

- **Excellent Size-to-Performance Ratio**
- **Hermetic 13.3 x 6.5 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**

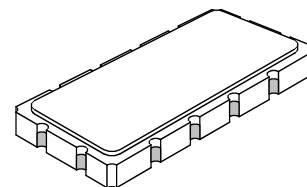


Absolute Maximum Ratings

| Rating | Value | Units |
|---|----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Max. DC voltage between any 2 terminals | 30 | VDC |
| Storage Temperature Range | -40 to +85 | °C |
| Suitable for lead-free soldering - Max. Soldering Profile | 260°C for 30 s | |

SF2064A

156 MHz SAW Filter



SMP-53

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|---|-----------|-------|------|---------|-----|--------|
| Nominal Center Frequency | f_c | 1 | | 156.000 | | MHz |
| Insertion Loss CPK>1.33 | | | | 15 | 18 | dB |
| Passband -1dB Pass Bandwidth Definition -3dB Pass Bandwidth Definition -40dB Pass Bandwidth Definition Amplitude Ripple | BW_1 | | 10 | 10.8 | | MHz |
| | BW_3 | | 10.6 | 11 | | |
| | BW_{40} | | | 13.15 | 15 | |
| | | | | 1 | 2 | dBp-p |
| Stopband Rejection 0~110MHz 250MHz~1GHz | | | 45 | 55 | | dB |
| Group Delay Variation (Pass Bandwidth) | | | | 30 | 100 | Nsp-p |
| Absolute Delay at f_0 | | | | 1.13 | 1.5 | usec |
| Temperature Coefficient of Frequency | | | | -35 | -40 | ppm/°C |
| Source Impedance | | | | 50 | | ohm |
| Input VSWR | | | | 1.1 | | |
| Output VSWR | | | | 1.7 | | |
| Operating Temperature Range | T_A | | -40 | | +85 | °C |

| | |
|--|--|
| Impedance Matching to 50Ω Unbalanced | External L-C |
| Case Style | SMP-53 13.3 x 6.5 mm Nominal Footprint |
| Lid Symbolization (YY = year, WW = week) | RFM SF2064A YYWW |

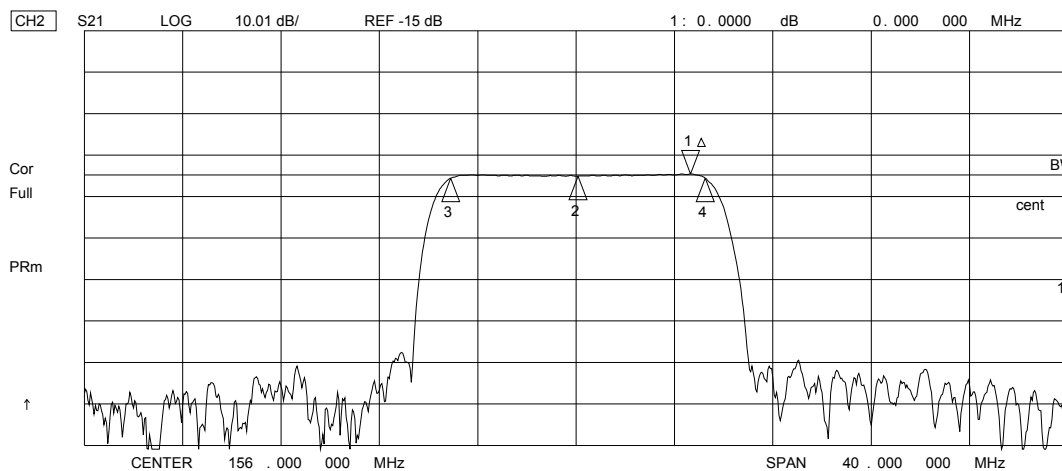
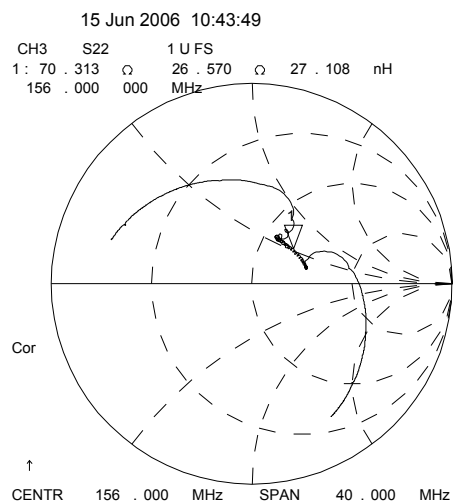
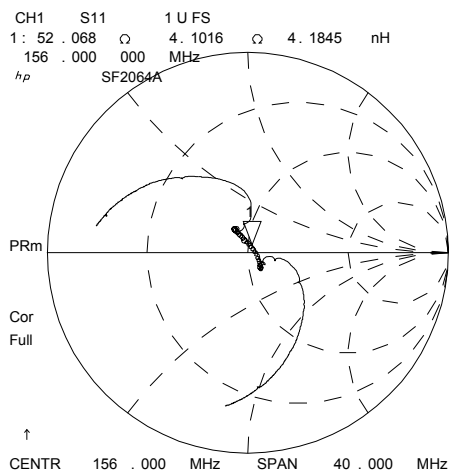
NOTES:

