

## High Power Circulator 730MHz – 770MHz



### Product Description

RFC2141-5000W is a generic part number used to define a high power circulator with a narrow BW of approximately 30MHz in the range of 400 to 900MHz. Example frequency range of 730 to 770MHz is shown.

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

### Features

- High power handling up to 5000W
- 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

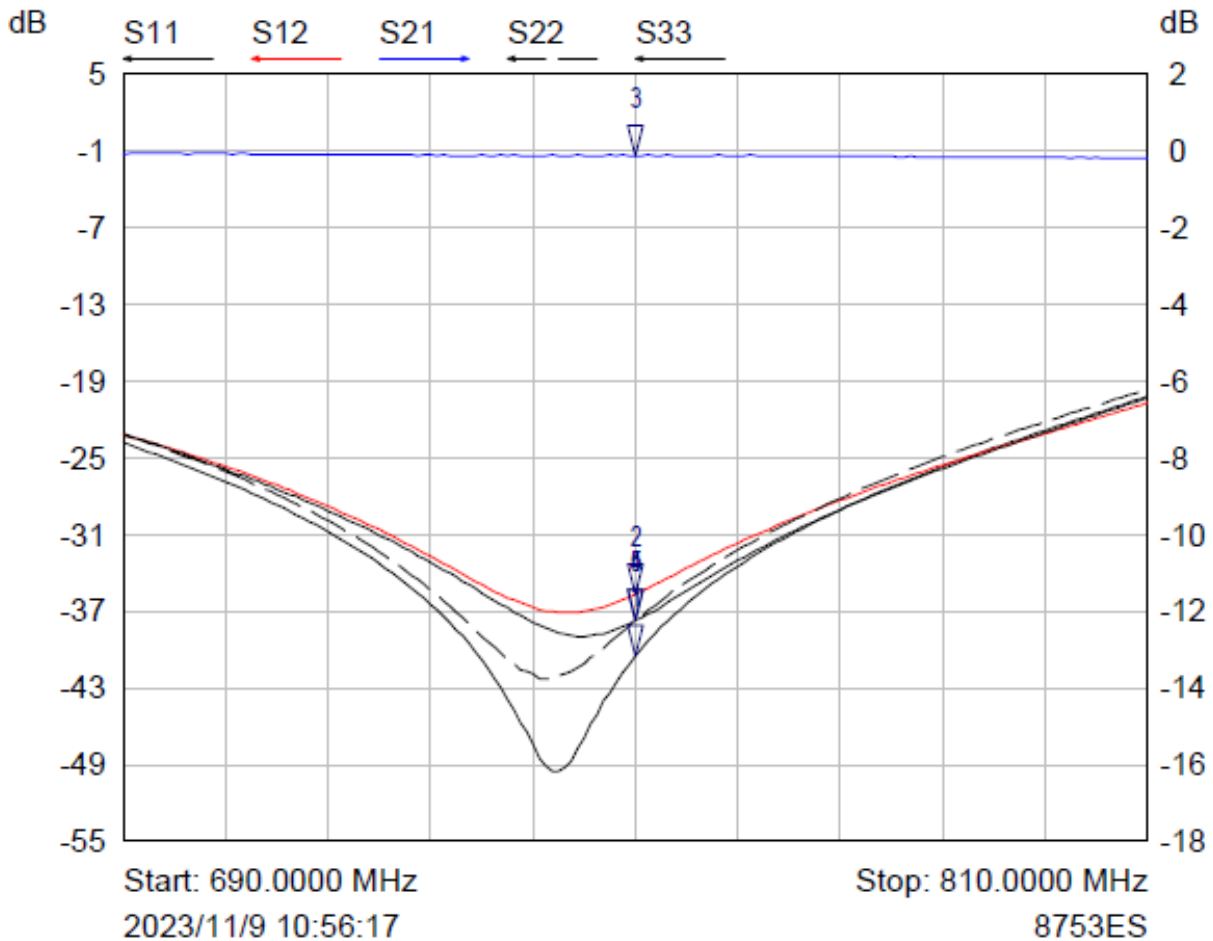
### Electrical Specifications( $T_A=25^\circ\text{C}$ )

Parameter	Min	Typ	Max	Units
Frequency Range		730 - 770		MHz
Insertion Loss			0.4	dB
Isolation	20			dB
VSWR			1.25	:1
Average Power			5000	W
Rotation		Clockwise (Standard) Counter Clockwise (Upon Request)		
Input / Output Connector Options		EIA 1-5/8" rigid coax		
Water Connections		1/4" Male NPT		
Impedance		50		$\Omega$

