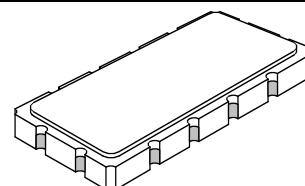


- Precision IF SAW Filter
- Hermetic 13.3 x 6.5 mm Surface-mount Case
- Complies with Directive 2002/95/EC (RoHS)



SF2185A

**70.00 MHz
SAW Filter**



SM13365-12

Absolute Maximum Ratings

| Rating | Value | Units |
|--|-----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Maximum DC Voltage between any Two Terminals | 30 | VDC |
| Storage Temperature Range in Tape and Reel | -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 |
|---------------------------------------|------------|---------|------|------|------|-------------------|
| Center Frequency | F_C | 1 | 69.8 | 70.0 | 70.2 | MHz |
| Minimum Insertion Loss | IL_{MIN} | 1 | | 10.6 | 12.0 | dB |
| 1 dB Bandwidth | BW_1 | 1 | 9.0 | 9.7 | | MHz |
| 3 dB Bandwidth | BW_3 | 1 | 9.5 | 10.0 | | MHz |
| 35 dB Bandwidth | BW_{35} | 1 | | 11.7 | 13.0 | MHz |
| Attenuation Referenced to IL_{MIN} | | | | | | |
| 10 to 63 MHz | | 3 | 40 | 45 | | dB |
| 78 to 140 MHz | | 3 | 40 | 45 | | dB |
| Passband Ripple, $F_C \pm 4.0$ MHz | | 1, 2, 3 | | 0.6 | 1.0 | dB _{p-p} |
| Group Delay Ripple, $F_C \pm 4.0$ MHz | | | | 80 | 160 | ns _{p-p} |
| Operating Temperature | | 1 | -20 | | +80 | °C |
| Source Impedance | | | | 50 | | ohm |
| Load Impedance | | | | 50 | | ohm |
| Frequency Temperature Coefficient | | | | -94 | | ppm/°C |

| | |
|--|--|
| Impedance Matching to 50 Ω | External Source/Load L |
| Case Style | SM13365-12 13.3 x 6.5 mm Nominal Footprint |
| Lid Symbolization (YY = year, WW = week) | RFM SF2185A YYWW |

