PCIe/PXIe-5211

Counter/Timer Module

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

Overview

PCIe/PXIe-5211 series modules are multi-purpose Counter/Timer modules, which can provide 8 channels of counter, supporting counting, frequency measurement, pulse width measurement, encoder, pulse output and other functions. The device utilizes a high-throughput PCI Express bus and multi-core optimized drivers and application software to provide high-performance capabilities.

Main Features

- 8 channels counter
- 40 channels multi-purpose PFI
- Up to 100 MHz internal clock rate
- 1.8 V / 2.5 V / 3.3 V / 5 V level
- Edge counting / Frequency measurement / Period measurement / Pulse measurement / Two-Edge separation
- Quadrature (x1/x2/x4) encoder
- Two-Pulse encoder
- Dynamic reconfigurable counter output function
- Support multi-card synchronization
- On-board high-performance TCXO clock
- On-board clock generator for sampling

Hardware Specifications

Digital IO Specifications

Basic

Number of channels	40
Ground reference	GND
Direction control	Independently Controlled
Pull-down resister	NONE
Logic signal levels	1.8 V 2.5 V 3.3 V 5 V
Input voltage protection	-0.5-(UserVcc+0.5 V)
Output impedance	50 Ω
UserVcc： user select the logic signal level	

DIO

Terminals used	DIO <0..39>
Port width	32 bits (Maximum)

PFI

PFI	
Available PFI	PFI<0..39>
Supported functions	Static input Static output

Recommended Operating Conditions

Input high voltage (V_{IH})	1.2 V (UserVcc=1.8 V) 1.7 V (UserVcc=2.5 V) 2 V (UserVcc=3.3 V) 3.5 V (UserVcc=5 V)
Input low voltage (V_{IL})	0.65 V (UserVcc=1.8 V) 0.7 V (UserVcc=2.5 V) 0.8 V (UserVcc=3.3 V) 1.5 V (UserVcc=5 V)
Maximum high-level input voltage	UserVcc+0.5 V
Minimum low-level input level	-0.5 V
Output High current (I_{OH})	-4 mA(UserVcc=1.8 V) -8 mA(UserVcc=2. 5V) -24 mA(UserVcc=3.3 V) -32 mA(UserVcc=5 V)
Output Low current (I_{OL})	4 mA(UserVcc=1.8 V) 8 mA(UserVcc=2.5 V) 24 mA(UserVcc=3.3 V) 32 mA(UserVcc=5 V)

Electrical

Maximum input current of low-level voltage	-2 µA
Maximum input current of high-level voltage	2 µA

Counter/Timer Specifications

Basic

Number of counters/timers	8
Resolution	32 bits
Measurement functions	Edge Counting Frequency Period Pulse Two-Edge Separation Quadrature Encoder Two Pulse Encoder

Maximum Frequency of the Source

	PFI
Frequency Measurement	50 MHz
Edge Counting	50 MHz

Minimum Pulse width Measurement

	PFI
Period Measurement	15 ns
Pulse Measurement	20 ns
Two-Edge Separation	20 ns

Other Functions

Position measurement	Quadrature encoder (x1/x2/x4) with Z reloading; Two-pulse encoder
Output applications	Pulse Generation with Dynamic Update Buffered Pulse Sequence Generation
Internal timebase	100 MHz, 5 MHz, 100 kHz
Internal timebase accuracy	2 ppm
External timebase	0-50 MHz
Counter input	Gate Source AUX A, B, Z Start Trigger External Sample Clock

Other Specifications

PLL (Phase lock loop)

Number of PLL	1
Reference clock source	PXIe_DSTAR A: 100 MHz (Max)
	PXIe_CLK100: 100 MHz
	Onboard TCXO: 10 MHz
Output	200 MHz base clock
	Counter internal sample clock
	100 KHz timebase
	5 MHz timebase
	200 MHz timebase

TCXO

Basic Property	Nominal frequency	10 MHz
	Warm-up time	15 minutes
	Temperature drift	±20 ppb
	Temperature drift and 1 year drift	±0.5 ppm

External Digital Trigger

Trigger functions	Trigger source	PXI_TRIG <0..7> PXI_STAR PFI<0..39>
	Polarity	Rising Edge
	Counter/Timer functions	Start trigger
Device to device trigger bus	Input source	PXI_TRIG <0..7> PXI_STAR
	Output destination	PXI_TRIG <0..7>
	Output options	Sync Trigger Routing
	Debounce filter settings	Not Support

Bus and Power

Bus interface	PXIe standard	x4 PXI Express peripheral module Specification V1.0 compliant
	Slot supported	x1 and x4 PXI Express or PXI Express hybrid slots
Calibration	Recommended warm-up time	>=15 min
	Recommended calibration interval	One year

Physical Size and Environment

Size	External physical size	3U PXIe
	Weight	190 g
Operating Environment	Indoor only	Yes
	Ambient temperature range	0 °C to 50 °C
	Relative humidity range	20% to 80%, noncondensing
Storage Environment	Ambient temperature range	-20 °C to 80 °C
	Relative humidity range	10% to 90%, noncondensing

Order Information

- PXIe-5211 (PN: JY2005211-01)

  8-ch, 5V, PXIe Counter/Timer Module
- PCIe-5211 (PN: JY3005211-01)

  8-ch, 5V, PCIe Counter/Timer Module

Accessories

- ACL-2016868-1 (PN: JY2016868-01)

  1M 68pin VHDCI68M-SCSI68M 100 ohm shielded cable
- ACL-2016868-2 (PN: JY2016868-02)

  2M 68pin VHDCI68M-SCSI68M 100 ohm shielded cable
- TB-68 (PN: JY2000068-03)

  68-Pin SCSI Shielded I/O Connector Block
- DIN-68S-01 (PN: JA9114029-01)

  SCSI 68-pin Terminal board w/o cable

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