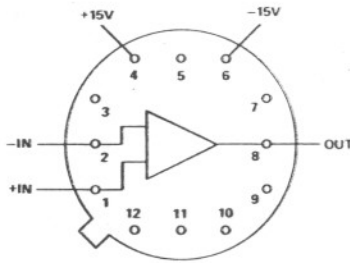


# FET-INPUT GENERAL PURPOSE OP AMPS

## AD501, ADM501, ADP501

### PIN CONFIGURATIONS

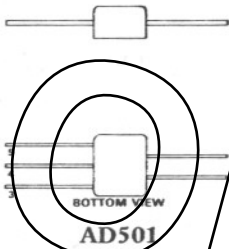
#### Bottom View



**ADM501**

### GENERAL DESCRIPTION

The Analog Devices Model AD501 is a microcircuit FET input operational amplifier that is supplied in the industry-standard axial-lead and plug-in molded packages, and in the hermetically sealed TO-8 type of package. The AD501 features offset voltages of less than 1mV, offset voltage drifts below  $25\mu\text{V}/^\circ\text{C}$  and bias currents of less than 5pA. The circuits are manufactured with strictly controlled hybrid assembly techniques, which have proven their high reliability and fault-free performance through three years of system usage. The AD501 is supplied in the end-lead mini-package; the ADP501 in the bottom-lead mini-package; and the ADM501 in the TO-8-type package.



**AD501**



**ADP501**

PIN 1: INVERTING INPUT  
 PIN 2: NON-INVERTING INPUT  
 PIN 3: +15VDC  
 PIN 4: -15VDC  
 PIN 5: OUTPUT

### ELECTRICAL CHARACTERISTICS ( $V_S = \pm 15\text{V}$ , $T_A = -25^\circ\text{C}$ , \* unless otherwise noted)

Parameter	Conditions	501A P501A M501A	501B P501B M501B	501C P501C M501C	Units
Initial Input Offset Voltage (max)	$R_S \leq 100\text{k}\Omega$	2.0	1.0	1.0	mV
Average Temp Coef of Input Offset Voltage (max)	$T_A = -25^\circ\text{C}$ to $+85^\circ\text{C}$	75	25	25	$\mu\text{V}/^\circ\text{C}$
Initial Input Bias Current (max)**		25 (10pA M501)	10	5.0	pA
Average Temp Coef of Input Bias Current (typ)**	$T_A = 25^\circ\text{C}$	2.5 (1pA/ $^\circ\text{C}$ M501)	1.0	0.5	$\text{pA}/^\circ\text{C}$

### ALL DEVICES

Parameter	Conditions	MIN	TYP	MAX	Units
Large Signal Voltage Gain	$R_L \geq 2\text{k}\Omega$ $V_O = \pm 10\text{V}$	25,000	100,000		V/V
Input Resistance	Differential		$10^{11}$		$\Omega$
	Common Mode		$10^{11}$		$\Omega$
Input Capacitance			4		pF
Input Noise Voltage (rms)	5Hz to 50kHz		6		$\mu\text{V}$
Input Voltage Range		$\pm 10$	$\pm 12$		V
Common Mode Rejection	$V_{IN} = \pm 5\text{V}$		80		dB
Supply Voltage Rejection			50		$\mu\text{V}/\%$
Output Voltage Swing	$R_L \geq 10\text{k}\Omega$	$\pm 12$	$\pm 14$		V
	$R_L \geq 2\text{k}\Omega$	$\pm 10$	$\pm 13$		V
Output Short Circuit Current			25		mA
Supply Current				9	mA
Slew Rate		3	5		V/ $\mu\text{s}$
Unity Gain Bandwidth			4		MHz
Full Power Response	$R_L \geq 2\text{k}\Omega$ , $V_O \geq 10\text{V}$	70			kHz
Price (1-9)	501	39.00	45.50	52.00	\$
	P501	39.00	45.50	52.00	\$
	M501	45.50	52.00	58.50	\$

\*Typical Junction Temperature ( $T_J$ ) is  $10^\circ\text{C}$  above Ambient Temperature ( $T_A$ ) after 15 minutes warm-up at  $V_S = \pm 15\text{V}$ .

\*\*Doubles every  $10^\circ\text{C}$ .