1KW High Power Coaxial Circulator 300MHz-800MHz (50MHz BW)

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

Product Description

RFC214-1000W is a generic part number used to define a high power circulator with a narrow BW of approximately 50MHz in the range of 300 to 830MHz.

The circulator has a minimum isolation of 20dB. The maximum insertion loss is 0.4dB.

The circulator input and output connectors are 7/16 or N-Female.

Features

- High power handling up to 1000W
- 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℃)

Parameter	Min	Typ	Max	Units
Frequency Range		50MHz BW within 300-830MHz Examples (400-450MHz, 500-550MHz, 780-830MHz)		MHz
Insertion Loss			0.4	dB
Isolation	20			dB
VSWR			1.25	:1
Average Power			1000	W
Rotation		Clockwise (Standard) Counter Clockwise (Upon Request)		
Input / Output Connector Options		7/16 or N–Female		
Impedance		50		Ω

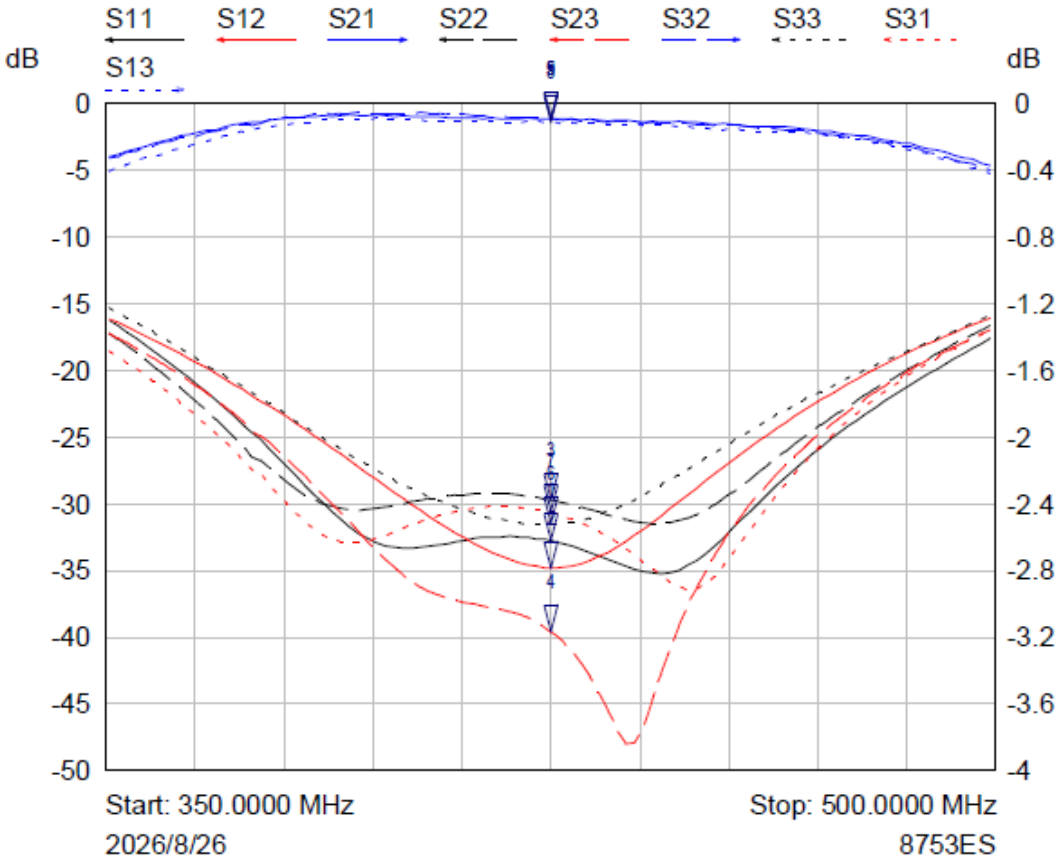
RF-LAMBDA USA LLC: www.rflambda.com
Sales: sales@rflambda.com Technical: support@rflambda.com

