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°C unless otherwise noted)

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

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC} = 22°C/W for D-16
θ_{JA} = 95°C/W for D16
θ_{JC} = 25°C/W for E-20A
θ_{JA} = 150°C/W for E-20A

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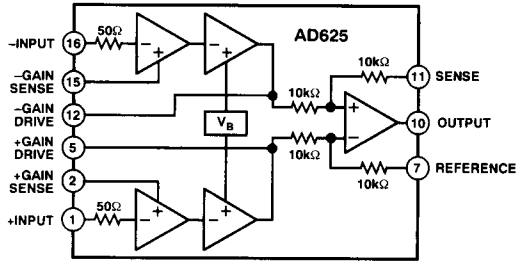
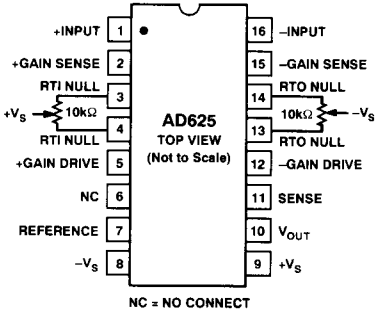
Table 1.

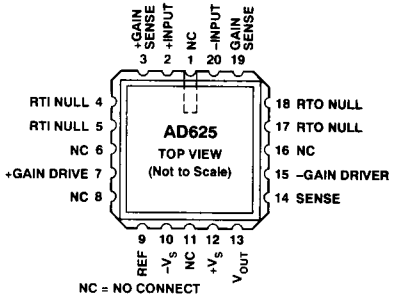
Test	Symbol	Device	Sub Group 1	Sub Group 2, 3	Test Condition[1]	Unit
Gain Error 1	GE_1	−1	0.05		G = 1	±% max
Input Offset Voltage	V_{OSI}	−1	200		V_{IN} = 0 V	±μV max
Input Offset Voltage Drift	TCV_{OSI}	−1		2	V_{IN} = 0 V	±μV/°C max
Output Offset Voltage	V_{OSO}	−1	5		V_{IN} = 0 V	±mV max
Output Offset Drift	TCV_{OSO}	−1		50	V_{IN} = 0 V	±μV/°C max
Input Bias Current	I_B	−1	50		G = 1	±nA max
Input Offset Current	I_{OS}	−1	20		$I_{OS} = (+I_B)-(-I_B)$	±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 = ±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).