

WR75 Waveguide Circulator 12.5GHz-14.5GHz



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

Product Description

RFWC75C-13.5G is a waveguide circulator with a frequency range of 12.5 to 14.5GHz.

The circulator has a minimum isolation of 20dB. The maximum insertion loss is 0.25dB.

The circulator's interface is WR75.

Features

- High power handling up to 100W
- 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 ($T_A=+25^{\circ}\text{C}$)

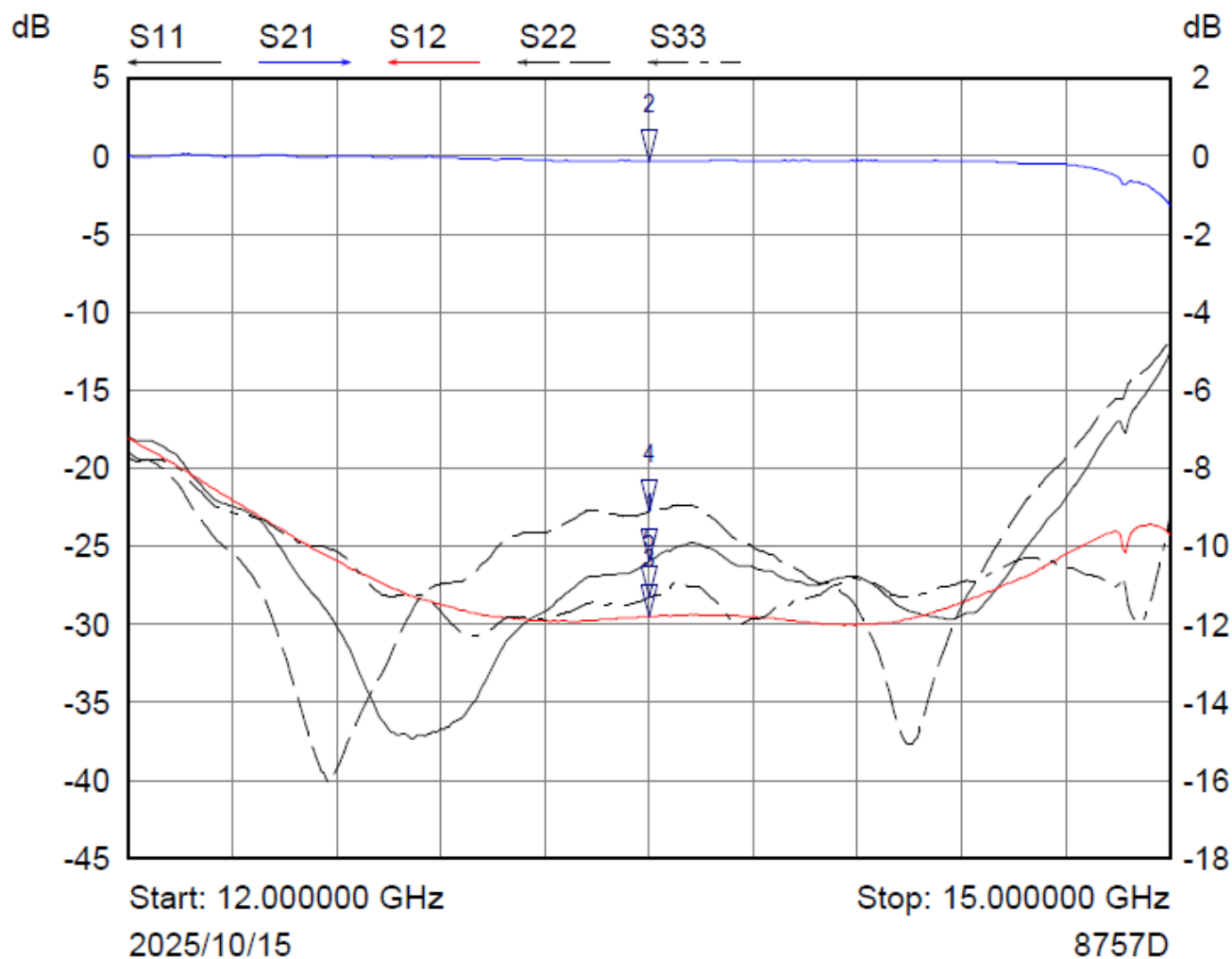
Parameter	Min.	Typ.	Max.	Units
Frequency Range		12.5 – 14.5		GHz
Insertion Loss			0.25	dB
Isolation	20			dB
VSWR			1.20	:1
Average Power (CW)			200	W
Peak Power			5	KW
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Flange Type		Cover		
Waveguide type		WR75		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +125°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)