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 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_c .
3. The design, manufacturing process, and specifications of this filter are subject to change.
4. US and international patents may apply.
5. Electrostatic Sensitive Device. Observe precautions for handling.



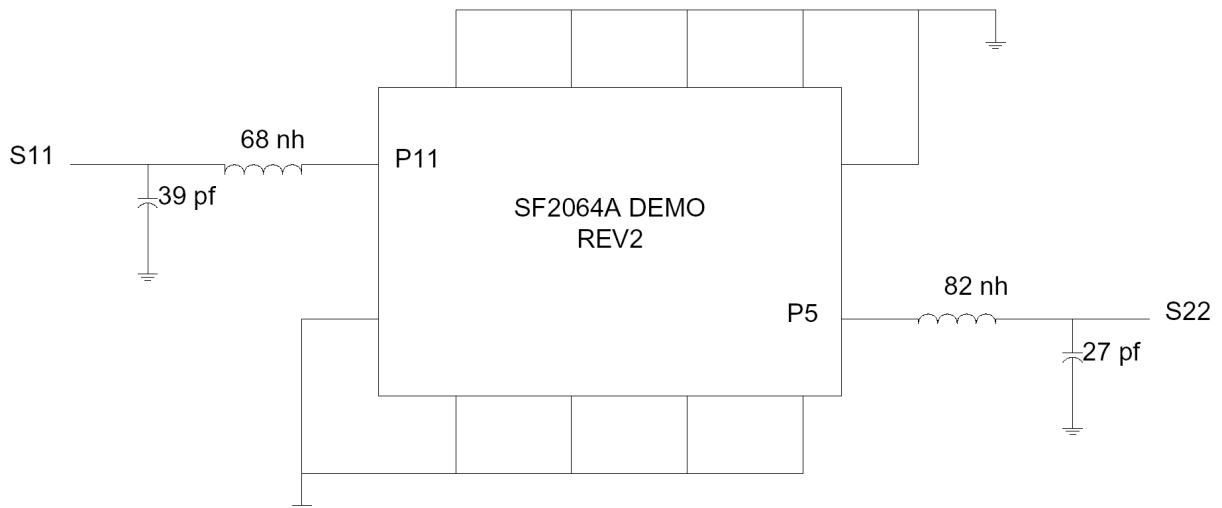
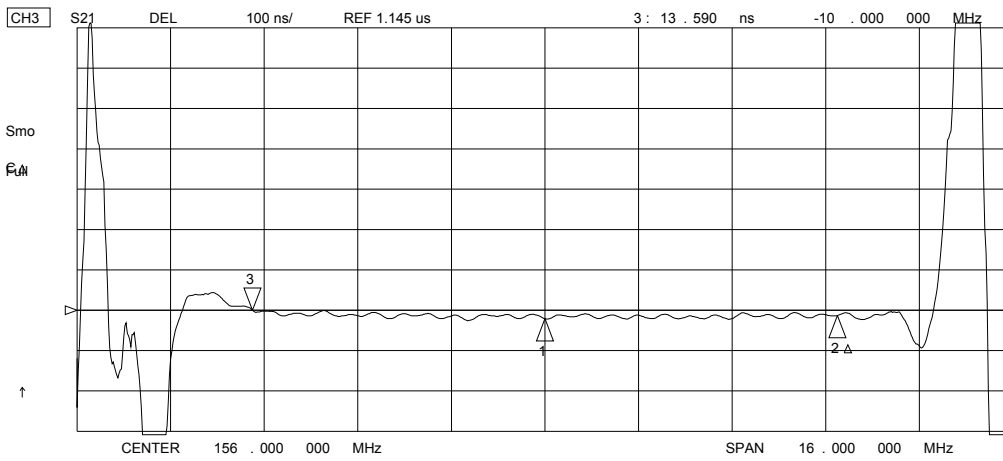
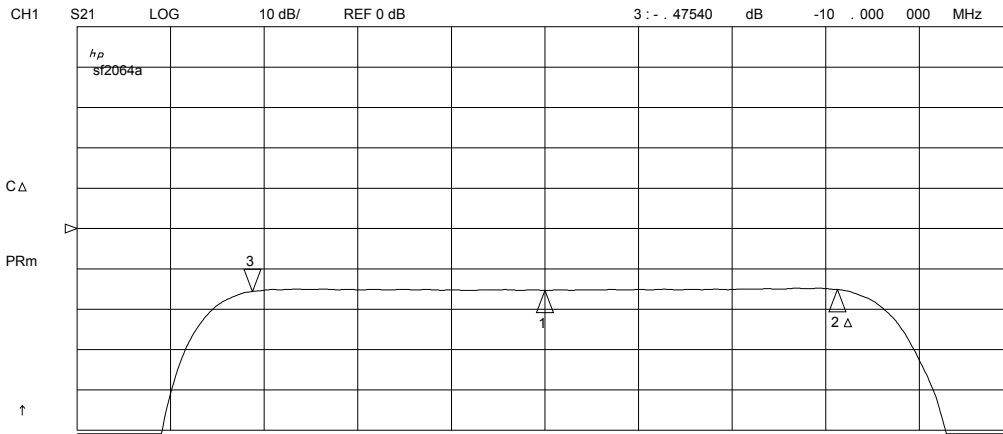
Electrical Connections

