

UHF Dual Junction Circulator 383MHz-518MHz



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

Product Description

RFLC-117-1-450M is a dual junction circulator with a frequency range of 383 to 518MHz.

The circulator has a minimum isolation of 18dB. The maximum insertion loss is 1.4dB.

The circulator input and output connectors are SMA.

Features

- High power handling up to 200W
- 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 ($T_A=+25^{\circ}\text{C}$)

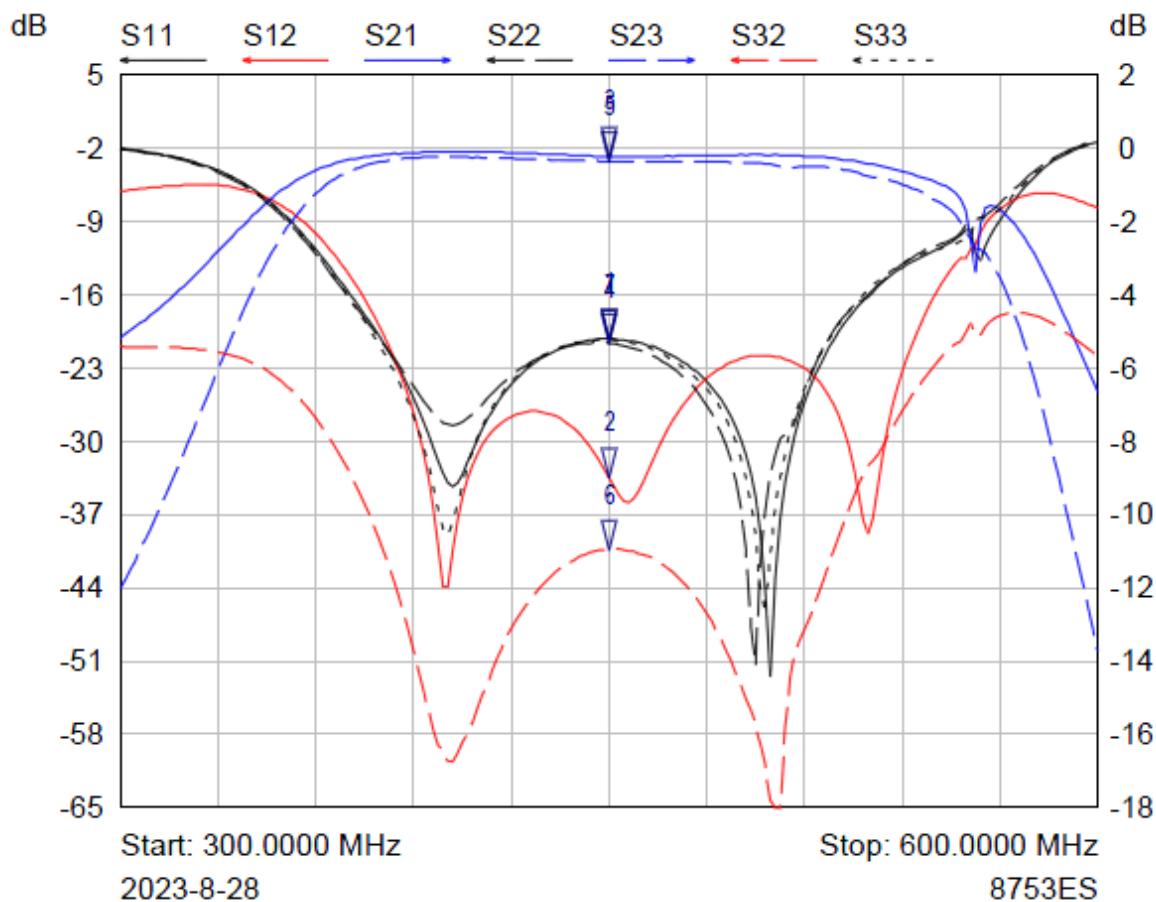
Parameter		Min.	Typ.	Max.	Units
Frequency Range		383		518	MHz
Insertion Loss	1->2			0.4	dB
	2->3			1.4	
Isolation	2->1	18			dB
	3->2	36			
VSWR				1.35	:1
Forward Power				200	W
Reverse Power				20	W
Rotation			Clockwise (Standard) Count Clockwise (upon request)		
Input / Output Connectors			SMA-50K		
Impedance			50		Ω

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	0°C to +70°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	0°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.

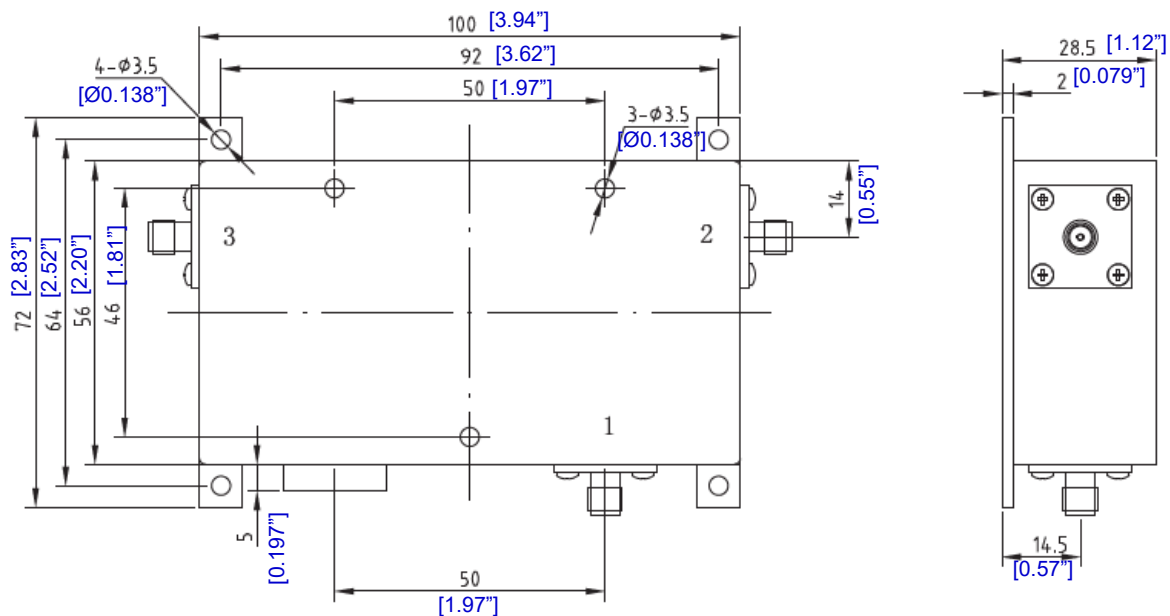
Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	450.0000 MHz	-20.21 dB	
2 ▽	S12	450.0000 MHz	-33.50 dB	
3 ▽	S21	450.0000 MHz	-0.22 dB	
4 ▽	S22	450.0000 MHz	-20.63 dB	
5 ▽	S23	450.0000 MHz	-0.36 dB	
6 ▽	S32	450.0000 MHz	-40.34 dB	
7 ▽	S33	450.0000 MHz	-20.30 dB	

SN:20230803

Outline Drawing



Notes:

1. Package Material: Aluminum Alloy / Copper
2. Finish: Nickel Plated
3. All dimensions are in millimeters [inches].

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-117-1-450M	Connectors SMA-50k	383MHz-518MHz Dual Junction Circulator

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