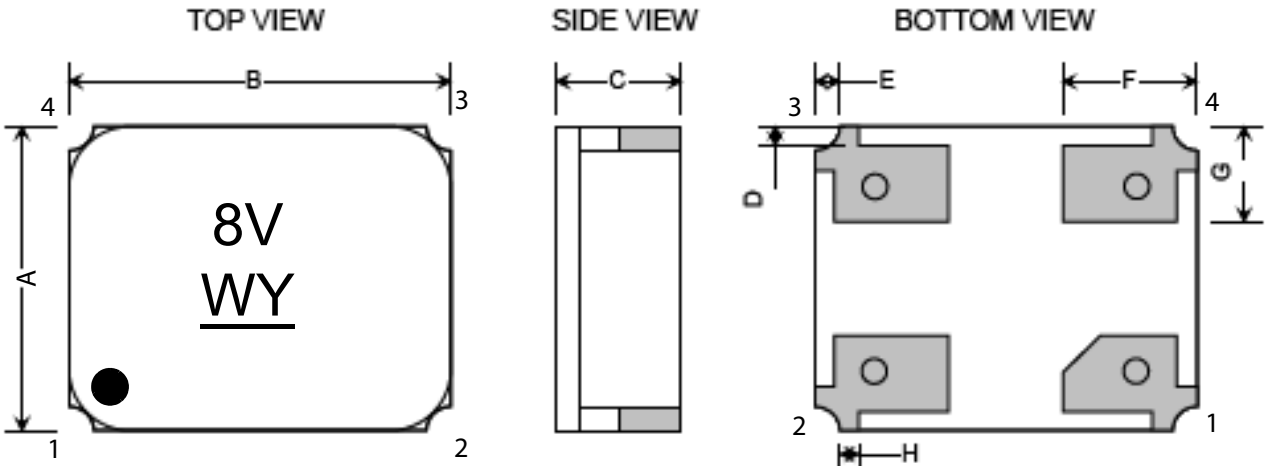


| Dimensions | Millimeters | | | Inches | | |
|---|---|---|---|---|---|---|
| | Min | Nom | Max | Min | Nom | Max |
| A | - | 1.60 | - | - | 0.062 | - |
| B | - | 2.0 | - | - | 0.078 | - |
| C | - | - | 0.90 | - | - | 0.035 |
| D | - | 0.10 | - | - | 0.003 | - |
| E | - | 0.10 | - | - | 0.003 | - |
| F | - | 0.70 | - | - | 0.027 | - |
| G | - | 0.50 | - | - | 0.019 | - |
| H | - | 0.10 | - | - | 0.003 | - |

PCB PAD LAYOUT




Dimensions in mm
All pads have the same dimensions

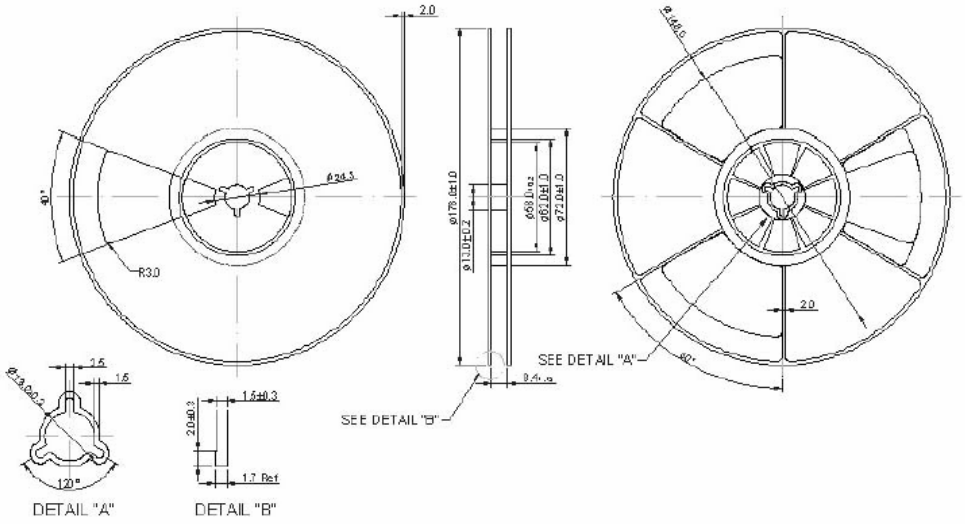


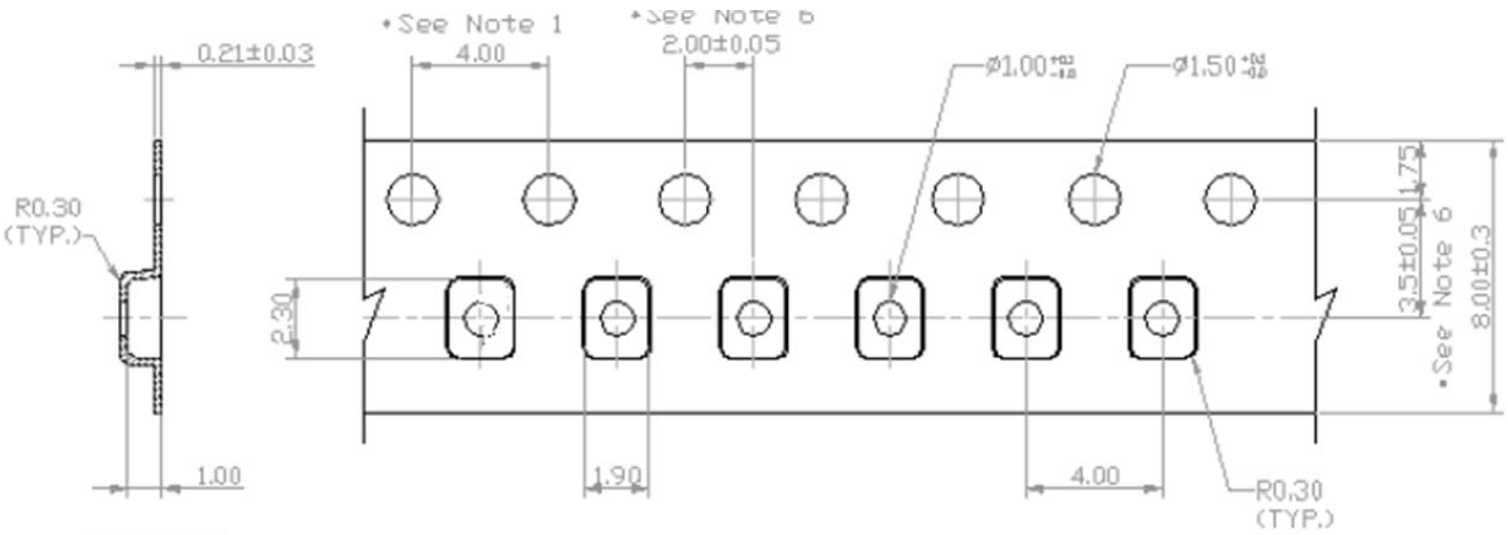
Tape and Reel Standard per ANSI/EIA-481

**F. PACKING:**

1. REEL DIMENSION

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




SECTION A-A

SECTION B-B

**Direction of Feed**

## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180ºC for 60~90 seconds.
2. Ascending time to preheating temperature 150ºC shall be 30 seconds min.
3. Heating shall be fixed at 220ºC for 50~80 seconds and at 260ºC +0/-5ºC peak (10 seconds).
4. Time: 5 times maximum.