

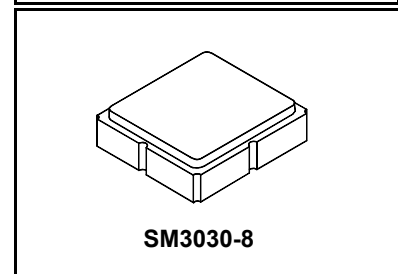


**THE DATASHEET OF
SF2249E**



SF2249E

**1602 MHz
SAW Filter**



- **Low-loss UHF SAW Filter**
- **3.0 x 3.0 Surface-mount Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

Maximum Rating

| Rating | Value | Units |
|--|------------|-------|
| Input Power Level | +10 | dBm |
| DC Voltage on any Non-ground Terminal | 3 | V |
| Operating Temperature Range | -40 to +85 | °C |
| Storage Temperature Range in Tape and Reel | -40 to +85 | °C |
| Solder Reflow Temperature, 10 seconds/5 cycles maximum | 260 | °C |

| Characteristic | Sym | Note | Min | Typ | Max | Units |
|--|--------|------|-----|-----------------------|-----|-------|
| Center Frequency | f_c | | | 1602 | | MHz |
| 3 dB Bandwidth | BW_3 | | | 61 | | |
| Insertion Loss, 1596 to 1607 MHz | IL | | | 3.0 | 4.0 | dB |
| Amplitude Ripple, 1596 to 1607 MHz | | | | 0.6 | 2.0 | |
| Group Delay Ripple, 1596 to 1607 MHz | | | | 6 | 15 | ns |
| Input/Output Return Loss, 1596 to 1607 MHz | | | 8 | 9 | | dB |
| Attenuation, 0 dB Reference: | | | | | | |
| 10 to 1500 MHz | | | 45 | 48 | | dB |
| 1700 to 2400 MHz | | | 43 | 50 | | |
| 200 ohm Balanced Source Impedance | | | | 200 Ω 18 nH | | |
| 200 ohm Balanced Load Impedance | | | | 200 Ω 18 nH | | |

| | | | | | | |
|--|---|--|--|--|--|------------------|
| Case Style | SM3030-8 3.0 x 3.0 mm Nominal Footprint | | | | | |
| Lid Symbolization, Y=year, WW=week, S=shift, dot=pin 1 indicator | 990, <u>YWWS</u> | | | | | |
| Standard Reel Quantity | Reel Size 7 inch | | | | | 500 Pieces/Reel |
| | Reel Size 13 inch | | | | | 3000 Pieces/Reel |

