WR51 Waveguide Circulator
15 – 22GHz

Please refer to the mechanical drawing for dimensions.
Picture is only or illustration purpose only.

Product Description

The RFWC51B-131 is a wr51 waveguide circulator with a frequency range of 15 to 22GHz.

The circulator has a typical isolation of 20dB. The maximum insertion loss is 0.5dB.

The circulator waveguide type is WR51.

Features

- High power handling up to 60W
- 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=+25ºC)

Parameter	Min	Typ	Max	Units
Frequency Range		15~22		GHz
Insertion Loss			0.5	dB
Reverse Isolation	20			dB
VSWR			1.25	:1
Forward Power (CW)			60	W
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Weight		0.18		lbs.
Flange Type		COM'L (See drawing) 1. U.S. MIL and commercial flange dimensions differ from IEC flanges. 2. English and metric hole sizes may differ slightly.		

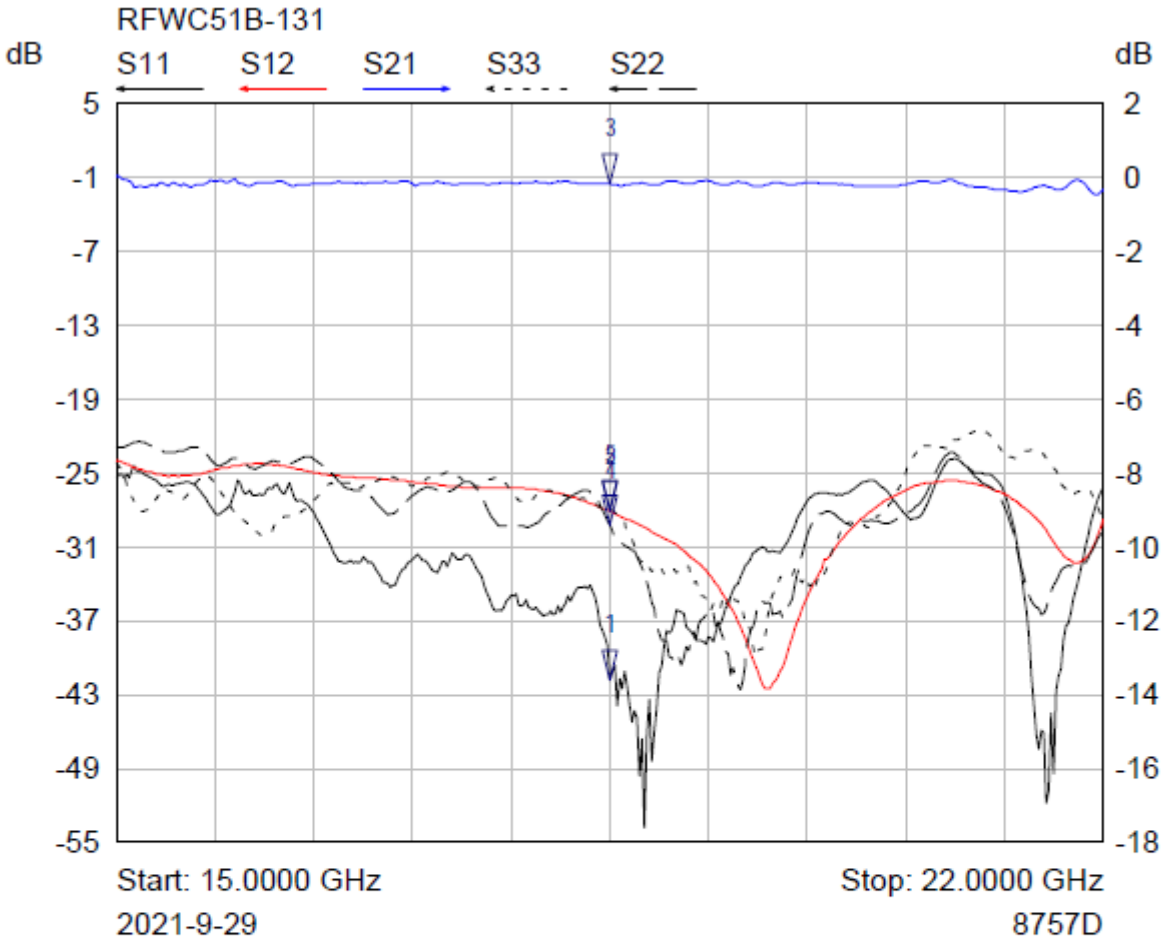
RF-LAMBDA USA LLC: www.rflambda.com
Sales: sales@rflambda.com Technical: support@rflambda.com

