

## WR28 Four-Port Circulator 26.5GHz-40GHz



Note: Photo is for illustration purposes only.  
Please refer to outline drawing.

### Product Description

RFWHC28B is a WR28 four-port circulator with a frequency range of 26.5 to 40GHz.

The circulator has a typical isolation of 19dB. The maximum insertion loss is 0.65dB.

The circulator waveguide type is WR28.

### Features

- High power handling up to 200W
- 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<sub>A</sub>=+25°C)

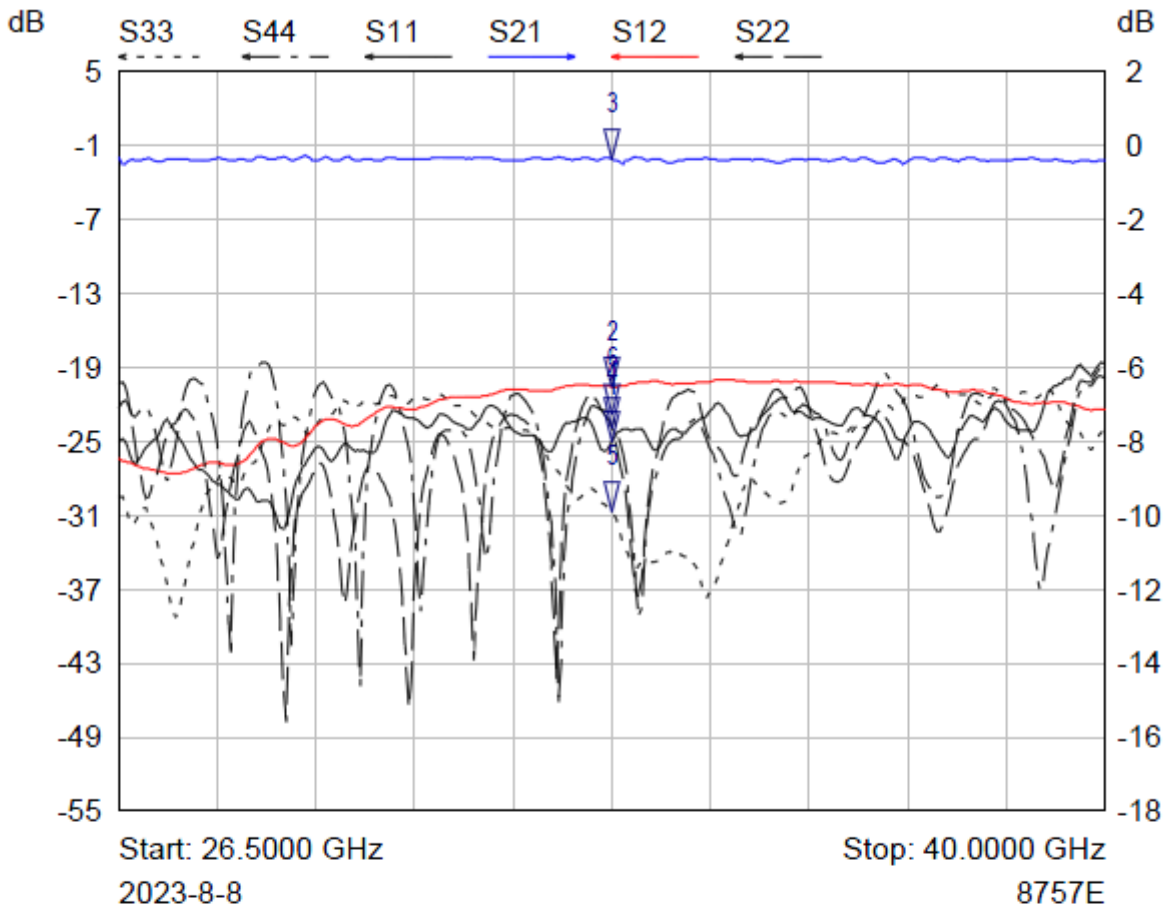
Parameter	Min	Typ	Max	Units
Frequency Range	26.5		40	GHz
Insertion Loss		0.5	0.65	dB
Reverse Isolation	17	19		dB
Return Loss	17	19		dB
Power handling(CW)			200	W
Rotation		Clockwise (Standard)		
Weight		-		lbs.
Flange Type		UG 599/U		
Waveguide type		WR28		

