

WR90 4-Port Waveguide High Power Circulator 9GHz-10GHz



Note: The photo is for illustration only.
Please refer to the outline drawing.

Product Description

RFWC90D-9G10G is a WR90 4-Port waveguide high power circulator with a frequency range of 9 to 10GHz.

The circulator has a typical isolation of 21dB. The maximum insertion loss is 0.4dB. The circulator has good isolation performance.

The circulator waveguide type is WR90.

Features

- High power handling up to 600W
- 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

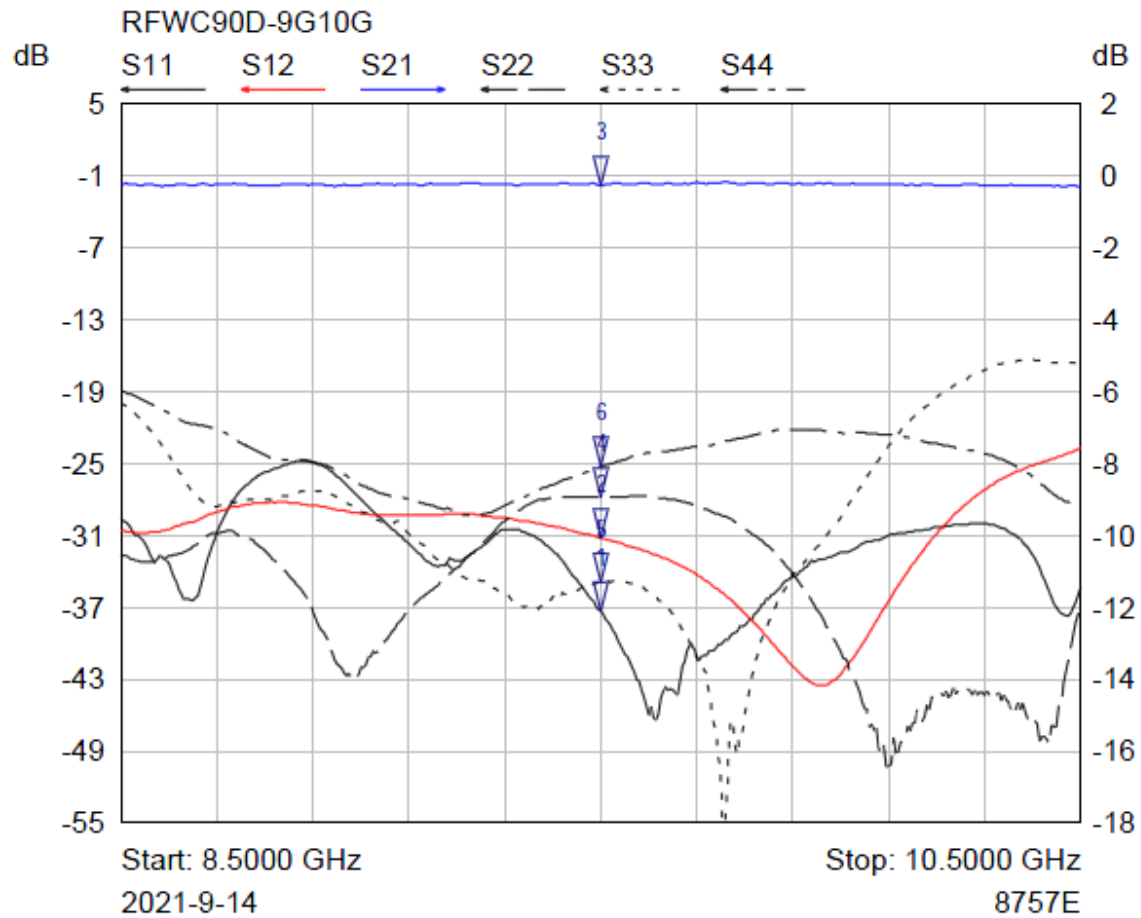
Electrical Specifications($T_A=25^{\circ}\text{C}$)

