2KW CW WR62 4-Port Waveguide Circulator
12.4GHz - 18GHz

Product Description

RFWC62E is a full band high power WR62 waveguide circulator with a frequency range of 12.4 to 18GHz.

The circulator has a minimum isolation of 21dB. The maximum insertion loss is 0.3dB.

The circulator waveguide type is WR62.

Features

- High power handling up to 2KW CW
- 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℃)

Parameter	Min	Typ	Max	Units
Frequency Range		12.4-18		GHz
Insertion Loss			0.3	dB
Isolation	21			dB
VSWR			1.25	:1
* Power Handling (CW)			2	KW
Rotation		Clockwise (Standard) Counter Clockwise (upon request)		
Waveguide Type		WR62		
Flange Type		UG1665/U		

* Power Handling Notes
- The reverse power shall not exceed the power handling capacity of the port 3 load.
- To use it as an isolator: port 1->port 2; connect port 3 with a power load and port 4 with a matched load (20W).
- For applications over 1KW air cooling is recommended to keep the case temperature at 50ºC

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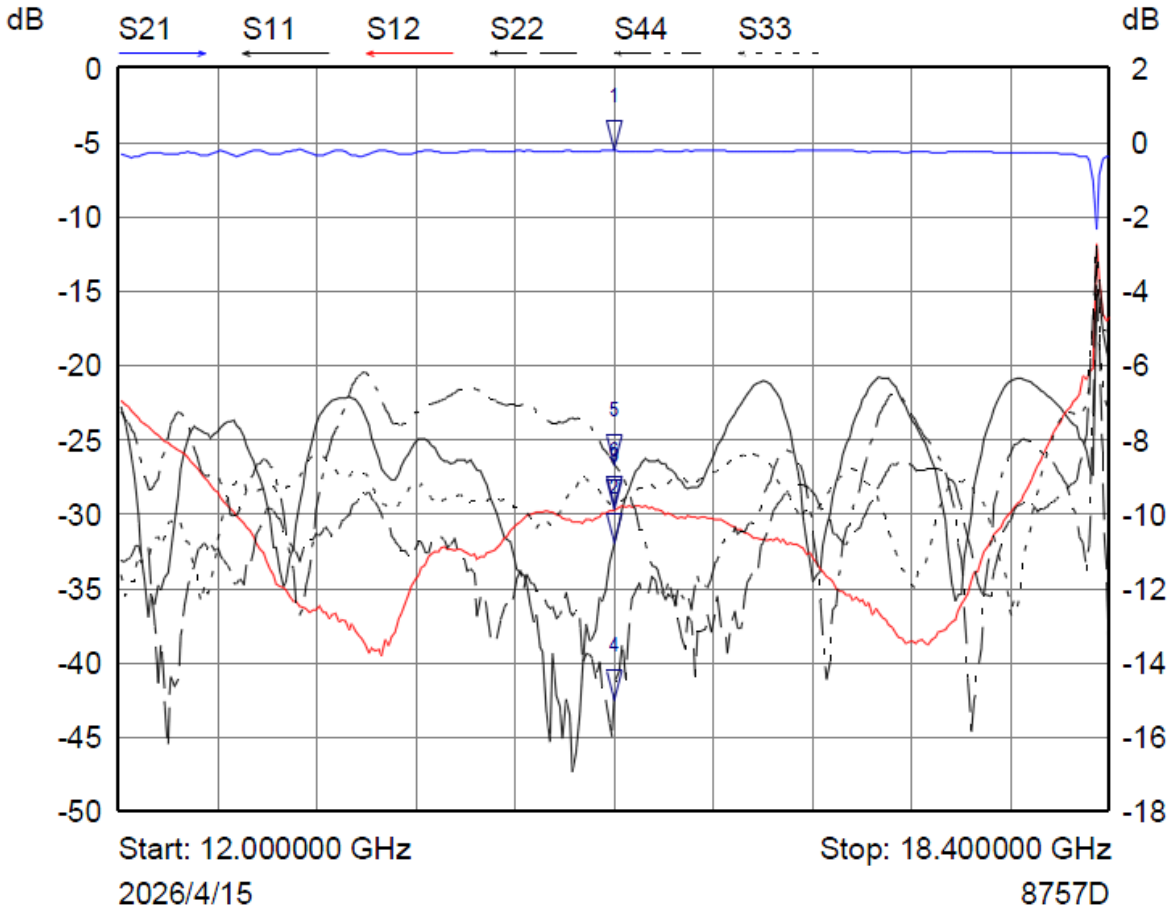
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20ºC to +50ºC (Case Temperature)
Storage Temperature	-40ºC to +85ºC
Thermal Shock	-20ºC → +50ºC (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)

