

## Ultra Wide Band Coaxial Circulator 8GHz-12GHz



### Product Description

The RFLC601G08G12 is an ultra wide band coaxial circulator with a frequency range of 8 to 12GHz.

The circulator has a typical isolation of 18.5dB. The maximum insertion loss is 0.6dB. The circulator has good isolation performance.

The circulator input and output connectors are SMA Female.

### Features

- High power handling up to 10W
- 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		8-12		GHz
Insertion Loss		0.50	0.60	dB
Isolation (Note 1)	18	18.5		dB
VSWR		1.45	1.50	:1
Forward Power (CW)			10	W
Rotation		Counter Clockwise		
Input / Output Connectors		SMA-Female(Input) - SMA-Female(Output)		
Weight		0.08 Max.		lbs.
Impedance		50		$\Omega$

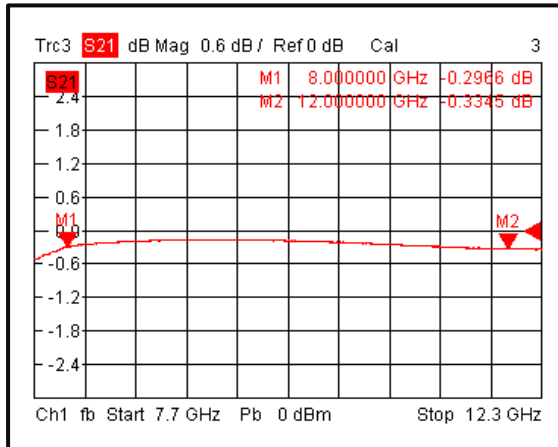
**Environmental Specifications and Test Standards**

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)

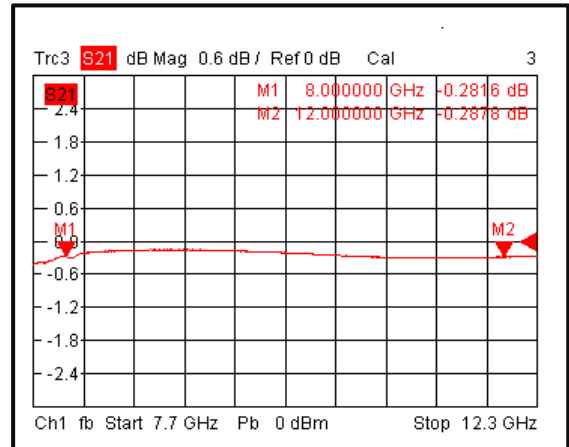
\*For vibration testing details please see additional information section.

Typical Performance Plots

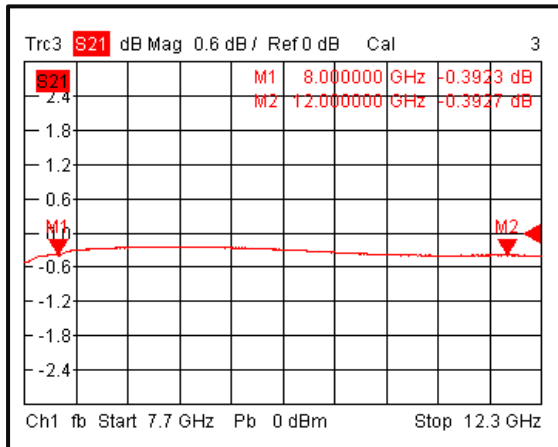
Insertion Loss (Port 1-Port 2)



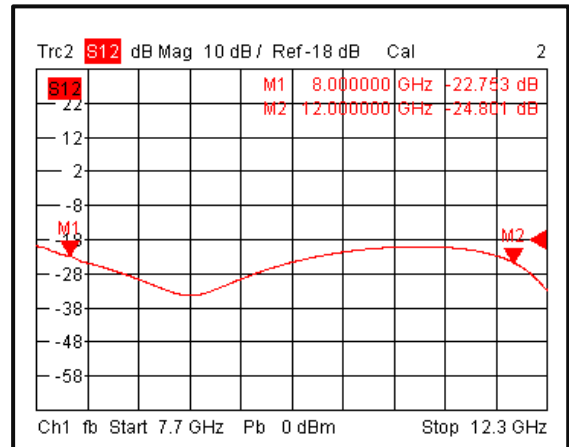
Insertion Loss (Port 2-Port 3)



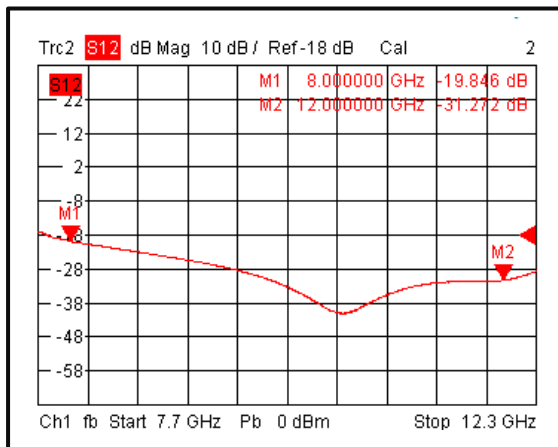
Insertion Loss (Port 3-Port 1)



