

1.1 Scope.

This specification covers the detail requirements for a high speed sample-and-hold amplifier.

1.2 Part Number.

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

Device	Part Number
–1	AD346SD/883B

1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-H-1000; package outline: DH-14A

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

+V _{CC} to GND (Pin 11)	+18V
–V _{CC} to GND (Pin 14)	–18V
Digital Input (Pin 1)	0 to +7V
Analog Input (Pin 13)	±15V
Junction Temperature	+175°C
Storage Temperature Range	–65°C to +150°C
Lead Temperature (Soldering 10sec)	+300°C

1.5 Thermal Characteristics.

Thermal Resistance $\theta_{JC} = 20^{\circ}\text{C/W}$
 $\theta_{JA} = 60^{\circ}\text{C/W}$

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Table 1.

Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition ¹	Units
Analog Input Voltage Range	V _{IN}	−1	10			10		± V min
Overvoltage, No Damage	V _{OV}	−1	15					± V max
Digital Input Logic “1” Current	I _{IH}	−1	20					μA max
Digital Input Logic “0” Current	I _{IL}	−1	360					− μA max
Digital Input Track Mode Logic “1”	V _{IH}	−1	2.0 5.5					V min V max
Digital Input Hold Mode Logic “0”	V _{IL}	−1	0 0.8					V min V max
Analog Output Voltage ²	V _O	−1	10.0			10.0		± V min
Offset Voltage ³	V _{OS}	−1	3	3				± mV max
Offset Voltage Temperature Coefficient	V _{OSTC}	−1	20		20			± mV max
Gain Error	A _E	−1	0.02	0.02			% of −1V/V	± % max
Gain Error Over Temperature	TC _{A_E}		0.05		0.05		% of −1V/V	± % max
Offset Step (Pedestal)	O _S	−1	4	4				± mV max
Pedestal Over Temperature	TC _{O_S}	−1	20		20			± mV max
Droop Rate	T _{DR}	−1	0.5	0.5				mV/ms max
Droop Rate over Temperature	T _{DRTC}	−1	650		650			mV/ms max
Acquisition Time to ± 0.01% 10V Step	t _{A1}	−1	2.0					μs max
Acquisition Time to ± 0.01% 20V Step	t _{A2}	−1	2.5			2.5		μs max
Settling Time Sample Mode	t _{S1}	−1	2.0					μs max
Sample to Hold	t _{S2}	−1	1.0					μs max
Feedthrough (Hold Mode)	FT	−1	0.02			0.02	@ C _L ≤ 200pF	% FSR max
Nominal Voltages for Rated Performance	V _S	−1	15				(± 3%)	± V typ
Power Supply Rejection Ratio	PSRR	−1	300					μV/V max
Supply Currents	+ I _{SS}	−1	18	18			V _{SS} = ± 15V	mA max
	− I _{SS}	−1	10	10			V _{SS} = ± 15V	− mA max
Supply Currents Over Temperature	+ I _{SSTC}	−1	20		20		V _{SS} = ± 15V	mA max
	− I _{SSTC}	−1	10		10		V _{SS} = ± 15V	− mA max

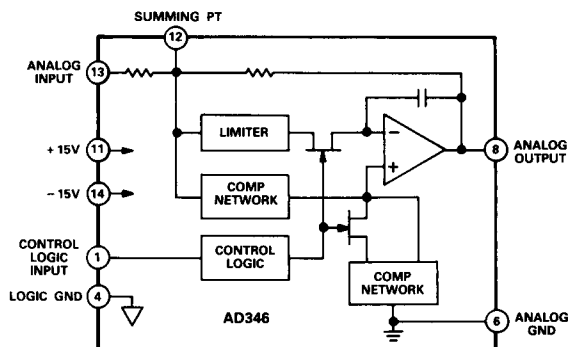
NOTES

¹T_A = +25°C and ± V_S = ± 15V unless otherwise specified.

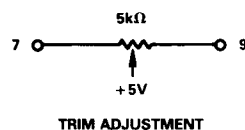
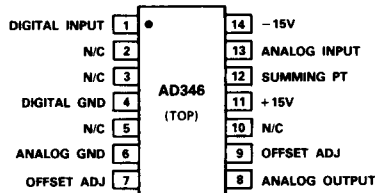
²Max Output Swing is 4V less than + V_S.

³Voltage Offset is externally adjustable to zero.

3.2.1 Functional Block Diagram and Terminal Assignments.



DH-14A Package



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).

