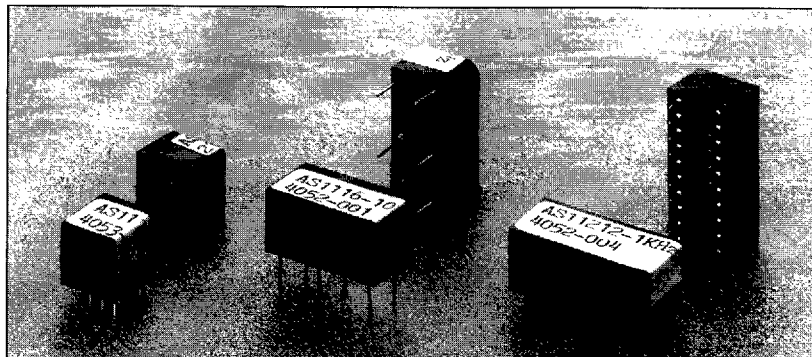


MINIATURE FILTER MODULES

Anti-Aliasing Fixed Analog Active

Valuable board space can now be saved by AS series miniature filter module. User is able to maximize system bandwidth, minimize sampling rate and still obtain anti-aliasing attenuation greater than 80 dB at 2 times of the cut-off in a 16 pin DIP package.



Features include:

☐ CUSTOMER SPECIFIED FREQUENCY

Your choice of -3 dB Frequency.
Customer modifications available at
No additional charge.

☐ EXTREMELY SMALL.

0.45" L x 0.47" W x 0.40" H (8 pins)
0.85" L x 0.47" W x 0.40" H (16 pins)
1.05" L x 0.47" W x 0.40" H (20 pins)

☐ ANALOG ACTIVE FILTER

RC active filter.
Not switch - capacitor filter.

☐ COMPLETELY ASSEMBLED

Fully finished module.
No external component required.

☐ IDEAL FUNCTION BLOCK

Low output impedance
High input impedance.

☐ STANDARD RESPONSES

Butterworth, Bessel, Chebyshev.

☐ STABLE OUTPUT

Unity gain output
Amplification available. (Up to 1000 times).

☐ COMPENSATED DC OFFSET

Internal DC offset <2 mV.
External adjustable to 0.0.

☐ BUILT-IN DECOUPLING

Internal power supply decoupling.

☐ SINGLE /DUAL POWER SUPPLY

Single Supply: 15.0 V & GND.
Dual Supply: ± 15.0 V & GND.

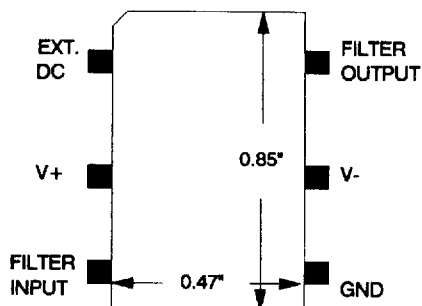
☐ LOW POWER CONSUMPTION

1 mA of supply current per unit.

Suggested Applications and Ratings

APPLICATIONS

- Anti-aliasing Filter
- A/D Pre-Filter
- Smoothing Filter
- Integrator
- D/A Post Filter
- Band-limit Amplifier
- Sub-Sonic signal processing
- Sensor conditioning



ABSOLUTE MAXIMUM RATING

Supply Voltage	± 15 V to ± 5 V
Input Voltage	± 12 V
Output Swing	± 12 V (2k load)
Dynamic Range	> 90 dB
Operating Temp.	
commercial	0° C to 70° C
industrial	- 25° C to 85° C
military	- 55° C to 125° C
Storage Temp.	- 65° C to 150° C

Case Style and Outline Dimensions

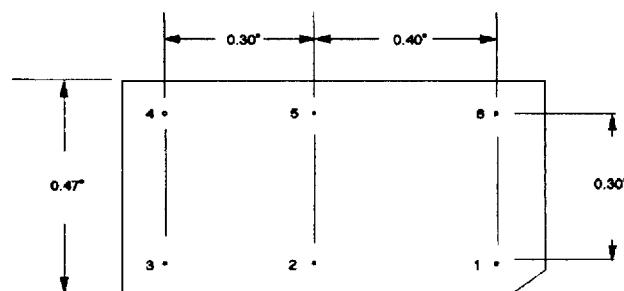
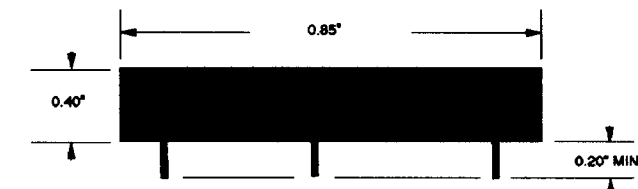
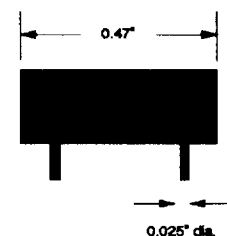
TYPICAL MODELS

