

Coaxial Cavity Band Pass Filter 5.15GHz-5.85GHz



Product Description

RBPF5500M is a coaxial cavity band pass filter with a frequency range of 5.15 to 5.85GHz.

The peak power of this band pass filter is 200W. The insertion loss is 0.5 dB with a typical rejection of 40dB.

The working temperature of this product is between - 20°C and + 60°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 |
|---------------------------|--|-----------|------|-------|
| Frequency Range | 5.15 | | 5.85 | GHz |
| Insertion Loss | | 0.3 | 0.5 | dB |
| Pass Band Ripple | | 0.2 | 0.3 | dB |
| VSWR | | 1.25 | 1.3 | : 1 |
| Rejection | @DC-4700MHz | 30 | 35 | dB |
| | @6200-6400MHz | 30 | 35 | dB |
| | @6400-13000MHz | 40 | 45 | dB |
| Power Rating | Average | | 30 | W |
| | Peak (10% Duty Cycle, 1 us Pulse Width) | | 200 | W |
| Weight | | 0.15 Max. | | lbs |
| Impedance | | 50 | | Ω |
| Input / Output Connectors | SMA-Female(Input) – SMA-Female(Output) | | | |
| Package | Epoxy Sealed (Standard) | | | |
| | Hermetically Sealed (Optional) | | | |

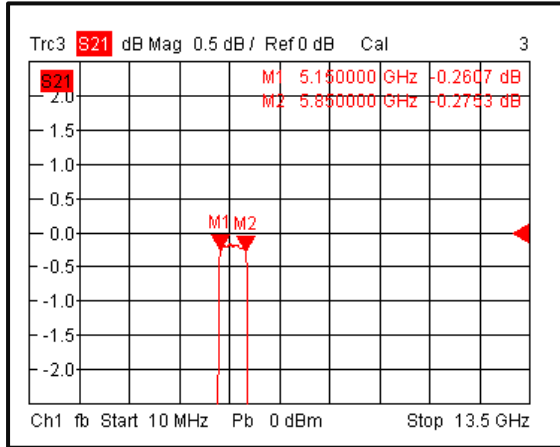
Environmental Specifications and Test Standards

| Parameter | Description |
|-----------------------------------|---|
| Operational Temperature | -20°C to +60°C (Case Temperature) |
| Storage Temperature | -40°C to +85°C |
| Thermal Shock | -20°C → +60°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) |

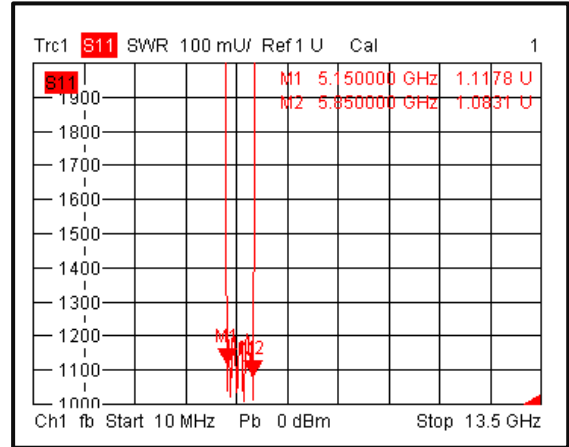
**For vibration testing details please see additional information section.

Typical Performance Plots

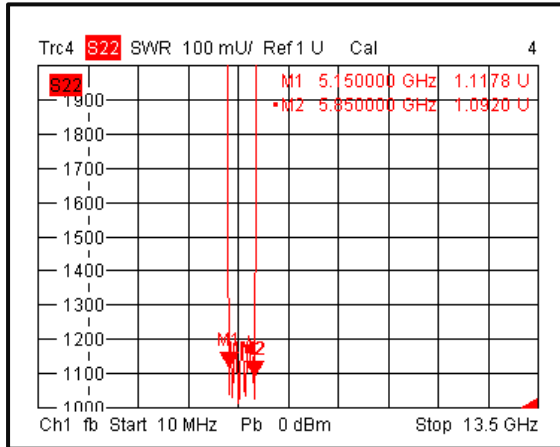
Insertion Loss



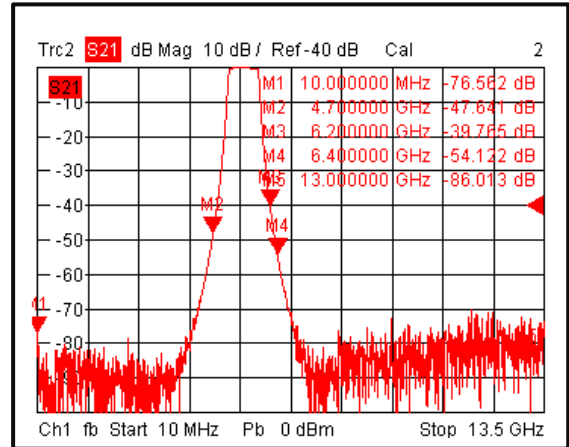
Input VSWR



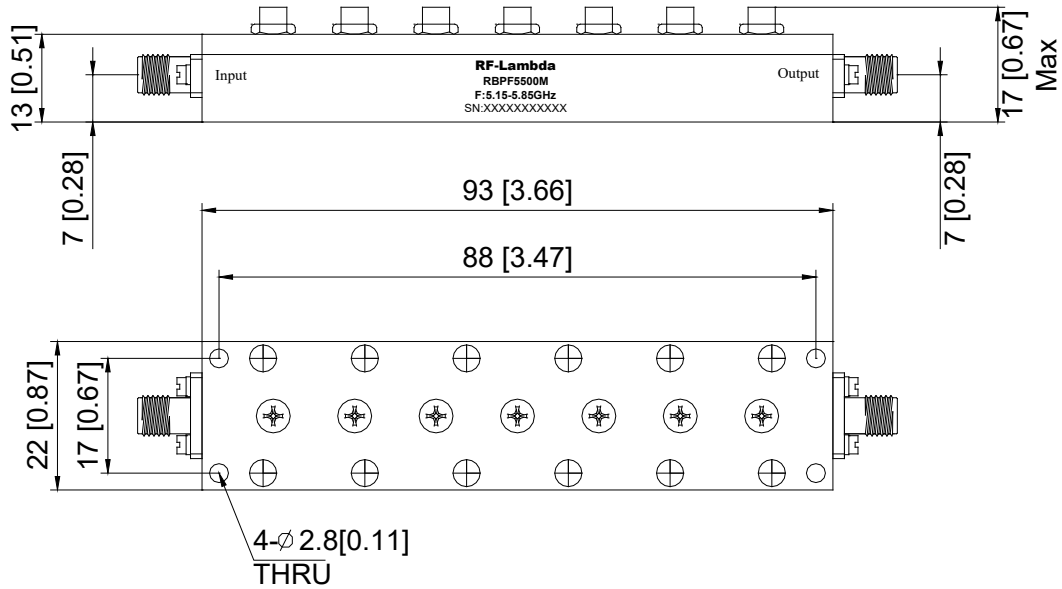
Output VSWR



Rejection

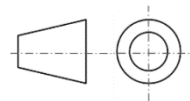


Outline Drawing



Notes:

1. Package Material: Aluminum
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 |
|-------------|--------------|----------------------------------|
| RBPF5500M | Standard | 5.15GHz–5.85GHz Band Pass Filter |

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