

Coaxial Cavity Band Pass Filter 44GHz-50GHz



Product Description

RBPF44G50G is a coaxial cavity band pass filter with a frequency range of 44 to 50GHz.

The peak power of this band pass filter is 1W. The insertion loss is 1.2dB with a typical rejection of 65dB.

The working temperature of this product is between 5°C and + 45°C.

Features

- High Rejection
- Low Insertion Loss
- Excellent Temperature Stability
- Miniaturization
- Filter Type: Cavity

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, TA = +25°C

Parameter	Min	Typ	Max	Units
Passband Frequency Range	44		50	GHz
Passband Insertion Loss		1.2	2.5	dB
Passband Return loss	10	11.5		dB
Rejection	@10-40GHz	40	75	dBc
	@54-60GHz	40	65	dBc
Power Rating (CW)			1	W
Weight		0.1 Max.		lbs
Impedance		50		Ω
Input / Output Connectors	2.4mm-Female(Input) – 2.4mm-Male(Output)			
Package	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

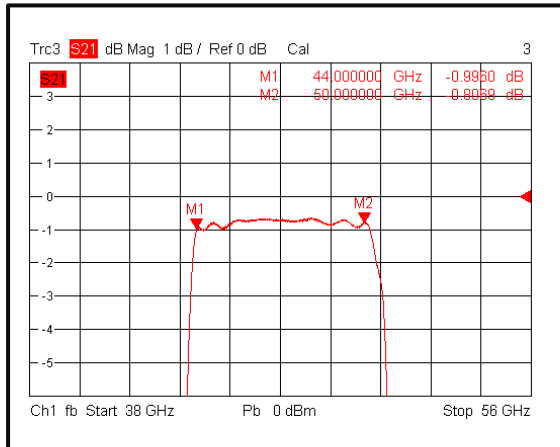
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	5°C to +45°C (Case Temperature)
Storage Temperature	-25°C to +55°C
Thermal Shock	5°C → +45°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)

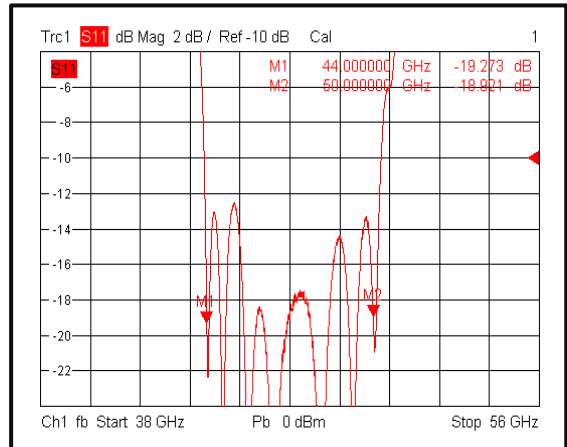
**For vibration testing details please see additional information section.

