PEX-D96S

PEX-D144LS

PEX-D96S

PCI Express, 96-ch Digital I/O Board

PEX-D144LS

PCI Express, 144-ch Digital I/O Board

Features

- PCI Express x1 Interface
- Supports Card ID (SMD Switch)
- DI/O Response Time approximately 2 µs (500 kHz Max.)
- DO Provides Higher Driving Capability
- 96/144 Buffered CMOS Digital Input/Output Lines
- Twelve/Eighteen 8-bit Bi-directional I/O Ports
- Four Interrupt Sources
- Pull-high/Pull-low Jumpers for DI Channels

Introduction

The PEX-D96S/D144LS utilizes the PCI Express bus and designed as an easy replacement for the PIO-D96U/D96SU/D144U/D144LU without requiring any modification to the software or the driver.

The PEX-D96S/D144LS provides a high-density connector that reduces the amount of installation space required for the card in the computer.

The PEX-D96S/D144LS supports the 96/144 CMOS digital I/O lines that consist of twelve/eighteen 8-bit bi-direction ports: port A (PA), port B (PB) and port C (PC) in a connector. All ports are configured as input ports during power-on or after a reset.

The PEX-D96S/D144LS also includes an onboard Card ID that enables the board to be recognized via software if two or more cards are installed in the same computer.

Hardware Specifications

Model	PEX-D96S	PEX-D144LS
Hardware		
Card ID	Yes (4-bit)	
Connector	Female SCSI II 100-pin x 1	Female SCSI II 100-pin x 1 50-pin box header x 1
Digital Input		
Channels	96 (Bi-Direction)	144 (Bi-Direction)
Type	5 V/CMOS	
TTL Input, ON Voltage Level	2.0 V Min.	
TTL Input, OFF Voltage Level	0.8 V Max.	
Response Speed	500 kHz (Typical)	250 kHz (Typical)
Trigger Mode	Static Update	
Digital Output		
Channels	96 (Bi-Direction)	144 (Bi-Direction)
Type	5 V/CMOS	
Operation Mode	Static Update	
Voltage	Logic 0: 0.1 V Max. Logic 1: 4.4 V Min.	
Max. Load Current	Sink: 6 mA @ 0.33 V Source: 6 mA @ 4.77 V	
Response Speed	500 kHz (Typical)	250 kHz (Typical)
PC Bus		
Type	PCI Express x 1	
Data Bus	8-bit	
Power		
Consumption	650 mA @ +3.3 V 0 mA @ +12 V	750 mA @ +3.3 V 0 mA @ +12 V
Mechanical		
Dimensions (mm)	95 x 130 x 22 (W x L x D)	100 x 162 x 22 (W x L x D)
Environmental		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

Ordering Information

PEX-D96S CR	PCI Express, 96-ch Digital I/O Board (SCSI II Connector, RoHS)
PEX-D144LS CR	PCI Express, 144-ch Digital I/O Board (SCSI II Connector, RoHS)

Software

Drivers

- [x] 32/64-bit Windows XP/2003/2008/7/8/10
- [x] Linux

Sample Programs

- [x] DOS Lib and TC/BC/MSC Demo
- [x] LabVIEW Toolkit
- [x] VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo

Pin Assignments

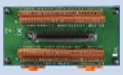
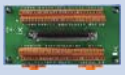
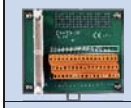
Pin Assignment	Terminal No.		Pin Assignment
PA_00	1	51	PA_10
PA_01	2	52	PA_11
PA_02	3	53	PA_12
PA_03	4	54	PA_13
PA_04	5	55	PA_14
PA_05	6	56	PA_15
PA_06	7	57	PA_16
PA_07	8	58	PA_17
PB_00	9	59	PB_10
PB_01	10	60	PB_11
PB_02	11	61	PB_12
PB_03	12	62	PB_13
PB_04	13	63	PB_14
PB_05	14	64	PB_15
PB_06	15	65	PB_16
PB_07	16	66	PB_17
PC_00	17	67	PC_10
PC_01	18	68	PC_11
PC_02	19	69	PC_12
PC_03	20	70	PC_13
PC_04	21	71	PC_14
PC_05	22	72	PC_15
PC_06	23	73	PC_16
PC_07	24	74	PC_17
GND	25	75	GND
PA_20	26	76	PA_30
PA_21	27	77	PA_31
PA_22	28	78	PA_32
PA_23	29	79	PA_33
PA_24	30	80	PA_34
PA_25	31	81	PA_35
PA_26	32	82	PA_36
PA_27	33	83	PA_37
PB_20	34	84	PB_30
PB_21	35	85	PB_31
PB_22	36	86	PB_32
PB_23	37	87	PB_33
PB_24	38	88	PB_34
PB_25	39	89	PB_35
PB_26	40	90	PB_36
PB_27	41	91	PB_37
PC_20	42	92	PC_30
PC_21	43	93	PC_31
PC_22	44	94	PC_32
PC_23	45	95	PC_33
PC_24	46	96	PC_34
PC_25	47	97	PC_35
PC_26	48	98	PC_36
PC_27	49	99	PC_37
+5 V	50	100	+5 V

CON1

Pin Assignment	Terminal No.		Pin Assignment
GND	01	02	+5 V
PA_40	03	04	PA_50
PA_41	05	06	PA_51
PA_42	07	08	PA_52
PA_43	09	10	PA_53
PA_44	11	12	PA_54
PA_45	13	14	PA_55
PA_46	15	16	PA_56
PA_47	17	18	PA_57
PB_40	19	20	PB_50
PB_41	21	22	PB_51
PB_42	23	24	PB_52
PB_43	25	26	PB_53
PB_44	27	28	PB_54
PB_45	29	30	PB_55
PB_46	31	32	PB_56
PB_47	33	34	PB_57
PC_40	35	36	PC_50
PC_41	37	38	PC_51
PC_42	39	40	PC_52
PC_43	41	42	PC_53
PC_44	43	44	PC_54
PC_45	45	46	PC_55
PC_46	47	48	PC_56
PC_47	49	50	PC_57

CON2 (PEX-D144LS only)

Accessories

 DN-100	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector
 DN-100-CA	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector Include one CA-SCSI100-15 cable
 DN-50/DN-50-381	I/O Connector Block with DIN-Rail Mounting and 50-Pin Header
 CA-5002	50-pin flat cable 20 cm
 CA-5015	50-pin flat cable 1.5 M
 CA-SCSI100-15	SCSI II 100-pin & 100-pin Male connector cable 1.5 M