

WR90 High Power 4-Port Waveguide Circulator 9.2 – 9.4GHz



Product Description

The RFWHC90P4GF-D is a WR90 High Power 4-Port Waveguide Circulator with a frequency range of 9.2 to 9.4GHz.

The circulator has a typical isolation of 23dB. The maximum insertion loss is 0.3dB. The circulator has good isolation performance.

The circulator waveguide type is WR90.

Features

- High power handling up to 500W
- 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

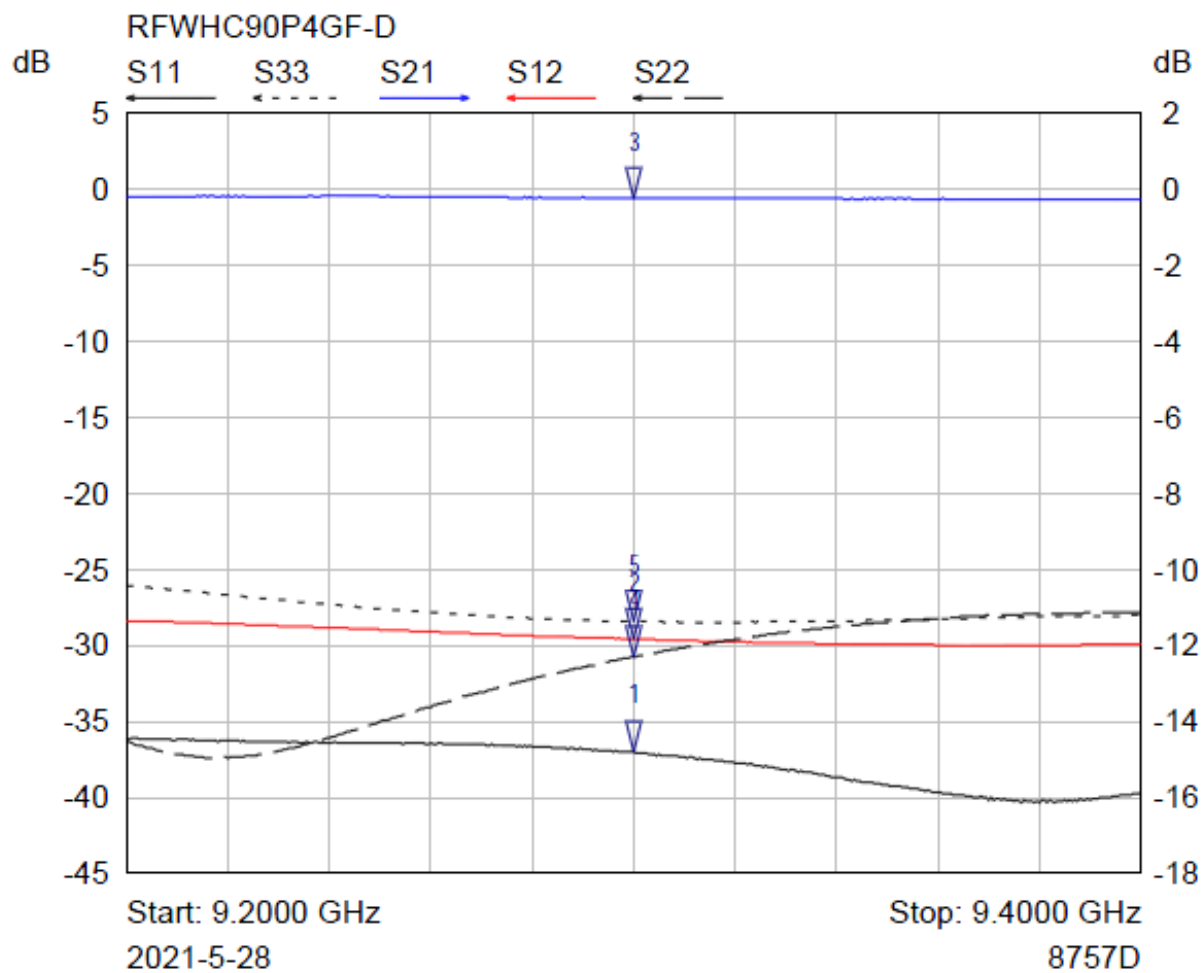
Electrical Specifications($T_A=25^{\circ}\text{C}$)