**Environmental Specifications and Test Standards**

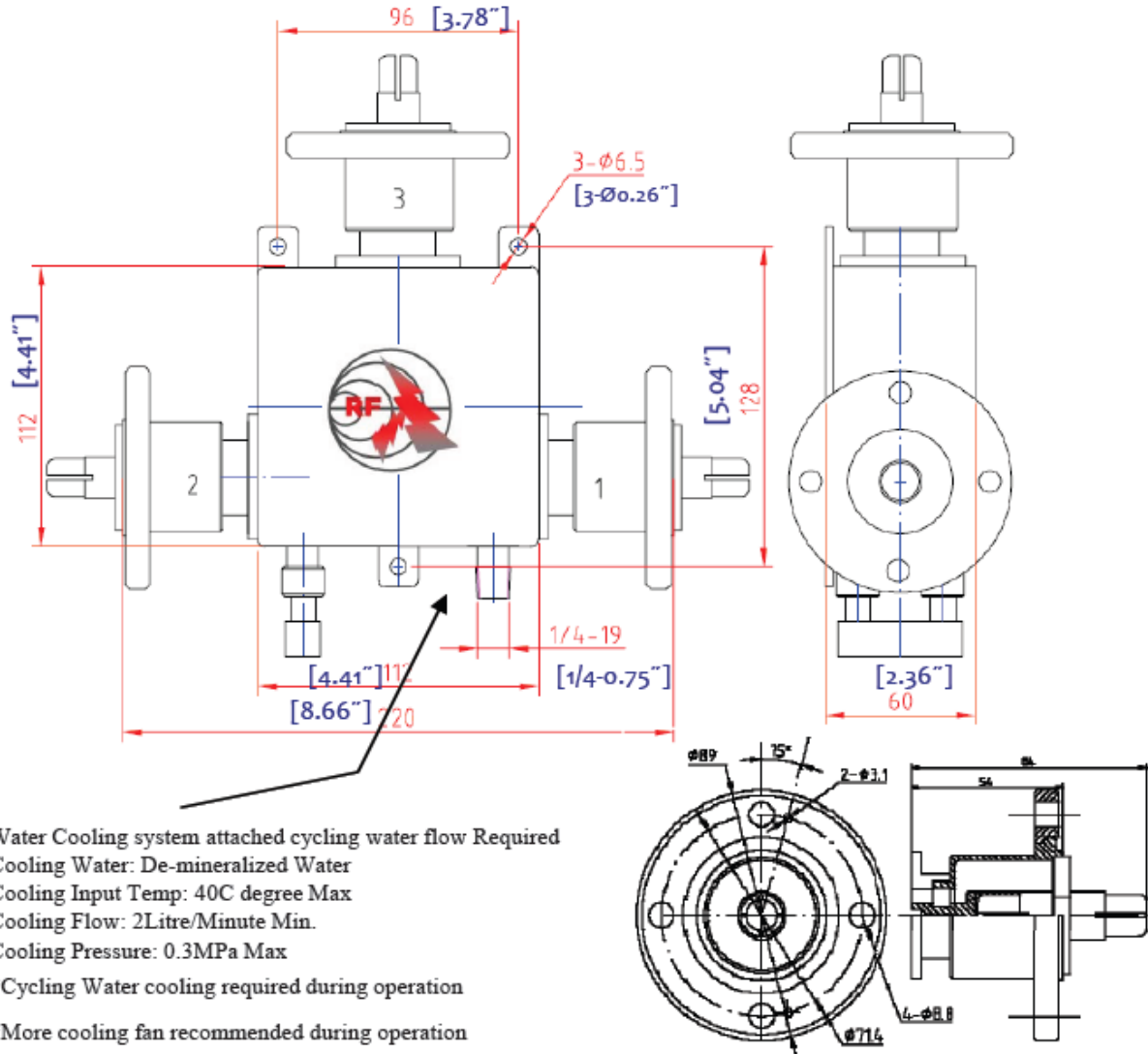
Parameter	Description
Operational Temperature	-70°C to +70°C (Case Temperature)
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C → +70°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
Shock	1. Weight >20g, 50g half sine wave for 11ms, 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	750.0000 MHz	-40.52 dB	
2 ▾	S12	750.0000 MHz	-35.67 dB	
3 ▾	S21	750.0000 MHz	-0.12 dB	
4 ▾	S22	750.0000 MHz	-37.74 dB	
5 ▾	S33	750.0000 MHz	-37.72 dB	

**Outline Drawing**



Additional Information

Documentation	Webpage
ESD Policy	<a href="https://rflambda.com/pdf/rflambda_esd_control.pdf">https://rflambda.com/pdf/rflambda_esd_control.pdf</a>
Heatsink Lookup Specifications	<a href="https://rflambda.com/search_heatsink.jsp">https://rflambda.com/search_heatsink.jsp</a>
Connector Torque Specifications	<a href="https://www.rflambda.com/pdf/Torque_Specifications.pdf">https://www.rflambda.com/pdf/Torque_Specifications.pdf</a>
Random Vibration Test Standard	<a href="https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf">https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf</a>

**Additional Information**

Documentation	Webpage
ESD Policy	<a href="https://rflambda.com/pdf/rflambda_esd_control.pdf">https://rflambda.com/pdf/rflambda_esd_control.pdf</a>
Connector Torque Specifications	<a href="https://www.rflambda.com/pdf/Torque_Specifications.pdf">https://www.rflambda.com/pdf/Torque_Specifications.pdf</a>
Random Vibration Test Standard	<a href="https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf">https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf</a>

**Ordering Information**

Part Number	Modification	Description
RFC2141-5000W	Generic Part Number for 5KW circulator	Please contact sales for custom frequency band part number.
RFC2141-5000W-750MHz	Centered at 750MHz with 40MHz BW	730MHz-770MHz High Power Circulator .

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