

1.1 Scope.

This specification covers the detail requirements for a precision, monolithic laser-trimmed high speed amplifier.

1.2 Part Number.

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

Device	Part Number
-1	AD846S(X)/883B

1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-M-1000: package outline: Q-8

(X)	Package	Description
Q	Q-8	8-Pin Cerdip Package

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

Supply Voltage	$\pm 18\text{V}$
Internal Power Dissipation ¹	1.3W
Input Common Mode Voltage, Max Safe	$ V_S - 3\text{V}$
Output Short Circuit Duration	Indefinite
Differential Input Voltage	$\pm 1\text{V}$
Continuous Input Current	
Inverting or Noninverting	2.0mA
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:

¹Maximum internal power dissipation is specified so that T_j does not exceed $+175^\circ\text{C}$ at an ambient temperature of $+25^\circ\text{C}$. Derate at $8.7\text{mW}/^\circ\text{C}$.

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC}	$= 30^\circ\text{C}/\text{W}$ for Q-8
θ_{JA}	$= 110^\circ\text{C}/\text{W}$ for Q-8

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Table 1.

Test	Symbol	Device	Sub Group 1 ¹	Sub Group 2, 3	Test Condition ²	Units
Input Offset Voltage	V_{OS}	-1	200	350		$\pm \mu V$ max
Power Supply Rejection Ratio ³	PSRR	-1	110	94	5V-18V	dB min
Common-Mode Rejection Ratio	CMRR	-1	110	94	$V_{CM} = \pm 10V$	dB min
Input Bias Current ¹	I_B	-1	450	1500	Inverting	$\pm nA$ max
			15	20	Noninverting	$\pm \mu A$ max
Input Bias Current vs. Supply ³	I_{BPSR}	-1	15	25	Inverting 5V-18V	nA/V max
			15	20	Noninverting 5V-18V	
Input Bias Current vs. Common Mode	I_{BCMR}	-1	10	20	Inverting $V_{CM} = \pm 10V$	nA/V max
			15	20	Noninverting $V_{CM} = \pm 10V$	
Open-Loop Transresistance	TZ	-1	100	50	$V_O = \pm 10V$ $R_L = 500\Omega$	M Ω min
Output Voltage Swing	V_{OUT}	-1	10		$R_L = 500\Omega$	$\pm V$ min
Quiescent Current	I_Q	-1	6.0	7		mA max

NOTES

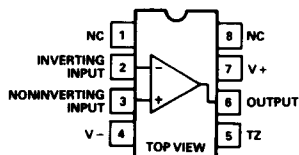
¹All specifications are tested after equivalent of 5 minutes at $T_A = +25^\circ C$.

² $V_S = \pm 15V$, unless otherwise noted.

³Test conditions: $+V_S = 15V$, $-V_S = -5V$ to $-18V$ and $+V_S = 5V$ to $18V$, $-V_S = -15V$.

3.2.1 Functional Block Diagram and Terminal Assignments.

Cerdip (Q) Package



3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (85).

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).

