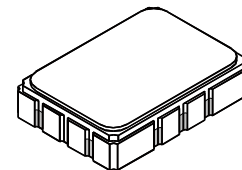


SF2190B

138 MHz
SAW Filter



SMP-03

- *Small Size*
- *Hermetic 5 X 7 mm Surface-mount Case*
- *Differential Input/Output*
- *Complies with Directive 2002/95/EC (RoHS)*
- *Moisture Sensitivity Level: 1*
- *AEC-Q200 Qualified*

Absolute Maximum Ratings

| Rating | Value | Units |
|--|----------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Maximum DC Voltage Between any Two Terminals | 3 | VDC |
| Operating Temperature Range | -40 to +85 | °C |
| Storage Temperature Range in Tape and 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 | | | 138 | | MHz |
| Insertion Loss | IL | | | 18.8 | 21.0 | dB |
| 1 dB Bandwidth | | | 60 | 63 | | MHz |
| 3 dB Bandwidth | | | | 65.4 | | MHz |
| Amplitude Ripple Across 1 dB Bandwidth | | | | 0.6 | 1.2 | dB _{p-p} |
| Upper -35 dB Band Edge | | | | 176 | 179 | MHz |
| Lower -35 dB Band Edge | | | 97 | 101 | | MHz |
| Ultimate Rejection | | | 35 | 40 | | dB |
| Temperature Coefficient | | | | -72 | | ppm/°C |
| Source Impedance, Balanced | | | | 50 | | ohm |
| Load Impedance, Balanced | | | | 50 | | ohm |

| | |
|---|-----------------------------------|
| Case Style | SMP-03 5 X 7 mm Nominal Footprint |
| Lid Symbolization (YY=year, WW=week, S=shift, ## = Sequence Code) | RFM, SF2190B, <u>YYWWS##</u> |