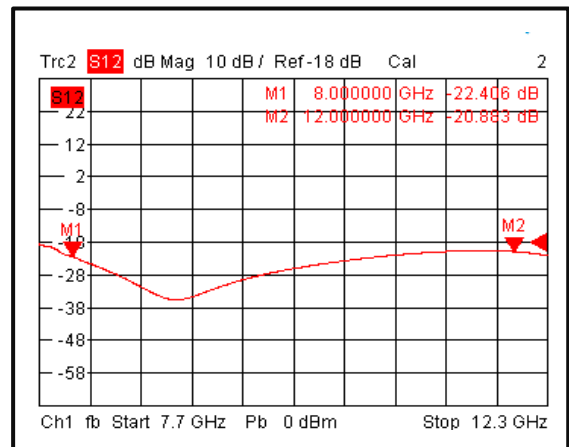
Isolation (Port 2-Port 1)



Isolation (Port 3-Port 2)

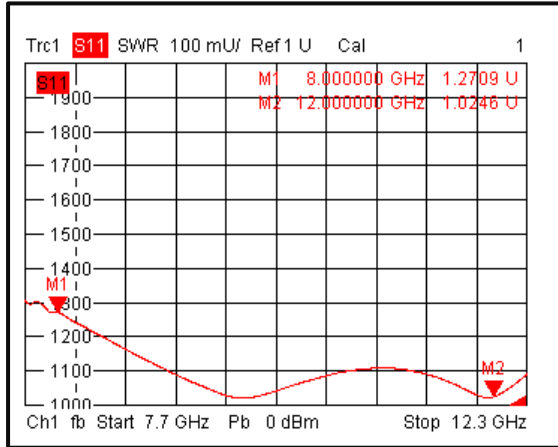


Isolation (Port 1-Port 3)

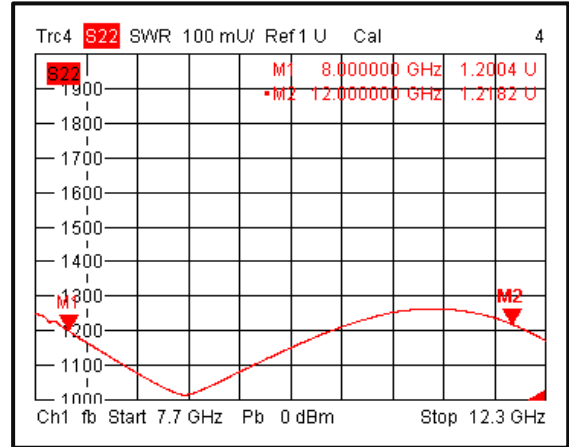


Typical Performance Plots

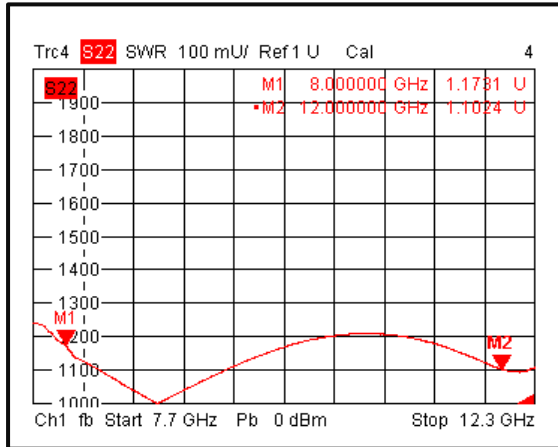
**VSWR 1**



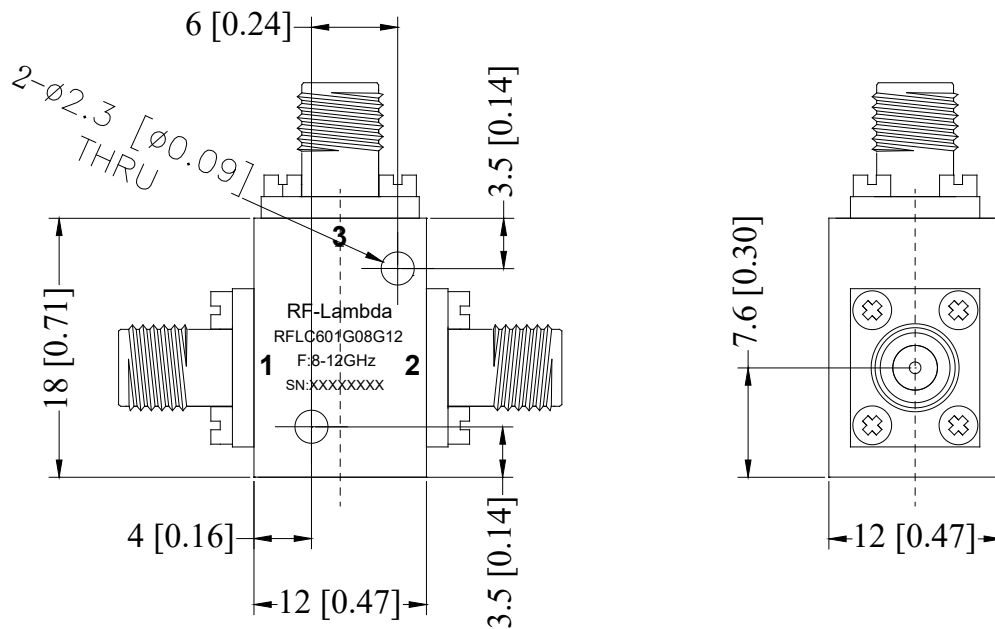
**VSWR 2**



**VSWR3**



**Outline Drawing**



**Notes:**

1. Package Material: Aluminum Alloy
2. Plating: Nickel
3. All dimensions are in millimeters [inches].
4. Tolerance  $\pm 0.25$ [0.01], unless otherwise specified

**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
RFLC601G08G12	Standard	8GHz-12GHz Coaxial Circulator

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