1.1 Scope.

This specification covers the requirements for an accurately programmable gain instrumentation amplifier. The gain equation is $\frac{R_S}{R_G}\frac{V}{V}$.

1.2 Part Number.

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

Device	Part Number
−1	AD521SD/883B

1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-M-1000: package outline: D-14.

1.3 Absolute Maximum Ratings. (T_A = +25°C unless otherwise noted)

Supply Voltage ..... ±18 V
Internal Power Dissipation[1] ..... 500 mW
Storage Temperature Range ..... −65°C to +150°C
Operating Temperature Range ..... −55°C to +125°C
Lead Temperature Range (Soldering 10 sec) ..... +300°C

NOTE
[1]Maximum package power dissipation vs. ambient temperature.

Package Type	MAXIMUM AMBIENT Temperature for Rating	DERATE ABOVE MAXIMUM Ambient Temperature
D-14	+80°C	7.1 mW/°C

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC} = 22°C/W
θ_{JA} = 95°C/W

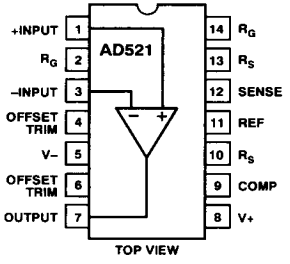
AD521—SPECIFICATIONS

Table 1.

Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	Test Conditions[1]	Unit
Input Offset Voltage	V_{OSI}	−1	1.5			±mV max
Input Offset Voltage Drift	TCV_{OSI}	−1		5		±μV/°C max
Output Offset Voltage	V_{OSO}	−1	200			±mV max
Output Offset Voltage Drift	TCV_{OSO}	−1		150		±μV/°C max
Input Offset Current	I_{OS}	−1	10			±nA max
Input Offset Current Drift	TCI_{OS}	−1		125		±pA/°C max
Input Bias Current	I_B	−1	40			±nA max
Input Bias Current Drift	TCI_B	−1		500		±pA/°C max
Gain Nonlinearity	GN	−1	0.2		1 <G<1000; V_{OUT} = ±10 V	±% max
Common-Mode Rejection Ratio	$CMRR_1$	−1	74		G = 1; dc	dB min
Common-Mode Rejection Ratio	$CMRR_{1000}$	−1	110		G = 1000; dc	dB min
Output Voltage Swing	V_{OUT}	−1	10		R_L = 1 kΩ	±V min

NOTE
[1]V_S = ±15 V, R_L = 2 kΩ, unless otherwise noted.

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).