

## 1.1 Scope.

This specification covers the detail requirements for a high speed, wide bandwidth unity gain buffer amplifier.

## 1.2 Part Number.

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

| Device | Part Number    |
|--------|----------------|
| -1     | ADLH0033G/883B |

## 1.2.3 Case Outline.

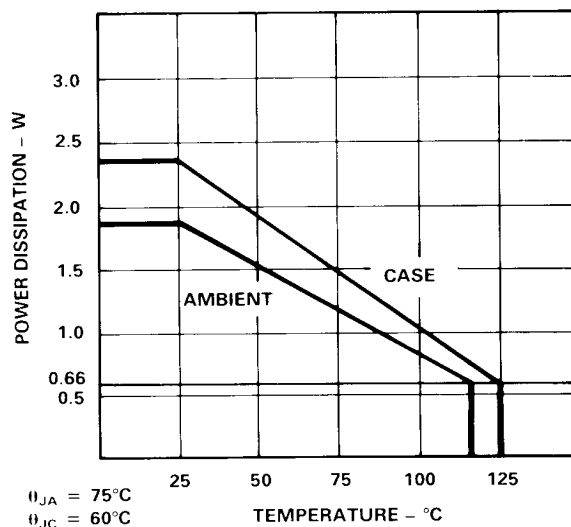
See Appendix 1 of General Specification ADI-M-1000: package outline: H12A (Nonstandard to MIL-M-38510 Appendix C)

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

|                                               |                                             |
|-----------------------------------------------|---------------------------------------------|
| Supply Voltage                                | $\pm 40\text{V}$                            |
| Maximum Power Dissipation (See Paragraph 1.5) | 1.5W                                        |
| Maximum Junction Temperature                  | $175^\circ\text{C}$                         |
| Input Voltage                                 | Equal to Supplies                           |
| Continuous Output Current                     | $\pm 100\text{mA}$                          |
| Peak Output Current                           | $\pm 250\text{mA}$                          |
| Storage Temperature Range                     | $-65^\circ\text{C}$ to $+150^\circ\text{C}$ |
| Lead Temperature (Soldering 10sec)            | $+300^\circ\text{C}$                        |

## 1.5 Thermal Characteristics.

Thermal Resistance  $\theta_{jc} = 60^\circ\text{C/W}$   
 $\theta_{ja} = 75^\circ\text{C/W}$



REV. C

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One Technology Way; P. O. Box 9106; Norwood, MA 02062-9106 U.S.A.  
 Tel: 617/329-4700  
 Telex: 924491  
 Twx: 710/394-6577  
 Cables: ANALOG NORWOODMASS

# ADLH0033G/883B — SPECIFICATIONS

| Test                  | Symbol               | Device | Design Limit<br>(@ +25°C) | Sub Group<br>1 | Sub Group<br>2, 3 | Sub Group<br>4   | Sub Group<br>5 | Sub Group<br>6 | Test Condition <sup>1</sup>                                                       | Units              |
|-----------------------|----------------------|--------|---------------------------|----------------|-------------------|------------------|----------------|----------------|-----------------------------------------------------------------------------------|--------------------|
| Output Offset Voltage | V <sub>OS</sub>      | – 1    | 10                        | 10             | 15                |                  |                |                | R <sub>S</sub> = 100kΩ                                                            | ± mV max           |
| Voltage Gain          | A <sub>V</sub>       | – 1    | 1.0                       | 0.97<br>1.0    | 0.97<br>1.0       |                  |                |                | V <sub>IN</sub> = 1V rms<br>R <sub>L</sub> = 1kΩ<br>R <sub>S</sub> = 100kΩ        | V/V min<br>V/V max |
| Output Voltage Swing  | V <sub>OUT</sub>     | – 1    | 12                        | 12             | 12                |                  |                |                | R <sub>L</sub> = 1kΩ                                                              | ± V min            |
| Power Supply Current  | I <sub>CC</sub>      | – 1    |                           | 14.5<br>22     | 14.5<br>22        |                  |                |                |                                                                                   | mA min<br>mA max   |
| Input Bias Current    | I <sub>B</sub>       | – 1    | 0.1                       | 0.1            | 10                |                  |                |                |                                                                                   | nA max             |
| Output Impedance      | R <sub>OUT</sub>     | – 1    | 10                        |                |                   | 10               |                |                | V <sub>IN</sub> = 1V rms R <sub>L</sub> = 1kΩ<br>± 10μA ≤ I <sub>OUT</sub> ≤ 10mA | Ω max              |
| Input Impedance       | R <sub>IN</sub>      | – 1    | 10 <sup>10</sup>          |                |                   | 10 <sup>10</sup> |                |                | Tested Go/No Go Only                                                              | Ω min              |
| Slew Rate             | t <sub>SR</sub>      | – 1    | 1000                      |                |                   | 1000             |                |                | V <sub>IN</sub> = ± 10V<br>R <sub>S</sub> = 50Ω R <sub>L</sub> = 1kΩ              | V/μs min           |
| Power Consumption     |                      | – 1    | 660                       |                |                   | 660              |                |                | V <sub>IN</sub> = 0<br>Tested Go/No Go Only                                       | mW max             |
| Offset Voltage Tempco | %V <sub>OS</sub> /ΔT | – 1    | 250                       | 250            | 250               |                  |                |                |                                                                                   | μV/°C max          |
| Output Voltage Swing  | V <sub>OUT</sub>     | – 1    | 9                         | 9              | 9                 |                  |                |                | R <sub>L</sub> = 100Ω                                                             | ± V min            |

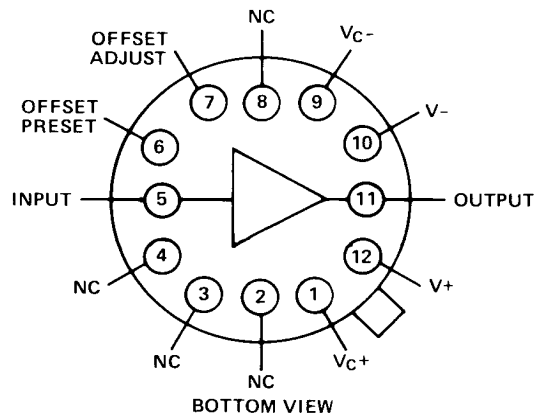
NOTE

<sup>1</sup>T<sub>A</sub> = T<sub>J</sub> = T<sub>C</sub> = 25°C, V<sub>S</sub> = + 15V unless otherwise specified.

Table 1

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### 3.2.1 Functional Block Diagram and Terminal Assignments.



### 3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (I).

### 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).

