

High Power Circulator 2.7GHz-3.1GHz



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

Product Description

RFLC-HXD-47-V7 is a high power circulator with a frequency range of 2.7 to 3.1GHz.

The circulator has a minimum isolation of 25dB. The maximum insertion loss is 0.3dB. The circulator has good isolation performance.

The circulator input and output connectors are SMA-Female.

Features

- High power handling up to 250W
- 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 ($T_A=+25^{\circ}\text{C}$)

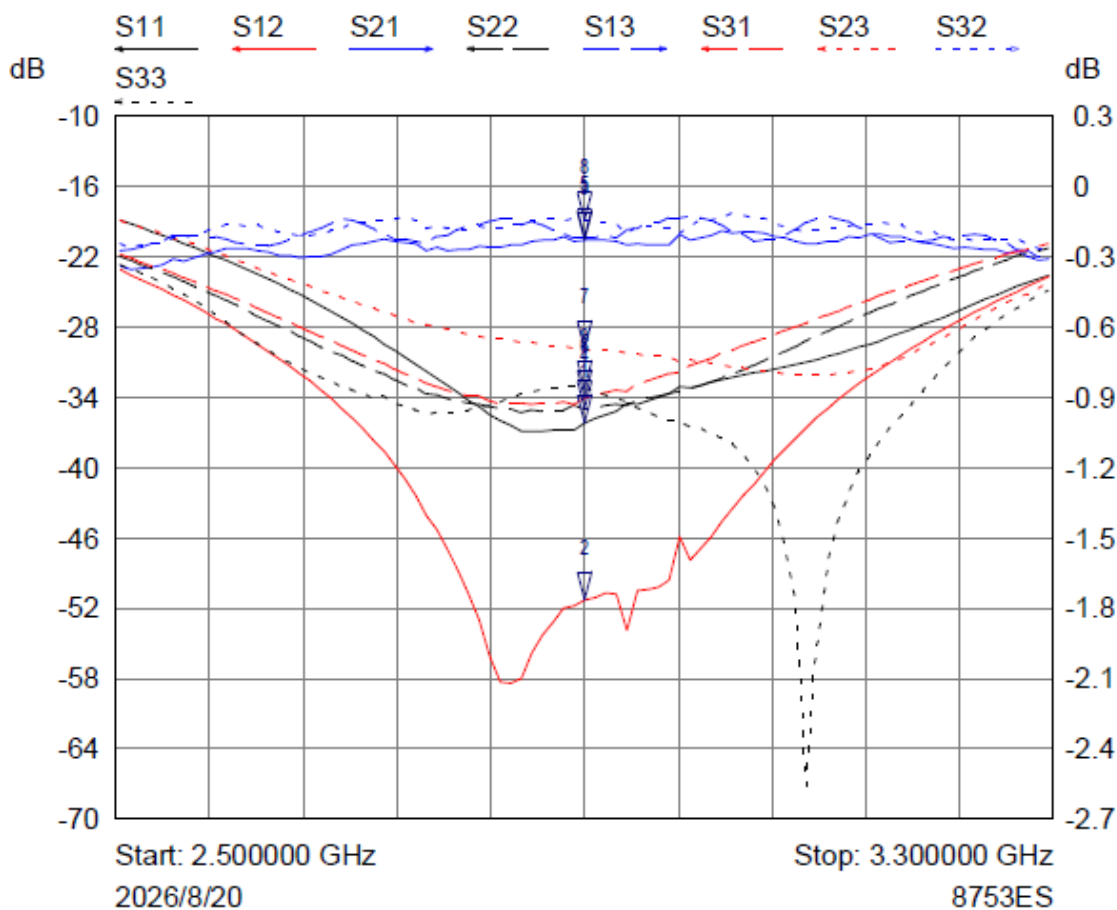
Parameter	Min.	Typ.	Max.	Units
Frequency Range	2.7		3.1	GHz
Insertion Loss		0.15	0.3	dB
Isolation	25	28		dB
VSWR		1.1	1.2	:1
Power Handling			250	W
Rotation		Clockwise (Standard) Counter Clockwise (Upon Request)		
Input / Output Connectors		SMA-Female		
Impedance		50		Ω

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-10°C to +70°C (Case Temperature)
Storage Temperature	-40°C to +100°C
Thermal Shock	-10°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)

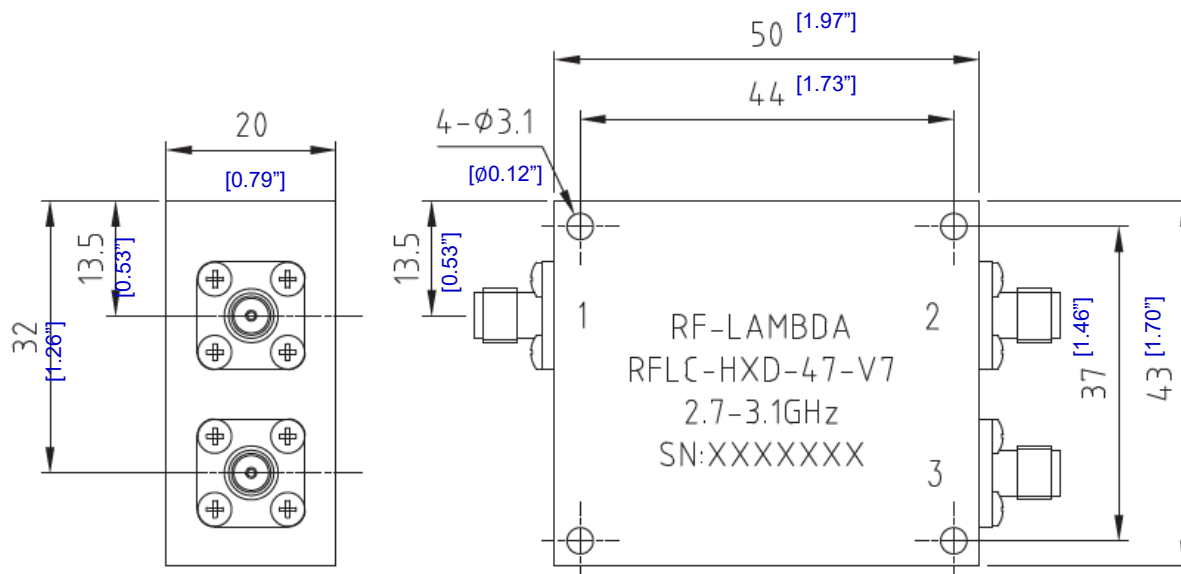
*For vibration testing details please see additional information section.

Typical Performance Plots



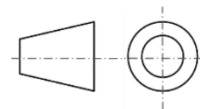
Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	2.900000 GHz	-36.1967 dB	
2 ▽	S12	2.900000 GHz	-51.2709 dB	
3 ▽	S21	2.900000 GHz	-0.2301 dB	
4 ▽	S22	2.900000 GHz	-34.9726 dB	
5 ▽	S13	2.900000 GHz	-0.2225 dB	
6 ▽	S31	2.900000 GHz	-34.0746 dB	
7 ▽	S23	2.900000 GHz	-29.8688 dB	
8 ▽	S32	2.900000 GHz	-0.1452 dB	
9 ▽	S33	2.900000 GHz	-33.2815 dB	

Outline Drawing



Notes:

1. All dimensions are in millimeters [inches].
2. 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
RFLC-HXD-47-V7	Standard	2.7GHz-3.1GHz High Power Circulator

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