

GX5292e

3U PXI EXPRESS HIGH SPEED DYNAMIC DIGITAL I/O CARD

- 32 input / output channels, dynamically configurable on a per channel basis
- 256 MB of on-board vector memory
- Supports 1.5 V, 1.8 V, 2.5 V, 3.3 V, and 5 V TTL/LVTTL interfaces
- Supports LVDS, M-LVDS, LVDM interfaces
- 100 MHz vector rate
- x1 and x4 PCI Express interface
- Operates as a stand-alone card or with up to seven additional synchronous slave boards



DESCRIPTION

The GX5292e is a high performance, cost-effective 3U PXI Express dynamic digital I/O boards offering 32 TTL or LVDS input or output channels with dynamic direction control. The GX5292e also supports deep pattern memory by offering 256 MB of on-board vector memory with dynamic per pin direction control and with test rates up to 100 MHz. The single board design supports both master and slave functionality without the use of add-on modules.

FEATURES

The GX5292e supports selectable I/O levels of 1.5 V, 1.8 V, 2.5 V, or 3.3 V (TTL, LVTTTL, CMOS, LVCMOS). In addition, the GX5292e supports 32 differential channels for LVDS, M-LVDS, or LVDM logic families. The TTL/LVTTL interface utilizes a programmable voltage source, which sets the output logic levels from 1.4 V to 3.6 V. Programmable thresholds of 1.5V, 1.8V, 2.5V or 3.3V (5V compatible) are supported for input signals. Recommended operating input voltage range is from 0 V to 5.5 V.

A windowing method is utilized for PCI memory accesses, which limits the required PCI memory space for each board to only 16MB, thus preserving test system resources. A direct mode, for continuous data transfer between the test system controller and the I/O pins of the GX5292e is also supported.

The GX5292e offers 256 MB of vector memory, with 64 Mb per channel. Programmable I/O width allows trading vector width for vector depth. Under software control, the GX5292e's vector memory can be configured to support channel widths of 32, 16, 8, 4, 2 and 1 with corresponding vector depths of 64 Mb, 128 Mb, 256 Mb, 512 Mb, 1024 Mb, and 2048 Mb per channel.

The GX5292e provides programmable TTL/LVTTL output clocks and strobes, and supports external clock and strobe. A programmable PLL (phase locked loop) provides configurable clock frequencies and delays. An LVDS input and output clock is also provided.

The GX5292e's sequencer can halt or pause on a defined address or loop through the entire memory as well as loop on a defined address range or through a defined block of memory.

SOFTWARE

The GX5292e is supplied with DIOEasy, which provides powerful graphical vector development / waveform display tools as well as a virtual instrument panel, 32-bit DLL driver libraries, and documentation. The virtual panel can be used to interactively adjust and control the instrument from a window that displays the instrument's current settings and status. In addition, various interface files provide access to the library for programming tools and languages such as ATEasy, Microsoft® and Borland® C/C++, Microsoft Visual Basic®, Borland Delphi, and LabVIEW.

APPLICATIONS

- Automatic Test Equipment (ATE)
- Semiconductor test
- Displays, printers, and disk drive testing
- ASICs testing
- A/D and D/A testing
- Video acquisition / playback applications
- High speed, bi-directional bus testing / emulation

GX5292e

SPECIFICATIONS

LOGIC FAMILIES	TTL/LVTTL/CMOS/LVCMOS (1.5 V, 1.8 V, 2.5 V, 3.3 V, or 5 V) , LVDS/LVDM/M-LVDS
I/O LEVELS	TTL/LVTTL/CMOS/LVCMOS: Programmable Output Voltage Level 1.4 V (Min); 3.6 V (Max) Input Threshold 1.5 V, 1.8V, 2.5V, or 3.3 V (5V tolerant) Recommended Operating Conditions 0V (Min); 5.5V (Max) LVDS/LVDM/M-LVDS: Recommended Operating Conditions Voltage Output: -1.4V (Min.); 3.8 V (Max.) Voltage Input: .05V (Min.); 3.3V (Max.)
NUMBER OF CHANNELS	32 I/O, direction and configuration is dynamically configurable on a per vector and per channel basis
MEMORY DEPTH PER CHANNEL	64Mb - 2Gb
TIMING	
INTERNAL TEST CLOCK	
FREQUENCY RANGE	5 Hz (Min.); 100 MHz (Max.)
RESOLUTION	Greater of 1 Hz or .05%
INTERNAL B CLOCK OUTPUT (TTL/LVTTL)	
FREQUENCY RANGE	300 KHz (Min.); 100 MHz (Max.)
RESOLUTION	Greater of 1 Hz or .5%
INTERNAL C CLOCK OUTPUT (LVDS/LVDM/M-LVDS)	
FREQUENCY RANGE	50KHz (Min.); 100 MHz (Max.)
RESOLUTION	Greater of 1 Hz or .5%
EXTERNAL CLOCK INPUT	
DIRECT	0 Hz (Min.); 100 MHz (Max.)
PLL	3MHz (Min.); 100 MHz (Max.)
PULSE WIDTH	40% Min, 60% Max
INPUT LEVEL	User selectable I/O level (1.5 V, 1.8 V, 2.5 V, or 3.3 V)
POWER	
3.3 VDC	200 mA (Min.); 4 A (Max.)
12 VDC	.03mA (Min.); .1mA (Max.)
ENVIRONMENTAL	
OPERATING TEMPERATURE	0 to 50° C
STORAGE TEMPERATURE	-20° C to 70° C
SIZE	3U PXI
WEIGHT	200 g
Note: Specifications are subject to change without notice.	

ORDERING INFORMATION

GX5292e	PXI Express 100 MHz Digital I/O Board with 256 MB of vector memory and LVDS levels
ACCESSORIES	
GT95014	Connector interface, SCSI to 100 Mil Grid, Single Ended I/F Board
GT95015	Connector interface, SCSI to 100 Mil Grid, Differential I/F Board
GT95021	2' shielded cable (68-pin SCSI)
GT95022	3' Shielded cable (68-pin SCSI)
GT95028	10' Shielded cable (68-pin SCSI)
GT95031	6' Shielded cable (68-pin SCSI)