



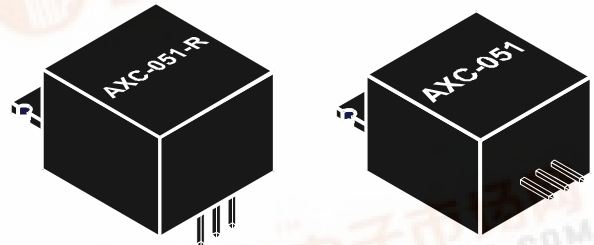
AXC-051

ACTIVE FILTER FOR RIPPLE ATTENUATION 5A

PRELIMINARY

Features :

- High Efficiency.
- Superior Performance at Low Frequencies.
- Compact Size.
- Low Cost.



Product Description

The **AXC-051** is a 3-terminal power filter which provide high attenuation starting at extremely low frequencies (30dB@20Hz). The device is designed for negative supply of 18 to 75 Volts and up to 5Amp load. The output voltage tracks the DC input voltage with 0.75V drop. Full performance is kept for input ripple of up to 1.4 Volts p-p. Exceptional effort has been made to maintain low output impedance (less than 0.1 ohm at audio frequencies). The **AXC** filters are designed to meet the most stringent noise requirements in electronic equipment, telecommunication systems, audio equipment, etc.

AXC-051-R

AXC-051

Ordering Information

Applications

- Ultra Low Noise Switch Mode Power Supply
- Communication Systems.
- Mixed signal (Analog Digital).

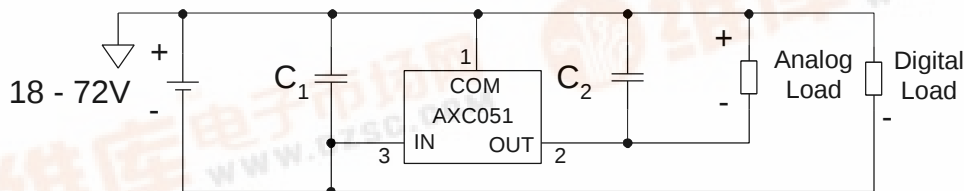


Fig.1

Pin Description

PIN	NAME	Description
1	COM	Common
2	V _{OUT}	Output Voltage
3	V _{IN}	Input Voltage

Fig.2 - Typical Application



Mixed Signal Negative Power Filter

Absolute Maximum Ratings

Parameter	Conditions	Min	Max	Units
Supply Voltage		+0.5	-75	Vdc
Maximum Output Current		0	6	A
Storage Temperature		-30	110	°C
Operating Temperature		-30	85	°C

DC Electrical Specification (-30°C ≤ T_A ≤ +85°C)

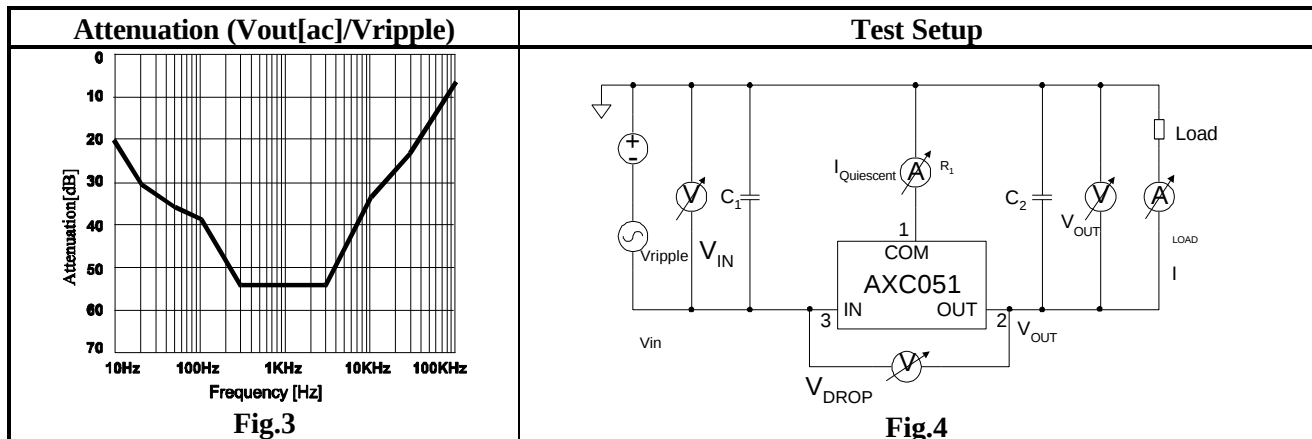
Parameter	Conditions	Min	Typ	Max	Units
Operating Voltage		-18		-72	Vdc
Rated Current		0		5	A
Voltage Drop @ V _{IN} = -48V	I _{LOAD} = 0A	T _A = +25°C		0.73	Vdc
		-30°C ≤ T _A ≤ +85°C		0.70	Vdc
	I _{LOAD} = 1A	T _A = +25°C		0.74	Vdc
		-30°C ≤ T _A ≤ +85°C		0.73	Vdc
	I _{LOAD} = 2A	T _A = +25°C		0.76	Vdc
		-30°C ≤ T _A ≤ +85°C		0.75	Vdc
	I _{LOAD} = 5A	T _A = +25°C		0.80	Vdc
		-30°C ≤ T _A ≤ +85°C		0.79	Vdc
Quiescent Current	-18V ≤ V _{IN} ≤ -72V	0.38	0.42	0.52	mA

AC Electrical Specification (-30°C ≤ T_A ≤ +85°C)

