

WR159 Ultra Wide Band Waveguide Circulator 4.9GHz-7.05GHz



Product Description

RFWC159B is an ultra wide band waveguide circulator with a frequency range of 4.9 to 7.05GHz.

The circulator has a typical isolation of 21dB. The maximum insertion loss is 0.5dB.

The circulator's waveguide type is WR159.

Features

- High power handling up to 400W CW.
- Wide band operation
- High isolation within operational band
- Low Insertion Loss

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

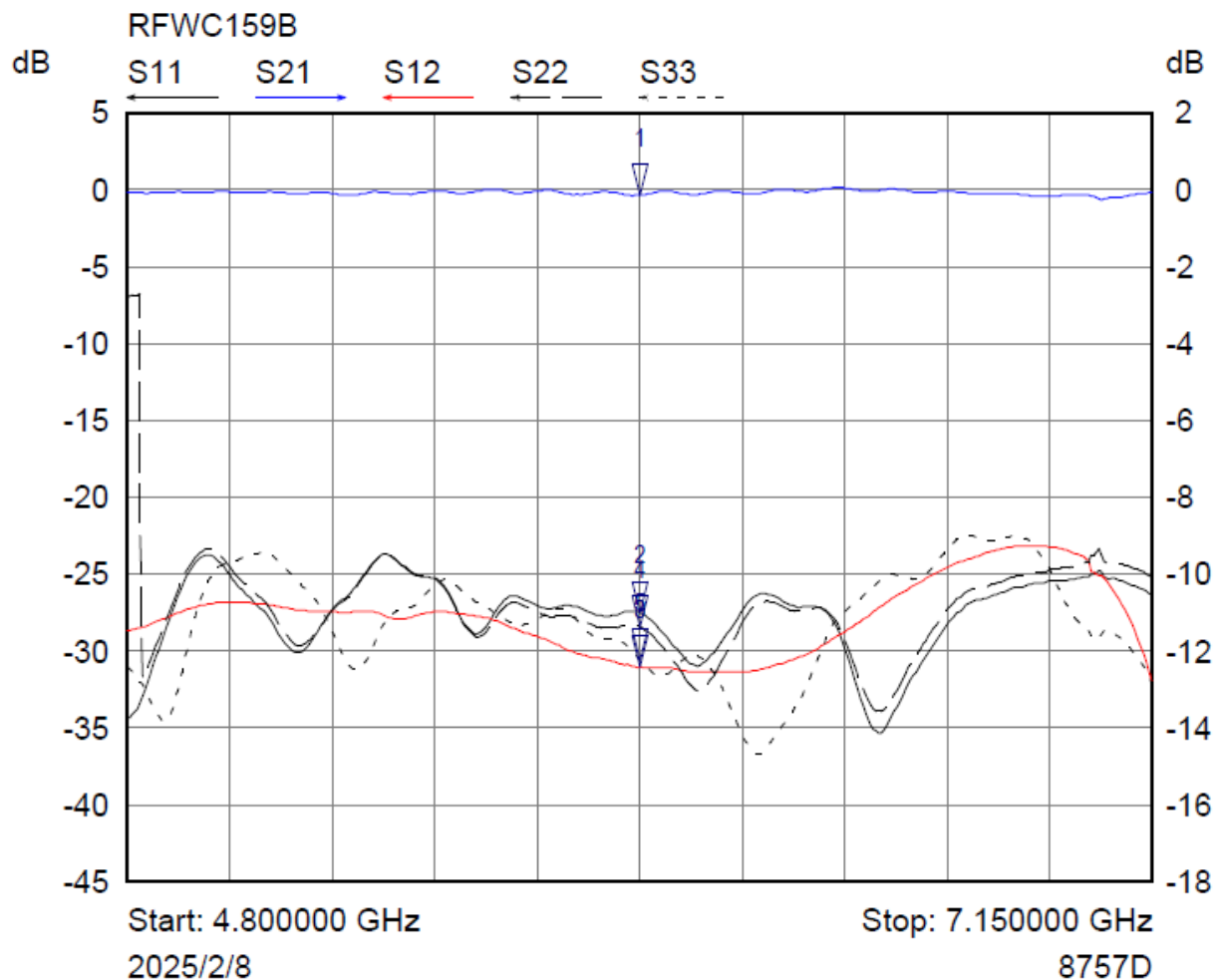
Parameter	Min.	Typ.	Max.	Units
Frequency Range		4.9-7.05		GHz
Insertion Loss		0.4	0.5	dB
Isolation	21	22		dB
VSWR		1.15	1.2	:1
Power Handling (CW)			400	W
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Waveguide type		WR159		
Flange Type		UG1731/U		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +60°C (Case Temperature)
Storage Temperature	-40°C to +85°C
Thermal Shock	-20°C → +60°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)

