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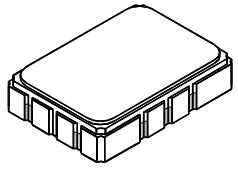
muRata
INNOVATOR IN ELECTRONICS

RFM products are now Murata products.

SF2143A

72.54/80.46 MHz SAW Diplexer

- ***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)***



SM11453-10

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

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 ± 1.85 MHz					0.7		dB_{P-P}
Attenuation Relative to IL_{MIN}	50.00 to 66.48 MHz			40	49		dB
	66.48 to 68.08 MHz			37	42		dB
	77.30 to 78.60 MHz			37	40		dB
	78.60 to 86.50 MHz			40	45		dB
	86.50 to 91.50 MHz			45	61		dB
	91.50 to 100.0 MHz			45	66		dB
Group Delay Ripple					83		ns_{P-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 ± 1.85 MHz					1.5		dB_{P-P}
Attenuation Relative to IL_{MIN}	50.00 to 74.39 MHz			34	41		dB
	74.39 to 75.99 MHz			30	35		dB
	85.21 to 86.50 MHz			40	42		dB
	86.50 to 91.50 MHz			43	44		dB
	91.50 to 100.0 MHz			45	56		dB
Group Delay Ripple					120		ns_{P-P}
Source Impedance (Differential)				27 ohms or 200 ohms			
Load Impedance (Differential)				1K ohms or 1.5K ohms			

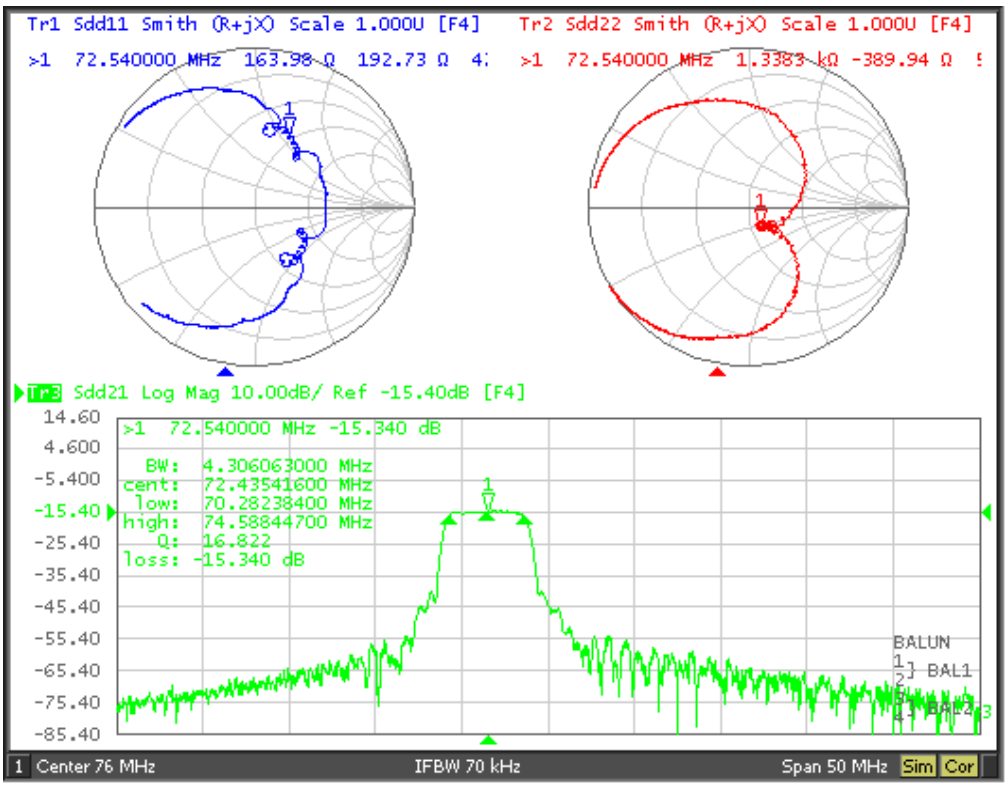
Case Style		6	SM11453 11.4 x 5.3 mm Nominal Footprint
Lid Symbolization, YY=year, WW=week, S=shift			RFM SF2143A YYWWS