Environmental Specifications and Test Standards

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

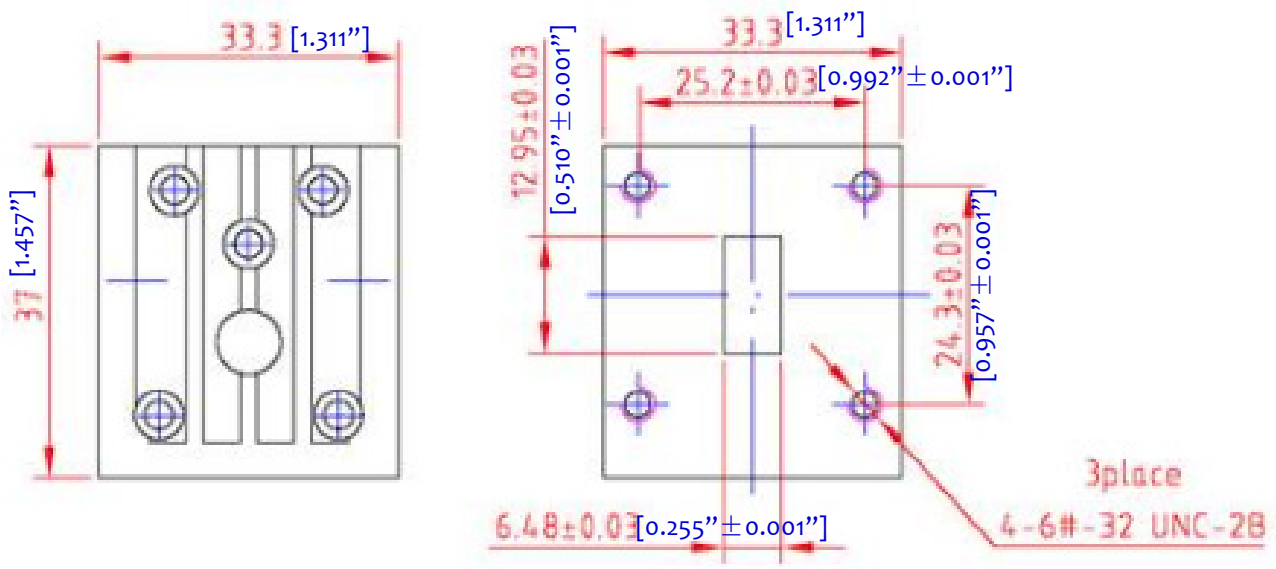
Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1	S11	18.5000 GHz	-41.78 dB	
2	S12	18.5000 GHz	-28.12 dB	
3	S21	18.5000 GHz	-0.18 dB	
4	S22	18.5000 GHz	-29.22 dB	
5	S33	18.5000 GHz	-27.98 dB	

SN:210902

Outline Drawing



Notes:
1. Package Material: Aluminum Alloy
2. Plating: Conductive Oxide (Not Painted)
3. All dimensions are in millimeters [inches].
4. Tolerance ±0.25 [0.01].unless otherwise specified

Additional Information

Documentation	Webpage
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

Ordering Information

Part Number	Modification	Description
RFWC51B-131	waveguide type WR51	15GHz–22GHz WR51 Waveguide Circulator

Important Notice

RF-LAMBDA USA LLC: www.rflambda.com
Sales: sales@rflambda.com Technical: support@rflambda.com