

1.1 Scope.

This specification covers the detail requirements for a high speed, low power, operational amplifier that is stable at closed loop gains of 5 or greater.

1.2 Part Number.

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

Device	Part Number
-1	AD848SQ/883B

1.2.3 Case Outline.

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

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

Supply Voltage	$\pm 18\text{ V}$
Internal Power Dissipation ¹	1.1 W
Input Common-Mode Voltage, Max Safe	$\pm V_S$
Differential Input Voltage	$\pm 6\text{ V}$
Rated Operating Temperature Range	-55°C to $+125^\circ\text{C}$
Storage Temperature Range	-65°C to $+150^\circ\text{C}$
Lead Temperature (Soldering 60 sec)	$+300^\circ\text{C}$

NOTE

¹Maximum internal power dissipation is specified so the T_J does not exceed $+175^\circ\text{C}$ at an ambient temperature of $+25^\circ\text{C}$. Derates at $7.3\text{ mW}/^\circ\text{C}$.

1.5 Thermal Characteristics.

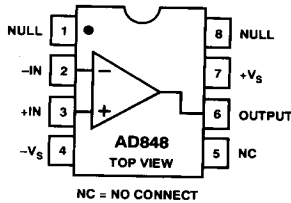
Thermal Resistance $\theta_{JA} = 110^\circ\text{C}/\text{W}$
 $\theta_{JC} = 30^\circ\text{C}/\text{W}$

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Table 1.

Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	V_s	Test Condition	Units
Input Offset Voltage	V_{OS}	-1	1 2.3	2 3.5	± 5 V ± 15 V		\pm mV max
Input Bias Current	I_B	-1	5	7.5	± 5 V, ± 15 V	$V_{CM} = 0$ V	\pm μ A max
Input Offset Current	I_{OS}	-1	0.3	0.4	± 5 V, ± 15 V		\pm μ A max
Open Loop Gain	A_{OL}	-1	9	5	± 5 V	$V_{OUT} = \pm 2.5$ V, $R_{LOAD} = 500 \Omega$	V/mV min
			12	6	± 15 V	$V_{OUT} = \pm 10$ V, $R_{LOAD} = 1$ k Ω	V/mV min
Common-Mode Rejection Ratio	CMRR	-1	92	88	± 5 V	$V_{CM} = \pm 2.5$ V	dB min
			92	88	± 15 V	$V_{CM} = \pm 12$ V	
Output Voltage Swing	V_{OUT}	-1	3		± 5 V	$R_{LOAD} = 500 \Omega$	\pm V min
			2.5		± 5 V	$R_{LOAD} = 150 \Omega$	\pm V min
			12		± 15 V	$R_{LOAD} = 1$ k Ω	\pm V min
			10		± 15 V	$R_{LOAD} = 500 \Omega$	\pm V min
Power Supply Rejection Ratio	PSRR	-1	85	80		$V_s = \pm 4.5$ V to ± 18 V	dB min
Power Supply Current	I_Q	-1	6.0 6.8	8.3 9.0	± 5 V ± 15 V	$V_{OUT} = 0$ V $V_{OUT} = 0$ V	mA max

3.2.1 Functional Block Diagram and Terminal Assignments.



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).

