

6 Pole Low-Pass, High-Pass ACTIVE FILTER MODULES

T-64-05

Model APL-6, 6 Pole Active Low-Pass Filter

The Model APL-6 is a six pole active low-pass filter which passes all frequencies up to a specified cut-off frequency, and attenuates those above. Typical response characteristics are shown in Fig. 2a & 2b.

standard cut-off range: 10 Hz - 100 KHz

These steep rolloff Low-Pass filters are particularly well suited for **antialiasing** applications, such as data acquisition systems.

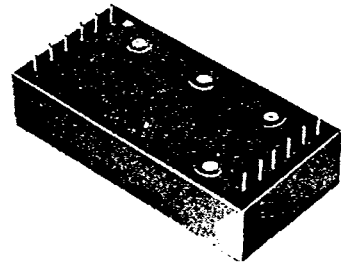
These filters are particularly useful in applications which require 6 pole Elliptic (Cauer) characteristics. In addition, 5 or 7 pole filters may be specified, as well as other response characteristics including Butterworth (max. flatness) and Bessel (linear phase). The table below summarizes the filter types available:

Summary of model number options for APL-6 (Low-Pass) and APH-6 (High-Pass) filter modules

Model APH-6, 6 Pole Active High-Pass Filter

The Model APH-6 is a six pole active high-pass filter which passes all frequencies above a specified cut-off frequency, and attenuates those below. Typical response characteristics are shown in Fig. 3a & 3b.

standard cut-off range: 2 Hz - 50 KHz upper 3 dB cut-off
point in pass band: 200 KHz



	LOW-PASS			HIGH-PASS		
	POLES			POLES		
	5	6	7	5	6	7
Elliptic (Cauer)	APL-5EL	APL-6EL	APL-7EL	APH-5EL	APH-6EL	APH-7EL
Butterworth	APL-5	APL-6	APL-7	APH-5	APH-6	APH-7
Tschebyscheff	APL-5T	APL-6T	APL-7T	APH-5T	APH-6T	APH-7T
Bessel (linear phase)	APL-5BE	APL-6BE	APL-7BE	APH-5BE	APH-6BE	APH-7BE

Note: Order as follows: $A \text{ P } X \cdot X \cdot \text{XXX Hz}$

L = low-pass, H = high-pass
number of poles & characteristic
cut-off frequency

example: APL-6-3000Hz, 6 pole butterworth
low-pass filter with
cut-off frequency of
3 KHz.

Electrical Characteristics

Input impedance	20 K ohm
Output impedance	less than 1 ohm
Maximum signal level	8 volts RMS
Max. load at 8 volt signal level	2500 ohm
Max. load at 0.8 volt signal level	50 ohm
Supply current at V = ± 15 volts	± 35 ma
Frequency stability	0.01 %/°C
DC offset	5 mv max. externally adjustable to zero
Noise (input shorted)	70 mV RMS (DC-100 KHz)
Operating Temperature	0°C-50°C

Options:

- 1) Low Power option. Power supply drain = ± 3 mA.
Available to 20 KHZ add suffix — L
- 2) High temperature option. -55°C to 125°C.
Add suffix "M".

Mechanical Characteristics

Dual in-line construction:

Case: copper clad epoxy:

dimensions: 1.35" x 2.75" x 0.6" ht

row spacing: 2.5"

Pin spacing: 0.2"

Pins (12): 0.025" diam.

