

WR42 Waveguide Circulator 18GHz–26.5GHz



Product Description

RFWC42D is a waveguide circulator with a frequency range of 18 to 26.5GHz.

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

The circulator's waveguide type is WR42.

Features

- High power handling capability up to 25W
- 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 ($T_A=+25^{\circ}\text{C}$)

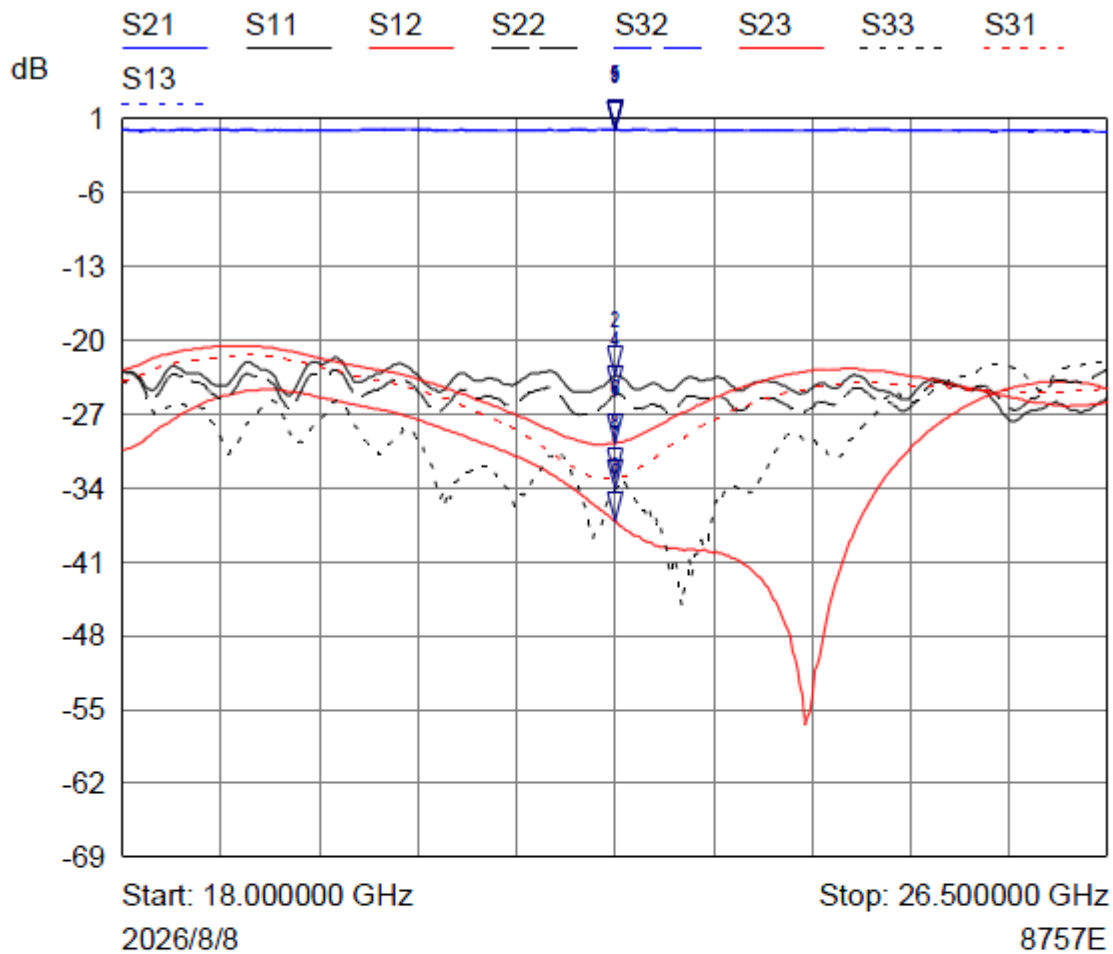
Parameter	Min.	Typ.	Max.	Units
Frequency Range	18		26.5	GHz
Insertion Loss			0.5	dB
Isolation	20			dB
VSWR			1.25	:1
Power Handling			25	W
Weight		0.09		lbs.
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Flange		COVER flat 4 holes		
Waveguide type		WR42		
Flange Type		UG595/U		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +60°C (Case Temperature)
Storage Temperature	-45°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)

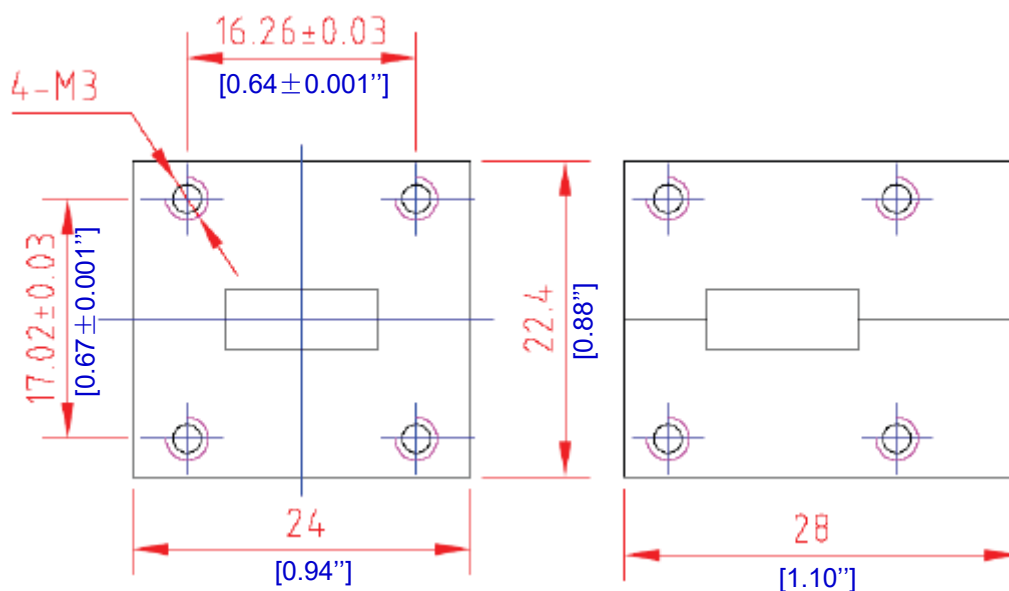
*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▾	S21	22.250000 GHz	-0.0800 dB	
2 ▾	S11	22.250000 GHz	-23.3770 dB	
3 ▾	S12	22.250000 GHz	-37.1600 dB	
4 ▾	S22	22.250000 GHz	-25.2060 dB	
5 ▾	S32	22.250000 GHz	-0.1070 dB	
6 ▾	S23	22.250000 GHz	-29.7710 dB	
7 ▾	S33	22.250000 GHz	-34.1490 dB	
8 ▾	S31	22.250000 GHz	-33.1220 dB	
9 ▾	S13	22.250000 GHz	-0.1130 dB	

Outline Drawing



Notes:

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

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
RFWC42D	WR42	18GHz-26.5GHz Waveguide Circulator

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