Electrical Connections

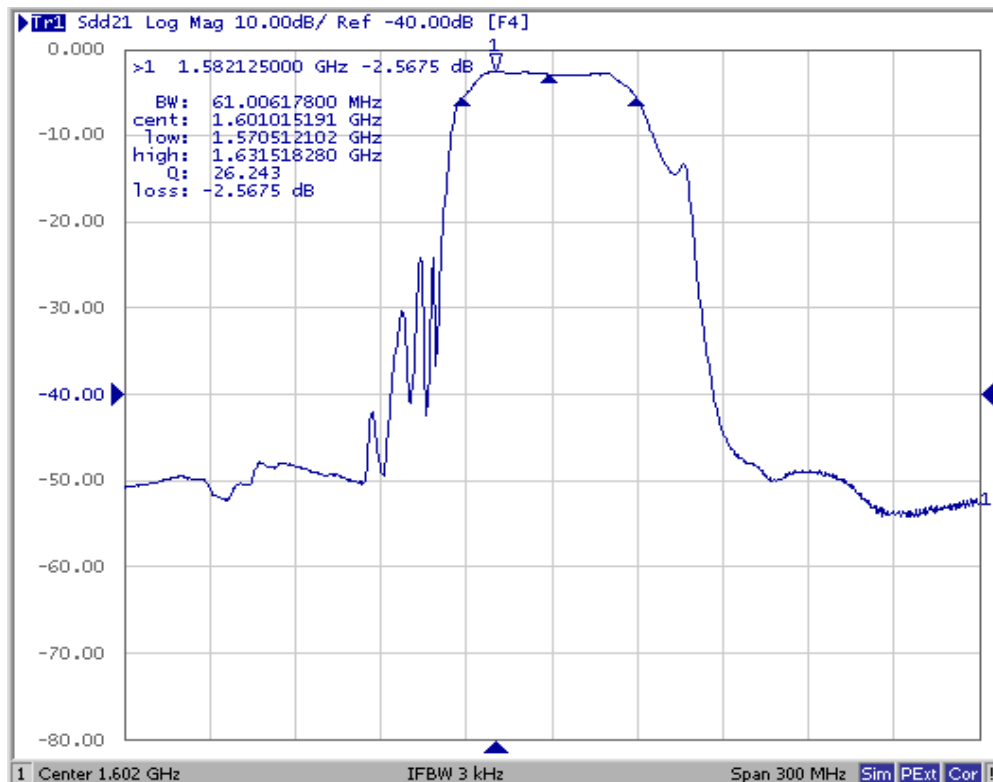
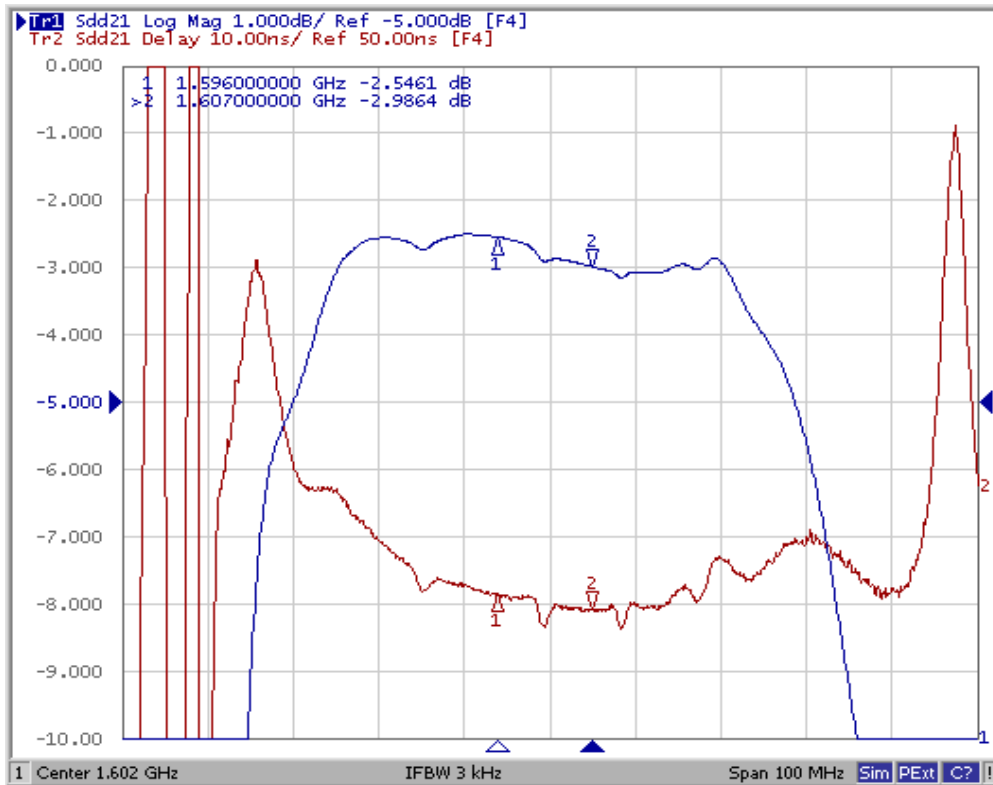
| Connection | Terminals |
|-----------------|------------|
| Input | 1, 2 |
| Balanced Output | 5, 6 |
| Case Ground | All others |

