



SF1143B-2

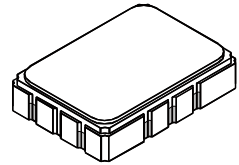
**315.00 MHz
SAW Filter**

- **Designed for SDARS IF Receiver**
- **Low Insertion Loss**
- **5.0 X 7.0 mm Surface-Mount Case**
- **Differential Input and Output**
- **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 +105 | °C |
| Max Soldering Profile | 265°C for 10 s | |



SMP-03


Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|---|--------|---------|-----------------------------------|------------|-------------------|-------|
| Nominal Center Frequency | f_C | 1 | 315.000 | | | MHz |
| Passband Insertion Loss at f_C | IL | | 15.1 | 17.0 | dB | |
| 1dB Passband | BW_1 | 1, 2 | ± 6.35 | ± 7.05 | | MHz |
| Fast Amplitude Ripple over $f_C \pm 6.35$ MHz | | | | 1.0 | dB _{P-P} | |
| Group Delay Variation over $f_C \pm 6.35$ MHz | GDV | | 23 | 200 | ns _{P-P} | |
| Rejection 100 to $f_C - 10.3$ and $f_C + 10.3$ to $f_C + 100$ MHz | | 1, 2, 3 | 40 | TBD | | dB |
| Operating Temperature Range | T_A | 1 | -40 | | +105 | °C |
| Differential Input and Output Impedance | | | 250 ohms | | | |
| Case Style | | 6 | SMP-03 7 x 5 mm Nominal Footprint | | | |
| Lid Symbolization (YY=year, WW=week, S=shift) See note 4 | | | RFM SF1143B-2 YYWWS | | | |

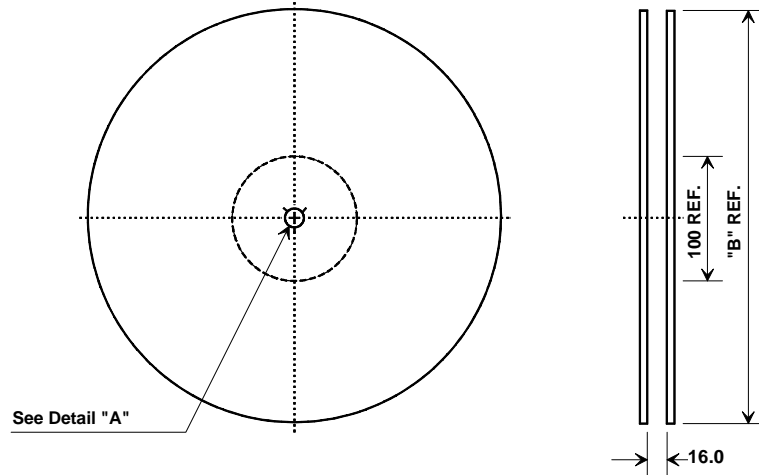
Electrical Connections

| Connection | Terminals |
|----------------------|------------|
| Port 1 Hot | 10 |
| Port 1 Ground Return | 1 |
| Port 2 Hot | 5 |
| Port 2 Ground Return | 6 |
| Case Ground | All Others |

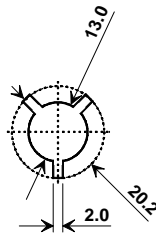
Notes:

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. "LRIP" or "L" after the part number indicates "low rate initial production" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. Tape and Reel Standard ANSI / EIA 481.
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.
9. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.
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11. Electrostatic Sensitive Device. Observe precautions for handling. 

Tape and Reel Specifications

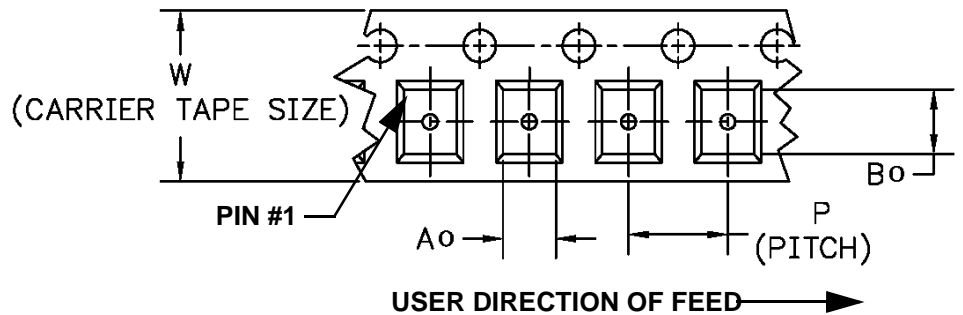
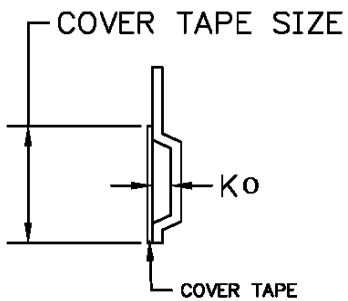


| "B " | | Quantity Per Reel |
|--------|-------------|-------------------|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 2000 |

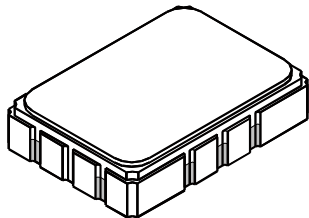


COMPONENT ORIENTATION and DIMENSIONS

| Carrier Tape Dimensions | |
|-------------------------|---------|
| Ao | 5.5 mm |
| Bo | 7.5 mm |
| Ko | 2.0 mm |
| Pitch | 8.0 mm |
| W | 16.0 mm |



10-Terminal Ceramic Surface-Mount Case
7 x 5 mm Nominal Footprint



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 | Input or Return | 10 |
| | Return or Input | 1 |
| Port 2 | Output or Return | 5 |
| | Return or Output | 6 |
| Ground | | All others |
| Single Ended Operation | | Return is ground |
| Differential Operation | | Return is hot |

