

### 1.1 Scope.

This specification covers the detail requirements for a high-speed precision monolithic op amp with a high slew rate and wide bandwidth using feed forward circuitry.

### 1.2 Part Number.

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

Device	Part Number
-1	AD518SH/883B

### 1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-M-1000; package outline: HO8A

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

Supply Voltage . . . . .	$\pm 20\text{V}$
Internal Power Dissipation <sup>1</sup> . . . . .	500mW
Differential Input Voltage <sup>2</sup> . . . . .	$\pm 11.5\text{V}$
Input Common-Mode Voltage, Max Safe . . . . .	$\pm V_S$
Output Short Circuit Duration . . . . .	Indefinite
Storage Temperature Range . . . . .	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Operating Temperature Range (Ambient) . . . . .	$-55^\circ\text{C}$ to $+125^\circ\text{C}$
Lead Temperature Range (Soldering 60sec) . . . . .	$+300^\circ\text{C}$

#### NOTES

<sup>1</sup>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

<sup>2</sup>The inputs are shunted with back to back diodes; if the  $V_{DIFF}$  is greater than  $\pm 1\text{V}$ , a resistor should be used in series with the inputs to limit the current to  $\pm 10\text{mA}$ .

### 1.5 Thermal Characteristics.

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

# AD518 – SPECIFICATIONS

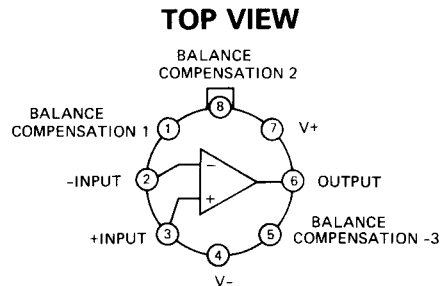
Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition <sup>1</sup>	Units
Gain Open Loop	A <sub>OL</sub>	-1	50		25	50	R <sub>L</sub> ≥ 2kΩ ΔV <sub>O</sub> = 10V	V/mV min
Gain Bandwidth Product	GBW	-1	10					MHz min
Slew Rate, Unity Gain	t <sub>SR</sub>	-1	50					V/μs min
Output Voltage Swing	V <sub>OUT</sub>	-1	12	12	12		R <sub>L</sub> = 2kΩ	± V min
Output Short Circuit Current	I <sub>SC</sub>	-1	25	65				± mA max
Input Offset Voltage Drift	TCV <sub>IO</sub>	-1	20		20		R <sub>S</sub> = 100Ω	± μV/°C max
Input Offset Voltage	V <sub>IO</sub>	-1	4	4	6		R <sub>S</sub> = 100Ω	± mV max
Input Offset Current	I <sub>OS</sub>	-1	50	50	100			± nA max
Input Bias Current	I <sub>B</sub>	-1	250	250	400			± nA max
Common-Mode Rejection	CMRR	-1	80		80	80		dB min
Common-Mode Voltage Range	CMVR	-1	10	10				± V max
Power Supply Current	I <sub>Q</sub>	-1	7	7				mA max
Power Supply Rejection Ratio	PSRR	-1	100		150	100		μV/V max

NOTE

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

Table 1.

## 3.2.1 Functional Block Diagram and Terminal Assignments.

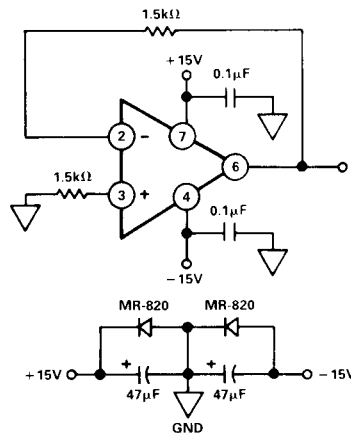


## 3.2.4 Microcircuit Technology Group.

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).



REV B.