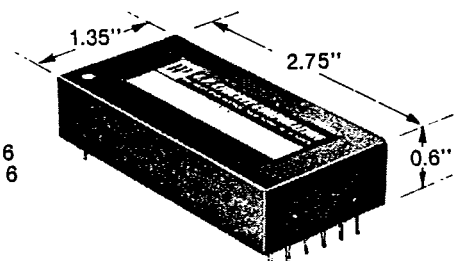


FIG. 1
Model APL 6
Model APH 6



A. P. CIRCUIT CORPORATION

256 LINCOLN AVE.
CYPRESS HILLS, N.Y. 11208

tel: (718) 827-5991 fax: (718) 235-4418

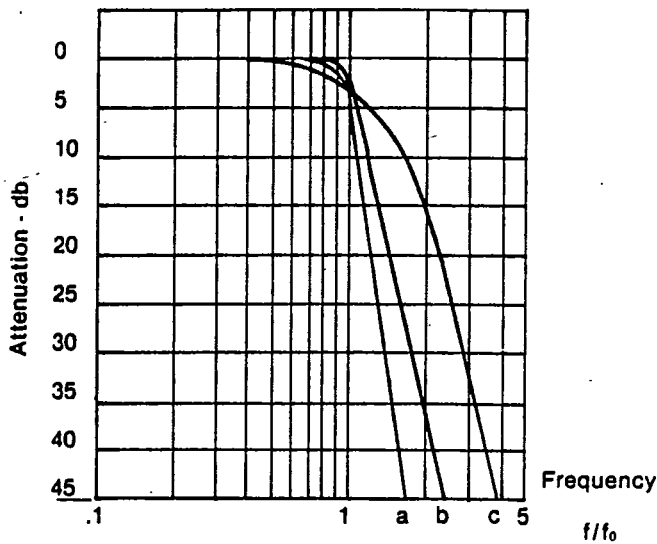


Fig. 2a Normalized Low-Pass Response

- a Tschebyscheff 0.1 db ripple
 b Butterworth
 c Bessel, linear phase

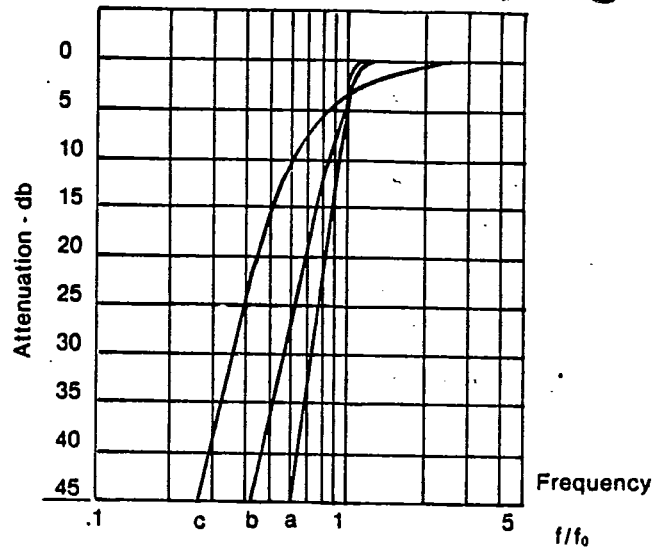


Fig. 3a Normalized High-Pass Response

- a Tschebyscheff 0.1 db ripple
 b Butterworth
 c Bessel, linear phase

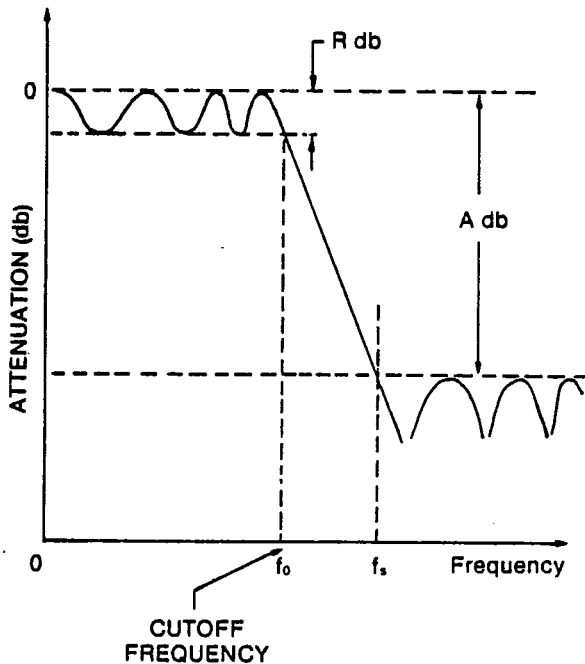


Fig. 2b Elliptic Low-Pass Response

Parameters to be specified: A(db),
 f_s / f_0 ; R(db) available: 0.01, 0.1,
 0.18, or 0.28 (db)

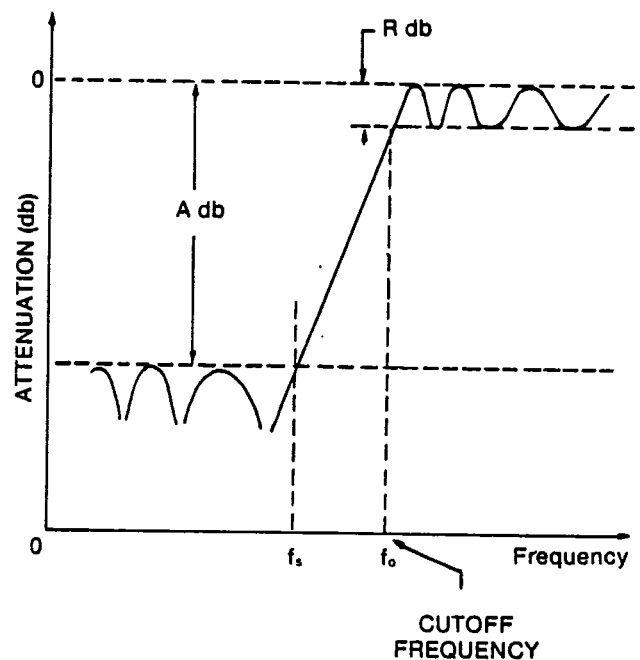


Fig. 3b Elliptic High-Pass Response

Parameters to be specified: A (db)
 f_s / f_0 ; R(db) available: 0.01, 0.1,
 0.18, or 0.28 (db)

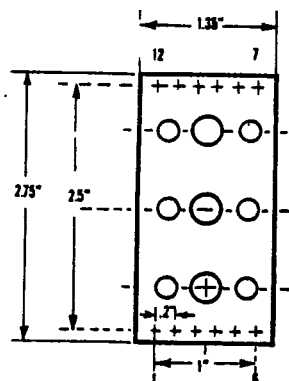
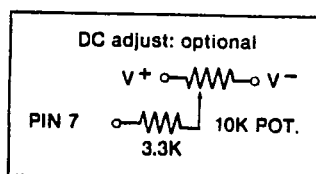


Fig. 4. Connection diagram for model APB-6

BOTTOM VIEW
 White dot on Pin No 1.

PIN	
4	V+
10	V-
3	Ground
6	In
11	Out
Pin diameter 0.025"	
0.2" spacing	