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

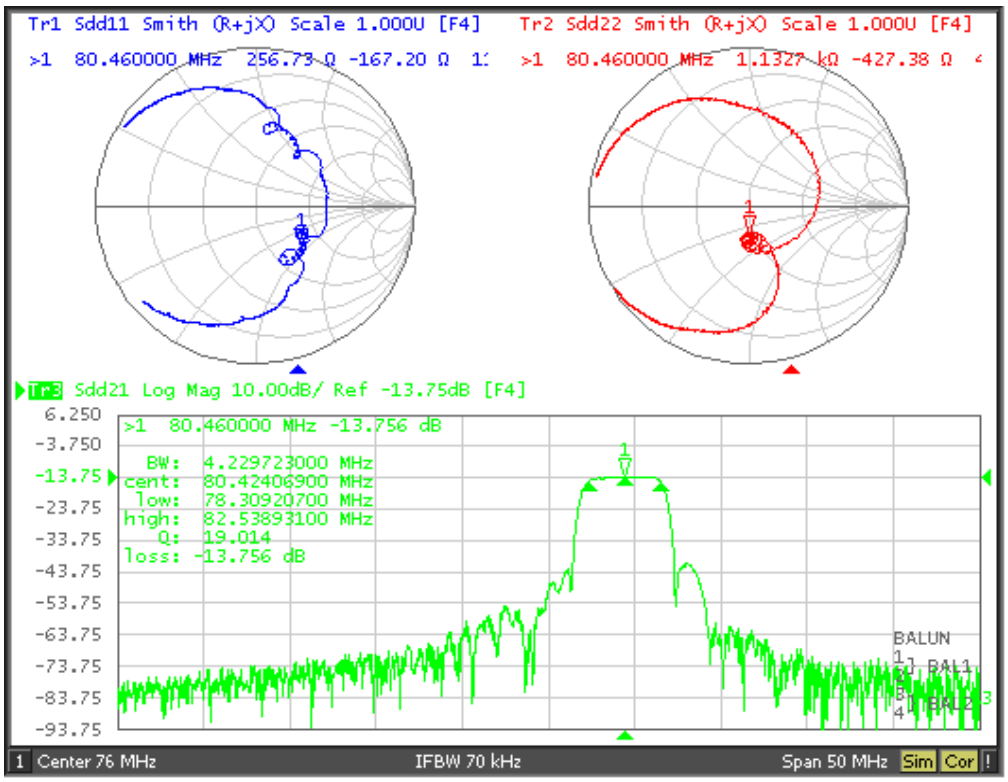
NOTES:

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.

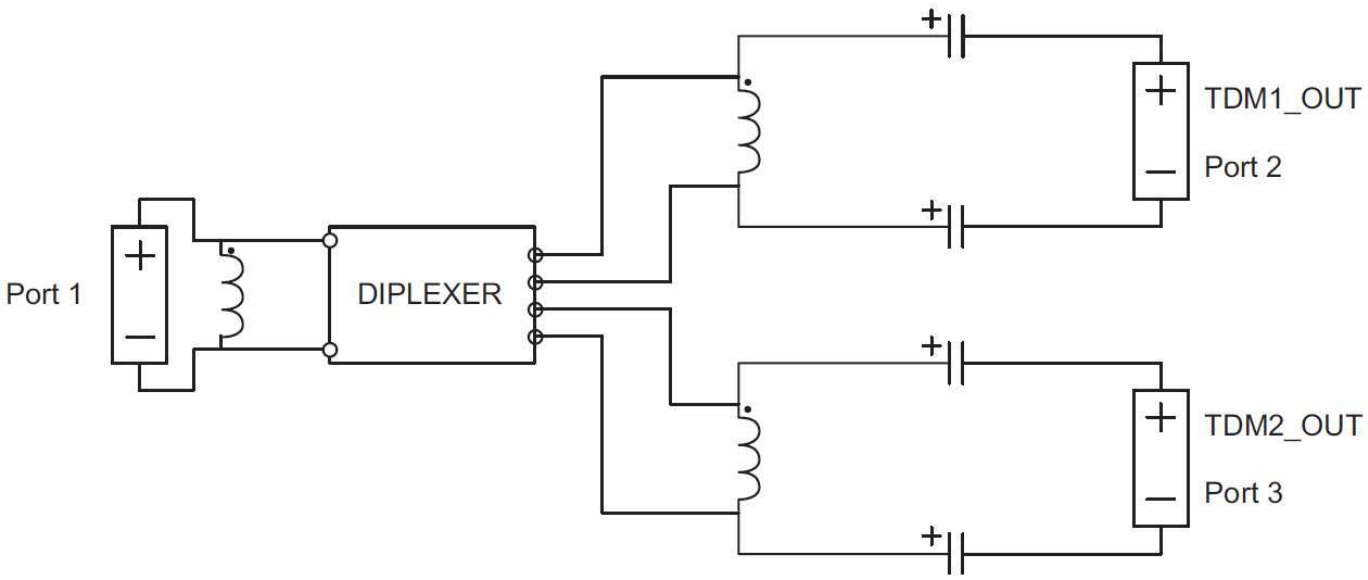
SF2143A TDM1 Filter Response



SF2143A TDM2 Filter Response



Matching Circuit:



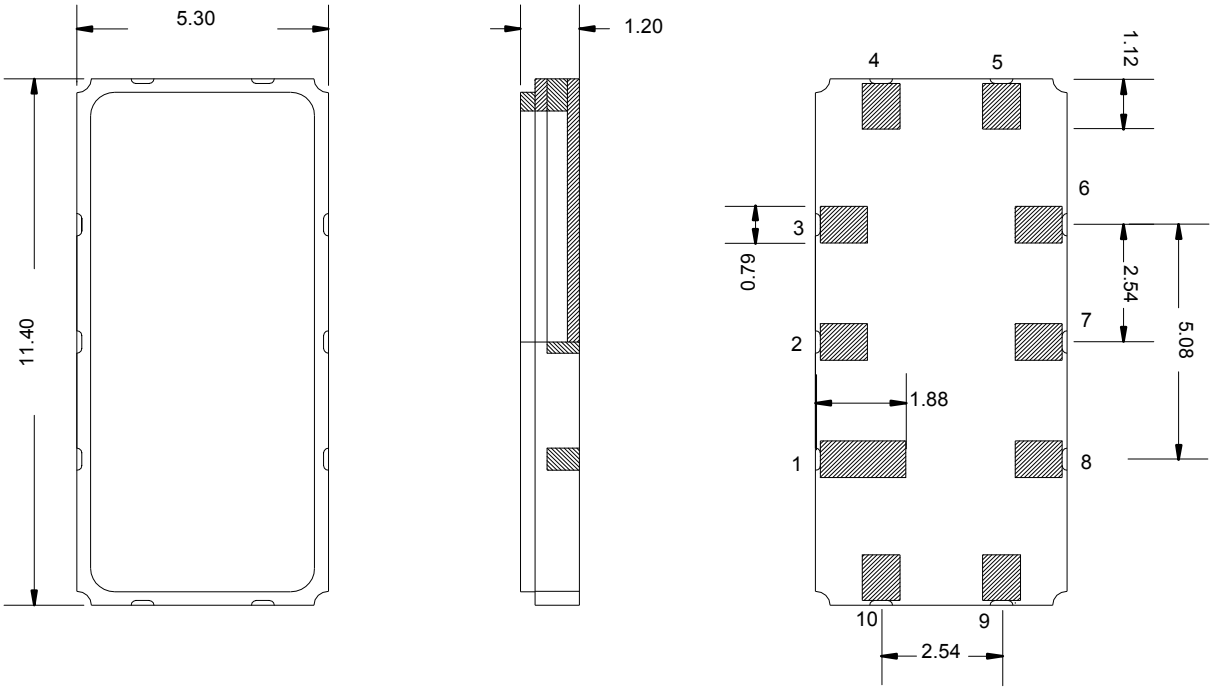
SM11453-10 Case

10-Terminal Ceramic Surface-Mount Case

11.4 x 5.3 mm Nominal Footprint

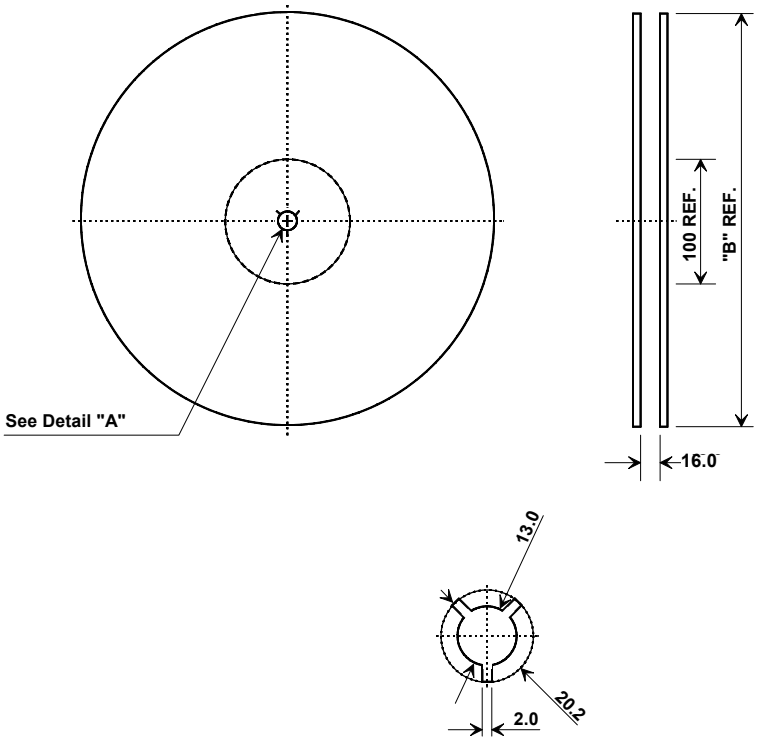
Electrical Connections		
Connection		Terminals
Port 1	Input	9, 10
Port 2	TDM1	5, 6
Port 3	TDM2	3, 4
	Gound	All Others

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