

- **Designed for SDARS IF Receiver**
- **SAW Diplexer 72.54 / 80.46 MHz**
- **11.4 X 5.3 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)**

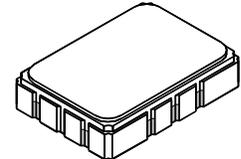


Absolute Maximum Ratings

| Rating | Value | Units |
|--|-------------|-------|
| Maximum Incident Power in Passband | +10 | dBm |
| Maximum DC Voltage Between any Two Terminals | 0 | VDC |
| Operating Temperature Range | -40 to +105 | °C |

SF2143A

**72.54/80.46 MHz
SAW Diplexer**



SM11453-10

Electrical Characteristics

| TDM1 Filter Characteristic | Sym | Notes | Min | Typ | Max | Units |
|--|------------|-------|----------------------|-------|-----|-------------------|
| Nominal Center Frequency | F_C | 1 | | 72.54 | | MHz |
| 1 dB Bandwidth | BW_1 | | 3.7 | 4.3 | | MHz |
| 15 dB Bandwidth | BW_{15} | | | 5.5 | 6.7 | MHz |
| 30 dB Bandwidth | BW_{30} | | | 6.0 | 7.7 | MHz |
| Passband Minimum Insertion Loss including the Matching Network | IL_{MIN} | | | 15.3 | 18 | dB |
| Amplitude Ripple, $F_C \pm 1.85$ MHz | | | | 0.7 | | dB _{P-P} |
| Attenuation Relative to IL_{MIN} | | | 40 | 49 | | dB |
| | | | 37 | 42 | | dB |
| | | | 37 | 40 | | dB |
| | | | 40 | 45 | | dB |
| | | | 45 | 61 | | dB |
| | | | 45 | 66 | | dB |
| Group Delay Ripple | | | | 83 | | nSP-P |
| Source Impedance (Differential) | | | 27 ohms or 200 ohms | | | |
| Load Impedance (Differential) | | | 1K ohms or 1.5K ohms | | | |

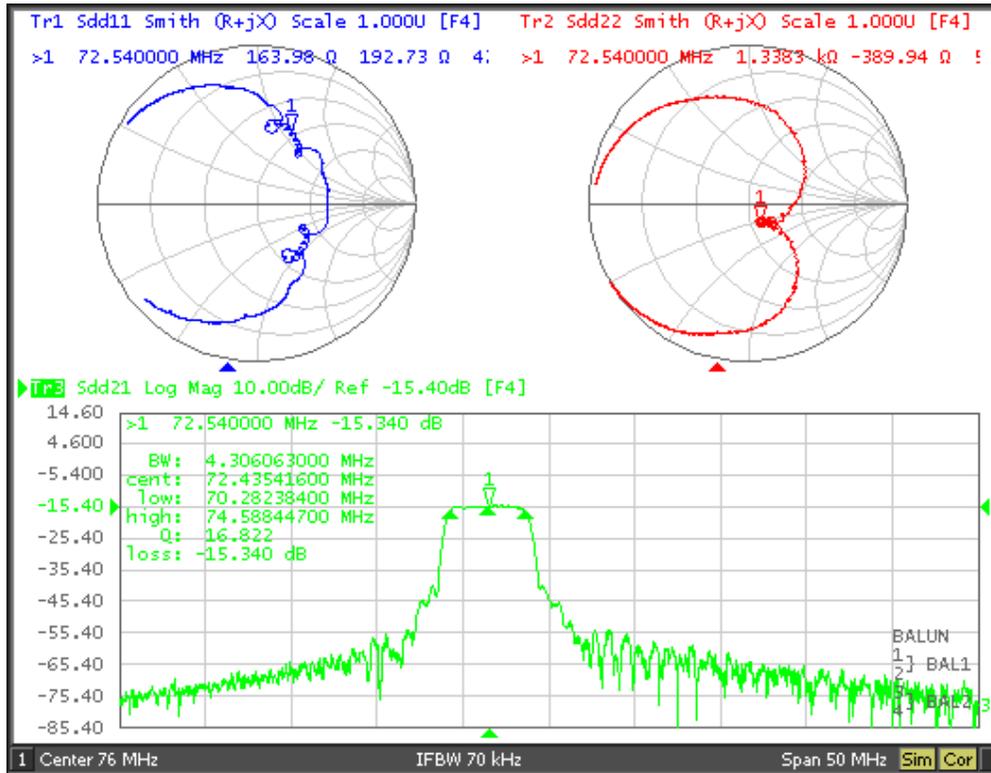
| TDM2 Filter Characteristic | Sym | Notes | Min | Typ | Max | Units |
|--|------------|-------|----------------------|-------|------|-------------------|
| Nominal Center Frequency | F_C | 1 | | 80.46 | | MHz |
| 1 dB Bandwidth | BW_1 | | 3.7 | 4.3 | | MHz |
| 15 dB Bandwidth | BW_{15} | | | 5.5 | 6.7 | MHz |
| 30 dB Bandwidth | BW_{30} | | | 6.4 | 7.7 | MHz |
| Passband Minimum Insertion Loss including the Matching Network | IL_{MIN} | | | 15.7 | 19.5 | dB |
| Amplitude Ripple, $F_C \pm 1.85$ MHz | | | | 1.5 | | dB _{P-P} |
| Attenuation Relative to IL_{MIN} | | | 34 | 41 | | dB |
| | | | 30 | 35 | | dB |
| | | | 40 | 42 | | dB |
| | | | 43 | 44 | | dB |
| | | | 45 | 56 | | dB |
| Group Delay Ripple | | | | 120 | | nSP-P |
| Source Impedance (Differential) | | | 27 ohms or 200 ohms | | | |
| Load Impedance (Differential) | | | 1K ohms or 1.5K ohms | | | |

