

Triple Junction Coaxial Circulator 2.9GHz-3.5GHz



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

Product Description

RFLI-313D-2-29G35G is a triple junction coaxial circulator with a frequency range of 2.9 to 3.5GHz.

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

The circulator input and output connectors are SMA-Female.

Features

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

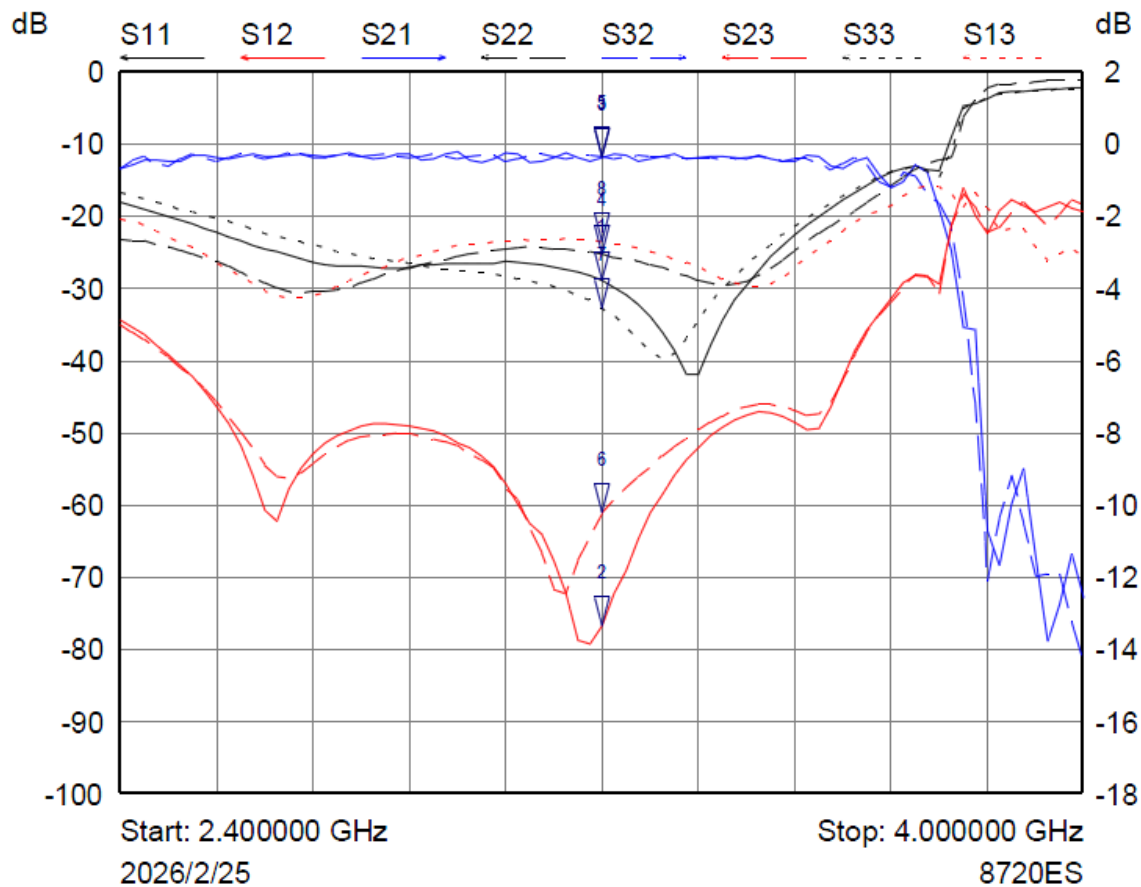
Parameter		Min.	Typ.	Max.	Units
Frequency Range			2.9 – 3.5		GHz
Insertion Loss	Port1 ->Port2		0.6	0.7	dB
	Port2 ->Port3		0.6	0.7	dB
Isolation	Port1 ->Port3	21	23		dB
	Port3 ->Port1	42	45		dB
	Port2 ->Port1	42	45		dB
	Port3 ->Port2	42	45		dB
VSWR			1.15	1.2	: 1
Forward Power				100	W
Reverse Power				10	W
Rotation			Clockwise		
Input / Output Connectors			SMA-Female(Input) – SMA-Female(Output)		
Weight			/ Max.		lbs.
Impedance			50		Ω

Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +70°C (Case Temperature)
Storage Temperature	-40°C to +85°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)

