

1.1 Scope.

This specification covers the detail requirements for a precision laser-trimmed, high accuracy, low drift amplifier.

1.2 Part Number.

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

Device	Part Number
-1	AD510SH/883B

1.2.3 Case Outline.

See Appendix 1, of General Specification ADI-M-1000: package outline: H-08A.

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

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

NOTE

Note 1: Maximum package power dissipation vs. ambient temperature.

Package Type	MAXIMUM AMBIENT Temperature for Rating	DERATE ABOVE MAXIMUM Ambient Temperature
TO-99	80°C	7.1mW/°C

1.5 Thermal Characteristics.

Thermal Resistance $\theta_{JC} = 65^\circ\text{C}/\text{W}$
 $\theta_{JA} = 150^\circ\text{C}/\text{W}$

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Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition ¹	Units
Gain Open Loop	A _{OL}	-1	1000	1000	250		V _{OUT} = ±10V	V/mV min
Output Voltage Swing	V _{OUT}	-1	10	10	10		R _L ≥ 2kΩ	± V min
Output Short Circuit Current	I _{SC}	-1	25	38				+ mA max
Input Offset Voltage	V _{OS}	-1	50			50		± μV max
Input Offset Drift	TC V _{OS}	-1	1.0		1.0			± μV/°C max
Input Offset Current	I _{OS}	-1	4.0	4.0	10			± nA max
Input Bias Current	I _B	-1	13	13	30			± nA max
Common-Mode Rejection Ratio	CMRR	-1	110	110	100		V _{CM} = ±10V	dB min
Power Supply Current	I _Q	-1	3	3				mA max
Power Supply Rejection Ratio	PSRR	-1	10	10	20			± μV/V max

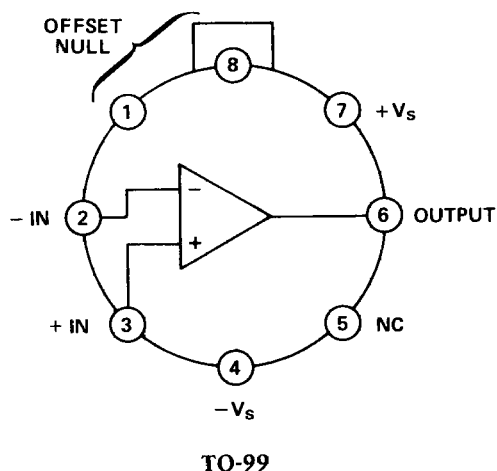
NOTE

¹T_A = +25°C, V_S = ±15V, unless otherwise noted.

Table 1.

3.2.1 Functional Block Diagram and Terminal Assignments.

Top View



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).