| | | | |
|--|--|---|---|
| Case Style | | 6 | SM11453 11.4 x 5.3 mm Nominal Footprint |
| Lid Symbolization, YY=year, WW=week, S=shift | | | RFM SF2143A YYWWWS |

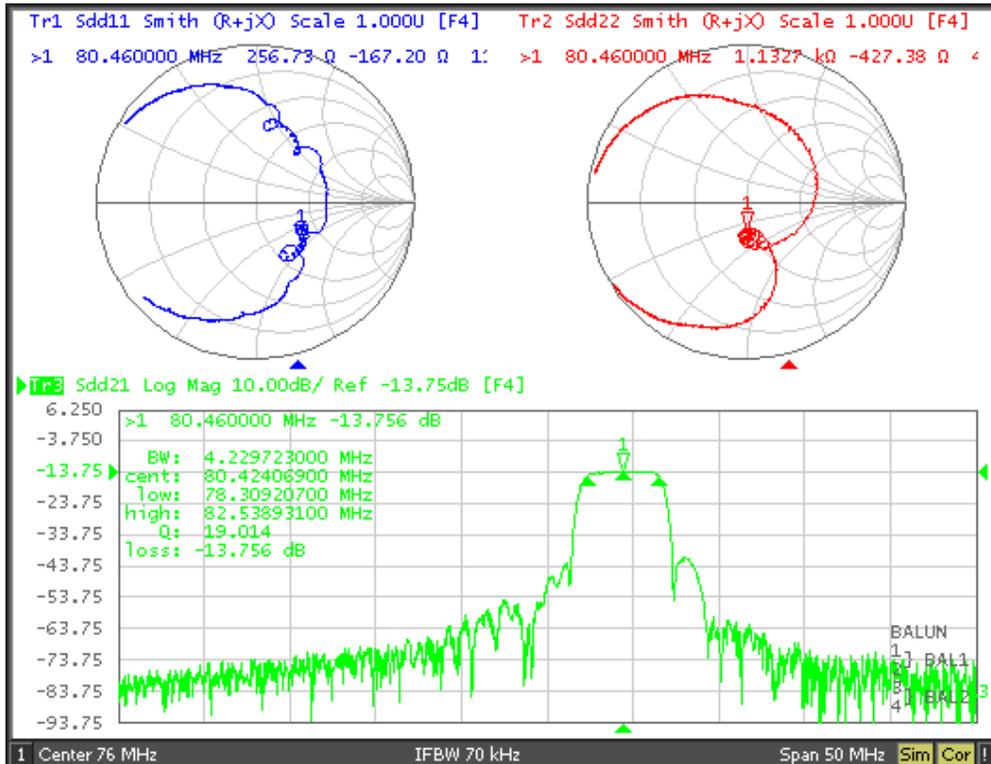
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