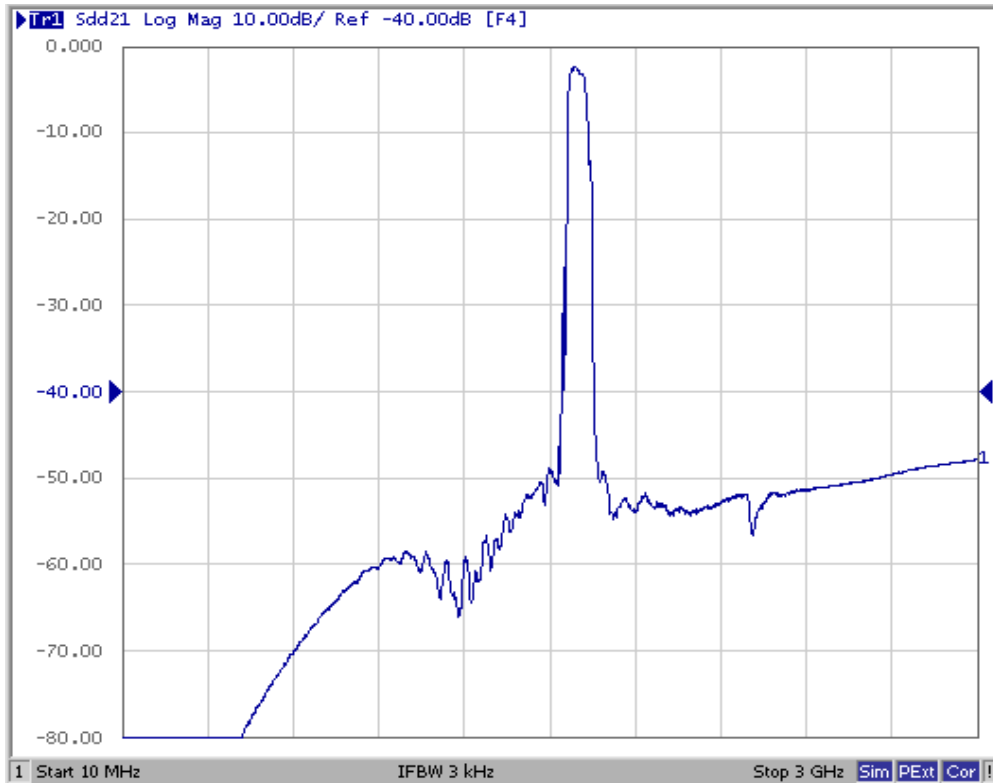
 **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

NOTES:

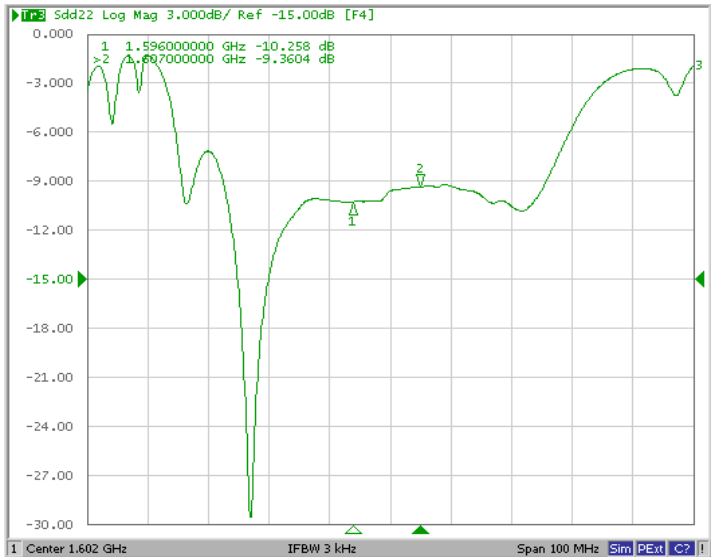
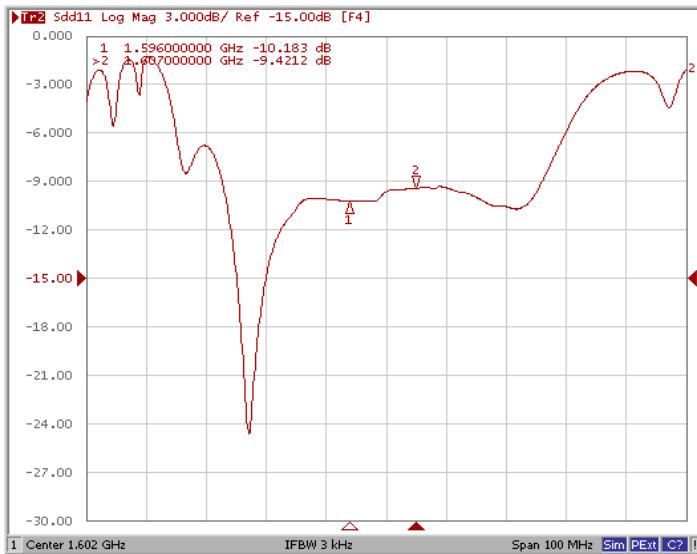
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Filter Response Plots