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	+10ºC to +60ºC (Case Temperature)
Storage Temperature	-50ºC to +125ºC
Thermal Shock	+10ºC → +60ºC (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

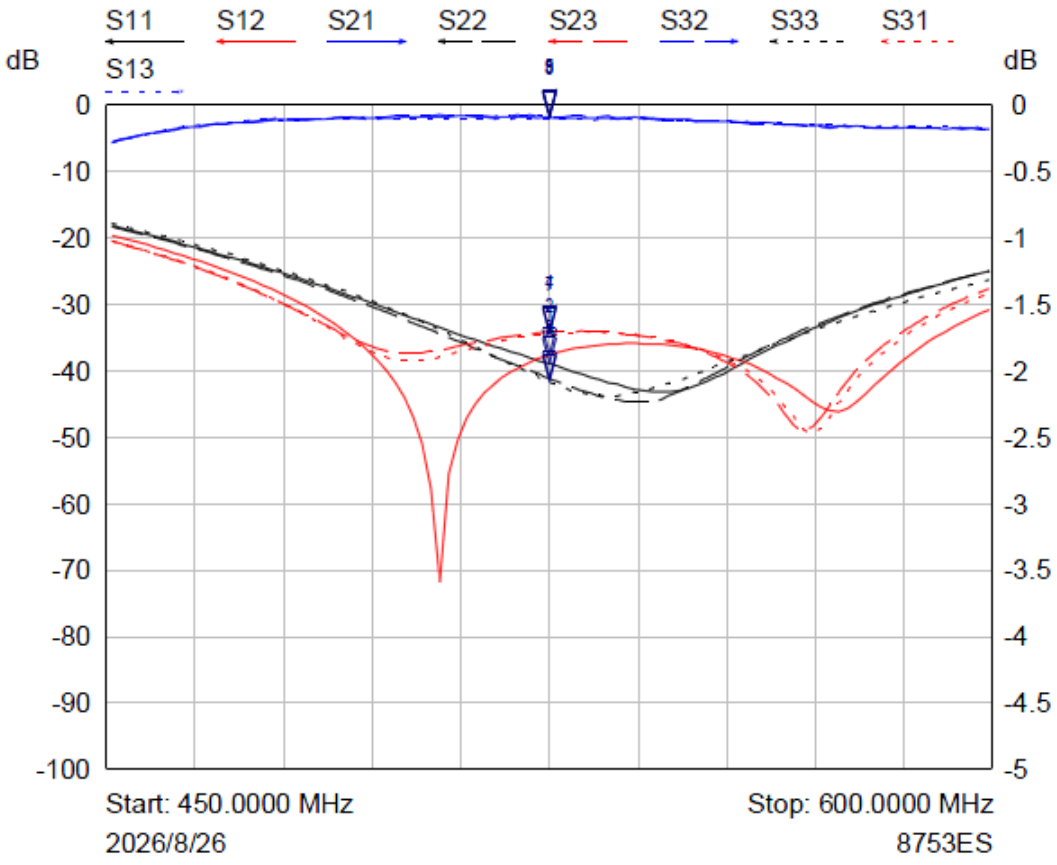
425MHz Example



Mkr	Trace	X-Axis	Value	Notes
1	S11	425.0000 MHz	-32.78 dB	
2	S12	425.0000 MHz	-34.81 dB	
3	S22	425.0000 MHz	-29.72 dB	
4	S23	425.0000 MHz	-39.62 dB	
5	S32	425.0000 MHz	-0.09 dB	
6	S33	425.0000 MHz	-31.52 dB	
7	S31	425.0000 MHz	-30.65 dB	
8	S13	425.0000 MHz	-0.12 dB	
9	S21	425.0000 MHz	-0.09 dB	