- 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, fc.
 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. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

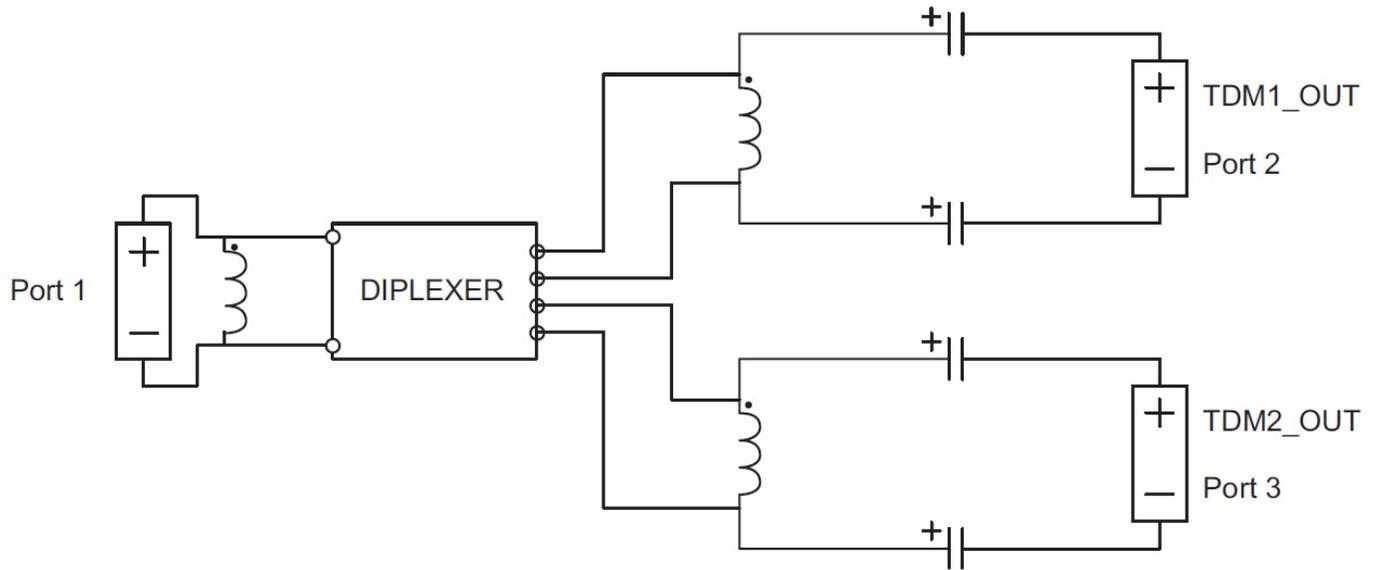
SF2143A TDM1 Filter Response



SF2143A TDM2 Filter Response



Matching Circuit:

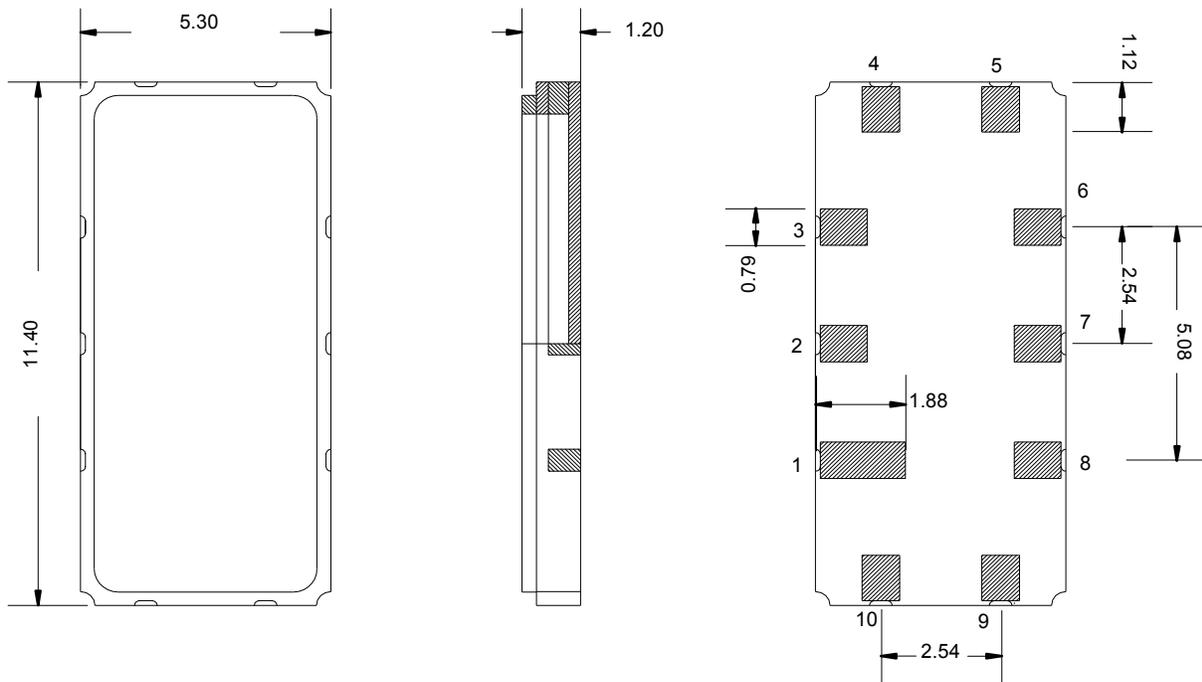


SM11453-10 Case

10-Terminal Ceramic Surface-Mount Case

11.4 x 5.3 mm Nominal Footprint

| Electrical Connections | | |
|------------------------|--------|------------|
| Connection | | Terminals |
| Port 1 | Input | 9, 10 |
| Port 2 | TDM1 | 5, 6 |
| Port 3 | TDM2 | 3, 4 |
| | Ground | All Others |

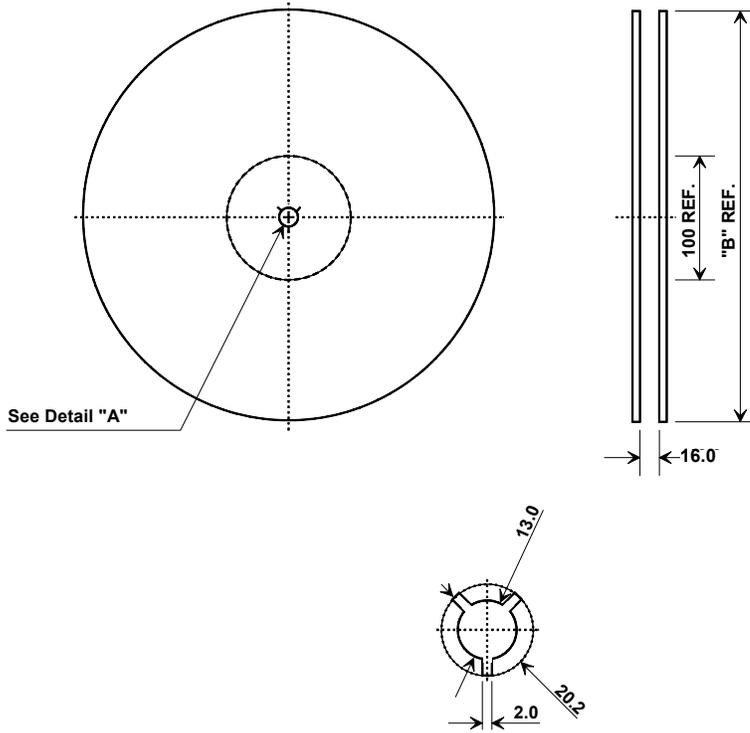


PLATING

15-40uINS GOLD TO MIL-G-45204, TYPE 3, GRADE A,
OVER 80-200uINS NICKEL TO FED SPEC. QQ-N-290.

ALL DIMENSIONS IN MM

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 |

