

1.1 Scope.

This specification covers the detail requirements for a monolithic high precision voltage reference.

1.2 Part Number.

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

Device	Part Number
-1	AD588SD/883B
-2	AD588TD/883B
-3	AD588SE/883B
-4	AD588TE/883B

1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-M-1000; package outline: D-16 and E-20.

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

+ V_S to - V_S	+36V
Power Dissipation	600mW
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10sec)	+300°C

1.5 Thermal Characteristics.

Thermal Resistance $\theta_{JC} = 25^\circ\text{C/W}$
 $\theta_{JA} = 90^\circ\text{C/W}$

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Table 1.

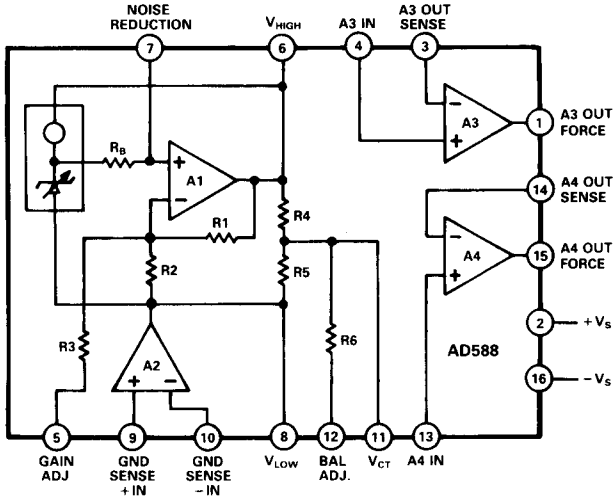
Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition ¹	Units
Output Voltage Error +10V, -10V Outputs		-1, 3	5	5		3	A ₃ = +10V	± mV max
		-2, 4	3	5			A ₄ = -10V	
Output Voltage Error +5V, -5V Outputs		-1, 3	5	5		3	A ₃ = +5V	± mV max
		-2, 4	3	5			A ₄ = -5V	
Tracking Mode	V _{SYM}	-1, 2, 3, 4	1.5	1.5			V _{OUT} = +5V, -5V	± mV
Output Voltage Drift	D _{VO} /DT	-1, 3	6		6		V _{OUT} = +10V	± ppm/°C
		-2, 4	4		4			
Gain Adjust	Gain ADJ	-1, 2, 3, 4	4	4				± mV
Balance Adjust	Bal ADJ	-1, 2, 3, 4	4	4				± mV
Line Regulation ²	VR _{LINE}	-1, 2, 3, 4	200	200	200		V _{OUT} = +10V, -10V, +5V, -5V	± μV/V
Load Regulation	VR _{LOAD1}	-1, 2, 3, 4	50	50	50		V _{OUT} = +10V 0 ≤ I _{OUT} ≤ 10mA	μV/mA
Load Regulation	VR _{LOAD2}	-1, 2, 3, 4	50	50	50		V _{OUT} = -10V -10 ≤ I _{OUT} ≤ 0mA	μV/mA
Supply Current	I _{CC}	-1, 2, 3, 4	10	10	10		V _{OUT} = +10V	mA
Supply Current	I _{EE}	-1, 2, 3, 4	10	10	10		V _{OUT} = +10V	- mA

NOTE

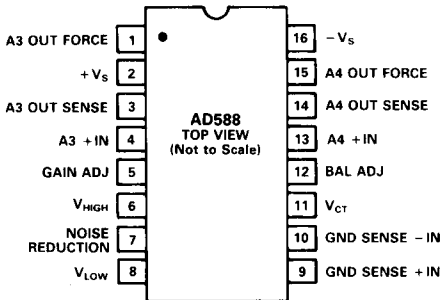
¹V_{CC} + 15V, V_{EE} = -15V, Pin 4 (A₃ IN) connected to Pin 6 (V_{HIGH}), Pin 13 (A₄ IN) connected to Pin 8 (V_{LOW}).

²13.5V ≤ V_{CC} ≤ 18V, -13.5V ≤ V_{EE} ≤ -18V.

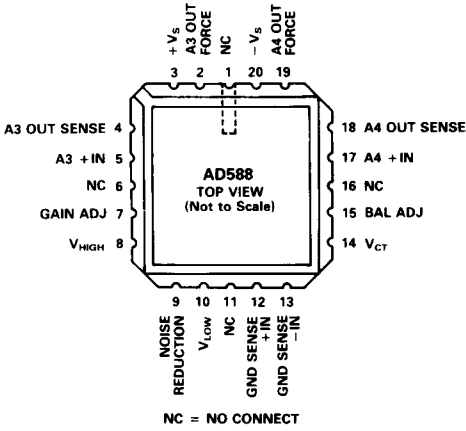
3.2.1 Functional Block Diagram and Terminal Assignments.



D Package



E Package



3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (59).

AD588

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).

