

Wide Band Coaxial Circulator 2GHz-4GHz



Product Description

RFLC-301-4S is a coaxial circulator with a frequency range of 2 to 4GHz.

The circulator has a typical isolation of 18dB. The maximum insertion loss is 1.1dB. The circulator has good isolation performance.

The circulator input and output connectors are SMA Female.

Features

- High power handling up to 100W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications ($T_A=+25^{\circ}\text{C}$)

Parameter	Min.	Typ.	Max.	Units
Frequency Range		2-4		GHz
Insertion Loss		0.5	1.1	dB
Isolation	17	18		dB
VSWR		1.3	1.5	:1
Power Handling			100	W
Rotation		Clockwise		
Input / Output Connectors		SMA-Female(Input) – SMA-Female(Output)		
Weight		0.188 Max.		lbs
Impedance		50		Ω

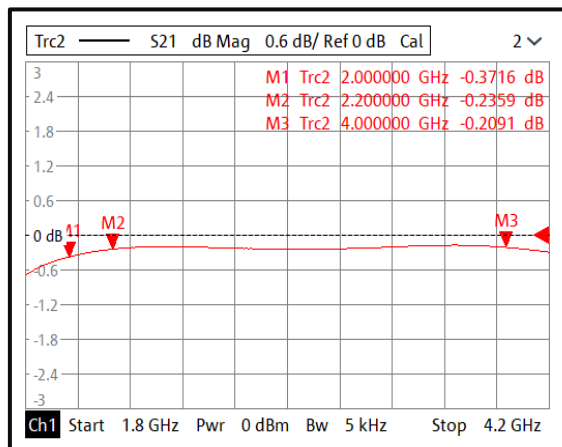
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	0°C to +70°C (Case Temperature)
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
*Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

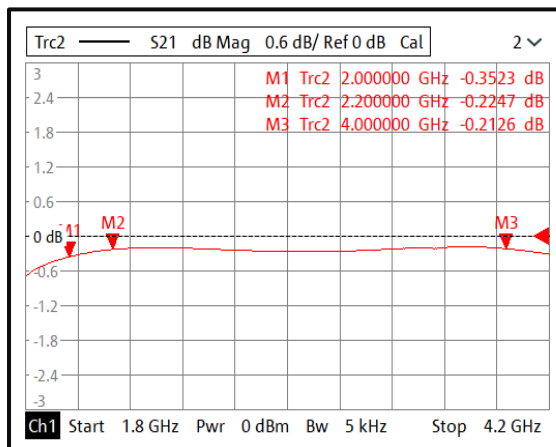
*For vibration testing details please see additional information section.

Typical Performance Plots

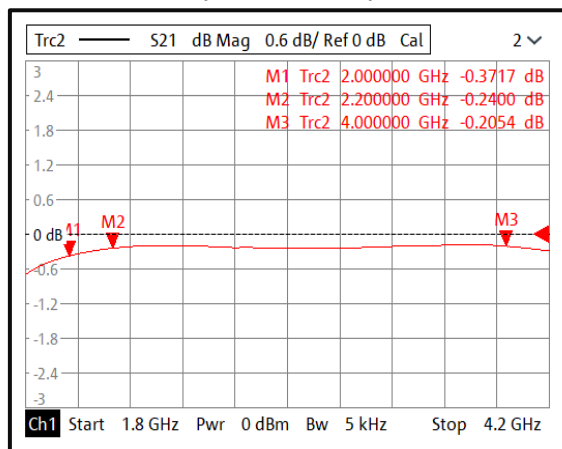
Insertion Loss (Port 1-Port 2)



