Coaxial Cavity Band Pass Filter 2.14GHz-3.1GHz

Product Description

RBPF21G31G is a coaxial cavity band pass filter with a frequency range of 2.14 to 3.1GHz.

The power handling of this band pass filter is 20W. The insertion loss is 1.5 dB with a typical rejection of 30dB.

The working temperature of this product is between - 25℃ and + 70℃.

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
Frequency Range		2.14		3.1	GHz
Insertion Loss			0.7	1.5	dB
Pass Band Ripple			0.3		dB
VSWR			1.4	1.6	:1
Rejection	@2040MHz	20	30		dB
	@400MHz	40	80		dB
	@4000-6000MHz	30	55		dB
Power Rating	Average			20	W
	Peak (10% Duty Cycle, 1 us Pulse Width)			100	W
Weight			1.6 Typ.		lbs
Impedance			50		Ω
Input / Output Connectors			SMA-Female(Input) – SMA-Female(Output)		
Package			Epoxy Sealed (Standard)		
			Hermetically Sealed (Optional)		

RF-LAMBDA USA LLC: www.rflambda.com
Sales: sales@rflambda.com Technical: support@rflambda.com

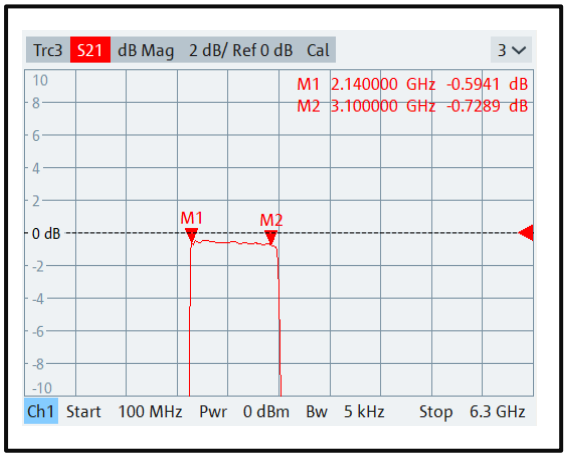
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-25ºC to +70ºC (Case Temperature)
Storage Temperature	-40ºC to +85ºC
Thermal Shock	-40ºC → +85ºC (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)

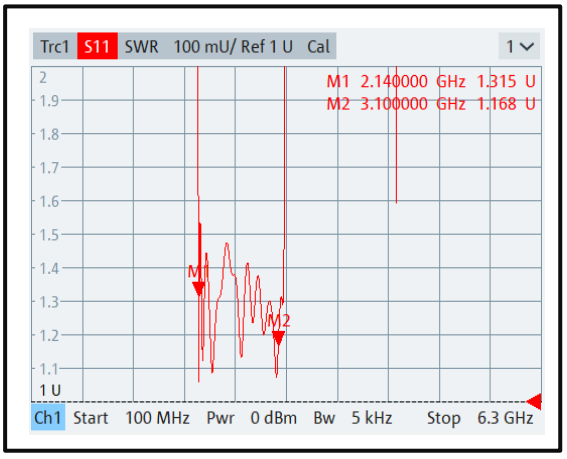
**For vibration testing details please see additional information section.

Typical Performance Plots

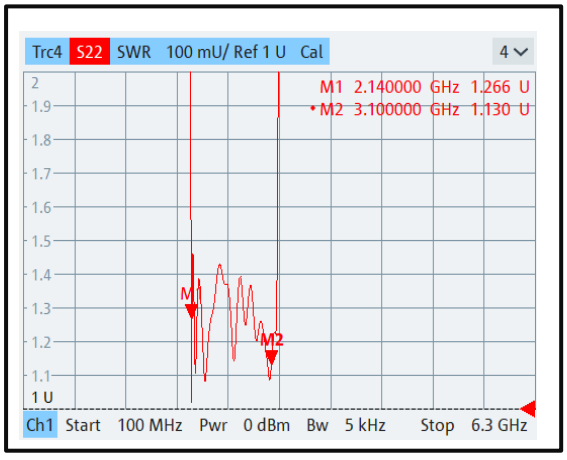
Insertion Loss



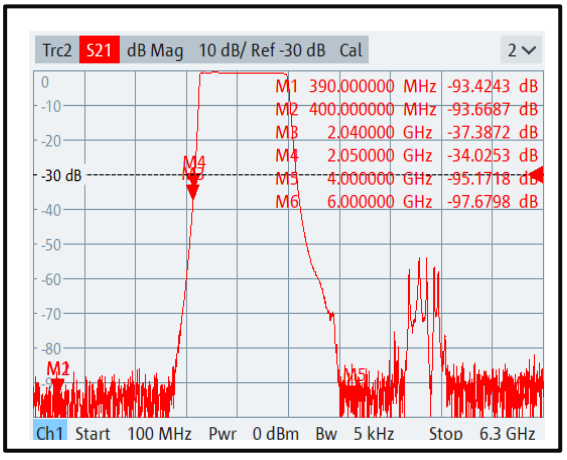
Input VSWR



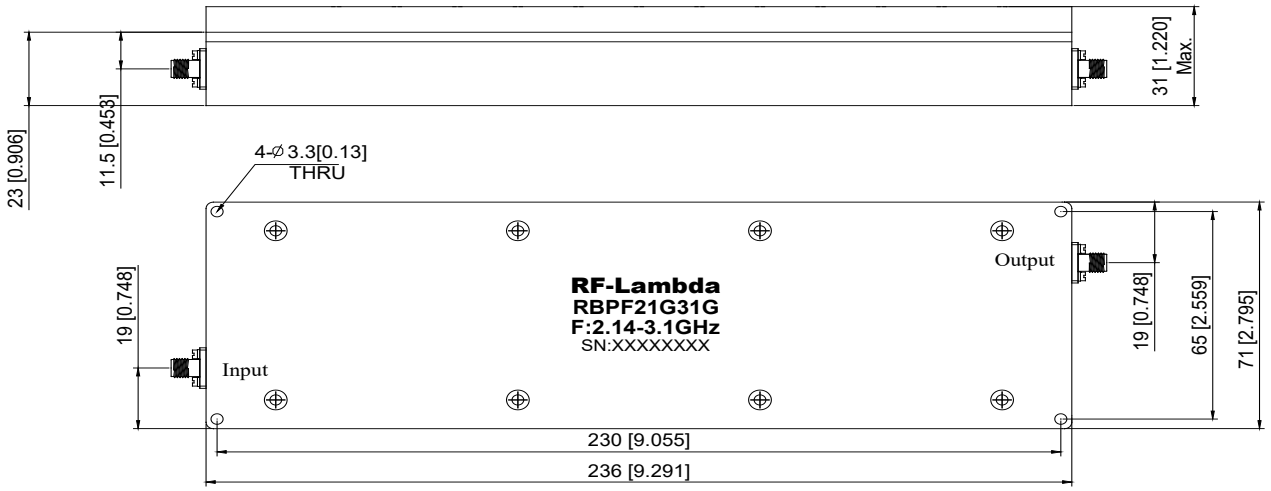
Output VSWR

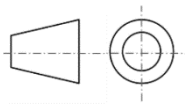


Rejection



Outline Drawing





Notes:
1. Package Material: Aluminum
2. Finish: Blue Paint
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ±1.0[0.04], Mounting Hole Tolerances ±0.5[0.02] 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
RBPF21G31G	Standard	2.14-3.1GHz Band Pass Filter

Important Notice

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