



High Power Filters for Vacuum Coating



Introduction

Vacuum coating systems frequently utilize multiple high power RF sources. High power RF filters are used to provide isolation between the outputs of these RF sources. Beehive Electronics has designed these filters in the past for clients. We offer our design and manufacturing expertise to you.

Capabilities

We have more than 27 years experience in the design and manufacturing of high performance RF equipment. Our expertise ranges from audio frequencies up to microwave, and at power levels from nanowatts to 50 kilowatts.

Design and Prototyping

- RF and microwave filter synthesis
- RF and microwave circuit simulation
- Printed circuit board design
- 3-axis machining capability

Test and Manufacturing

- Vector network analyzers
- Signal generation and spectrum analysis
- Automated production test systems
- ISO 9001 compliance
- CE Certification

Example Specifications

Filter Type

2 MHz bandreject

Impedance

50 ohms

Filter Topology

Tee filter, symmetrical

Passband

200 kHz – 800 kHz

Stopband

2 MHz

Power Handling

Input power	10 kW maximum
Input voltage	2 kV maximum
Input current	50 A maximum

Insertion Loss

DC – 0.8 MHz	0.15 dB maximum
0.8 – 1.0 MHz	0.30 dB maximum
3.4 MHz – 3.6 MHz	0.30 dB maximum
> 3.6 MHz	0.15 dB maximum

3 dB Bandwidth

1.4 MHz minimum

Rejection at 2 MHz

50 dB minimum

40 dB Rejection Bandwidth

100 kHz minimum

Return Loss, Input and Output

200 kHz	25 dB minimum
DC-800 kHz	20 dB minimum



VSWR Tolerance

Input	1.0 to 5.0
Output	1.0 to 7.0

Connectors

Type N female

Inductor Construction

Air core, 8 gauge copper wire

Tuning

Slug-tuned air core inductors. Slugs are locked in place after factory tuning and not subject to microphonics.

Regulatory and Environmental

Operating temperature range	+15C to +40C
Regulatory agency compliance	CE and SEMI S2

Contact Us

We would be happy to talk to you to discuss your needs and how Beehive Electronics can help you. You can reach us by phone at (707) 824-9206, or via email at sales@beehive-electronics.com.

