

# Standard Comblines & Interdigital Filters

Reactel Standard Comblines and Interdigital Filters satisfy the need for moderate to wide band units over the 500 MHz to 40 GHz frequency range. These filters are typically a 0.1 dB Chebyshev design and can have as many as 20 elements for extremely sharp selectivity. All of Reactel's comblines and interdigital 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 competitive pricing available. Since these units are designed to meet your exact requirements, please contact the factory with your electrical specifications.

- 500 MHz to 40 GHz
- Bandwidths up to 70%
- Up to 20 sections
- Low Loss
- Bandpass and Diplexer Designs Available



## Part Numbering System

5 C 11 — 8000 — 250 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



## Comblines & Interdigital 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.



Reactel, Incorporated — Reacting First to Your Filter Requirements

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# Flat Pack Comblines & Interdigital Filters

Reactel Flat Pack Comblines and Interdigital Filters combine the performance of our standard comblines and interdigital filters with a compact and lightweight form factor for portable applications. All of Reactel's flat pack comblines and interdigital 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 competitive pricing available. Since these units are designed to meet your exact requirements, please contact the factory with your electrical specifications.

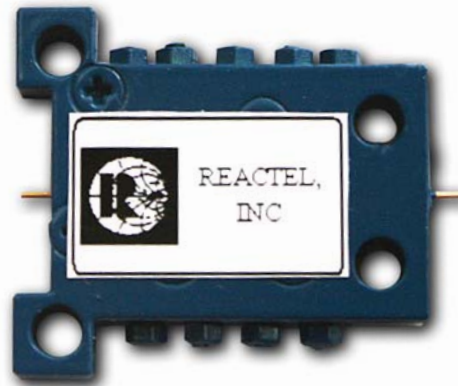
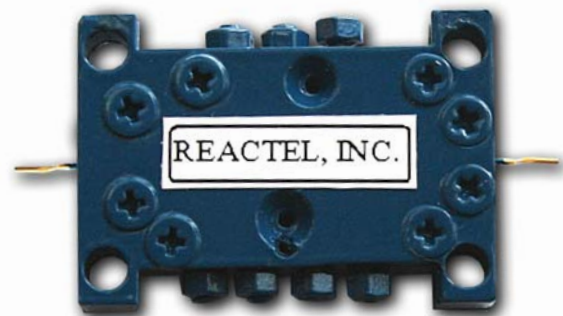
- 5 to 40 GHz
- Bandwidths up to 20%
- Low Profile
- Compact size
- Bandpass and Diplexer Designs Available

## Part Numbering System

5 FP — 16500 — 300 S 1 1  
 1 2      3      4 5 6 7

### Part Number Definition:

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



## Flat Pack Filter Connectors

Connector Type	Connector Code	* Connector Length (inches)
SMA Female	S1	0.375
SMA Male	S2	0.507
Pins	M	**

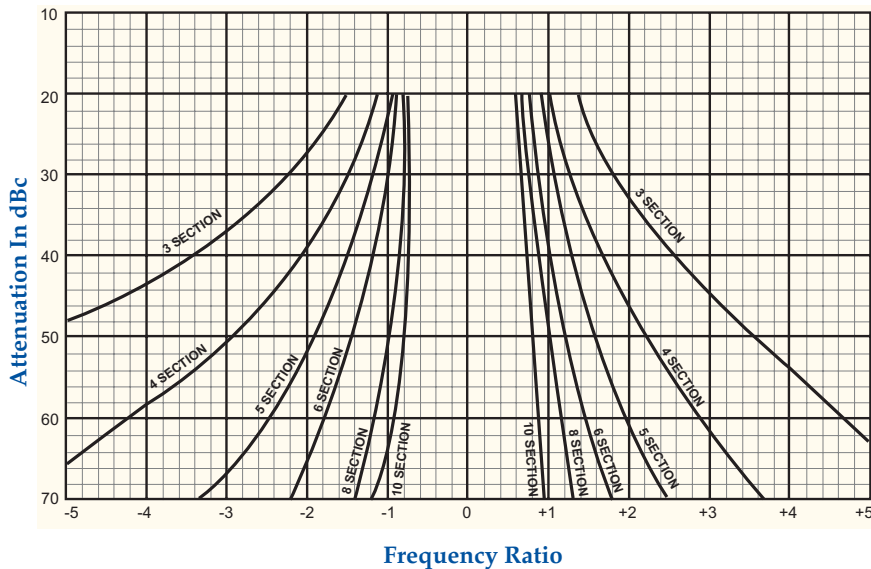
\* Dimensions are approximate and are subject to change.  
 \*\* Consult factory for pin options.



# Standard and Flat Pack Comblines & Interdigital



## Standard and Flat Pack Comblines and Interdigital Attenuation Curves



The rejection for Cavity & Interdigital filters can be determined from the curves. Calculate the frequency ratio as follows:

Frequency Ratio =

$$\frac{\text{Rejection Frequency} - \text{Center Frequency}}{\text{3 dB Cutoff Frequency}}$$

Example:

Center Frequency = 2500 MHz

3 dB Bandwidth = 200 MHz

Number of Sections = 5

Reject Frequencies = 2000 & 3000 MHz

$$\text{Frequency Ratio} = \frac{2000 - 2500}{200} = -2.5$$

Rejection from Curve = 61.3 dB



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