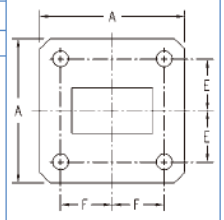
Typical Performance Plots

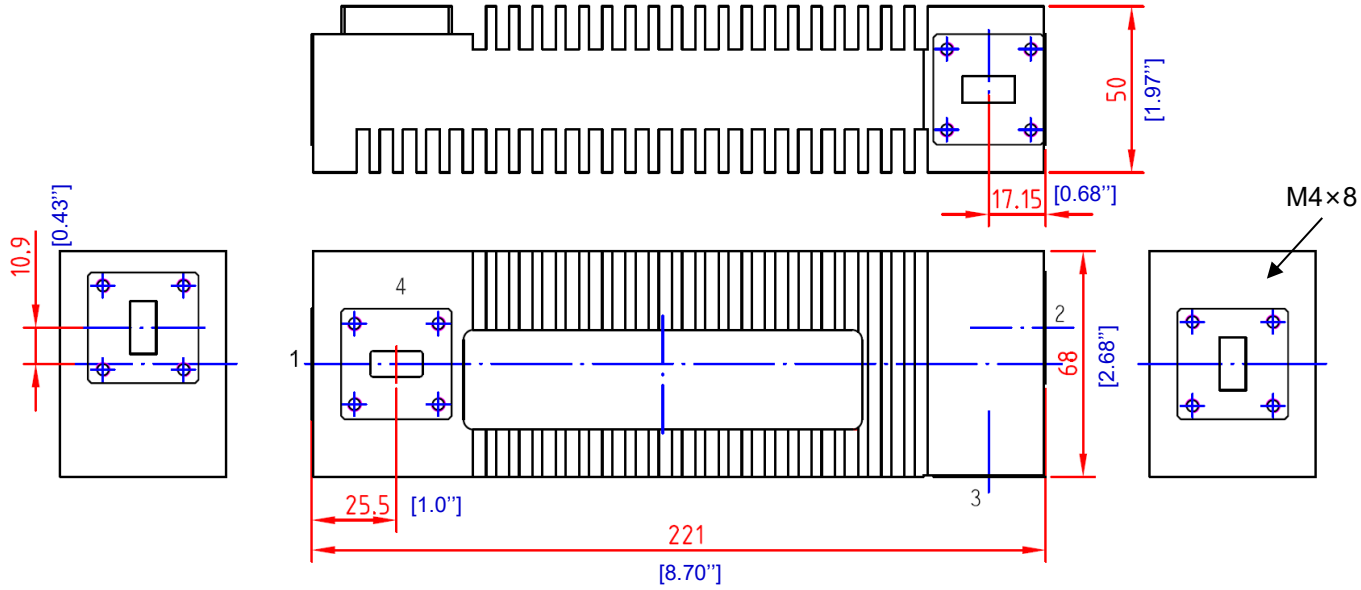


Mkr	Trace	X-Axis	Value	Notes
1	S21	15.200000 GHz	-0.1989 dB	
2	S11	15.200000 GHz	-31.9212 dB	
3	S12	15.200000 GHz	-29.6974 dB	
4	S22	15.200000 GHz	-42.5366 dB	
5	S44	15.200000 GHz	-26.6251 dB	
6	S33	15.200000 GHz	-29.3914 dB	

Outline Drawing

WR62	WG18	R140
UG419/U	UBR140	
Dimensions	inches	mm
A	1.31 [1]	33.30
E	0.478	12.14
F	0.497	12.63
Hole Dia.	0.144 [2]	4.085





Notes:
1. Package Material: Aluminum Alloy
2. All dimensions are in millimeters [inches].
3. 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
RFWC62E	WR62	12.4GHz-18GHz Waveguide Circulator

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