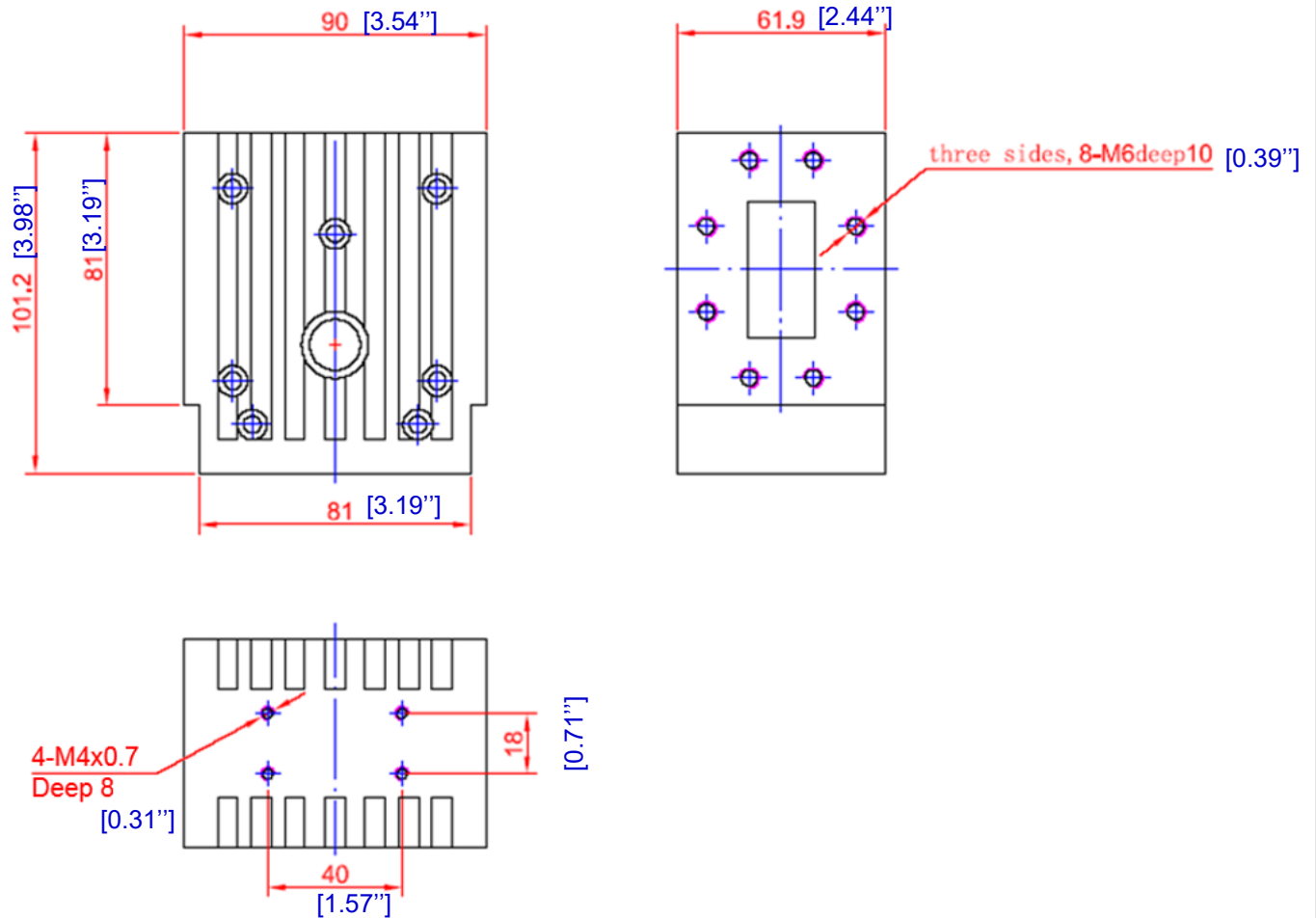
*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S21	5.975000 GHz	-0.1460 dB	
2 ▽	S11	5.975000 GHz	-27.4942 dB	
3 ▽	S12	5.975000 GHz	-31.0418 dB	
4 ▽	S22	5.975000 GHz	-28.4392 dB	
5 ▽	S33	5.975000 GHz	-30.5693 dB	

Outline Drawing



Notes:

1. Package Material: Aluminum Alloy
2. Finish: Conductive Oxide
3. All dimensions are in millimeters [inches].

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
RFWC159B	WR159	4.9GHz-7.05GHz Waveguide Circulator

Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.