AD4080 Data Sheet Revision

AD4080 PCN Data Sheet Revision A to Revision B

Gain Error Drift (typ.) Change.

Digital Inputs (CNV, CS, SCLK, and SDI & GPIOx, DCS, and DCLK) Input High Voltage (VIH min) Change.

Digital Outputs (GPIOx, SDOx) leakage currents added.

Data Sheet Specification Comparison – Change no. 1

Data Sheet Specification Table 1 – page 3.

DC Performance Section: Gain Error Drift typ. change

From
Rev. A (Old)

DC PERFORMANCE					
No Missing Codes		20			Bits
Differential Nonlinearity (DNL)			±0.5	±0.99	LSB
Integral Nonlinearity (INL)			±4	±8	ppm
Transition Noise			6.9		LSB RMS
Gain Error	T_A = 25°C		0.01	±0.025	%FS
Gain Error Drift			0.095		ppm/°C
Zero Error	T_A = 25°C		15		µV
Zero Error Drift	T_A = −40°C to +85°C		0.05		ppm/°C
Power Supply Rejection	VDD33 = 3.3 V ± 5%		−89		dB
	VDD11 = 1.1 V ± 5%		−68		dB
Low Frequency Noise	Bandwidth = 0.1 Hz to 10 Hz		174		nV RMS

To
Rev. B (New)

DC PERFORMANCE					
No Missing Codes		20			Bits
Differential Nonlinearity (DNL)			±0.5	±0.99	LSB
Integral Nonlinearity (INL)			±4	±8	ppm
Transition Noise			6.9		LSB RMS
Gain Error	T_A = 25°C		0.01	±0.025	%FS
Gain Error Drift	T_A = −40°C to +85°C		0.2		ppm/°C
Zero Error	T_A = 25°C		15		µV
Zero-Error Drift	T_A = −40°C to +85°C		0.05		ppm/°C
Power Supply Rejection	VDD33 = 3.3V ± 5%		-89		dB
	VDD11 = 1.1V ± 5%		-68		dB
Low Frequency Noise	Bandwidth = 0.1Hz to 10Hz		174		nV RMS

Data Sheet Specification Comparison – Change no. 2

Data Sheet Specification Table 1 – page 4.

Digital Inputs Sections as shown below – VIH min change

From
Rev. A (Old)

DIGITAL INPUTS (CNV, $\overline{CS}$, SCLK, and SDI)	VDD11 supply domain inputs			
Input Voltage Tolerance		0	2.5	
Logic Levels				
Input Low Voltage, V_{IL}		0	0.36 × VDD11	
Input High Voltage, V_{IH}		0.73 × VDD11	2.5	
DIGITAL INPUTS (GPIOx, $\overline{DCS}$, and DCLK)	IOVDD supply domain inputs			
Input Voltage Tolerance		0	1.26	V
Logic Levels				
Input Low Voltage, V_{IL}		0	0.36 × IOVDD	V
Input High Voltage, V_{IH}		0.73 × IOVDD	IOVDD	V
Input Current				
Input Low Current, I_{IL}		−1	+1	µA
Input High Current, I_{IH}		−1	+1	µA
Input Pin Capacitance		4.5		pF

To
Rev. B (New)

DIGITAL INPUTS (CNV, $\overline{CS}$, SCLK, and SDI)	VDD11 supply domain inputs			
Input Voltage Tolerance		0	2.5	
Logic Levels				
Input Low Voltage (V_{IL})		0	0.36 × VDD11	
Input High Voltage (V_{IH})		0.92	2.5	
DIGITAL INPUTS (GPIOx, $\overline{DCS}$, and DCLK)	IOVDD supply domain inputs			
Input Voltage Tolerance		0	1.26	V
Logic Levels				
V_{IL}		0	0.36 × IOVDD	V
V_{IH}		0.92	IOVDD	V
Input Current				
Input Low Current (I_{IL})		−1	+1	µA
Input High Current (I_{IH})		−1	+1	µA
Input Pin Capacitance		4.5		pF

Data Sheet Specification Comparison – Change no. 3

Data Sheet Specification Table 1 – page 4.

Digital Output Sections (GPIOx, SDOx) as shown below – Input Currents added.

From Rev. A (Old)

DIGITAL OUTPUTS (GPIOx)	IOVDD supply domain outputs			
Logic Levels				
Output Low Voltage (V_{OL})	Sink current (I_{SINK}) = 500µA	0	0.15	V
Output High Voltage (V_{OH})	Source current (I_{SOURCE}) = 500µA	IOVDD − 0.115	IOVDD	V
DIGITAL OUTPUTS (SDOx)	IOVDD supply domain outputs.			
Data Format	Configured as serial data output	Twos complement		
Logic Levels				
V_{OL}	I_{SINK} = 500µA	0	0.15	V
V_{OH}	I_{SOURCE} = 500µA	IOVDD − 0.115	IOVDD	V

To Rev. B (New)

Input High Voltage (V_{IH})		0.92	2.5	
DIGITAL INPUTS (GPIOx, $\overline{CS}$, and DCLK)	IOVDD supply domain inputs			
Input Voltage Tolerance		0	1.26	V
Logic Levels				
V_{IL}		0	0.36 × IOVDD	V
V_{IH}		0.92	IOVDD	V
Input Current				
Input Low Current (I_{IL})		−1	+1	µA
Input High Current (I_{IH})		−1	+1	µA
Input Pin Capacitance		4.5		pF
DIGITAL OUTPUTS (GPIOx)	IOVDD supply domain outputs			
Logic Levels				
Output Low Voltage (V_{OL})	Sink current (I_{SINK}) = 500µA	0	0.15	V
Output High Voltage (V_{OH})	Source current (I_{SOURCE}) = 500µA	IOVDD − 0.115	IOVDD	V
DIGITAL OUTPUTS (SDOx)	IOVDD supply domain outputs.			
Data Format	Configured as serial data output	Twos complement		
Logic Levels				
V_{OL}	I_{SINK} = 500µA	0	0.15	V
V_{OH}	I_{SOURCE} = 500µA	IOVDD − 0.115	IOVDD	V