

1.1 Scope.

This specification covers the detail requirements for a high precision, 8.192 volt IC reference.

1.2 Part Number.

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

Device	Part Number
-1	AD689SQ/883B
-2	AD689TQ/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)

Input Voltage V_{IN} to Ground	+36V
GND to GND Sense	$\pm 200\text{mV}$
Power Dissipation	500mW
Storage Temperature Range	-65°C to $+150^\circ\text{C}$
Lead Temperature (Soldering 10sec)	$+300^\circ\text{C}$

1.5 Thermal Characteristics.

Thermal Resistance $\theta_{JC} = 22^\circ\text{C/W}$
 $\theta_{JA} = 110^\circ\text{C/W}$

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Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition ¹	Units
Quiescent Current	I _{CC}	– 1, 2	5	5				+ mA max
Output Voltage Error	V _{OUT}	– 1	16	16				± mV max
		– 2	4	16		4		
Gain Adjustment	V _{ADJ}	– 1, 2	+ 655 – 245	+ 655 – 245				mV min
Line Regulation	VR _{LINE}	– 1, 2	250	250	250		10.8V ≤ V _{IN} ≤ 36V	± μV/V max
Load Regulation, Sourcing	VR _{LOAD}	– 1, 2	100	100	100		I _L = 0mA to 8.192mA	± μV/mA max
Load Regulation, Sinking	I _{OUT}	– 1, 2	100	100	100		I _L = – 8.192mA to 0mA	± μV/mA max
Output Voltage Temperature Coefficient	DV _{OUT} /dT	– 1	20		20			± ppm/°C max
		– 2	10		10			
Output Short-Circuit Current	I _{SC}	– 1, 2	50	50			To Ground, to V _{IN}	+ mA max

NOTE

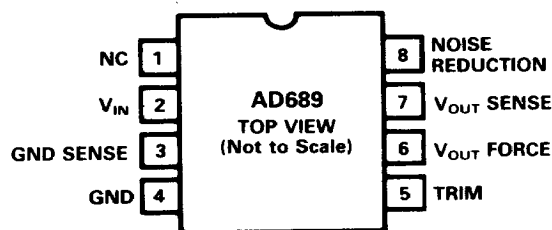
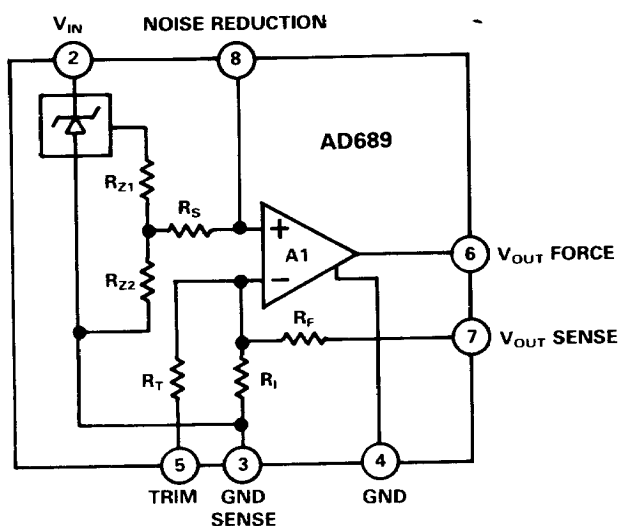
¹V_{IN} = + 12V, no load unless otherwise indicated.

Table 1.

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3.2.1 Functional Block Diagram and Terminal Assignments.

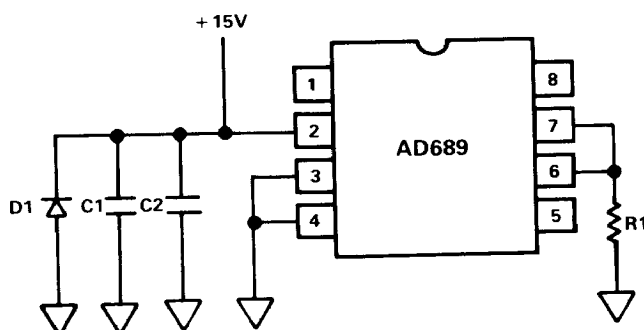


3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (59).

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).



NOTE: D1 = MR-820
C1 = 0.1 μ F
C2 = 47 μ F
R1 = 787 Ω 1/4 WATT AT 25°C

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