

**1.1 Scope.**

This specification covers the detail requirements for a linear bipolar monolithic low drift amplifier.

**1.2 Part Number.**

The complete part number per Table 1 of this specification is as follows:

Device	Part Number
-1	AD OP-07(X)/883B
-2	AD OP-07A(X)/883B

**1.2.3 Case Outline.**

See Appendix 1 of General Specification ADI-M-1000: package outline:

(X)	Package	Description
Q	Q-8	8-Pin Cerdip
H	H-08A	8-Pin TO-99 Metal Can

**1.3 Absolute Maximum Ratings.** ( $T_A = +25^\circ\text{C}$  unless otherwise noted)

Supply Voltage	$\pm 22\text{V}$
Internal Power Dissipation <sup>1</sup>	500mW
Differential Input Voltage	$\pm V_S$
Input Voltage	$\pm V_S$
Output Short Circuit Duration	Indefinite
Storage Temperature Range	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Operating Temperature Range	
AD OP-07A, AD OP-07	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
Lead Temperature Range (Soldering 60sec)	$300^\circ\text{C}$

**NOTE**

<sup>1</sup>Maximum package power dissipation vs. ambient temperature.

Package Type	MAXIMUM AMBIENT Temperature for Rating	DERATE ABOVE MAXIMUM Ambient Temperature
TO-99 (H)	$80^\circ\text{C}$	$7.1\text{mW}/^\circ\text{C}$
Cerdip (Q)	$75^\circ\text{C}$	$6.7\text{mW}/^\circ\text{C}$

**1.5 Thermal Characteristics.**

Thermal Resistance $\theta_{JC}$	$= 65^\circ\text{C}/\text{W}$ for H-08A
$\theta_{JA}$	$= 150^\circ\text{C}/\text{W}$ for H-08A
$\theta_{JC}$	$= 22^\circ\text{C}/\text{W}$ for Q-8
$\theta_{JA}$	$= 110^\circ\text{C}/\text{W}$ for Q-8

# AD OP-07 — SPECIFICATIONS

Table 1.

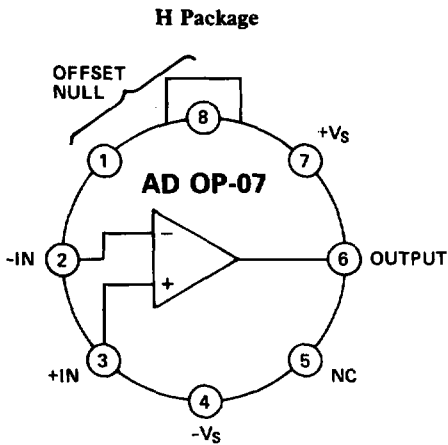
Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition <sup>1</sup>	Units
Gain Open Loop	$A_{VS}$	-1	2000	1500		$R_L \geq 2k\Omega, V_{OUT} = \pm 10V$	V/mV min
		-2	3000	2000		$R_L \geq 2k\Omega, V_{OUT} = \pm 10V$	
Output Voltage Swing	$V_{OP}$	-1, 2	12.5			$R_L \geq 10k\Omega$	$\pm V$ min
			12.0	12		$R_L = 2k\Omega$	
			10.5			$R_L = 1k\Omega$	
Input Offset Voltage	$V_{IO}$	-1, 2	-1	75	200		$\pm \mu V$ max
			-2		60	25	
Input Offset Drift	$\Delta V_{IO}/\Delta T$	-1, 2	-1		1.3		$\pm \mu V/^\circ C$ max
			-2		0.6		
Input Offset Current	$I_{IO}$	-1, 2	-1	2.8	5.6		$\pm nA$ max
			-2	2.0	4.0		
Input Bias Current	$I_{IB}$	-1, 2	-1	3	6		$\pm nA$ max
			-2	2	4		
Common-Mode Rejection Ratio	CMRR	-1, 2	110	106		$V_{CM} = \pm CMVR$	dB min
Common-Mode Voltage Range	CMVR	-1, 2	13	13			$\pm V$ min
Power Supply Current	$I_Q$	-1, 2	4				mA max
Power Consumption	$P_D$	-1, 2	120			$V_S = \pm 15V$	mW max
Power Supply Rejection Ratio	PSRR	-1, 2	100	94		$\pm 3V \leq V_S \leq \pm 18V$	dB min

NOTE

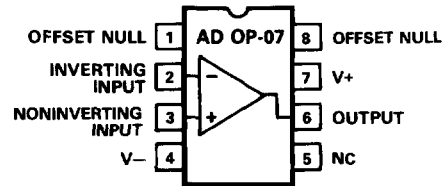
<sup>1</sup> $V_S = \pm 15$ , unless otherwise noted.

### 3.2.1 Functional Block Diagram and Terminal Assignments.

Top View



Q Package (Cerdip)



### 3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (49).

### 4.2.1 Life Test/Burn-In Circuit.

Steady state life test is per MIL-STD-883 Method 1005. Burn-in is per MIL-STD-883 Method 1015 test condition (B).