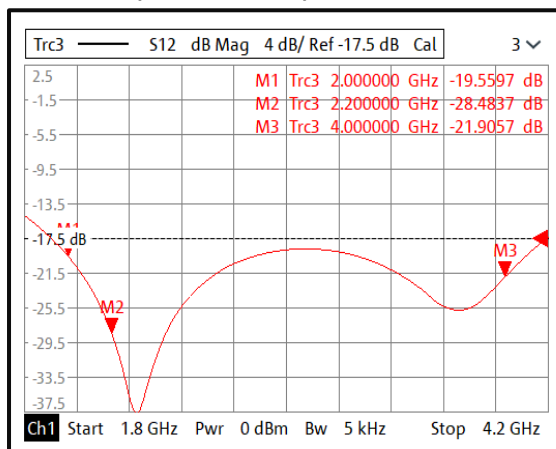
Insertion Loss (Port 2-Port 3)



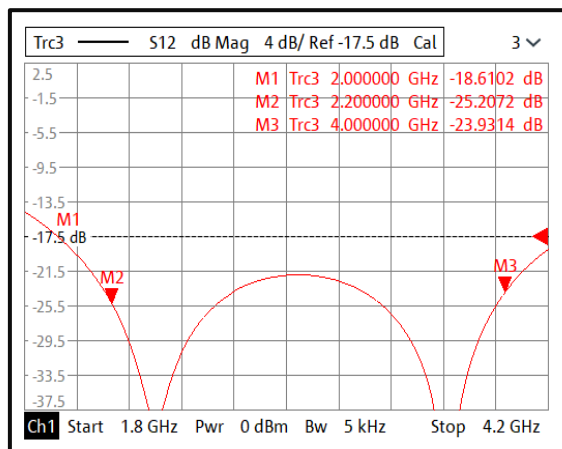
Insertion Loss (Port 3-Port 1)



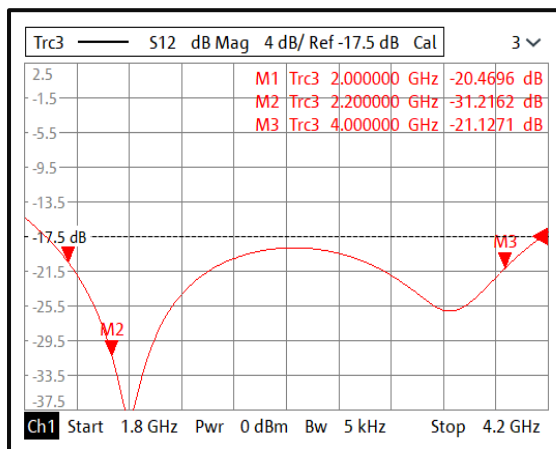
Isolation (Port 2-Port 1)



Isolation (Port 3-Port 2)

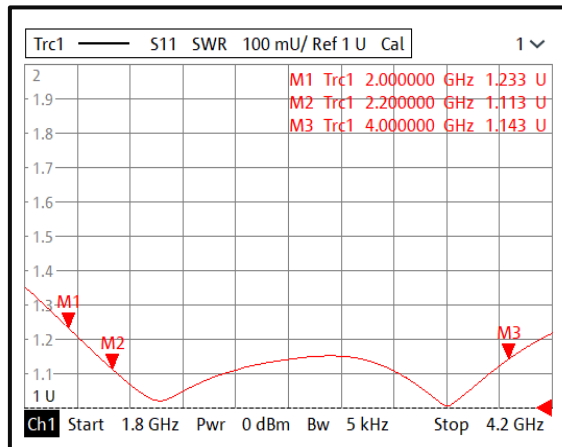


Isolation (Port 1-Port 3)