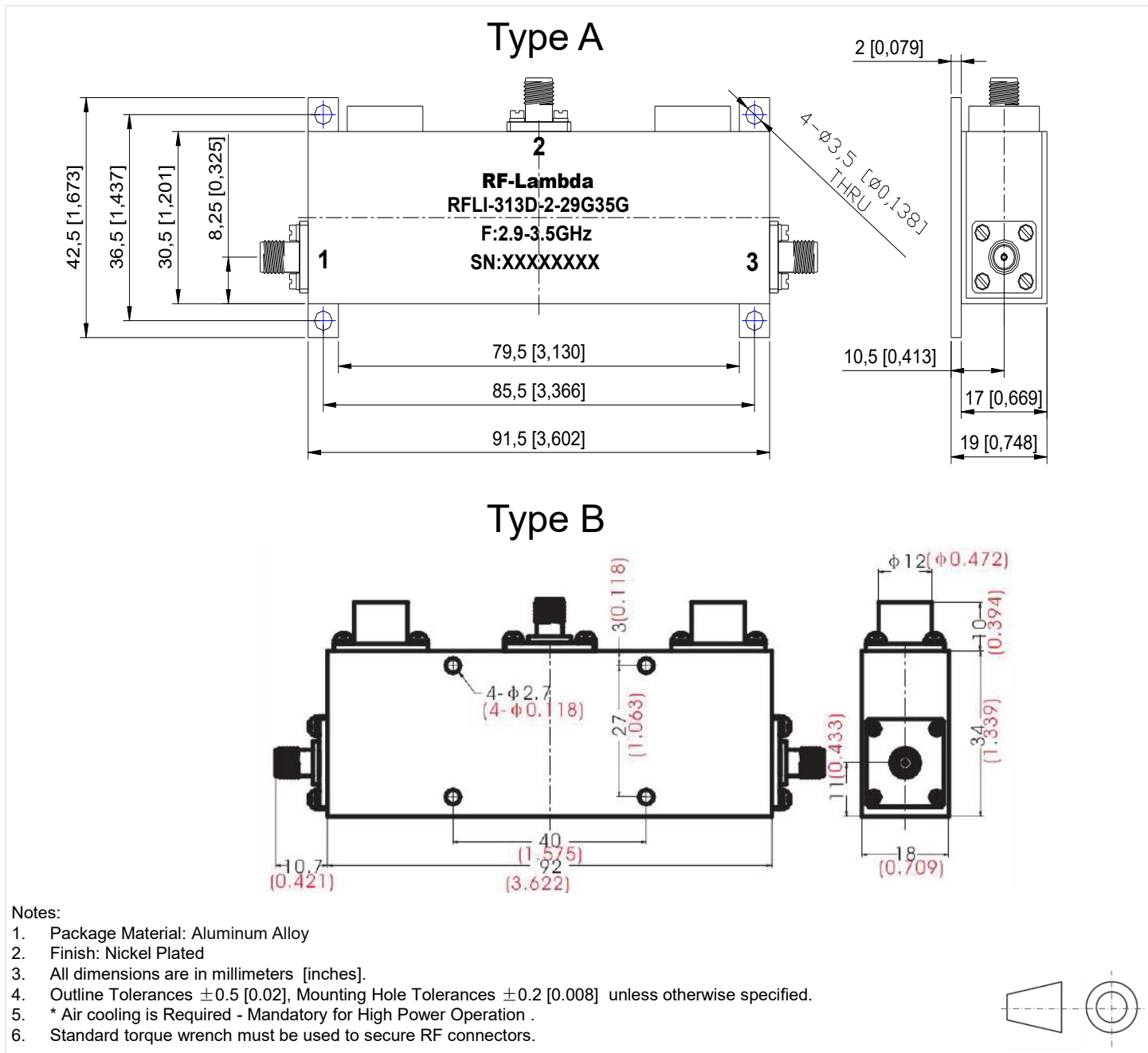
*For vibration testing details please see additional information section.

Typical Performance Plots



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	3.200000 GHz	-28.9026 dB	
2 ▽	S12	3.200000 GHz	-76.6227 dB	
3 ▽	S21	3.200000 GHz	-0.3523 dB	
4 ▽	S22	3.200000 GHz	-25.1760 dB	
5 ▽	S32	3.200000 GHz	-0.3200 dB	
6 ▽	S23	3.200000 GHz	-60.9837 dB	
7 ▽	S33	3.200000 GHz	-32.6393 dB	
8 ▽	S13	3.200000 GHz	-23.5590 dB	

Outline Drawing



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
RFLI-313D-2-29G35G	Standard	2.9GHz-3.5GHz Coaxial Circulator

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