26.8 ADC Characteristics – Preliminary Data

Table 26-7. ADC Characteristics

Symbol	Parameter	Condition	Min	Typ	Max	Units
	Resolution			10		Bits
	Absolute accuracy (Including INL, DNL, quantization error, gain and offset error)	V_{REF} = 4V, V_{CC} = 4V, ADC clock = 200 kHz		2		LSB
		V_{REF} = 4V, V_{CC} = 4V, ADC clock = 1 MHz		4.5		LSB
		V_{REF} = 4V, V_{CC} = 4V, ADC clock = 200 kHz Noise Reduction Mode		2		LSB
		V_{REF} = 4V, V_{CC} = 4V, ADC clock = 1 MHz Noise Reduction Mode		4.5		LSB
	Integral Non-Linearity (INL)	V_{REF} = 4V, V_{CC} = 4V, ADC clock = 200 kHz		0.5		LSB
	Differential Non-Linearity (DNL)	V_{REF} = 4V, V_{CC} = 4V, ADC clock = 200 kHz		0.25		LSB
	Gain Error	V_{REF} = 4V, V_{CC} = 4V, ADC clock = 200 kHz		2		LSB
	Offset Error	V_{REF} = 4V, V_{CC} = 4V, ADC clock = 200 kHz		2		LSB
	Conversion Time	Free Running Conversion	13		260	µs
	Clock Frequency		50		1000	kHz
AV_{CC} (1)	Analog Supply Voltage		V_{CC} - 0.3		V_{CC} + 0.3	V
V_{REF}	Reference Voltage		1.0		AV_{CC}	V
V_{IN}	Input Voltage		GND		V_{REF}	V
	Input Bandwidth			38.5		kHz
V_{INT}	Internal Voltage Reference		1.0	1.1	1.2	V
R_{REF}	Reference Input Resistance			32		kΩ
R_{AIN}	Analog Input Resistance			100		MΩ

Note: 1. AV_{CC} absolute min/max: 1.8V/5.5V