Operating Voltage -(18÷72)V ; Output Current I_{LOAD}=(0÷5)A

Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss*	20Hz ÷ 10KHz @ 50Ω	55	60		dB
Output Impedance*	10Hz ÷ 10KHz	9	15	30	mΩ
	10KHz ÷ 250KHz	30	50	100	mΩ
Line Transient Attenuation*	Transient voltage less than 0.75V	35	40		dB
Transient Output Impedance*	I _{dc} =2A; ΔI=1A		70	110	mΩ

* Tested with C1 & C2 [Fig.4] = 10uF Electrolytic Capacitor ; Maximum Input Noise Level = (1.3-0.1I_{LOAD}[A])V



Thermal Resistance

Parameter	Typ	Max	Units
Junction-to-Case [$R_{q/C}$]		1.0	°C/W
Case-to-Sink [$R_{q/CS}$]	0.50		°C/W
Junction-to-Ambient [$R_{q/A}$]	62		°C/W

General Specifications

Parameter		Units
Weight	9.0±0.5	gr.

Fig5. - Load Transient Response

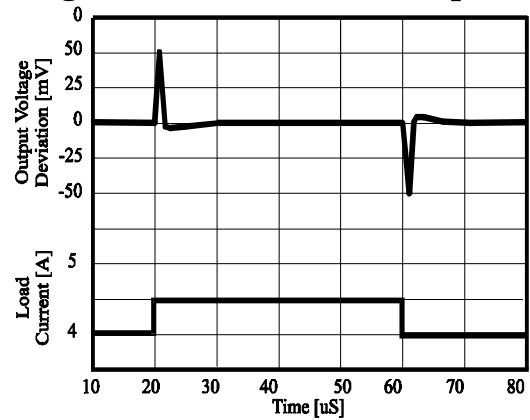
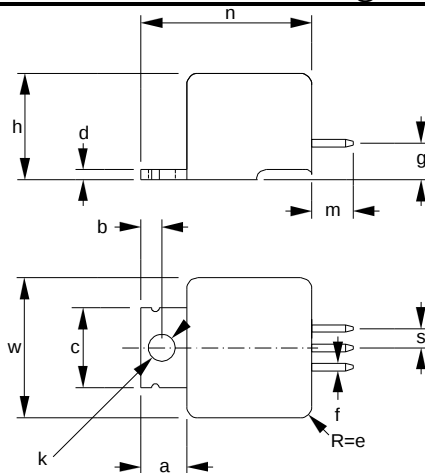
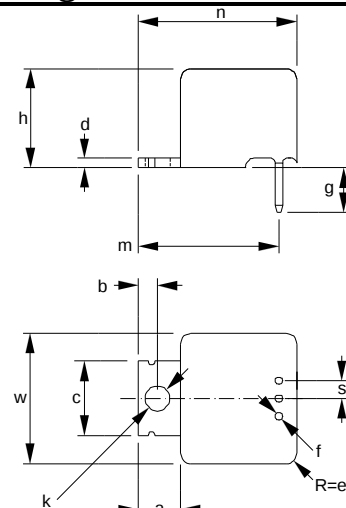


Fig6. - Mechanical Drawing



	mm		inch	
	min	max	min	max
a	4.90	5.90	0.193	0.232
b	2.62	2.87	0.103	0.113
c	10.29	10.54	0.405	0.415
d	1.22	1.32	0.048	0.052
e	1.40	1.50	0.055	0.059
f	0.97	1.01	0.038	0.040
g	4.40	5.40	0.173	0.213
h	13.80	14.20	0.543	0.559
k	3.54	3.78	0.139	0.149
m	5.20	6.20	0.205	0.244
n	21.00	22.60	0.827	0.890
s	2.39	2.69	0.094	0.106
w	18.10	18.60	0.713	0.732



	mm		inch	
	min	max	min	max
a	4.90	5.90	0.193	0.232
b	2.62	2.87	0.103	0.113
c	10.29	10.54	0.405	0.415
d	1.22	1.32	0.048	0.052
e	1.40	1.50	0.055	0.059
f	0.97	1.01	0.038	0.040
g	5.50	6.40	0.217	0.252
h	13.80	14.20	0.543	0.559
k	3.54	3.78	0.139	0.149
m	19.25	20.16	0.758	0.794
n	21.00	22.60	0.827	0.890
s	2.39	2.69	0.094	0.106
w	18.10	18.60	0.713	0.732

Typical Applications

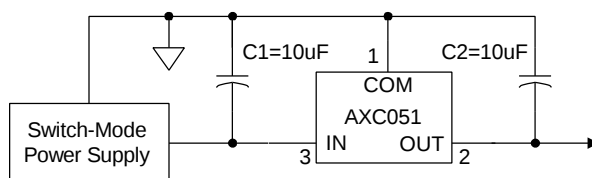


Fig7A. - Ultra Low Noise, High Efficiency Switch-Mode Power Supply

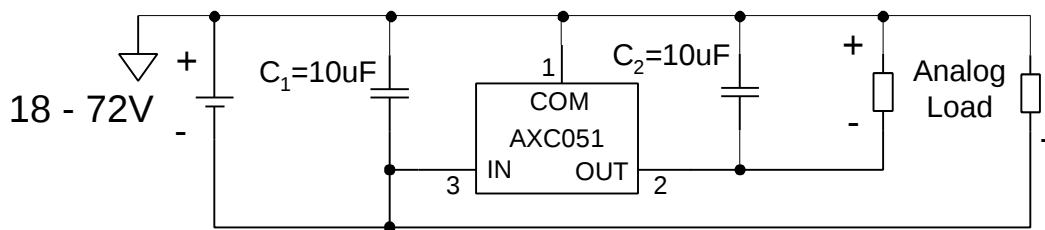


Fig7B. - Mixed Signal Negative Power Filter