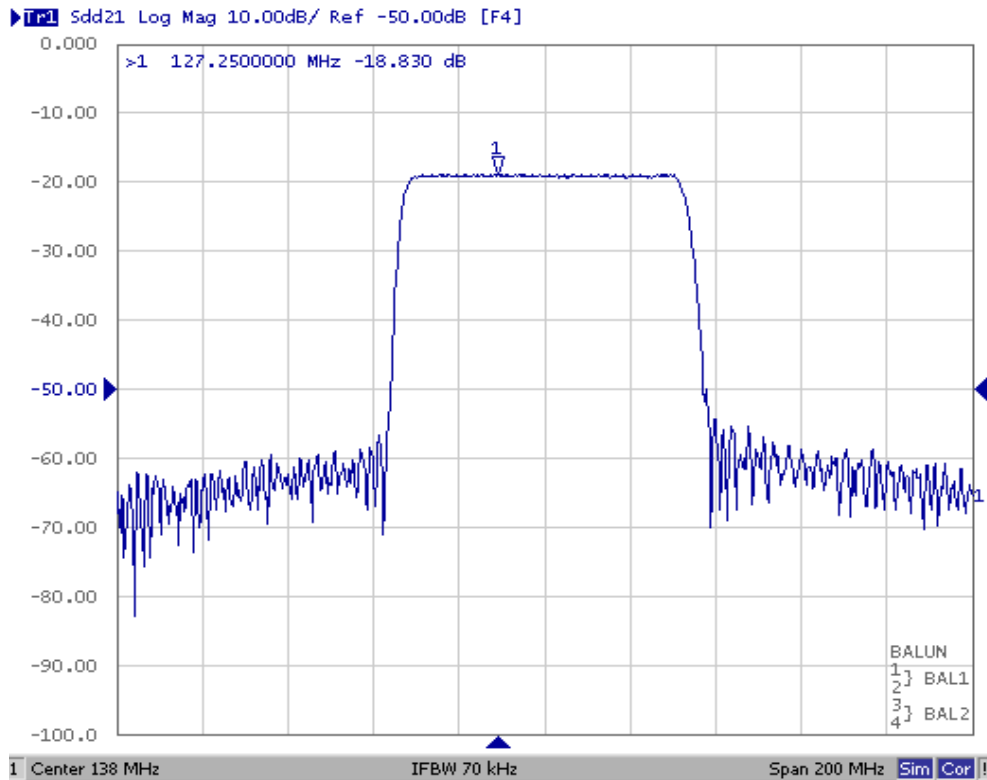


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

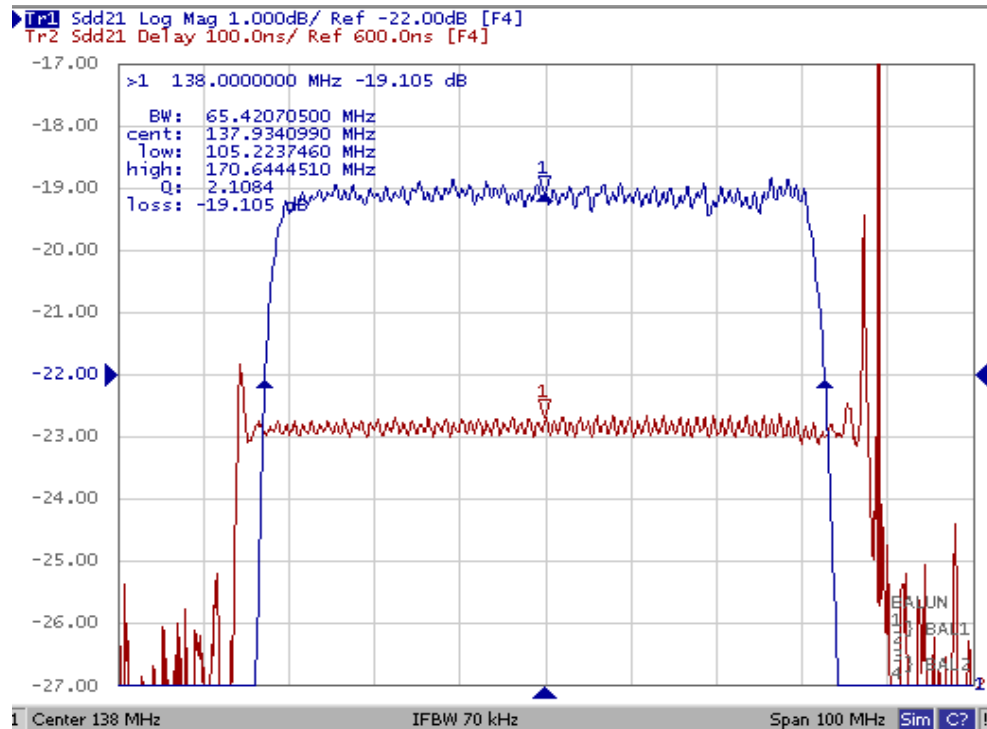
NOTES:

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.

