PCIe/PXIe-5411

High Speed Digital I/O Module

Please download JYTEK <JYPEDIA>, you can quickly inquire the product prices, the key features and available accessories..

Overview

PCIe/PXIe-5411 is a 32 channels high speed digital I/O (HSDIO) module. 32 digital channels can use software to program data direction. The signal level supports 4 options: 1.8V, 2.5V, 3.3V and 5V. Data sequence can be freely combined by software. The device utilizes a high-throughput PCI Express bus and multi-core optimized drivers and application software to provide high-performance capabilities.

Main Features

- 32CH high speed DIO
- 8CH multipurpose PFI
- Maximum clock rate 50 MHz
- Independent data direction control of each channel
- Support 1.8V/2.5V/3.3V/5V level
- 128M sample points cache
- High performance TCXO clock on board
- 2CH clock generator output for sampling clock

Hardware Specifications

Basic

DIO

Number of Channels	32
DIO Direction Control	Per Channel
Synchronous Acquisition	Yes
Support Function	Continuous Waveform / Software Single Point
DI FIFO	64 MSamples
DO FIFO	64 MSamples
Level Standard	1.8 V/2.5 V/3.3 V/5 V Level (Software Selection)

PFI

Number of Channels	8
PFI Direction Control	Per Channel

Clock

Number of Clock Input Terminals	8 (Using PFI<0..7>)
Number of Clock Output Terminals	8 (Using PFI<0..7>)

Waveform Acquisition（DI）

Basic

Digital Input	DIO<0..31>
Signal Type	Single Ended
Input Impedance	2.5 MΩ
Input Protection Range	-0.5 V ~ 6.5 V
Max DI Sampling Rate	50 MHz

Voltage Levels

Logic Level	Max Low Input Level	Min High Input Level
1.8 V	0.65 V	1.2 V
2.5 V	0.7 V	1.7 V
3.3 V	0.8 V	2 V
5 V	1.5 V	3.5 V

Waveform Generation（DO）

Basic

Digital Output	DIO<0..31>
Signal Type	Single Ended
Typical Output Impedance	50 Ω
Enable/Disable Control	Per Channel
Output Protection Range	-0.5 V ~ (UserVcc + 0.5 V)
Output Protection Duration	No Duration
Max DO Update Rate	50 MHz

Voltage Levels

Logic Level	Typical Low Level	Maximum Low Level	Typical High Level	Minimum High Level
1.8 V	0 V	0.1 V	1.8 V	1.7 V
2.5 V	0 V	0.1 V	2.5 V	2.4 V
3.3 V	0 V	0.1 V	3.3 V	3.2 V
5 V	0 V	0.1 V	5 V	4.85 V

DC Drive Capability

Maximum DC Drive Capability(1.8 V)	4 mA
Maximum DC Drive Capability(2.5 V)	8 mA
Maximum DC Drive Capability(3.3 V)	24 mA
Maximum DC Drive Capability(5 V)	32 mA

Waveform Characteristics

Memory and Scripting

Maximum Onboard Memory Size	64 MSamples DI + 64 MSamples DO
Waveform Quantum	1 Sample
Acquisition Minimum Record Size	1 Sample
Acquisition Record Quantum	1 Sample
Acquisition Total Pre-Reference Trigger Samples	0 ~ Full record
Acquisition Total Post-Reference Trigger Samples	0 ~ Full record

Trigger

Trigger Mode	StartTrigger ReferenceTrigger (DI only) ReTrigger (DI only)
Trigger Source	PFI<0..7> PXI_Trig<0..7> Software
Generation Minimum Required Trigger Pulse Width	20 ns
Acquisition Minimum Required Trigger Pulse Width	20 ns
ReTrigger Rearm Time	2 Samples MAX
Delay From Trigger to Digital Data Output	1 Sample

Miscellaneous

Warm-Up Time:	15 min
Onboard Clock Accuracy:	±0.3 ppm
Onboard Clock Stability:	±2.5 ppb
Onboard Clock Aging:	±4.6 ppm (in 20 years)

Timing Characteristics

Sampling Clock

Sampling Clock Source	Internal Clock
	PXIe_SYNC100
	PFI<0..7>
	PXIe_DSTAR A/B
	PXIStar
	PXI Trigger
Timebase	200 MHz
Onboard TCXO	10 MHz
Sampling Clock Frequency Range(PFI)	8 Hz-50 MHz
Sampling Clock Frequency Range(PXI_Star)	8 Hz-50 MHz
Sampling Clock Frequency Range(PXIe_DSTAR)	8 Hz-50 MHz
Sampling Clock Frequency Range(PXI Trigger)	8 Hz-20 MHz

PLL

PLL Input Source	PXIe_CLK100 PXI_DSTARA On board TCXO
PLL output routing	DI or DO sample clock
Typical PLL Lock time	2000 ms
PLL Frequency	100-200 MHz
Duty Cycle	50%

Physical and Environment

Bus

PXIe Standard	x8 PXIe Peripheral Module Specification V1.0 Compliant
Slot Supported	x1 and x4 PXI Express, PXI Express hybrid, or PXI Express System Timing Slot

Size

External physical size	3 U PXIE
Weight	185g

Operating Temperature

Operating temperature	0 ~ 50 ℃

Storage Environment

Ambient temperature range	-20°C to 80°C
Relative humidity range	10% to 90%, noncondensing

Order Information

- PXIe-5411 (PN: JY2005411-01)

  32-ch, 50 MHz, PXIe High speed Digital I/O Module

- PCIe-5411 (PN: JY3005411-01)

  32-ch, 50 MHz, PCIe High speed Digital I/O Module

Accessories

- DIN-68H-01 (PN: JA9114068-01)

  68-pin SCSI-VHDCI Termination Block (0 or 50 ohm selectable)

- ACL-10279-1 (PN: JA3001096-00)

  68-pin VHDCI-VHDCI cable with 50 ohm impedance, 1M

Shanghai Jianyi Technology Co., Ltd.

Address: Room 201, Building 3, NO.300 Fangchun Road, Shanghai.

Post Code: 201203

Tel: 021-5047 5899

Website: www.jytek.com

All Rights Reserved. All specifications are subject to change without further notice.