| Connection | Terminals |
|-------------------|------------|
| Port 1 Hot | 11 |
| Port 1 Gnd Return | 12 |
| Port 2 Hot | 5 |
| Port 2 Gnd Return | 6 |
| Case Ground | All others |



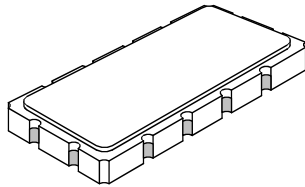
CH2 Markers
Max Δ REF=1
BW: 10.343005 MHz
cent: 156.073837 MHz
Q: 15.090
1_loss: -14.778 dB

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SMP-53 Case

12-Terminal Ceramic Surface-Mount Case 13.3 x 6.5 mm Nominal Footprint

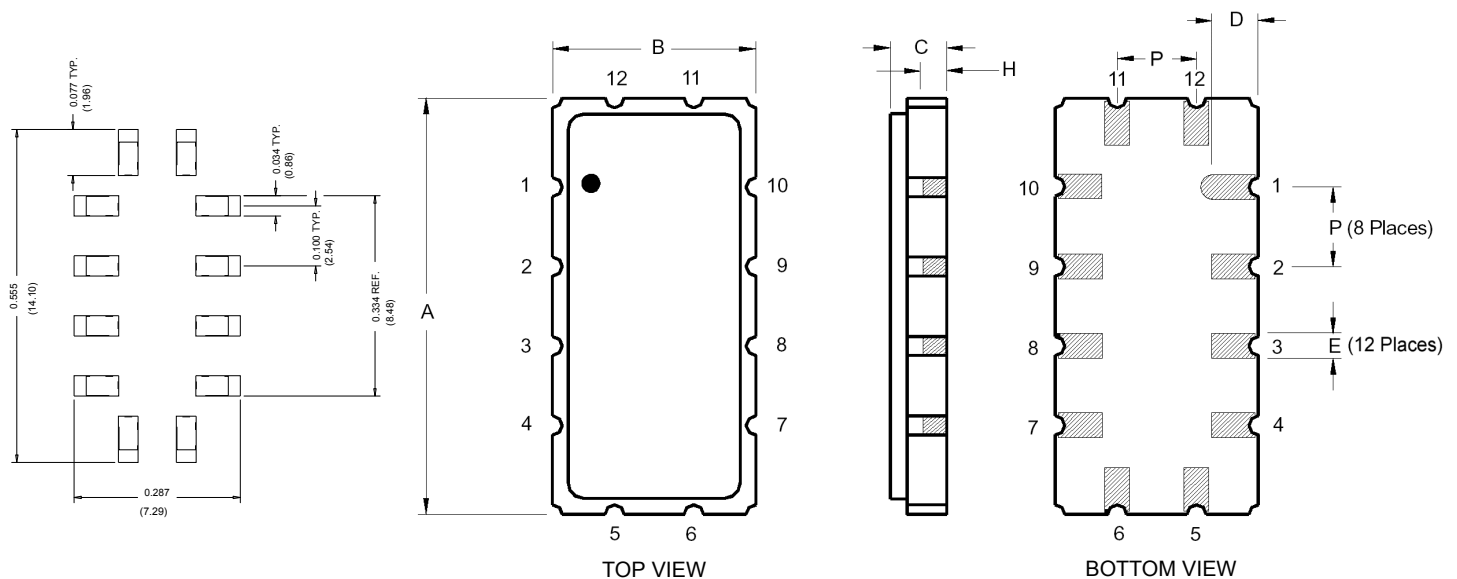


Case Dimensions

| Dimension | mm | | | Inches | | |
|-----------|-------|-------|-------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 13.08 | 13.31 | 13.60 | 0.515 | 0.524 | 0.535 |
| B | 6.27 | 6.50 | 6.80 | 0.247 | 0.256 | 0.268 |
| C | | 1.91 | 2.00 | | 0.075 | 0.079 |
| D | | 1.50 | | | 0.059 | |
| E | | 0.79 | | | 0.031 | |
| H | | 1.0 | | | 0.039 | |
| P | | 2.54 | | | 0.100 | |

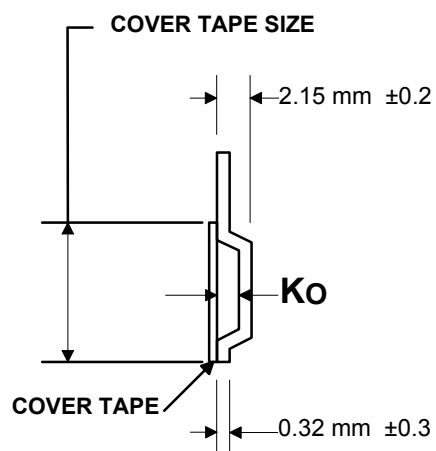
| Materials | |
|------------------------|--|
| Solder Pad Termination | Au plating 30 - 60 ulnches (76.2-152 uM) over 80-200 ulnches (203-508 uM) Ni. |
| Lid | Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 ulnches Thick |
| Body | Al ₂ O ₃ Ceramic |
| Pb Free | |

| Electrical Connections | | Terminals |
|------------------------|------------------|------------------|
