

1.1 Scope.

This specification covers the detail requirements for a monolithic sample-and-hold amplifier.

1.2 Part Number.

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

Device	Part Number ¹
– 1	AD582S(X)/883B

NOTE

¹See paragraph 1.2.3 for package identifier.

1.2.3 Case Outline.

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

(X)	Package	Description
D	D-14	14-Pin DIP
H	H-10A	10-Pin Metal Package

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

Supplies ($+V_S, -V_S$)	$\pm 22\text{V}$
Logic Inputs	$\pm V_S$
Logic Inputs, Differential Voltage	$+15\text{V}/-6\text{V}$
Analog Inputs	$\pm V_S$
Analog Inputs, Differential Voltage	30V
Storage Temperature Range	-65°C to $+150^\circ\text{C}$
Lead Temperature (Soldering 10sec)	$+300^\circ\text{C}$

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC}	$= 25^\circ\text{C}/\text{W}$ for D-14
θ_{JA}	$= 95^\circ\text{C}/\text{W}$ for D-14
θ_{JC}	$= 25^\circ\text{C}/\text{W}$ for H-10A
θ_{JA}	$= 150^\circ\text{C}/\text{W}$ for H-10A

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Table 1.

Test	Symbol	Device	Design Limit ($\alpha + 25^{\circ}\text{C}$)	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition ¹	Units
Logic Input High	V_{IH}	-1	2	2	2		See Notes 2 & 3	V min
Logic Input Low	V_{IL}	-1	0.8	0.8	0.8		See Notes 2 & 4	V max
Logic Current High	I_{IH}	-1	5	5			See Notes 2 & 3	μA max
Logic Current Low	I_{IL}	-1	1	1			See Notes 2 & 4	μA max
Operating Voltage	V_S	-1	22	22			Open Loop Swing $V_{IN} = \pm 100\text{mV}$	$\pm V$ max
Supply Current	I_S	-1	4.5	4.5				mA max
Power Supply Rejection	PSR	-1	60	60			See Note 5	dB min
Droop Current	I_{DRP}	-1	0.1	0.1	150		$C_H = 200\text{pF}$	nA max
Charge Transfer	QT	-1	5	5			$C_H = 200\text{pF}$	pC max
Open Loop Gain	A_{OL}	-1	25	25			$V_{OUT} = 20\text{V p-p}$, $R_L = 2\text{k}\Omega$	k min
Common-Mode Rejection	CMR	-1	60	60			$V_{CM} = 20\text{V p-p}$	dB min
Output Short Circuit Current	I_{SC}	-1	40	40				$\pm \text{mA}$ max
Offset Voltage	V_{OS}	-1	6	6	8			$\pm \text{mV}$ max
Bias Current	I_B	-1	3	3				$\pm \mu\text{A}$ max
Offset Current	I_{OS}	-1	300	300	400			$\pm \text{nA}$ max

NOTES

¹ $V_S = \pm 15\text{V}$, $C_{II} = 1000\text{pF}$, $R_L = \text{infinite}$, $A = 1$ unless otherwise noted.

²Logic = 0V.

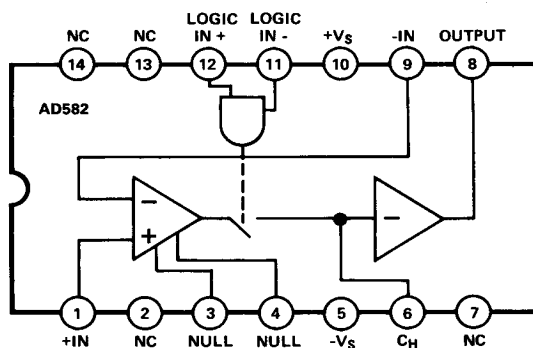
³Hold mode.

⁴Sample mode.

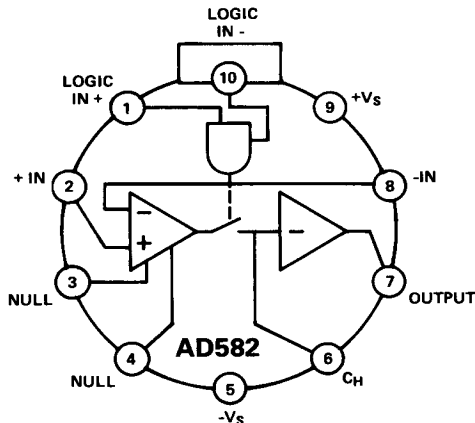
⁵ $\Delta V_S = 5\text{V}$, Sample mode.

3.2.1 Functional Block Diagram and Terminal Assignments.

D Package (DIP)



H Package



3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (60).

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).