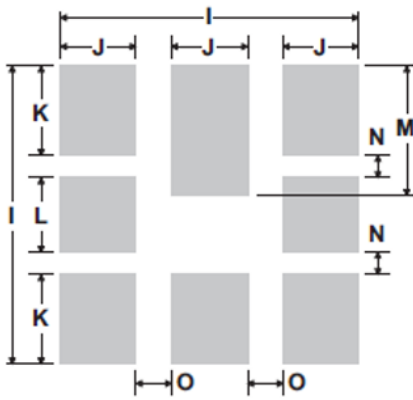
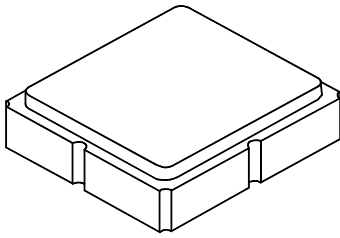




Input/Output Return Loss Plots



8-Terminal Ceramic Surface-Mount Case 3.0 X 3.0 mm Nominal Footprint



PCB Footprint Top View

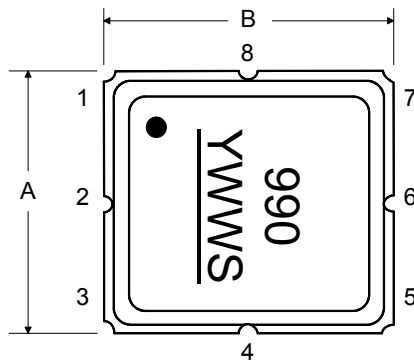
Case and PCB Footprint Dimensions

| Dimension | mm | | | Inches | | |
|-----------|------|------|------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| B | 2.87 | 3.00 | 3.13 | 0.113 | 0.118 | 0.123 |
| C | - | - | 1.10 | - | - | 0.043 |
| 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 | |

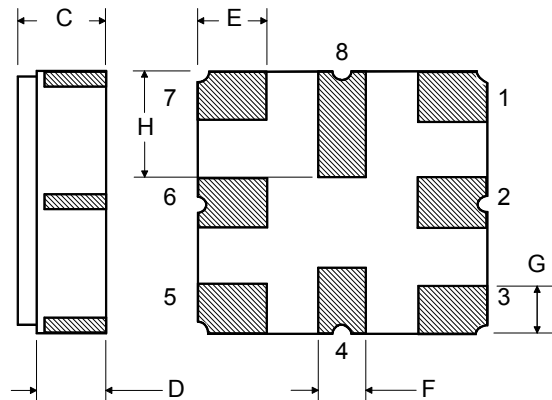
Case Materials

| Materials | |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel |
| Lid Plating | 2.0 to 3.0 μm Nickel |
| Body | Al_2O_3 Ceramic |

TOP VIEW

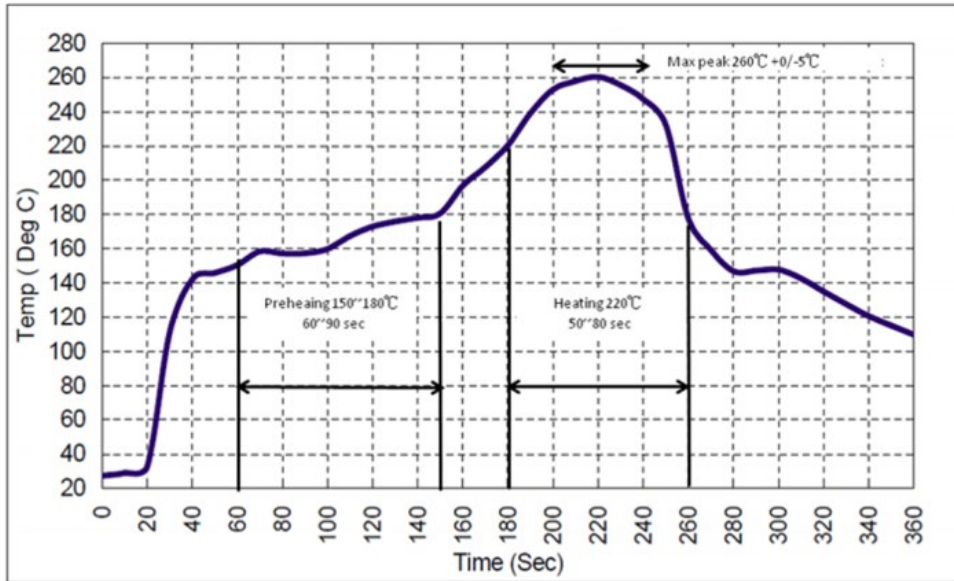


BOTTOM VIEW





Recommended Reflow Profile

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



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