

Specifications

PCI-CTR05

9513-Based Counter/Timer



Specification Revision 1.0, July, 2002

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Specifications

Typical for 25°C unless otherwise specified.

Digital Input / Output

Digital Type	Discrete, 5V/TTL compatible
	Output: 74ACT273
	Input: 74LS373
Number of I/O	8 input, 8 output
Configuration	1 bank of 8 as output, 1 bank of 8 as strobed input
Input high voltage	2.0V min, 7.0V absolute max
Input low voltage	0.8V max, -0.5V absolute min
Output high voltage	3.94 volts min @ -24 mA (Vcc = 4.5V)
Output low voltage	0.36 volts max @ 24 mA (Vcc = 4.5V)
Data Transfer	Programmed I/O
Power-up / reset state	Digital outputs reset to TTL low
Din Strobe	Active low latch enable input, internally pulled high through 10Kohm resistor
Din Strobe pulse width high/low	15nS min
Data setup to Din Strobe	5nS min
Data hold from Din Strobe	20nS min

Interrupt Section

Number of User Interrupts	One
PCI Interrupt	PCI INTA# - mapped to IRQn via PCI BIOS at boot-time
Interrupt enables	External: IRQ ENABLE, active low, disabled by default through internal resistor to TTL high) and programmable through PCI9052-1; 0 = disabled, 1 = enabled (default)
Interrupt Sources	External: IRQ IN, polarity programmable through PCI9052-1; 1 = active high, 0 = active low (default).
	IRQ IN maps to PLX 9052 LINT1.

Counter Section

Please refer to CTS9513-2 data sheet for complete 9513 specifications and operating modes. The SAVE command for the CTS9513 device does not behave predictably when using clocks which are not synchronous with the logic timing.

Counter type	CTS9513
Configuration	One 9513 device. Five up/down counters, 16 bits each.
Compatibility	5V/TTL
The 9513 device is programmable for:	
Clock Source:	Software selectable: <ul style="list-style-type: none"> ▪ External <ol style="list-style-type: none"> 1. Counter 1-5 clock inputs 2. Counter 1-5 gate inputs ▪ Internal <ol style="list-style-type: none"> 1. Terminal count of previous counter 2. X2 clock frequency scaler
Gate:	Software selectable source: <ul style="list-style-type: none"> ▪ External <ol style="list-style-type: none"> 1. Active high or low level or edge, counter 1 – 5 gate input. 2. Active high level previous gate or next gate ▪ Internal <ol style="list-style-type: none"> 1. Active high previous counter terminal count ▪ 2. No gating.
Output:	Software selectable: <ul style="list-style-type: none"> ▪ Always low ▪ High pulse on terminal count ▪ Low pulse on terminal count ▪ Toggle on terminal count ▪ Inactive, high impedance at user connector counter # output.
Osc Out	Software selectable source: <ul style="list-style-type: none"> ▪ Counter # input ▪ Gate # input ▪ Prescaled clock source (X2 clock frequency scaler) Software selectable divider: <ul style="list-style-type: none"> ▪ Division by 1-16 Software selectable enable: <ul style="list-style-type: none"> ▪ On or low impedance to ground.
Clock Input Frequency	6.8MHz max (145nS min period)
X2 Clock input sources	Software selectable: <ul style="list-style-type: none"> ▪ 1.0 MHz (10MHz Xtal divided by 10) ▪ 5.0 MHz (10MHz Xtal divided by 2)
X2 clock frequency scaler	BCD scaling (X2 divided by 10, 100, 1000 or 10000) or Binary scaling (X2 divided by 16, 256, 4096 or 65536)
High pulse width (clock input)	70ns min
Low pulse width (clock input)	70ns min
Gate width high	145ns min
Gate width low	145ns min
Input low voltage	-0.5V min, 0.8V max
Input high voltage	2.2V min, Vcc max
Output low voltage @ $I_{OL}=3.2mA$	0.4V max
Output high voltage @ $I_{OH}=-200uA$	2.4V min
Crystal oscillator frequency	10MHz
Frequency accuracy	50ppm

Power Consumption

+5V	307 mA typical, 549 mA max. .Does not include power consumed through the I/O connector.
+5V available at connector	1A max

Environmental

Operating Temperature Range	0 to 55°C
Storage Temperature Range	-20 to 70°C
Humidity	0 to 90% non-condensing

Mechanical

Card dimensions	132.3mm(L) x 106.7mm(W) x14.5mm(H)
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Main Connector and Pin Out

The J1 connector is compatible with the CIO-CTR05 and the CIO-CTR10.

Connector type	37 pin shielded D-type, right angle.
Compatible Cables	C37FF-x, unshielded ribbon cable.
	C37FFS-x, shielded round cable
Compatible accessory products	CIO-MINI37 CIO-MINI37-VERT CIO-TERMINAL SCB-37

J1

Pin	Signal Name
1	IRQ INPUT
2	IRQ ENABLE
3	DOUT7
4	DOUT6
5	DOUT5
6	DOUT4
7	DOUT3
8	DOUT2
9	DOUT1
10	DOUT0
11	GND
12	CTR5GATE
13	CTR5CLK
14	CTR4GATE
15	CTR4CLK
16	CTR3GATE
17	CTR3CLK
18	CTR2GATE
19	CTR2CLK
20	PC +5V
21	DIN STROBE
22	DIN7
23	DIN6
24	DIN5
25	DIN4
26	DIN3
27	DIN2
28	DIN1
29	DIN0
30	OSC OUT
31	CTR5OUT
32	CTR4OUT
33	CTR3OUT
34	CTR2OUT
35	CTR1OUT
36	CTR1CLK
37	CTR1GATE

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