

WR112 High Power 4-Port Waveguide Circulator 8.5GHz–8.75GHz



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

Product Description

RFWG4PC-8750 is a high power 4-Port waveguide circulator with a frequency range of 8.5 to 8.75GHz.

The circulator has a typical isolation of 23dB. The maximum insertion loss is 0.45dB.

The circulator waveguide type is WR112.

Features

- High power handling up to 240W
- 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

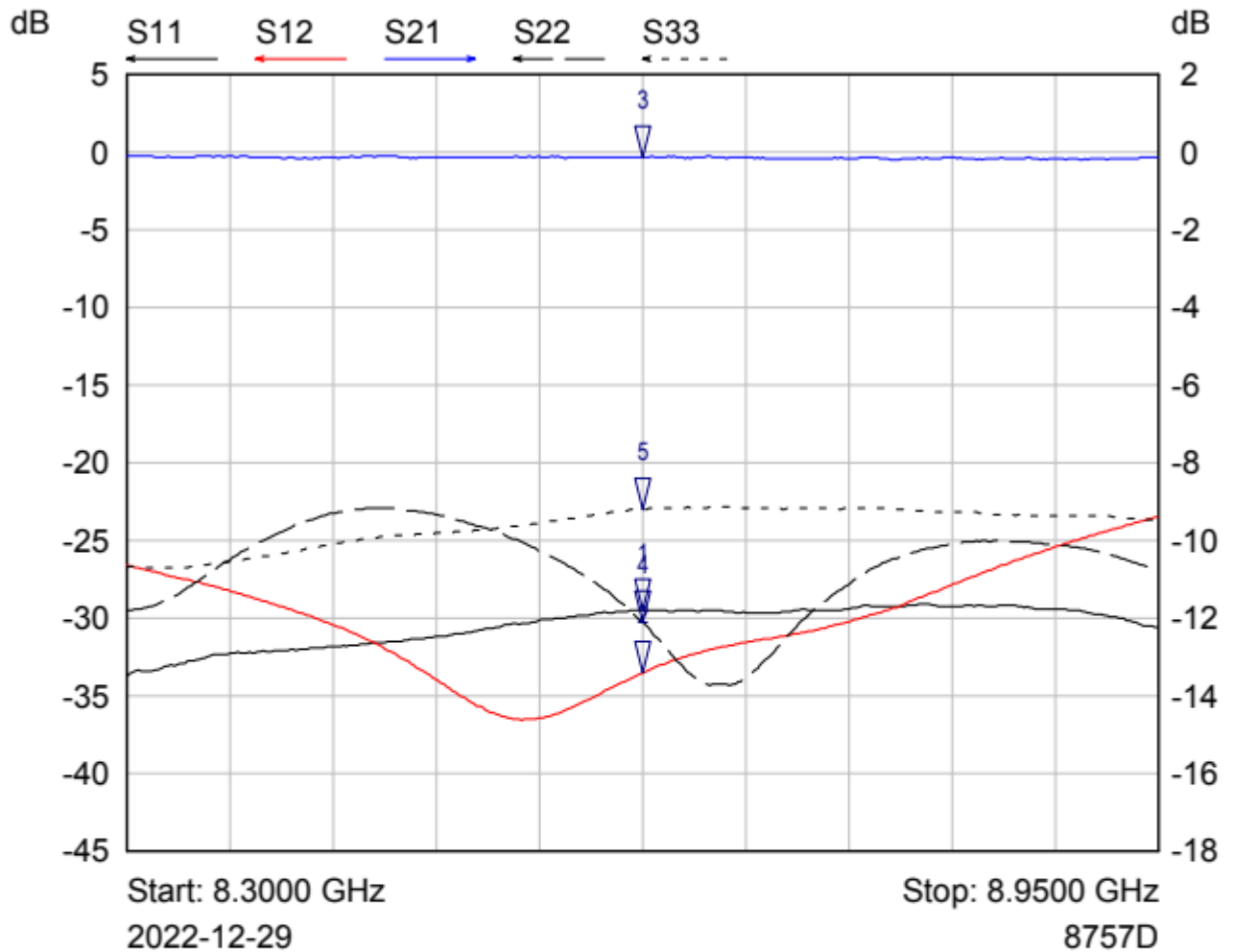
Electrical Specifications (T_A=+25°C)

Parameter	Min	Typ	Max	Units
Frequency Range		8.5–8.75		GHz
Insertion Loss			0.45	dB
Isolation	23			dB
VSWR			1.20	:1
Forward Power (CW)			240	W
Peak Power (CW)			200	KW
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Waveguide type		WR112		
Flange Type		UG138/U		

Environmental Specifications and Test Standards

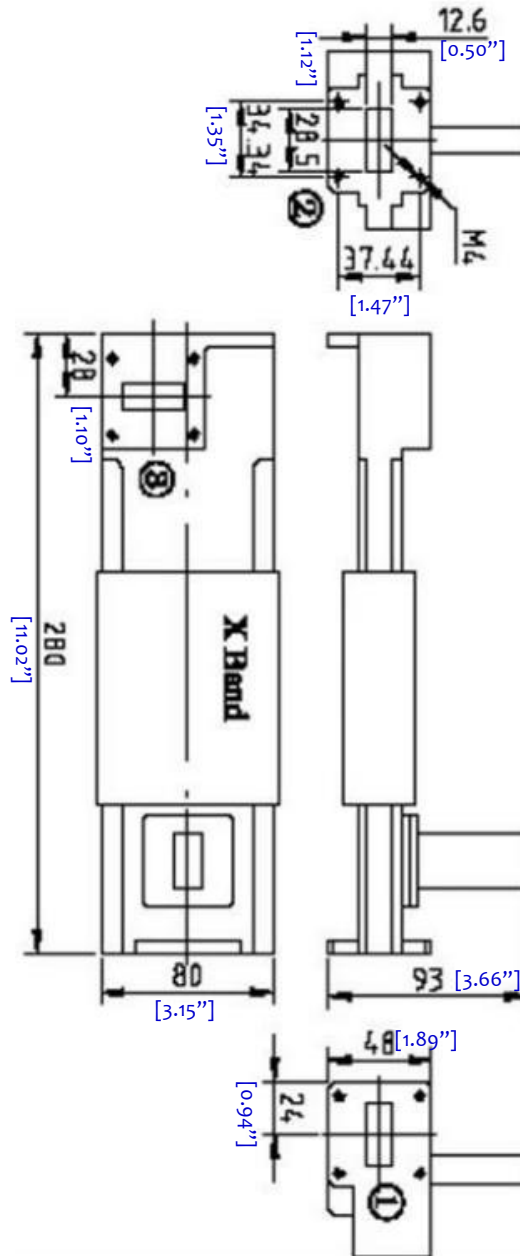
Parameter	Description
Operational Temperature	-30°C to +55°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
Shock	1. Weight >20g, 50g half sine wave for 11ms, 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	8.6250 GHz	-29.50 dB	
2 ▾	S12	8.6250 GHz	-33.50 dB	
3 ▾	S21	8.6250 GHz	-0.13 dB	
4 ▾	S22	8.6250 GHz	-30.28 dB	
5 ▾	S33	8.6250 GHz	-22.97 dB	

Outline Drawing



Notes:

1. Package Material: Aluminum Alloy
2. Finish: Black Paint
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
RFWG4PC-8750	Standard	8.5GHz~8.75GHz High Power 4-Port Waveguide Circulator

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