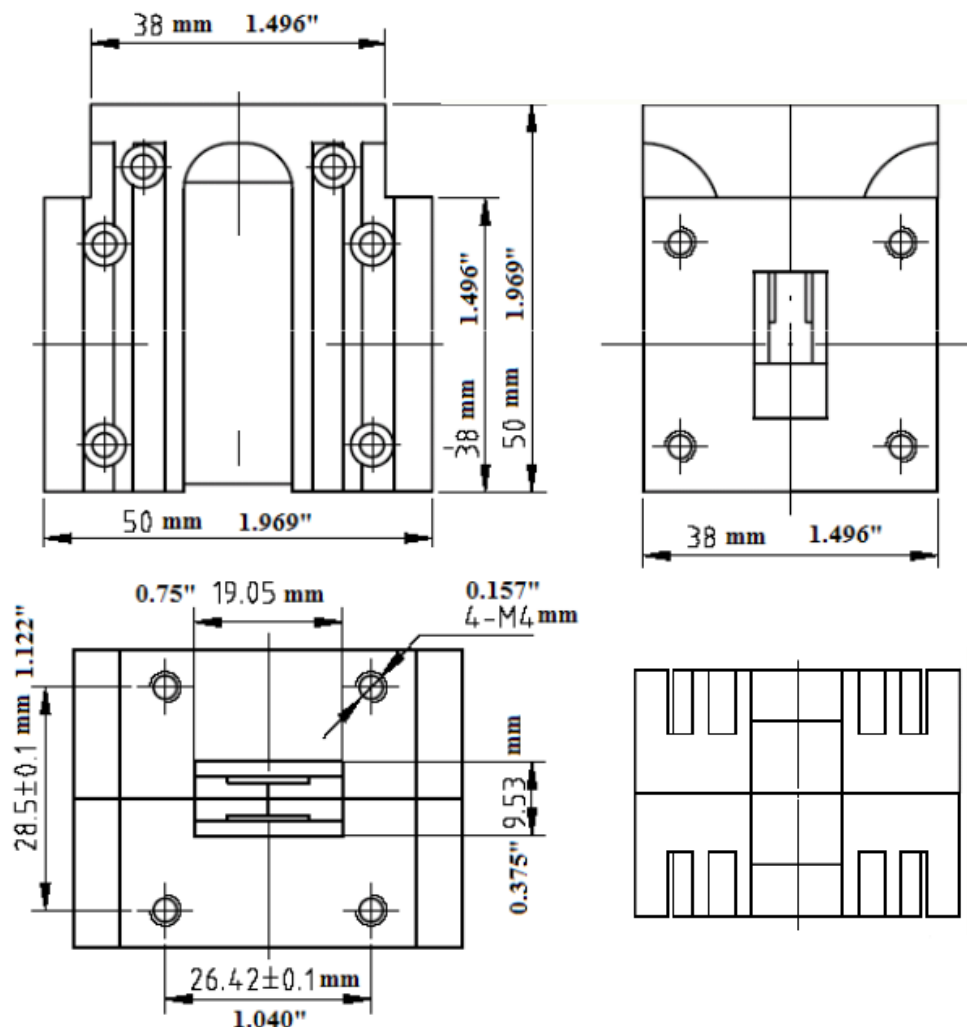
*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▾	S11	13.500000 GHz	-25.9530 dB	
2 ▾	S21	13.500000 GHz	-0.1240 dB	
3 ▾	S12	13.500000 GHz	-29.5070 dB	
4 ▾	S22	13.500000 GHz	-22.7890 dB	
5 ▾	S33	13.500000 GHz	-28.2820 dB	

Outline Drawing



Notes:

1. Basis-material: Aluminum, Brass, Alloyed Cuprum, Stainless
2. External Body Finish: Body painted with gray/black epoxy enamel
3. Standard torque wrench must be used to secure RF connectors.
4. 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
RFWC75C-13.5G	WR75	12.5GHz-14..5GHz Waveguide Circulator

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