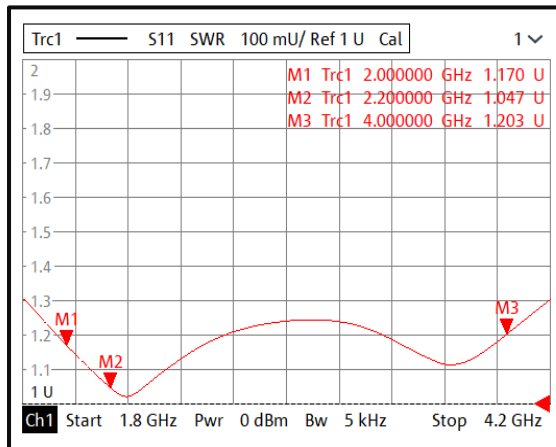


Typical Performance Plots

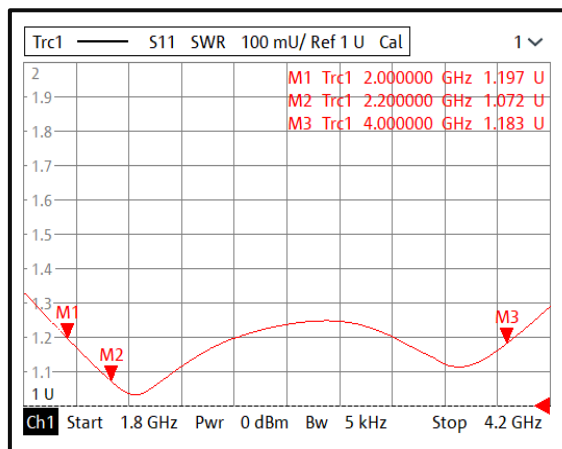
VSWR 1



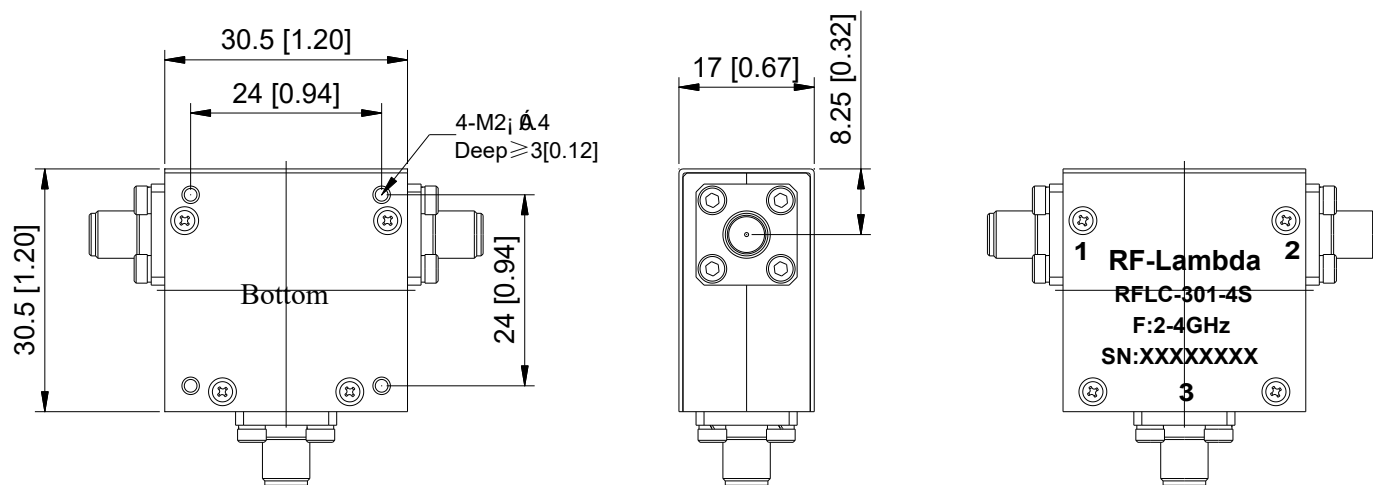
VSWR 2



VSWR 3



Outline Drawing



Notes:

1. Package Material: Aluminum Alloy
2. Finish: Nickel Plated
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ± 0.5 [0.02], Mounting Hole Tolerances ± 0.2 [0.008] unless otherwise specified.

Additional Information

Documentation

ESD Policy

https://rflambda.com/pdf/rflambda_esd_control.pdf

Connector Torque Specifications

https://www.rflambda.com/pdf/Torque_Specifications.pdf

Random Vibration Test Standard

https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Webpage

Ordering Information

Part Number	Modification	Description
RFLC-301-4S	Standard	2GHz-4GHz Coaxial Circulator

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