

Triple Junction Circulator 1.8GHz-2.4GHz



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

Product Description

RFLC-313-2-1.8G2.4G is a triple junction circulator with a 600MHz BW withing a frequency range of 1.8 to 2.4GHz.

The circulator has a minimum isolation of 45dB. The maximum insertion loss is 0.7dB.

The operating temperature of this product is within -40 to +85°C

Features

- High power handling up to 100W
- 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 ($T_A=+25^{\circ}\text{C}$)

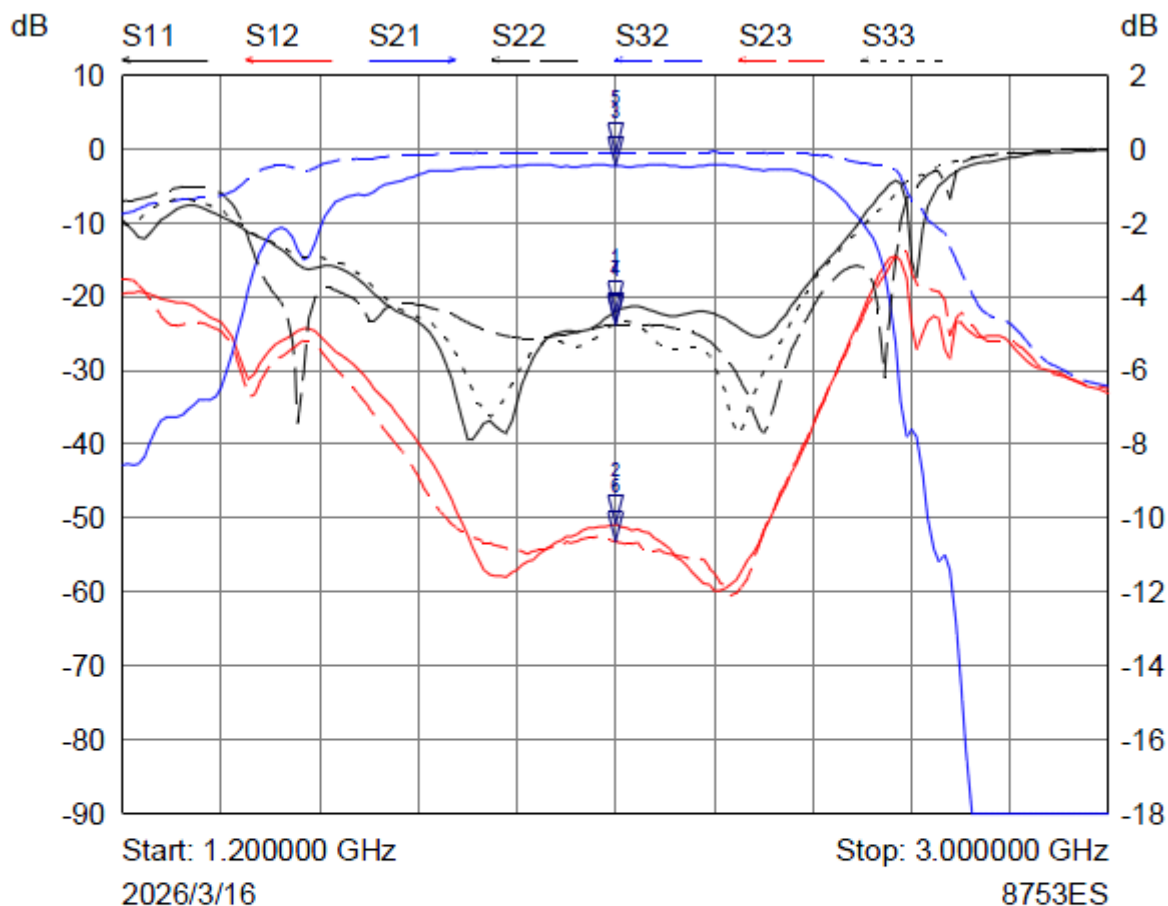
Parameter		Min.	Typ.	Max.	Units
Frequency Range			1.8 – 2.4		GHz
Bandwidth			600		MHz
Insertion Loss	1->2			0.7	dB
	2->3			0.7	
Isolation	2->1	45			dB
	3->2	45			
VSWR				1.2	:1
Forward Power				100	W
Reverse Power				10	W
Rotation			Clockwise (Standard) Count Clockwise (upon request)		
Input / Output Connectors			SMA-Female		

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-40°C to +100°C
Thermal Shock	-40°C → +85°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)

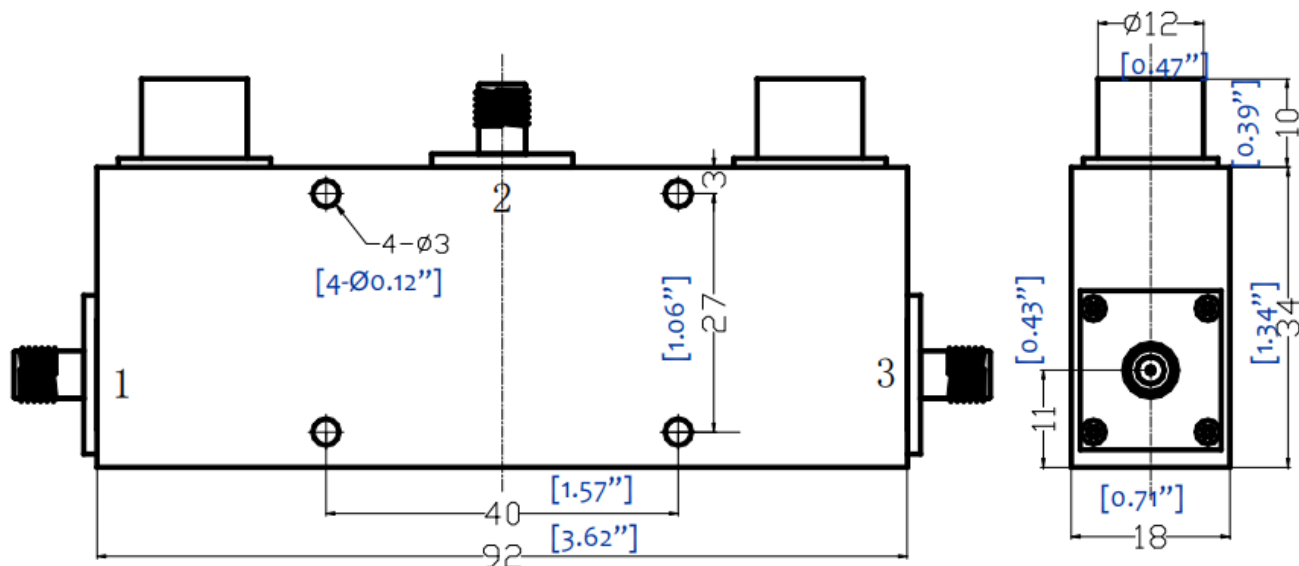
*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	2.100000 GHz	-22.0386 dB	
2 ▽	S12	2.100000 GHz	-50.8813 dB	
3 ▽	S21	2.100000 GHz	-0.4754 dB	
4 ▽	S22	2.100000 GHz	-23.9159 dB	
5 ▽	S32	2.100000 GHz	-0.4840 dB	
6 ▽	S23	2.100000 GHz	-53.0860 dB	
7 ▽	S33	2.100000 GHz	-23.5259 dB	

Outline Drawing



Notes:

1. Package Material: Aluminum Alloy
2. Finish: Conductive no paint
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
RFLC-313-2-1.8G2.4G	Standard	1.8GHz-2.4GHz Triple Junction Circulator

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