Typical Performance Plots

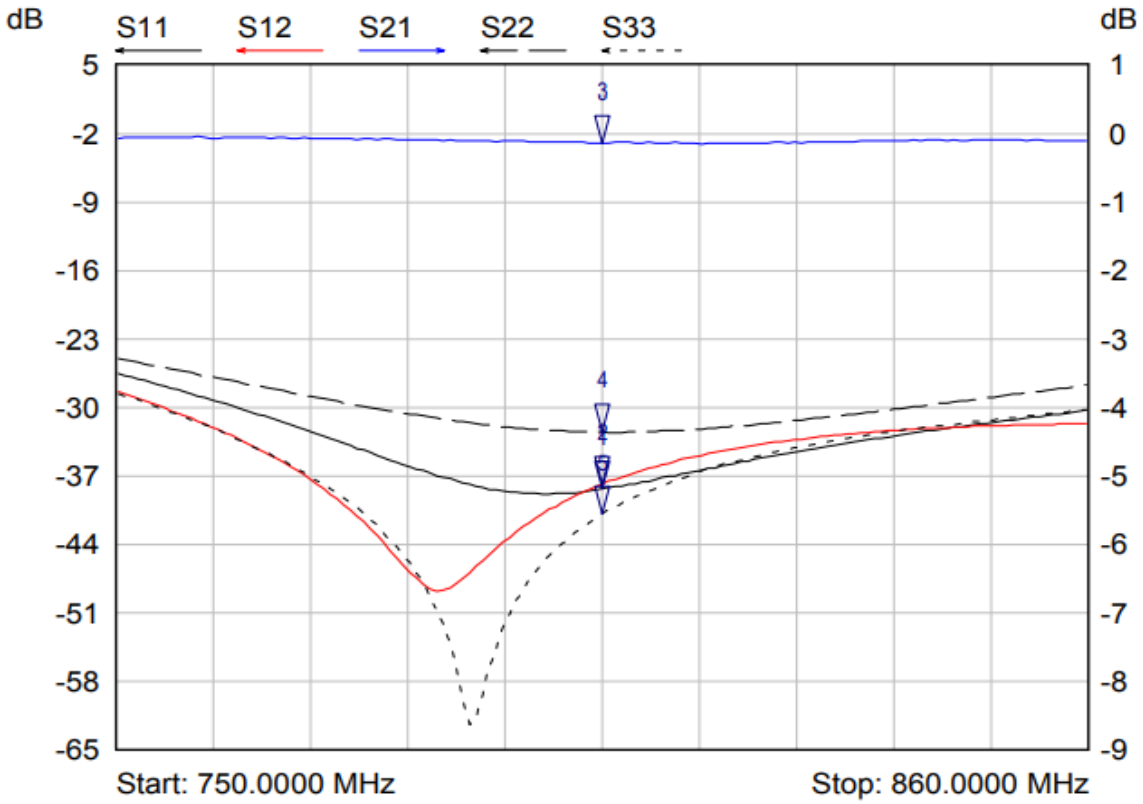
525MHz Example



Mkr	Trace	X-Axis	Value	Notes
1	S11	525.0000 MHz	-39.02 dB	
2	S12	525.0000 MHz	-37.65 dB	
3	S22	525.0000 MHz	-41.14 dB	
4	S23	525.0000 MHz	-34.22 dB	
5	S32	525.0000 MHz	-0.09 dB	
6	S33	525.0000 MHz	-41.65 dB	
7	S31	525.0000 MHz	-34.51 dB	
8	S13	525.0000 MHz	-0.10 dB	
9	S21	525.0000 MHz	-0.10 dB	