Parameter	Min	Typ	Max	Units
Frequency Range		9~10		GHz
Insertion Loss			0.40	dB
Isolation	21			dB
VSWR			1.2	:1
Power handling	12KW (Duty Cycle: 5% max PW 50 μ s max PRF 100 kHz max), 600W CW max			
	100W CW max (For termination)			
Rotation		Clockwise		
Interface		WR90		
Flange Type		UG135/U		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +50°C (should be taken to ensure the surface temperature should be less than 70°C)
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

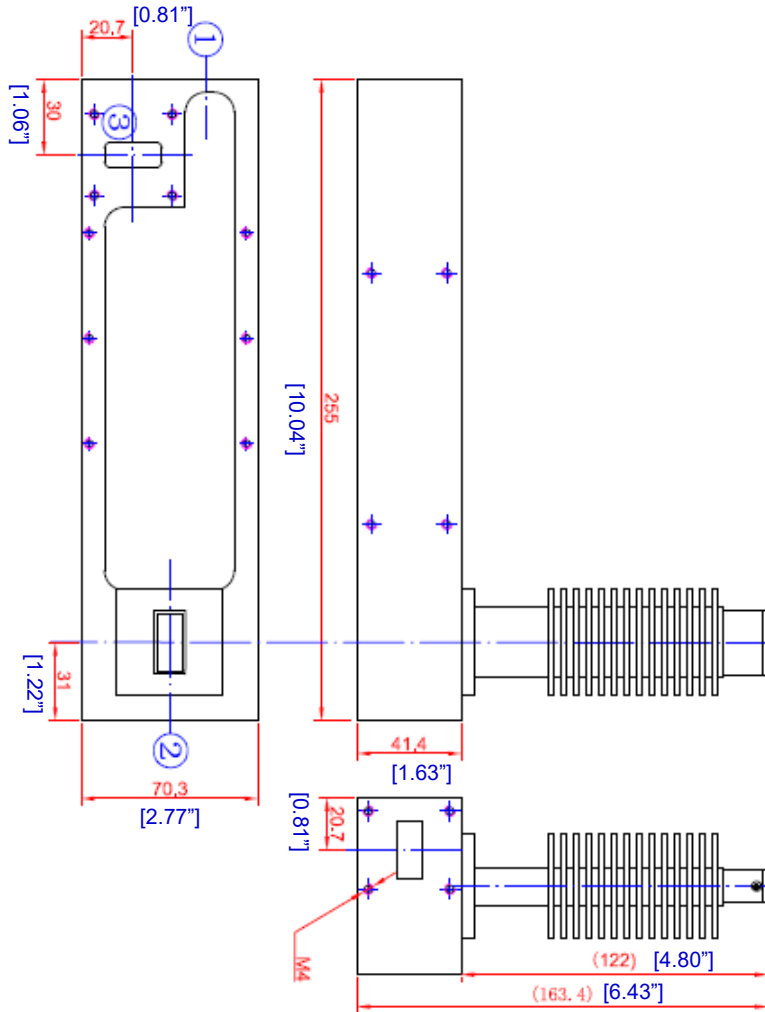
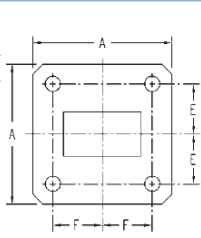


Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	9.5000 GHz	-37.30 dB	
2 ▽	S12	9.5000 GHz	-31.24 dB	
3 ▽	S21	9.5000 GHz	-0.26 dB	
4 ▽	S22	9.5000 GHz	-27.78 dB	
5 ▽	S33	9.5000 GHz	-34.86 dB	
6 ▽	S44	9.5000 GHz	-25.24 dB	

SN:20210901

Outline Drawing

WR90	WG16	R100
UG39/U	UBR100	
Dimensions	inches	mm
A	1.625 ¹	41.40
E	0.640	16.26
F	0.610	15.49
Hole Dia.	0.169 ²	4.255



Notes:

1. Package Material: Aluminum Alloy or Copper
2. Plating: Conductive Oxide(not painted)
3. All dimensions are in millimeters [inches].
4. Tolerance $\pm 0.25[0.01]$, unless otherwise specified

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
RFWC90D-9G10G	WR90	9~10GHz High Power Waveguide Circulator

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