

1.1 Scope.

This specification covers the detail requirements for a precision monolithic laser-trimmed BiFET amplifier.

1.2 Part Number.

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

Device	Part Number
-1	AD548S(X)/883B

1.2.3 Case Outline.

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

(X) Package	Description
H	H-08B 8-Pin Metal 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	500 mW
Differential Input Voltage	$+V_S$ and $-V_S$
Output Short Circuit Duration	Indefinite
Storage Temperature Range	-65°C to $+150^\circ\text{C}$
Operating Temperature Range	-55°C to $+125^\circ\text{C}$
Lead Temperature (Soldering 60 sec)	$+300^\circ\text{C}$

NOTE

¹Maximum package power dissipation vs. ambient temperature.

Package Type	MAXIMUM AMBIENT Temperature for Rating	DERATE ABOVE MAXIMUM Ambient Temperature
H-08B	80°C	3.3 mW/°C

1.5 Thermal Characteristics.

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

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Table 1.

Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	Test Conditions ¹	Units
Input Offset Voltage ²	V_{OS}	-1	2.0	3.0		\pm mV max
Input Offset Voltage Drift	TCV_{OS}	-1		20		\pm μ V/ $^{\circ}$ C max
Power Supply Rejection Ratio	PSRR	-1	80	76		dB min
Input Bias Current ³	I_B	-1	20		Either Input, $V_{CM} = 0$	\pm pA max
		-1	30		Either Input, $V_{CM} = +10$ V	\pm pA max
Input Offset Current ³	I_{OS}	-1	10		$V_{CM} = 0$	\pm pA max
Slew Rate	t_{SR}	-1	1.0		Unity Gain	V/ μ s min
Common-Mode Rejection Ratio	CMRR	-1	76	76	$V_{CM} = \pm 10$ V	dB min
			70	70	$V_{CM} = \pm 11$ V	
Open-Loop Gain	A_{OL}	-1	150/300	150/300	$R_L = 5$ k Ω /10 k Ω	V/mV min
Output Voltage Swing	V_{OUT}	-1	$\pm 12/\pm 11$	$\pm 12/\pm 11$	$R_L = 10$ k Ω /5 k Ω	\pm V min
Power Supply Current	I_Q	-1	0.2			mA max

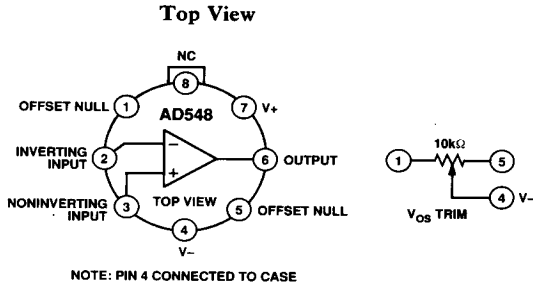
NOTES

¹ $V_S = \pm 15$ V unless otherwise noted.

²Input offset voltage specifications are guaranteed with after 5 minutes of operation at $T_A = +25^{\circ}$ C. Nulling will induce an additional ± 3 μ V/ $^{\circ}$ C.

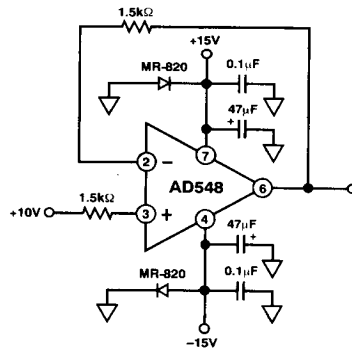
³Bias current specifications guaranteed after 5 minutes of operation at $T_A = +25^{\circ}$ C. For temperatures above $+25^{\circ}$ C, the current doubles every 10° C.

3.2.1 Functional Block Diagram and Terminal Assignments.



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).



3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (85).