

WR137 Waveguide High Power Circulator 5.85GHz-8.2GHz



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

Product Description

The RFWC137G is a WR137 waveguide high power circulator with a frequency range of 5.85 to 8.2GHz.

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

The circulator waveguide type is WR137.

Features

- High power handling up to 300W
- 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 ($T_A = +25^\circ\text{C}$)

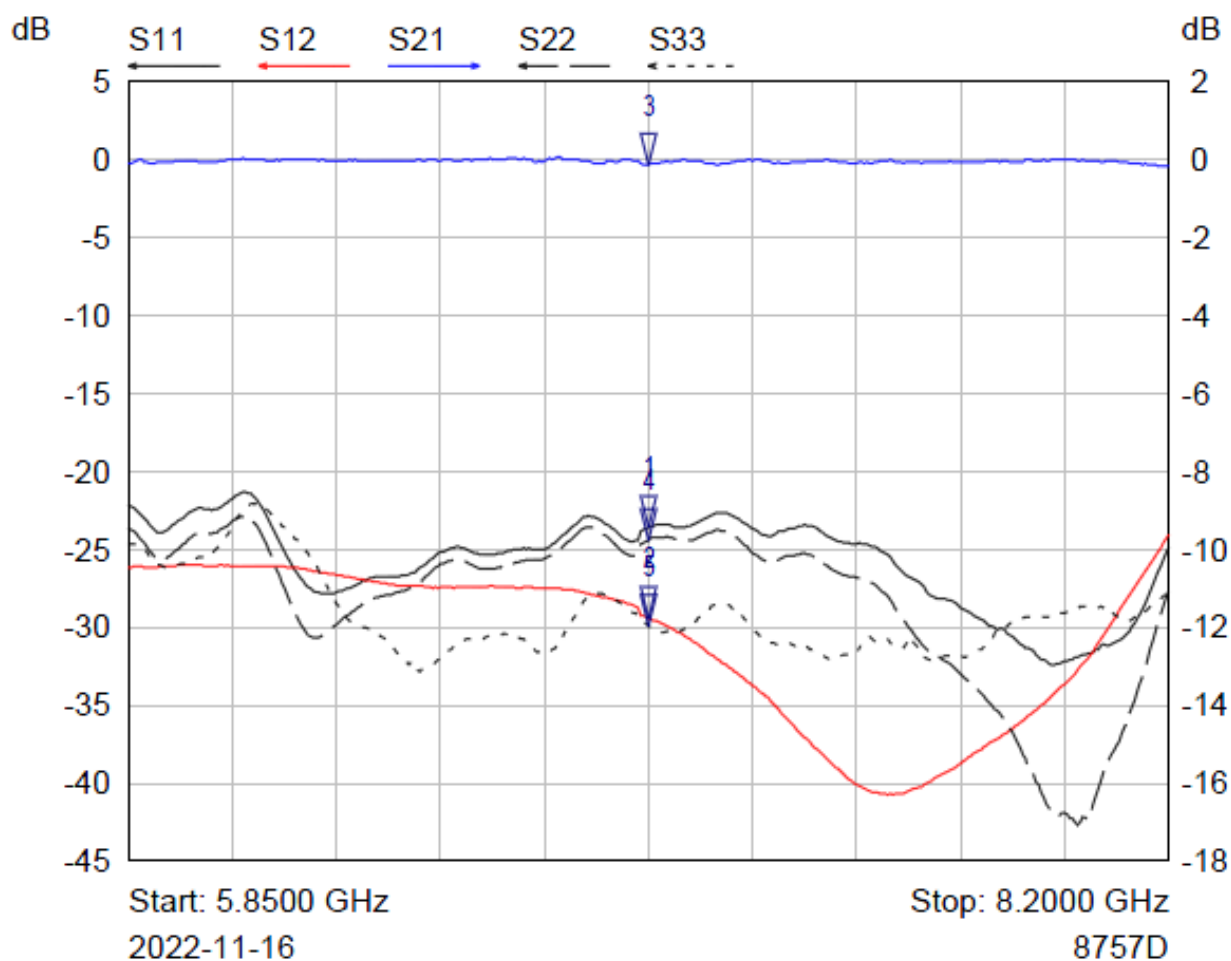
Parameter	Min	Typ	Max	Units
Frequency Range		5.85 - 8.2		GHz
Insertion Loss			0.50	dB
Isolation	20			dB
VSWR			1.25	:1
Forward Power (CW)			300	W
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Weight		-		lbs.
Flange Type		CPR137F (See drawing)		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +60°C (Case Temperature)
Storage Temperature	-40°C to +85°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)

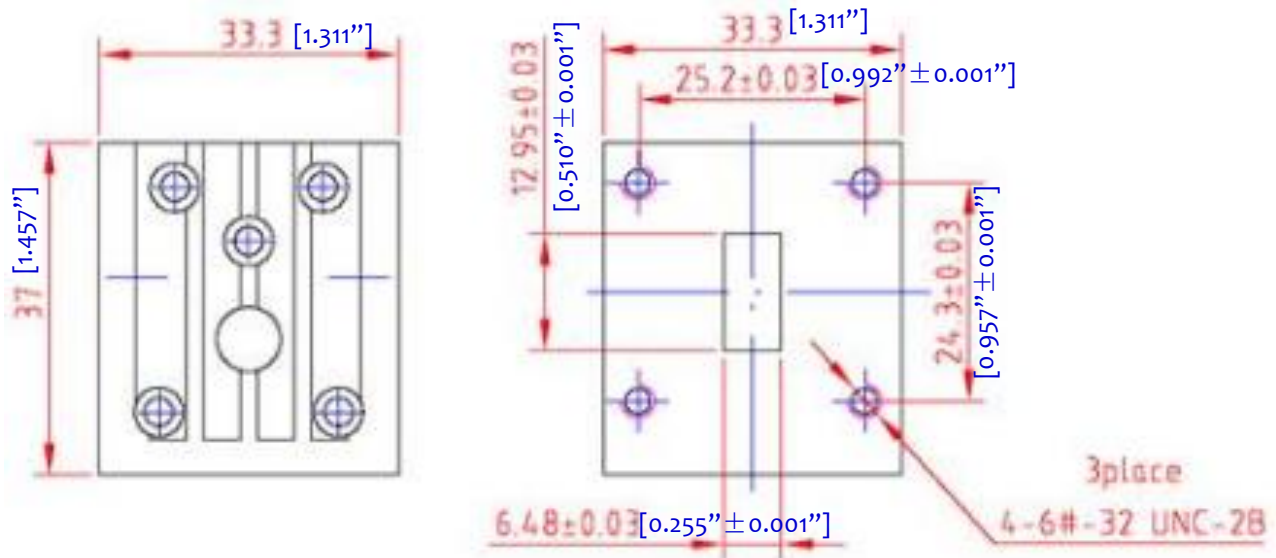
*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	7.0250 GHz	-23.58 dB	
2 ▽	S12	7.0250 GHz	-29.42 dB	
3 ▽	S21	7.0250 GHz	-0.12 dB	
4 ▽	S22	7.0250 GHz	-24.38 dB	
5 ▽	S33	7.0250 GHz	-29.91 dB	

Outline Drawing



Notes:

1. Package Material: Aluminum / Copper
2. Finish: Conductive Oxide (Not Painted)
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ± 0.5 [0.02], Mounting Hole Tolerances ± 0.2 [0.008] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.

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
RFWC137G	waveguide type WR137	5.85GHz–8.2GHz WR137 Waveguide Circulator

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