Parameter	Min	Typ	Max	Units
Frequency Range		9.2~9.4		GHz
Insertion Loss		0.20	0.30	dB
Isolation	23	30		dB
VSWR		1.10	1.15	:1
Power handling (CW)			500	W
Peak Power Handling		6KW (8% duty cycle)		
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Flange Type		COVER		
Flange Holes		M4 Threaded		
External Body Finish		Unpainted		
Case Material		Aluminum Alloy		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-45°C to +75°C (Case Temperature)
Storage Temperature	-50°C to +105°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)

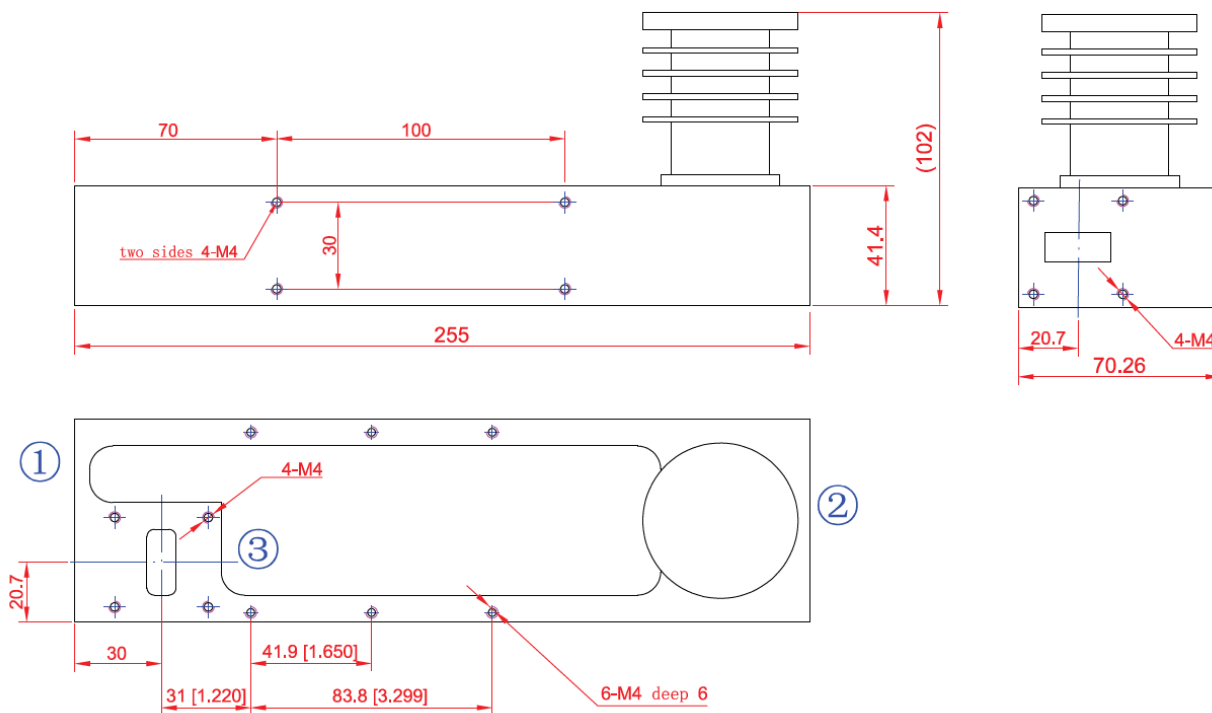
Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	9.3000 GHz	-37.03 dB	
2 ▽	S12	9.3000 GHz	-29.58 dB	
3 ▽	S21	9.3000 GHz	-0.22 dB	
4 ▽	S22	9.3000 GHz	-30.75 dB	
5 ▽	S33	9.3000 GHz	-28.42 dB	

SN:20210512

Outline Drawing



Notes:

1. Package Material: Aluminum Alloy
2. Plating: Unpainted
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
RFWHC90P4GF-D	Standard	9.2~9.4GHz High Power 4-Port Waveguide Circulator

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