PIN	ROLL-OFF	SHAPE**	TYPE*	PACKAGE
AS1112	12 dB @ 2Fc	B	LP	8 pins DIP
AS1113	18 dB @ 2Fc	B	LP	8 pins DIP
AS1114	24 dB @ 2Fc	B	LP	8 pins DIP
AS1115	30 dB @ 2Fc	B	LP	16 pins DIP
AS1116	36 dB @ 2Fc	B	LP	16 pins DIP
AS1117	42 dB @ 2Fc	B	LP	20 pins DIP
AS1118	48 dB @ 2Fc	B	LP	20 pins DIP
AS1119	54 dB @ 2Fc	B	LP	20 pins DIP
AS11110	60 dB @ 2Fc	B	LP	20 pins DIP
AS11111	66 dB @ 2Fc	B	LP	20 pins DIP
AS11112	72 dB @ 2Fc	B	LP	20 pins DIP
AS1102	15 dB @ 3Fc	L	LP	8 pins DIP
AS1103	21 dB @ 3Fc	L	LP	8 pins DIP
AS1104	23 dB @ 3Fc	L	LP	8 pins DIP
AS1105	26 dB @ 3Fc	L	LP	16 pins DIP
AS1106	30 dB @ 3Fc	L	LP	16 pins DIP
AS1108	51 dB @ 4Fc	L	LP	20 pins DIP
AS11010	58 dB @ 4Fc	L	LP	20 pins DIP
AS11012	62 dB @ 4Fc	L	LP	20 pins DIP
AS1122	13 dB @ 2Fc	C	LP	8 pins DIP
AS1123	22 dB @ 2Fc	C	LP	8 pins DIP
AS1124	30 dB @ 2Fc	C	LP	8 pins DIP
AS1125	40 dB @ 2Fc	C	LP	16 pins DIP
AS1126	50 dB @ 2Fc	C	LP	16 pins DIP
AS1128	72 dB @ 2Fc	C	LP	20 pins DIP
AS11210	65 dB @ 1.5Fc	C	LP	20 pins DIP
AS11212	55 dB @ 1.5Fc	C	LP	20 pins DIP
AS2114	24 dB @ 0.5Fc	B	HP	16 pins DIP
AS2116	36 dB @ 0.5Fc	B	HP	16 pins DIP
AS2118	48 dB @ 0.5Fc	B	HP	20 pins DIP

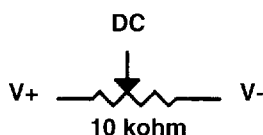
NOTE:

*FILTER TYPES: LP = Lowpass, HP = Highpass

**RESPONSE SHAPE: B = Butterworth, L = Bessel, C = Chebyshev



BOTTOM VIEW



16 PIN DIP PACKAGE

PIN NO.	FUNCTION
1	DC Adjust
2	V+
3	Filter Input
4	Ground
5	V -
6	Filter Output

Specifications

ELECTRICAL CHARACTERISTICS

(Supply = $\pm 15V$., Load = 10 k Ω , Temp. = 25° C)

Supply Current	10 mA
Input Impedance	> 500 kohm
Output Impedance	< 1 ohm (@ DC)
Cut-off Variation	$\pm 2\%$
Frequency Stability	0.01 % /°C
Unity Gain Output	0.0 dB
Max. Input Voltage	$\pm 12 V$.
Max. Output Voltage	$\pm 12 V$.
DC Offset	< $\pm 2mV$

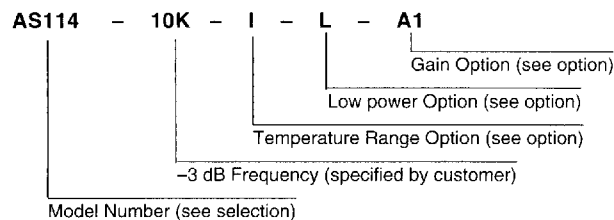
MECHANICAL CHARACTERISTICS

Dimensions	0.45" x 0.47" x 0.40" (8 pins) 0.85" x 0.47" x 0.40" (16 pins) 1.05" x 0.47" x 0.40" (20 pins)
Pin Diameter	0.025"
Materials	Glass Filled Thermoplastic Nylon
Socket	Monolithic 16 pin DIP Socket

OPTIONS

Suffix	Description
L	Low power consumption (10 mA / 4th order)
I	Industrial temp. range (-25° C to 85° C)
M	Military temp. range (-55° C to 125° C)
A1	10x amplification
A2	100x amplification
A3	1000x amplification
S	Single supply (+5 V to +18 V)
D	Differential Input

PART NUMBER SYSTEM (Typical part numbering example shown below)



Typical Frequency Response Curves Available
(See Back of Catalog)