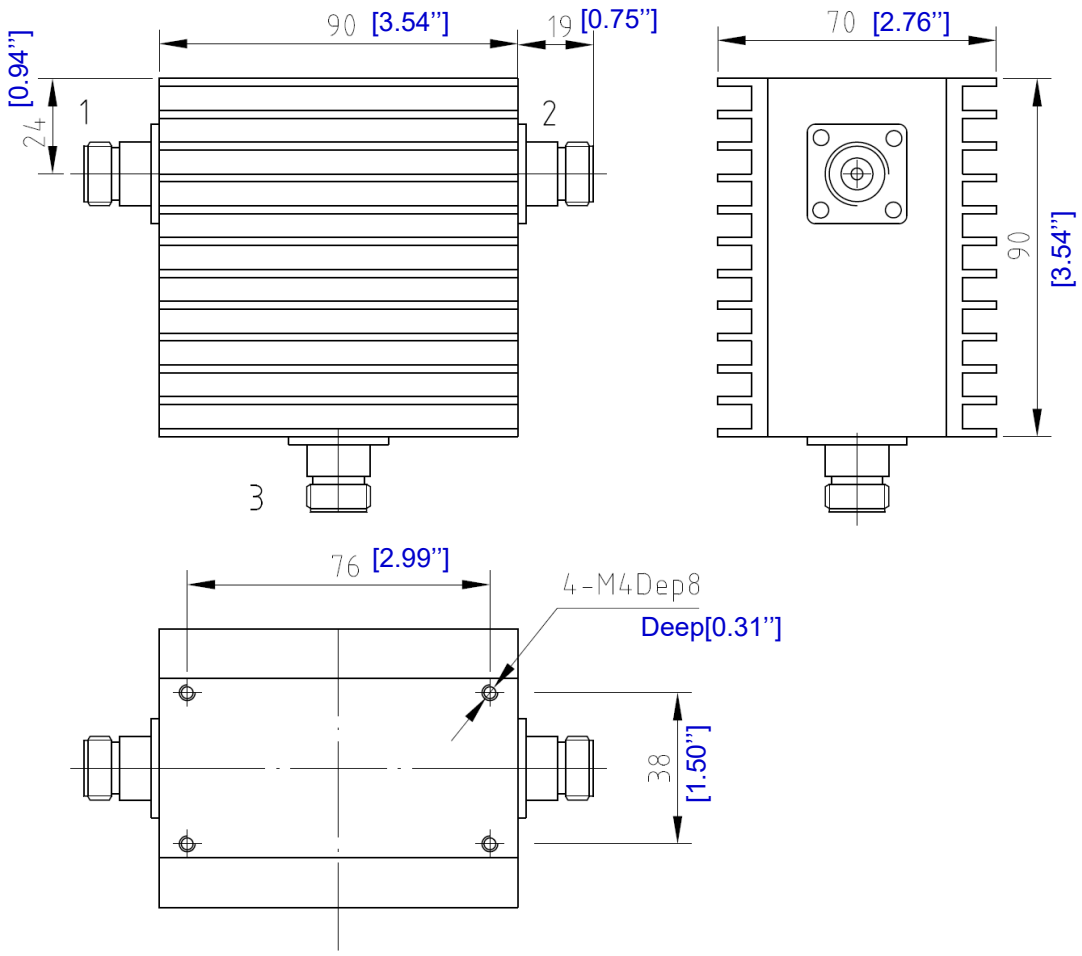
Typical Performance Plots

805MHz Example



MKr	Trace	X-Axis	Value
1▽	S11	805.0000 MHz	-38.31 dB
2▽	S12	805.0000 MHz	-37.79 dB
3▽	S21	805.0000 MHz	-0.13 dB
4▽	S22	805.0000 MHz	-32.48 dB
5▽	S33	805.0000 MHz	-40.83 dB

Outline Drawing



Notes:
1. Package Material: Aluminum Alloy / Copper
2. Finish: Gray / Black Epoxy Enamel
3. All dimensions are in millimeters [inches]
4. 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
RFC214-1000W	Connectors 7/16 or N–Female	300MHz-800MHz High Power Circulator

Important Notice

RF-LAMBDA USA LLC: www.rflambda.com
Sales: sales@rflambda.com Technical: support@rflambda.com