

1.1 Scope.

This specification covers the detail requirements for a programmable gain instrumentation amplifier. The gain equation is $\frac{2 R_F}{R_G} + 1$.

1.2 Part Number.

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

Device	Part Number
-1	AD625S(X)/883B

1.2.3 Case Outline.

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

(X)	Package	Description
D	D-16	16-Pin Ceramic DIP
E	E-20A	20-Terminal LCC

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

Supply Voltage	$\pm 18 \text{ V}$
Internal Power Dissipation	450 mW
Input Voltage	$\pm V_S \text{ max}$
Rated Operating Temperature Range	-55°C to $+125^\circ\text{C}$
Storage Temperature Range	-65°C to $+150^\circ\text{C}$
Lead Temperature Range (Soldering 10 seconds)	$+300^\circ\text{C}$

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC}	$= 22^\circ\text{C/W}$ for D-16
θ_{JA}	$= 95^\circ\text{C/W}$ for D16
θ_{JC}	$= 25^\circ\text{C/W}$ for E-20A
θ_{JA}	$= 150^\circ\text{C/W}$ for E-20A

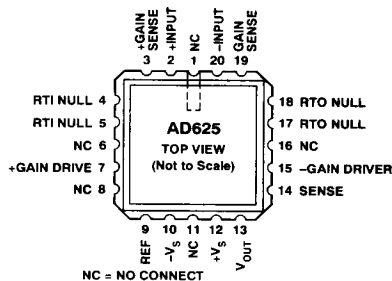
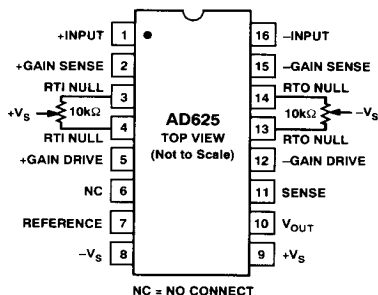
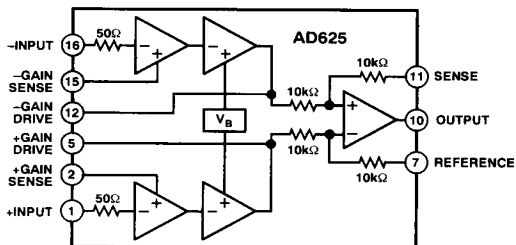
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Table 1.

Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	Test Condition ¹	Unit
Gain Error 1	GE_1	-1	0.05		$G = 1$	$\pm\%$ max
Input Offset Voltage	V_{OSI}	-1	200		$V_{IN} = 0\text{ V}$	$\pm\mu\text{V}$ max
Input Offset Voltage Drift	TCV_{OSI}	-1		2	$V_{IN} = 0\text{ V}$	$\pm\mu\text{V}/^\circ\text{C}$ max
Output Offset Voltage	V_{OSO}	-1	5		$V_{IN} = 0\text{ V}$	$\pm\text{mV}$ max
Output Offset Drift	TCV_{OSO}	-1		50	$V_{IN} = 0\text{ V}$	$\pm\mu\text{V}/^\circ\text{C}$ max
Input Bias Current	I_B	-1	50		$G = 1$	$\pm\text{nA}$ max
Input Offset Current	I_{OS}	-1	20		$I_{OS} = (+I_B) - (-I_B)$	$\pm\text{nA}$ max
Common-Mode Rejection	$CMRR_1$	-1	70		$G = 1$	dB min
Common-Mode Rejection	$-CMRR_1$	-1	70		$G = 1$	dB min
Common-Mode Rejection	$+CMRR_{1000}$	-1	110		$G = 1000$	dB min
Common-Mode Rejection	$-CMRR_{1000}$	-1	110		$G = 1000$	dB min
Power Supply Current	I_{CC}	-1	5		$G = 1$	mA max
Power Supply Rejection	$PSRR_1$	-1	70		$G = 1$	dB min
Power Supply Rejection	$PSRR_{1000}$	-1	100		$G = 1000$	dB min

$V_S = \pm 15\text{ V}$, $R_L = 2\text{ k}\Omega$, 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).