**Environmental Specifications and Test Standards**

Parameter	Description
Operational Temperature	-20°C to +50°C (the surface temperature rise should be less than 20 °C)
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)

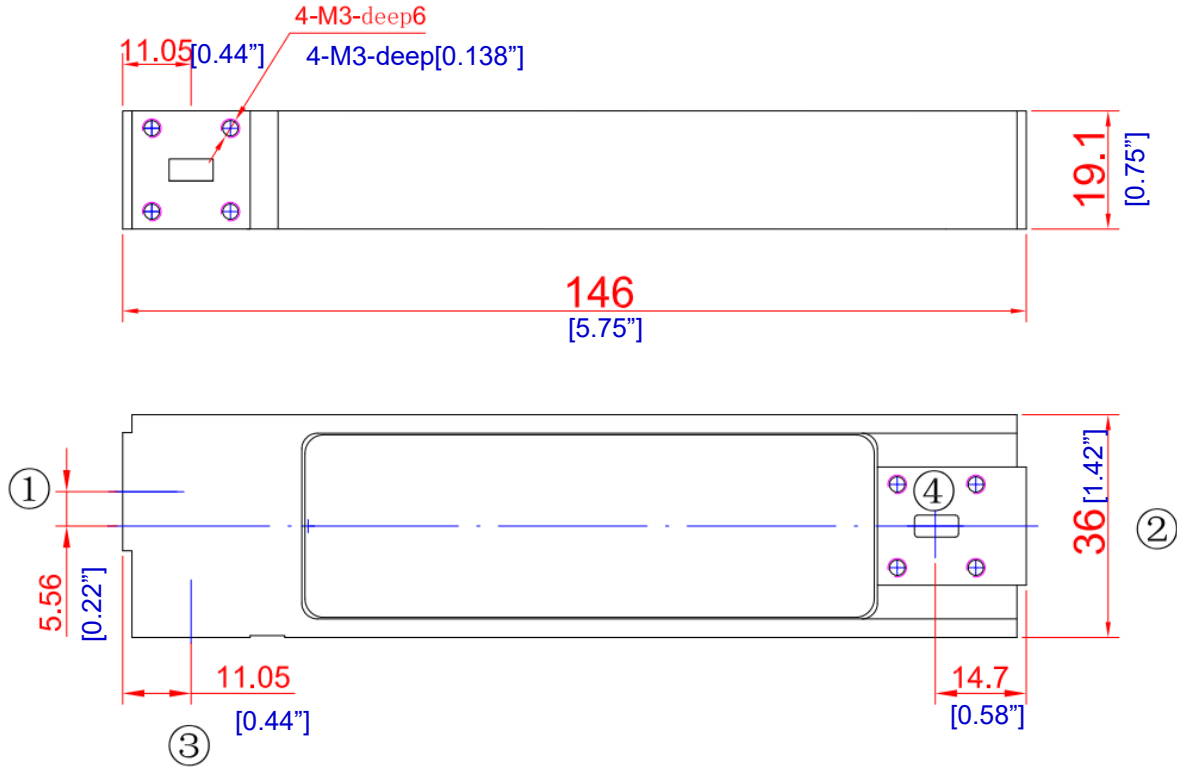
\*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▾	S11	33.2500 GHz	-25.05 dB	
2 ▾	S12	33.2500 GHz	-20.58 dB	
3 ▾	S21	33.2500 GHz	-0.36 dB	
4 ▾	S22	33.2500 GHz	-23.94 dB	
5 ▾	S33	33.2500 GHz	-30.66 dB	
6 ▾	S44	33.2500 GHz	-22.80 dB	

**Outline Drawing**



Notes:

1. Package Material: Aluminum alloy
2. Finish: Conductive Oxide
3. All dimensions are in millimeters [inches].
4. Standard torque wrench must be used to secure RF connectors.

Additional Information

Documentation	Webpage
ESD Policy	<a href="https://rflambda.com/pdf/rflambda_esd_control.pdf">https://rflambda.com/pdf/rflambda_esd_control.pdf</a>
Connector Torque Specifications	<a href="https://www.rflambda.com/pdf/Torque_Specifications.pdf">https://www.rflambda.com/pdf/Torque_Specifications.pdf</a>
Random Vibration Test Standard	<a href="https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf">https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf</a>

**Ordering Information**

Part Number	Modification	Description
RFWHC28B	Waveguide type WR28	26.5GHz–40GHz WR28 Waveguide Circulator

**Important Notice**

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