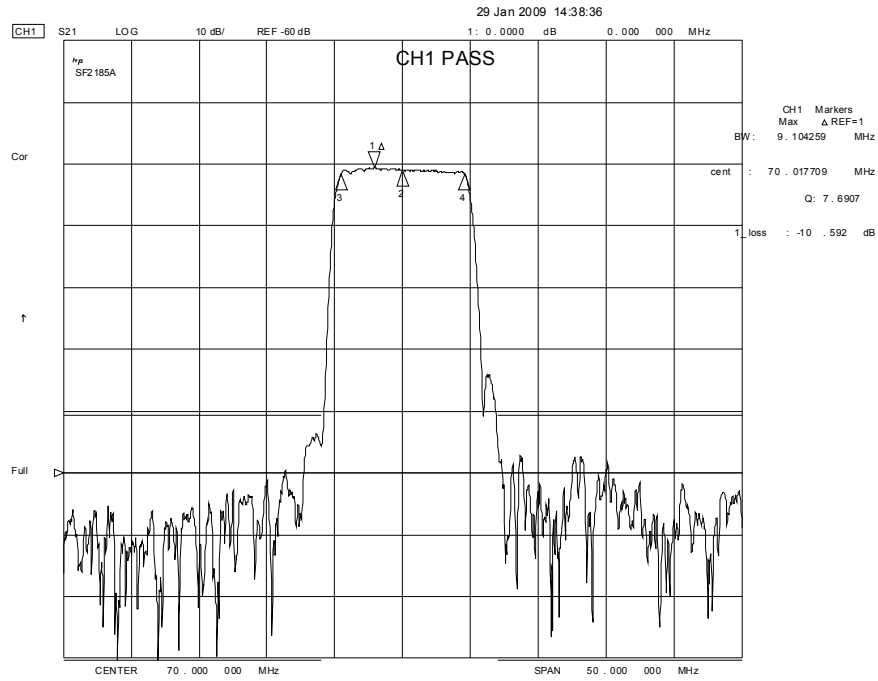


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

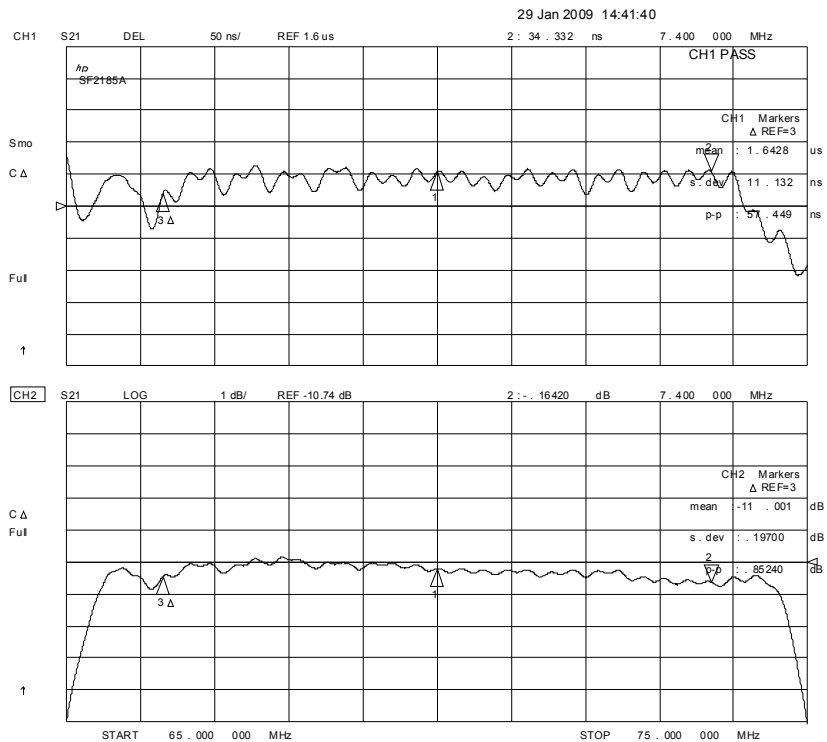
NOTES:

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 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. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. Part to part absolute delay measurement records the absolute delay mean across 1 dB passband.
5. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
6. The design, manufacturing process, and specifications of this filter are subject to change.
7. 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.
8. US and international patents may apply.

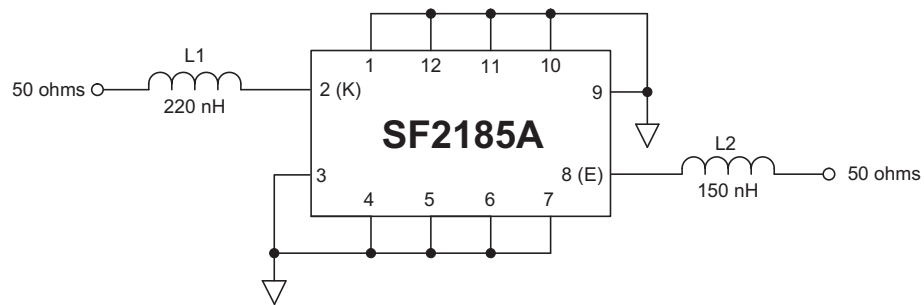
SF2185A Filter Response



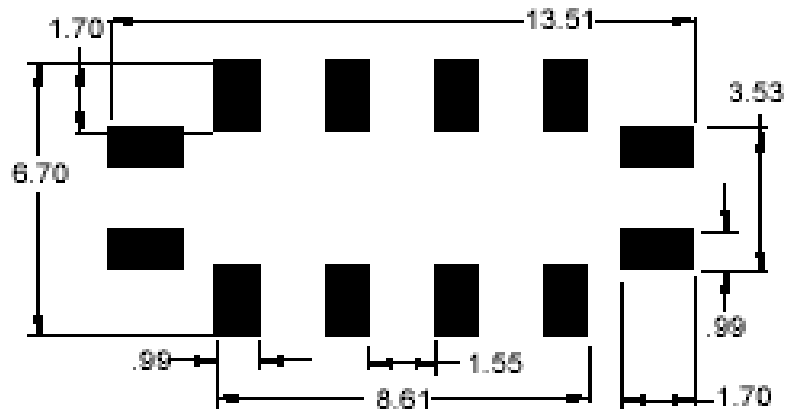
SF2185A Passband Amplitude and Group Delay Ripple



Tuning Component Values



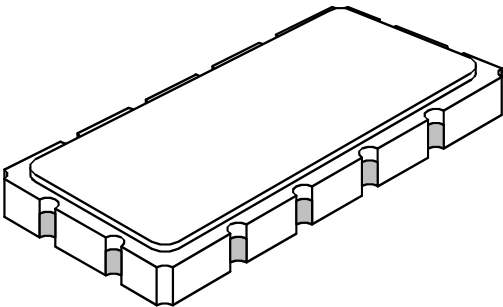
PCB Pad Layout



SM13365-12 Case

12-Terminal Ceramic Surface-Mount Case

13.3 x 6.5 mm Nominal Footprint



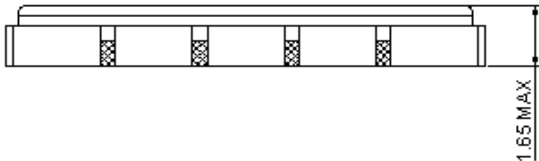
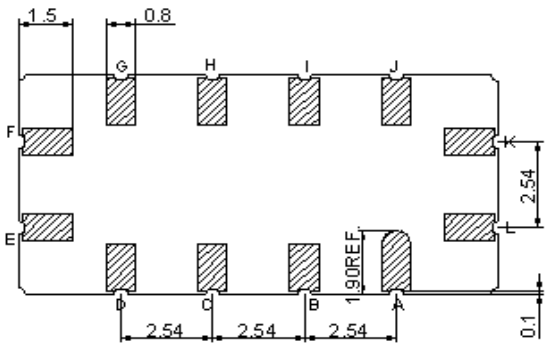
Case Dimensions

| 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 | |

Electrical Connections

| Connection | Terminals |
|-------------|------------|
| Input | K |
| Output | E |
| Case Ground | All others |

| 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 ₂ O ₃ Ceramic |
| Pb Free | |



Tape and Reel Details