| Port 1 | Input or Return | 11 |
| | Return or Input | 12 |
| Port 2 | Output or Return | 5 |
| | Return or Output | 6 |
| Ground | | All others |
| Single Ended Operation | | Return is ground |
| Differential Operation | | Return is hot |



Technical drawing of a carrier tape showing dimensions and labels. The drawing includes the following specifications:

- Carrier Tape Size:** Indicated by the label **W** and the text **(CARRIER TAPE SIZE)**.
- Pin 1:** Labeled **PIN #1** at the top left corner.
- Dimensions:**
 - Top edge: $1.5\text{ mm } +0.1 / -0.0$ (left), $4.0\text{ mm } \pm 0.1$ (middle), $2.0\text{ mm } \pm 0.1$ (right).
 - Right edge: $1.75\text{ mm } \pm 0.1$ (top), $7.5\text{ mm } \pm 0.1$ (bottom).
 - Bottom edge: $1.5\text{ mm } +0.3 / -0.0$ (left), **P** (PITCH) (middle), **Bo** (bottom right).
- Internal Features:** Four rectangular components are shown, each with a central circular feature. The distance between the centers of the first and second components is labeled **Ao**.
- User Direction of Feed:** Indicated by an arrow pointing right at the bottom, labeled **USER DIRECTION OF FEED**.



| Carrier Tape Dimensions | | |
|-------------------------|---------|------|
| Ao | 7.55 mm | ±0.1 |
| Bo | 9.59 mm | ±0.1 |
| Ko | 2.30 mm | ±0.1 |
| Pitch | 12.0 mm | ±0.1 |
| W | 16.0 mm | ±0.3 |