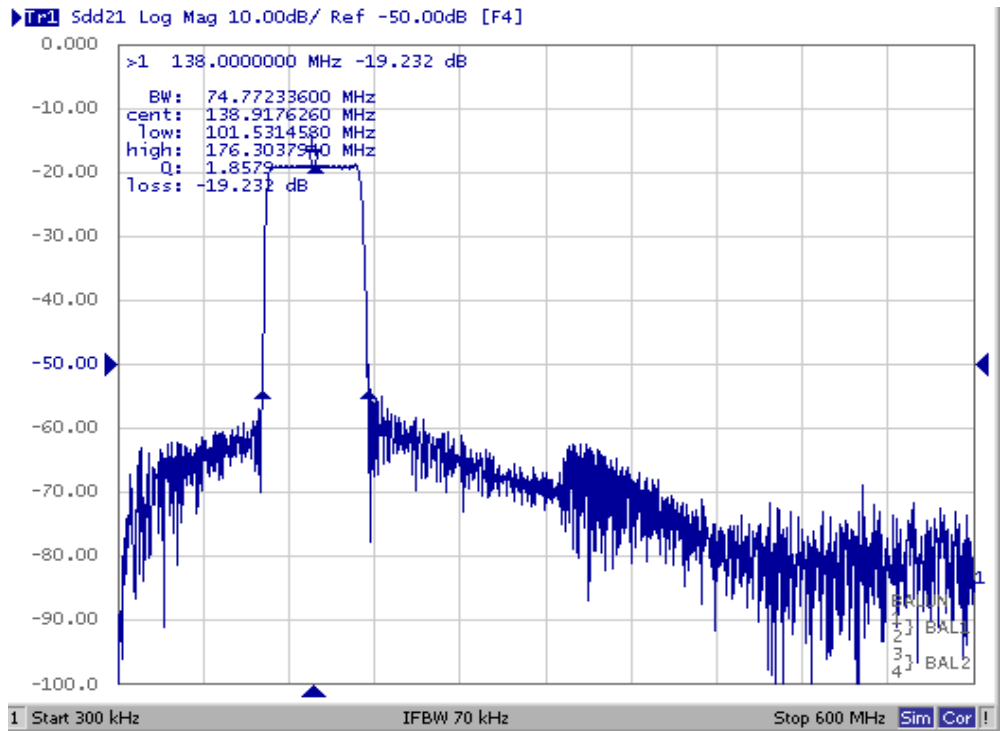
SF2190B Response, 38 to 238 MHz



SF2190B Passband Response

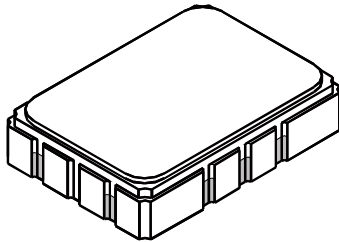


SF2190B Response, 300 kHz to 600 MHz



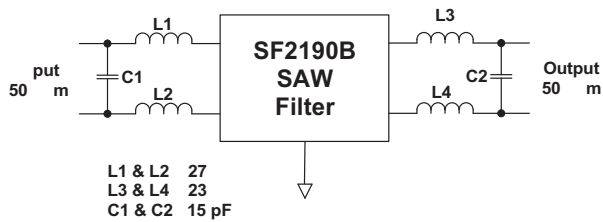
10-Terminal Ceramic Surface-Mount Case

5 x 7 mm Nominal Footprint



SMP-03 Package

Matching Network



Case Dimensions

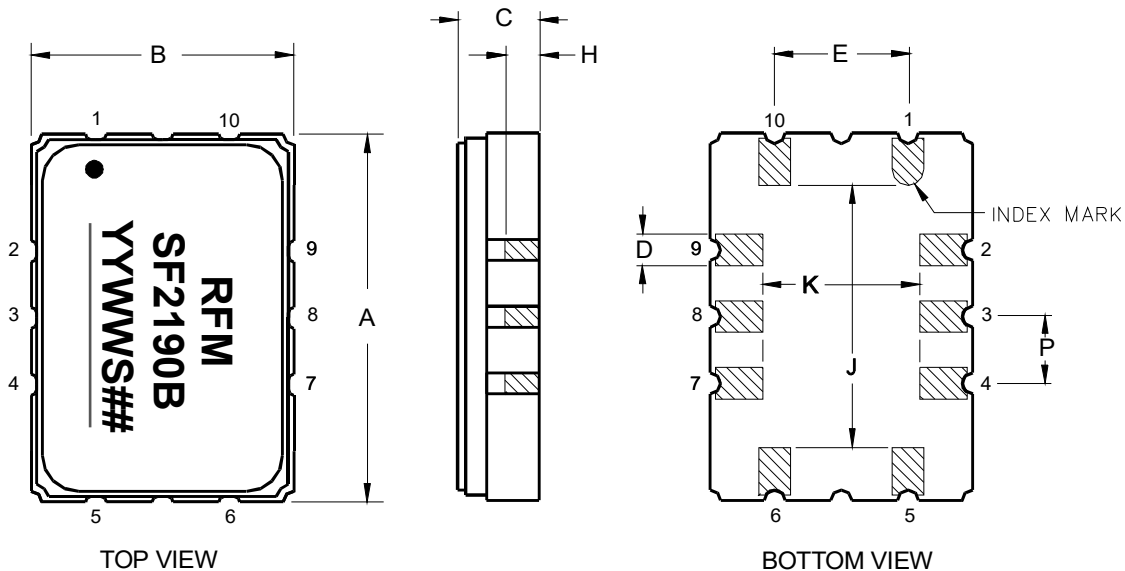
| Dimension | mm | | | Inches | | |
|-----------|------|------|------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 6.80 | 7.00 | 7.20 | 0.268 | 0.276 | 0.283 |
| B | 4.80 | 5.00 | 5.20 | 0.189 | 0.197 | 0.205 |
| C | | 1.65 | 2.00 | | 0.065 | 0.079 |
| D | | 0.60 | | | 0.024 | |
| E | | 2.54 | | | 0.100 | |
| H | | 1.0 | | | 0.039 | |
| J | | 5.00 | | | 0.197 | |
| K | | 3.00 | | | 0.118 | |
| P | | 1.27 | | | 0.050 | |

