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PCI-DAS08

Specifications



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Specifications

Typical for 25 °C unless otherwise specified.

Specifications in *italic text* are guaranteed by design.

Analog input

Table 1. Analog input specifications

Parameter	Specification
A/D converter type	*AD1674J*
Resolution	12 bits
Ranges	±5 V
A/D pacing	Software polled
A/D triggering modes	*Digital: Software polling of digital input (DIN1) followed by pacer loading and configuration.*
Data transfer	Software polled
Polarity	Bipolar
Number of channels	8 single-ended
A/D conversion time	*10 µs*
Throughput	40 kHz typical, PC dependent
Relative accuracy	±1 LSB
Differential linearity error	No missing codes guaranteed
Integral linearity error	±1 LSB
Gain drift (A/D specs)	*±180 ppm/°C*
Zero drift (A/D specs)	*±60 ppm/°C*
Input leakage current	*±60 nA max over temperature*
Input impedance	*10 MegOhm min*
Absolute maximum input voltage	*±35 V*
Noise distribution	(Rate = 1-50 kHz, Average % ± 2 bins, Average % ± 1 bin, Average # bins) Bipolar (5 V): 100% / 100% / 3 bins

Digital input / output

Table 2. Digital I/O specifications

Parameter	Specification
Digital type (main connector):	*Output: 74ACT273*
	Input: 74LS244
Configuration	*3 fixed input, 4 fixed output*
Number of channels	*7*
Output high	*3.94 volts min @ -24 mA (Vcc = 4.5 V)*
Output low	*0.36 volts max @ 24 mA (Vcc = 4.5 V)*
Input high	*2.0 volts min, 7 volts absolute max*
Input low	*0.8 volts max, -0.5 volts absolute min*
Interrupts	INTA# - mapped to IRQn via PCI BIOS at boot-time
Interrupt enable	Programmable through PCI controller: 0 = disabled 1 = enabled (default)

Parameter	Specification
Interrupt sources	External source (EXT INT) Polarity programmable through PCI controller: 1 = active high 0 = active low (default)

Counter section

Table 3. Counter specifications

Parameter	Specification	
Counter type	*82C54 device*	
Configuration	*3 down counters, 16-bits each*	
Counter 0 - User counter 1	Source: Gate: Output:	Available at user connector (CTR1CLK) Available at user connector (CTR1GATE) Available at user connector (CTR1OUT)
Counter 1 - User counter 2	Source: Gate: Output:	Available at user connector (CTR2CLK) Available at user connector (CTR2GATE) Available at user connector (CTR2OUT)
Counter 2 - User counter 3 or Interrupt Pacer	Source: Gate: Output:	Buffered PCI clock (33 MHz) divided by 8. Available at user connector (CTR3GATE) Available at user connector (CTR3OUT) and may be software configured as Interrupt Pacer.
Clock input frequency	*10 MHz max*	
High pulse width (clock input)	*30 ns min*	
Low pulse width (clock input)	*50 ns min*	
Gate width high	*50 ns min*	
Gate width low	*50 ns min*	
Input low voltage	*0.8 V max*	
Input high voltage	*2.0 V min*	
Output low voltage	*0.4 V max*	
Output high voltage	*3.0 V min*	

Power consumption

Table 4. Power consumption specifications

Parameter	Specification
+5 V operating (A/D converting to FIFO)	251 mA typical, 436 mA max
+12 V	13 mA typical, 19 mA max
-12 V	17 mA typical, 23 mA max

Environmental

Table 5. Environmental specifications

Parameter	Specification
Operating temperature range	0 to 50 °C
Storage temperature range	-20 to 70 °C
Humidity	0 to 90% non-condensing

Main connector and pin out

Table 6. Main connector specifications

Parameter	Specification
Connector type	37-pin male "D" connector
Compatible cables	C37FF-x cable C37FFS-x cable
Compatible accessory products with the C37FF-x cable	CIO-MINI37 SCB-37 ISO-RACK08
Compatible accessory products with the C37FFS-x cable	CIO-MINI37 SCB-37 ISO-RACK08 CIO-EXP16 CIO-EXP32 CIO-EXP-GP CIO-EXP-BRIDGE16 CIO-EXP-RTD16

Table 7. Main connector pin out

Pin	Signal Name	Pin	Signal Name
1	+12V	20	-12V
2	CTR1 CLK	21	CTR1 GATE
3	CTR1 OUT	22	CTR2 GATE
4	CTR2 CLK	23	CTR3 GATE
5	CTR2 OUT	24	EXT INT
6	CTR3 OUT	25	DIN1
7	DOUT1	26	DIN2
8	DOUT2	27	DIN3
9	DOUT3	28	DGND
10	DOUT4	29	+5V
11	DGND	30	CH7
12	LLGND	31	CH6
13	LLGND	32	CH5
14	LLGND	33	CH4
15	LLGND	34	CH3
16	LLGND	35	CH2
17	LLGND	36	CH1
18	LLGND	37	CH0
19	10V REF		

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