ANALOG DEVICES

Fast Settling Video Operational Amplifier

HOS-050A/HOS-060SH

1.1 Scope.

This specification covers the detail requirements for a fast settling, video operational amplifier.

1.2 Part Number.

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

Device	Part Number
–1	HOS-050A/883B
–2	HOS-060SH/883B

1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-H-1000: package outline: H-12A (Note: Nonstandard to MIL-M-38510 Appendix C).

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

Supply Voltage	±18V (V_S)
Maximum Power Dissipation	(See Figure 2)
Input Voltage	±V_S
Differential Input Voltage	±V_S
Storage Temperature Range	–65°C to +150°C
Lead Temperature (Soldering 10sec)	+300°C

1.5 Thermal Characteristics.

Thermal Resistance θ_{jc} = 55°C/W
θ_{ja} = 70°C/W

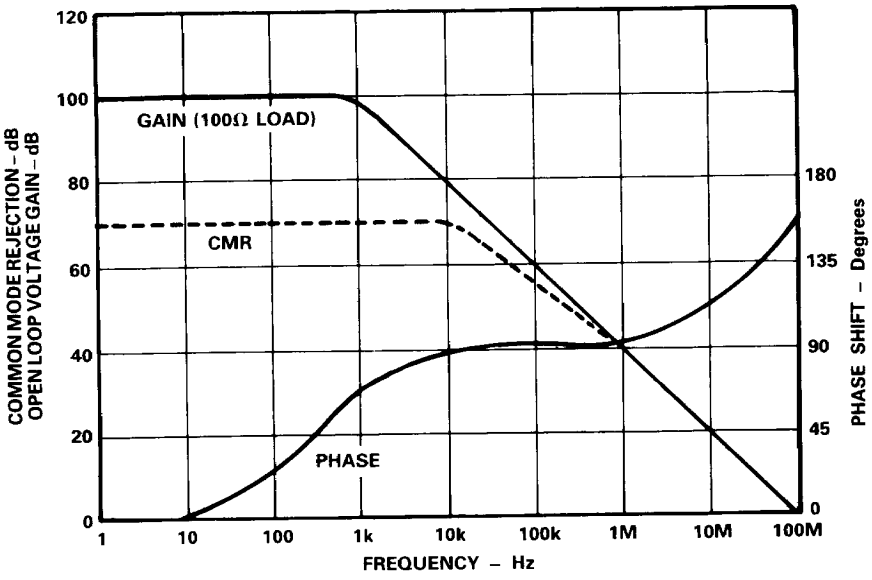

Figure 1. Frequency Response

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Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Sub Group 5	Sub Group 6	Test Condition	Units
Input Offset Voltage	V_{OS}	−1 −2	15 1	15 1	18.5 2				$R_S = 100k\Omega$	± mV max
Input Bias Current	I_B	*	2	2	50					± nA max
Input Offset Current	I_{OS}	*	0.1	0.1	25					nA max
Power Supply Current	I_{CC}	*	25	25						mA max
Output Voltage Swing −	V_{OUT}	*	−10	−10	−10				$R_L = 200\Omega$	V max
Output Voltage Swing +	V_{OUT}	*	10	10	10				$R_L = 200\Omega$	V min
Power Supply Rejection Ratio	PSRR	*	50			50	50	50	−12 to −18 & +15V_S +12 to +18 & −15 V_S	dB min
Large Signal Voltage Gain	A_{VS}	*	80			80	80	80	$R_L = 200\Omega$	dB min
Voltage Gain	A_V	*	80			80	80	80	F = 1kHz, $R_L = 200\Omega$	dB min
Common-Mode Rejection Ratio	CMRR	*	60			60	55	55	$V_{IN} = 10V$	dB min
Input Offset Tempco	$\Delta V/\Delta T$	−1	35			35				± µV/°C max
Slew Rate	t_{SR}	*	230			230	210	210	$A_V = -1, R_L = 200\Omega$ $A_V = 2, R_L = 200\Omega$	V/µs min
Settling Time to 1% of Final Value	t_{SL}	*	100			100			$R_L = 200\Omega, A_V = 1$	ns max

NOTE
*Specifications for −1 are equivalent to −2.

Table 1.

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC} = 55°C/W
θ_{JA} = 70°C/W

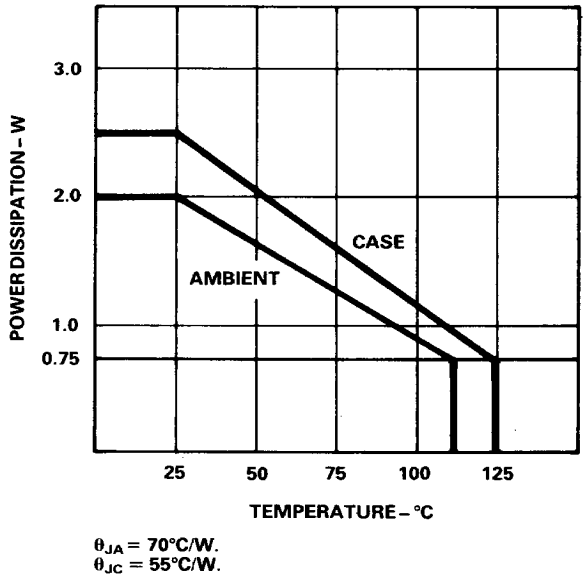

Figure 2. Power Dissipation vs. Temperature

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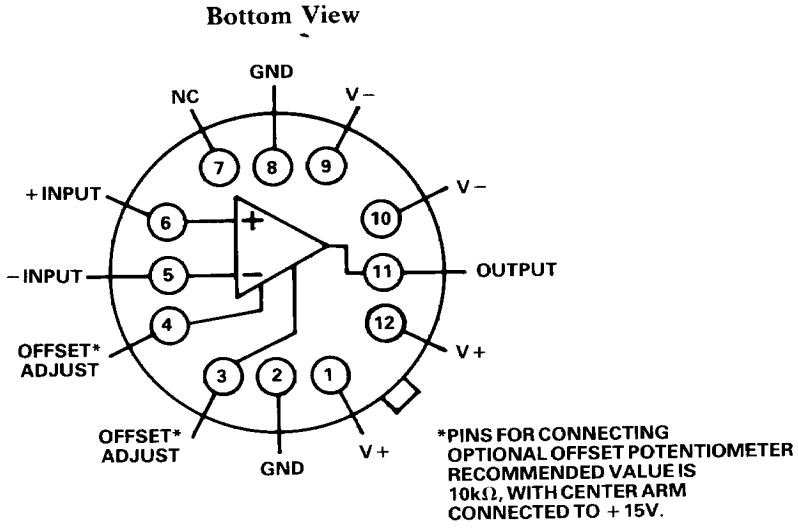
3.2.1 Functional Block Diagram and Terminal Assignments.



3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (I).

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).