ANALOG DEVICES

High Precision 8.192 Volt IC Reference

AD689

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°C unless otherwise noted)

Input Voltage V_{IN} to Ground	+36V
GND to GND Sense	±200mV
Power Dissipation	500mW
Storage Temperature Range	–65°C to +150°C
Lead Temperature (Soldering 10sec)	+300°C

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC} = 22°C/W

θ_{JA} = 110°C/W

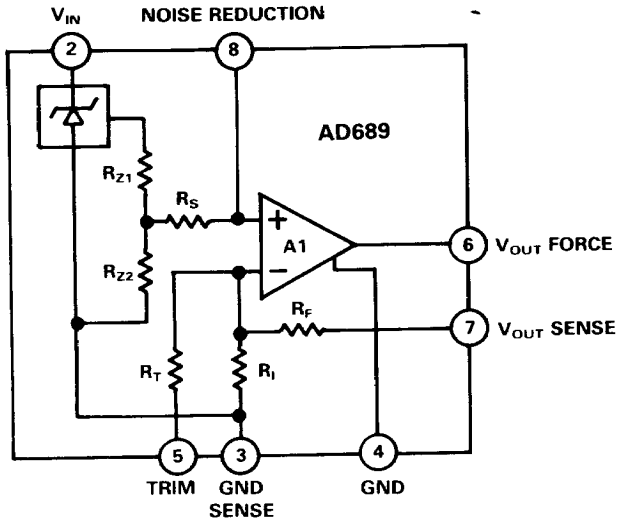
AD689 – SPECIFICATIONS

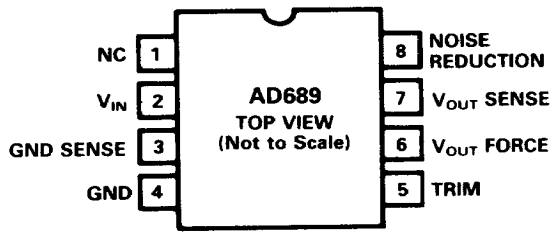
Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition[1]	Units
Quiescent Current	I_{CC}	−1, 2	5	5				+ mA max
Output Voltage Error	V_{OUT}	−1	16	16				± mV max
		−2	4	16		4		
Gain Adjustment	V_{ADJ}	−1, 2	+655 −245	+655 −245				mV min
Line Regulation	VR_{LINE}	−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 −2	20 10		20 10			± ppm/°C max
Output Short-Circuit Current	I_{SC}	−1, 2	50	50			To Ground, to V_{IN}	+ mA max

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

Table 1.

3.2.1 Functional Block Diagram and Terminal Assignments.



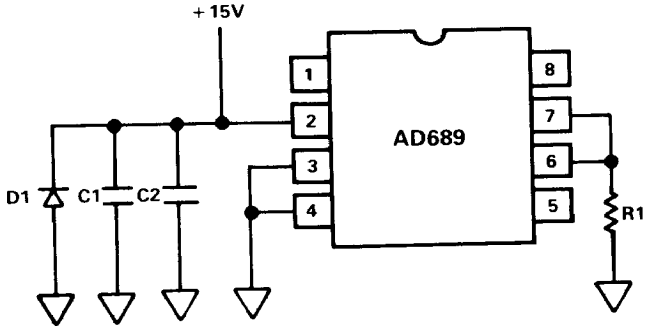


3.2.4 Microcircuit Technology Group.

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 = 0.1μF
C2 = 47μF
R1 = 787Ω 1/4 WATT AT 25°C