

**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 25 or greater.

**1.2 Part Number.**

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

Device	Part Number
-1	AD849SQ/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 <sup>1</sup>	1.1 W
Input Common-Mode Voltage, Max Safe	$\pm V_S$
Differential Input Voltage	$\pm 6\text{ V}$
Rated Operating Temperature Range	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
Storage Temperature Range	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Lead Temperature (Soldering 60 sec)	$+300^\circ\text{C}$

**NOTE**

<sup>1</sup>Maximum 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.**

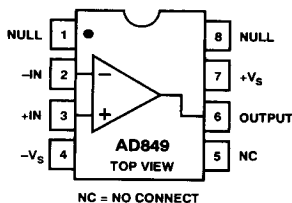
Thermal Resistance  $\theta_{JA} = 110^\circ\text{C}/\text{W}$   
 $\theta_{JC} = 30^\circ\text{C}/\text{W}$

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Table 1.

Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	V <sub>S</sub>	Test Conditions	Unit
Input Offset Voltage	V <sub>OS</sub>	-1	0.75	1.0	±5 V, ±15 V		±mV max
Input Bias Current	I <sub>B</sub>	-1	5	7.5	±5 V, ±15 V	V <sub>CM</sub> = 0 V	±μA max
Input Offset Current	I <sub>OS</sub>	-1	0.3	0.4	±5 V, ±15 V		±μA max
Open Loop Gain	A <sub>OL</sub>	-1	30 45	15 25	±5 V ±15 V	V <sub>OUT</sub> = ±2.5 V, R <sub>LOAD</sub> = 500 Ω V <sub>OUT</sub> = ±10 V, R <sub>LOAD</sub> = 1 kΩ	V/mV min
Common-Mode Rejection Ratio	CMRR	-1 -1	100 100	96 96	±5 V ±15 V	V <sub>CM</sub> = ±2.5 V V <sub>CM</sub> = ±12 V	dB min
Output Voltage Swing	V <sub>OUT</sub>	-1	3 2.5 12 10		±5 V ±5 V ±15 V ±15 V	R <sub>LOAD</sub> = 500 Ω R <sub>LOAD</sub> = 150 Ω R <sub>LOAD</sub> = 1 kΩ R <sub>LOAD</sub> = 500 Ω	±V min
Power Supply Rejection Ratio	PSRR	-1	98	94		V <sub>S</sub> = ±4.5 V to ±18 V	dB min
Power Supply Current	I <sub>Q</sub>	-1	6.0 6.8	8.3 9.0	±5 V ±15 V	V <sub>OUT</sub> = 0 V V <sub>OUT</sub> = 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).