Electrical Connections

| Connection | | Terminals |
|------------|-----------------|------------|
| Port 1 | Balanced Input | 10 |
| | Balanced Input | 1 |
| Port 2 | Balanced Output | 5 |
| | Balanced Output | 6 |
| Ground | | All others |

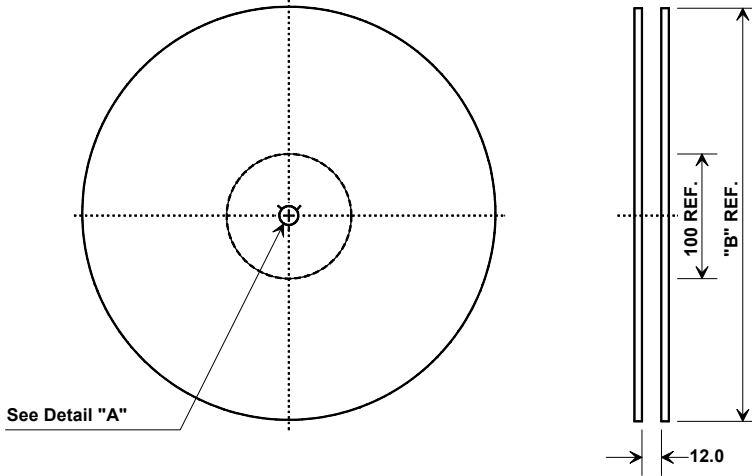
Case Materials

| 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 |

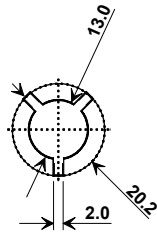


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

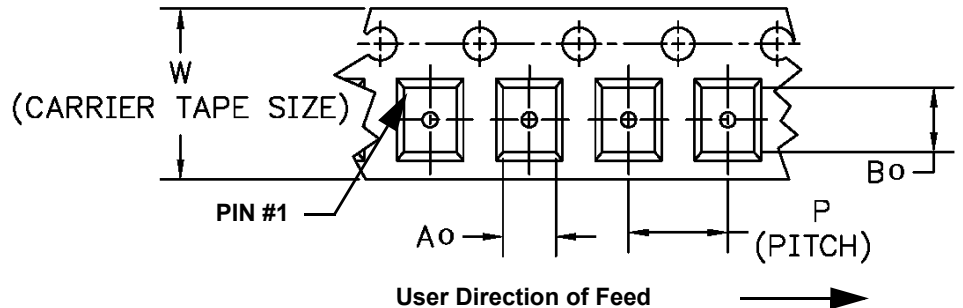
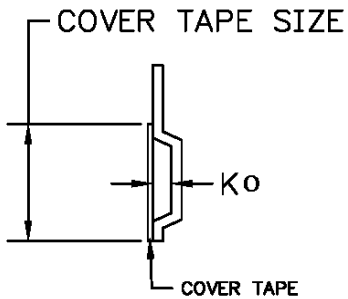


| "B" Nominal Size | | Quantity Per Reel |
|------------------|-------------|-------------------|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 2000 |



Component Orientation and Dimensions

| Carrier Tape Dimensions | |
|-------------------------|---------|
| Ao | 9.4 mm |
| Bo | 7.4 mm |
| Ko | 2.0 mm |
| Pitch | 8.0 mm |
| W | 16.0 mm |



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.

