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Cavity Filters

Reactel Cavity Filters are designed to meet the most stringent requirements with low loss and high selectivity. Depending on the frequency and loss specifications, these units can be manufactured in sizes as small as 0.25" wide and as large as 2.5" wide, covering a frequency range from 30 MHz to 50 GHz. Reactel's C7 series is the most versatile of the cavity filter family. They are machined from solid aluminum bar stock and silver plated to keep losses at a minimum. All units can be designed with 2 to 16 sections, depending on your requirements. By using resonant modes, and quarter wave or helical resonators we are able to produce filters with 3 dB bandwidths from 0.5 to 10% wide. All of Reactel, Incorporated's cavity filters are designed using the latest in CAD/CAM equipment and machinery. This approach assures that accuracy and repeatability will be maintained throughout the manufacturing process regardless of quantity ordered, and also allows us to offer you the most cost competitive pricing available.

- 500 MHz to 40 GHz
- Bandwidths up to 10%
- Low Loss
- High "Q"
- Bandpass, Notch and Diplexer Designs Available



Reactel, Incorporated — Reacting First to Your Filter Requirements
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Phone: 301-519-3660 ◆ Fax: 301-519-2447 ◆ reactel@reactel.com ◆ www.reactel.com

Part Numbering System

5 C 7 — 500 — 50 S 1 1
1 2 3 4 5 6 7 8



Part Number Definition:
1 - Number of Sections
2 - Filter Type Designation
3 - Series Identification
4 - Center Frequency in MHz
5 - 3 dB Bandwidth in MHz
6 - Connector Definition (See Below)
7 - Input Connector Type
8 - Output Connector Type

Cavity Filter Specifications

Series	Frequency Range	% 3 dB BW	Typical VSWR	* Standard Power
C0	4 to 40 GHz	0.5 to 10%	1.5:1	5 Watts
C1	3 to 20 GHz	0.5 to 10%	1.5:1	10 Watts
C2	2 to 20 GHz	0.5 to 10%	1.5:1	15 Watts
C3	1.5 to 10 GHz	0.5 to 10%	1.5:1	15 Watts
C7	1 to 10 GHz	0.5 to 10%	1.5:1	15 Watts
C9	0.5 to 8 GHz	0.5 to 5%	1.5:1	5 Watts
C10	0.03 to 1.0 GHz	0.5 to 5%	1.5:1	5 Watts

* Higher power is available, please consult the factory.

Cavity Filter Connectors

Connector Type	Connector Code	* Connector Length (inches)
BNC Female	B1	0.710
BNC Male	B2	0.890
SMA Female	S1	0.375
SMA Male	S2	0.507
TNC Female	T1	0.720
TNC Male	T2	0.800
Type N Female	N1	0.740
Type N Male	N2	0.800

* Dimensions are approximate and are subject to change.



Cavity Filter Body Dimensions
(dimensions in inches)

Series	Width	Approximate Height	*Filter Length
C0	0.50	$\frac{1625}{CF(MHz)} + 0.5$	** N x 0.25 + 0.4
C1	0.50		N x 0.375 + 0.4
C2	0.50		N x 0.437 + 0.3
C3	0.75		N x 0.625 + 0.3
C7	1.00		N x 0.75 + 0.3
C9	***	***	***
C10	***	***	***

* Not including connector length.
** N = Number of sections.
*** Exact dimensions to be determined at time of design, please consult the factory.

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