Typical Performance Plots

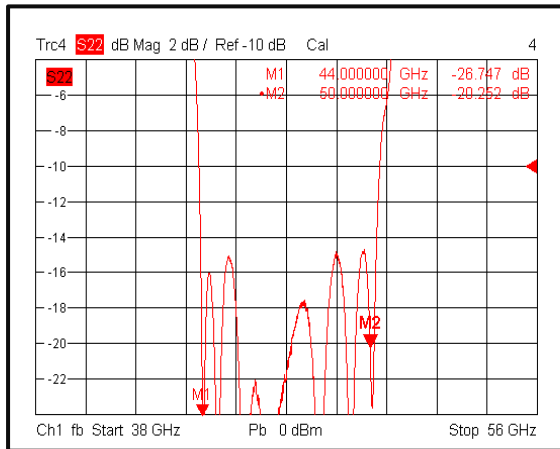
Insertion Loss



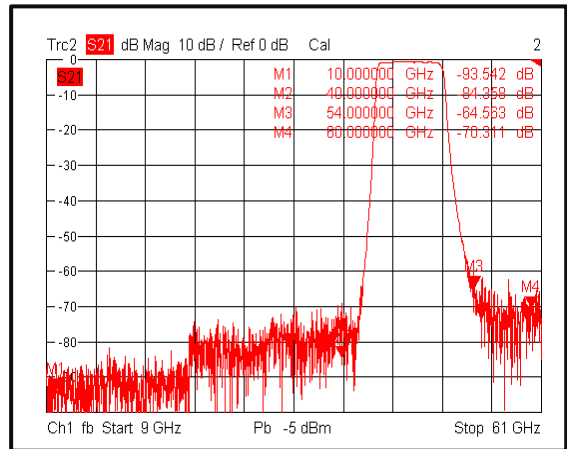
Input VSWR



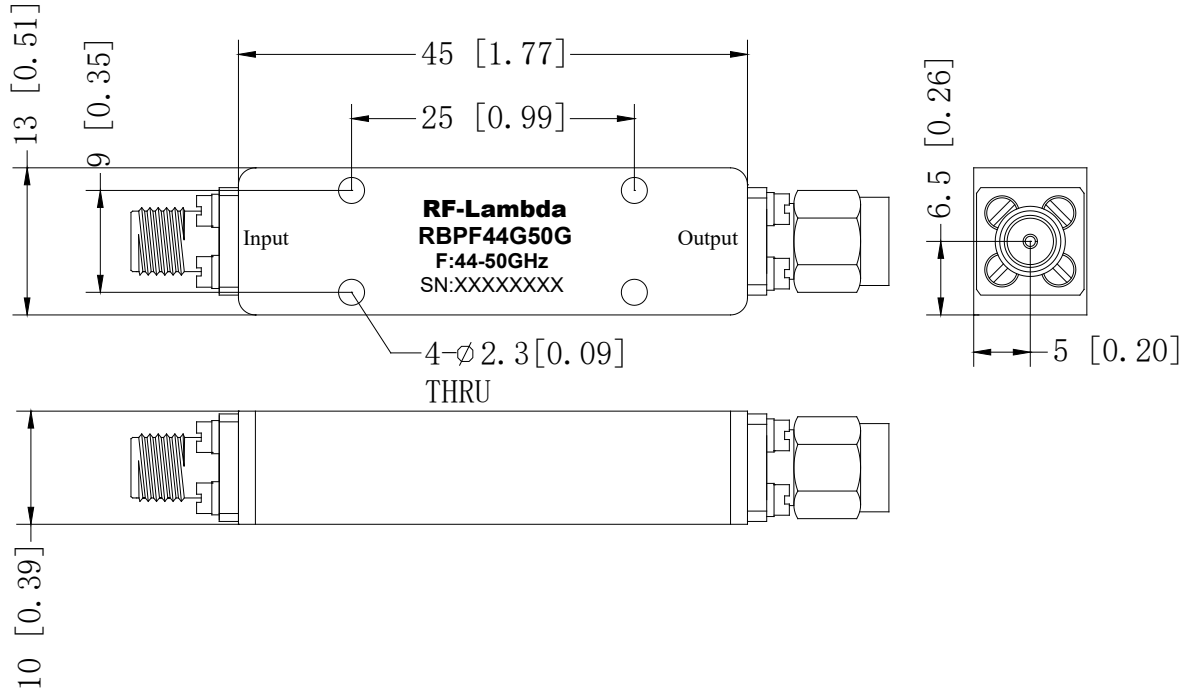
Output VSWR



Rejection



Outline Drawing



Notes:

1. Package Material: Copper
2. Finish: Blue Painted
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ± 0.5 [0.02], Mounting Hole Tolerances ± 0.2 [0.008] unless otherwise specified.



Additional Information

Documentation	Webpage
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
RBPF44G50G	Input Connector 2.4mm-Female and Output Connector 2.4mm-Male	44GHz–50GHz Band Pass Filter

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