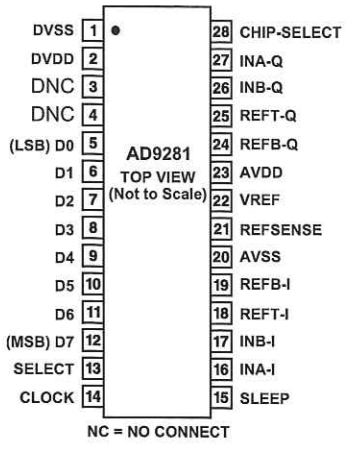
ABSOLUTE MAXIMUM RATINGS*

Parameter	With Respect to	Min	Max	Units
AVDD	AVSS	–0.3	+6.5	V
DVDD	DVSS	–0.3	+6.5	V
AVSS	DVSS	–0.3	+0.3	V
AVDD	DVDD	–6.5	+6.5	V
CLK	AVSS	–0.3	AVDD + 0.3	V
Digital Outputs	DVSS	–0.3	DVDD + 0.3	V
AINA, AINB	AVSS	–1.0	AVDD + 0.3	V
VREF	AVSS	–0.3	AVDD + 0.3	V
REFSENSE	AVSS	–0.3	AVDD + 0.3	V
REFT, REFB	AVSS	–0.3	AVDD + 0.3	V
Junction Temperature			+150	°C
Storage Temperature		–65	+150	°C
Lead Temperature 10 sec			+300	°C

*Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only; functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum ratings for extended periods may effect device reliability.

PIN CONFIGURATION



PIN FUNCTION DESCRIPTIONS

Pin No.	Name	Description
1	DVSS	Digital Ground
2	DVDD	Digital Supply
3	DNC	Do not connect
4	DNC	Do not connect
5	D0	Bit 0 (LSB)
6	D1	Bit 1
7	D2	Bit 2
8	D3	Bit 3
9	D4	Bit 4
10	D5	Bit 5
11	D6	Bit 6
12	D7	Bit 7 (MSB)
13	SELECT	Hi I Channel Out, Lo Q Channel Out
14	CLOCK	Clock
15	SLEEP	Hi Power Down, Lo Normal Operation
16	INA-I	I Channel, A Input
17	INB-I	I Channel, B Input
18	REFT-I	Top Reference Decoupling, I Channel
19	REFB-I	Bottom Reference Decoupling, I Channel
20	AVSS	Analog Ground
21	REFSENSE	Reference Select
22	VREF	Internal Reference Output
23	AVDD	Analog Supply
24	REFB-Q	Bottom Reference Decoupling, Q Channel
25	REFT-Q	Top Reference Decoupling, Q Channel
26	INB-Q	Q Channel B Input
27	INA-Q	Q Channel A Input
28	CHIP-SELECT	Hi-High Impedance, Lo-Normal Operation

DEFINITIONS OF SPECIFICATIONS

INTEGRAL NONLINEARITY (INL)

Integral nonlinearity refers to the deviation of each individual code from a line drawn from "zero" through "full scale." The point used as "zero" occurs 1/2 LSB before the first code transition. "Full scale" is defined as a level 1 1/2 LSBs beyond the last code transition. The deviation is measured from the center of each particular code to the true straight line.

DIFFERENTIAL NONLINEARITY (DNL, NO MISSING CODES)

An ideal ADC exhibits code transitions that are exactly 1 LSB apart. DNL is the deviation from this ideal value. It is often specified in terms of the resolution for which no missing codes (NMC) are guaranteed.

CAUTION

ESD (electrostatic discharge) sensitive device. Electrostatic charges as high as 4000 V readily accumulate on the human body and test equipment and can discharge without detection. Although the AD9281 features proprietary ESD protection circuitry, permanent damage may occur on devices subjected to high energy electrostatic discharges. Therefore, proper ESD precautions are recommended to avoid performance degradation or loss of functionality.