

GX5280 SERIES

3U PXI HIGH SPEED DYNAMIC DIGITAL I/O CARD

- 32 input or output channels
- Industry-leading 512 MB on-board memory standard (GX5283)
- 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 (GX5282 and GX5283)
- Test rates up to 200 MHz (GX5283)
- Operates as a stand-alone card or with up to seven additional synchronous slave boards



DESCRIPTION

The GX5280 Series are high performance, cost-effective 3U PXI dynamic digital I/O boards with 32 TTL input or output channels and 32 LVDS input or output channels. The GX5280 Series offers an industry leading 512 MB of on-board memory and supports test rates up to 200 MHz. The single board design supports both master and slave functionality without the use of add-on modules.

FEATURES

The GX5280 Series supports selectable I/O levels of 1.5 V, 1.8 V, 2.5 V, 3.3 V, or 5 V (TTL, LVTTL, CMOS, LVCMOS). In addition, the GX5282 and GX5283 also support 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. The GX5282 and GX5283 can operate as stand-alone cards or with up to seven additional slave boards, providing a total of 256 synchronous channels.

A windowing method is utilized for PCI memory accesses to limit 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 GX5280 series board is also supported.

Data direction is bi-directional, with direction configured on a per byte basis. Individual channel output enable control is also supported.

The GX5281 provides 128 MB of total memory with 32 Mb per channel while the GX5282 provides 256 MB of total memory with 64 Mb per channel. The GX5283 has 512 MB of total memory.

Programmable I/O width allows trading vector width for vector depth. The GX5283 supports 128Mb per channel when in 32 channel configuration, and is programmable down to a width of 1 channel with a depth of 4Gb. Widths of 32, 16, 8, 4, 2 and 1 channel(s) are supported.

All GX5280 Series boards provide programmable TTL/LVTTL output clocks and strobes, and support external clock and strobe. Programmable PLL's (phase locked loop) provide configurable clock frequencies and delays. The GX5283 additionally provides a LVDS output clock.

All GX5280 Series boards can halt or pause on a defined address or loop through the entire memory. The GX5283 can loop on a defined address or through a defined block of memory.

SOFTWARE

The GX5280 Series 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 current instrument settings and measurements. 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.

GX5280 SERIES

APPLICATIONS

- Automatic Test Equipment (ATE)
- Semiconductor test
- Displays, printers, and disk drive testing
- ASIC testing
- A/D and D/A testing
- Please see product manual for further applications

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 (GX5282 and GX5283)
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 Differential Output Voltage 480mV (Min.); 650mV (Max.) Input Threshold Positive going threshold: 50mV (Max.) Negative going threshold: -50mV (Min.) Input voltage hysteresis: 25mV (Typ.) Recommended Operating Conditions -1.4V (Min.); 3.8V (Max.) Magnitude of Differential Voltage 0.05V (Min.); 3.3V (Max.)
NUMBER OF CHANNELS:	32
MEMORY PER CHANNEL	GX5281 - 32 Mb GX5282 - 64 Mb GX5283 - 128Mb - 4Gb
TIMING	
INTERNAL TEST CLOCK	
FREQUENCY RANGE	GX5281 - 5 Hz (Min.); 50 MHz (Max.) GX5282 - 5 Hz (Min.); 100 MHz (Max.) GX5283 - 5 Hz (Min.); 200 MHz (Max.)
RESOLUTION	Greater of 1 Hz or .05%
INTERNAL B CLOCK OUTPUT (TTL/LVTTL)	
FREQUENCY RANGE	300 KHz (Min.); 200 MHz (Max.)
RESOLUTION	Greater of 1 Hz or .5%
INTERNAL C CLOCK OUTPUT (LVDS/LVDM/MOLVDS)	
FREQUENCY RANGE	300KHz (Min.); 200 MHz (Max.)
RESOLUTION	Greater of 1 Hz or .5%
EXTERNAL CLOCK INPUT	

DIRECT	0 Hz (Min.); 200 MHz (Max.)
PLL	3MHz (Min.); 200 MHz (Max.)
PULSE WIDTH	40% Min, 60% Max
INPUT LEVEL	Per selected I/O level (1.5 V, 1.8 V, 2.5 V, 3.3 V, or 5 V)
POWER	
3.3 V_{DC}	200 mA (Min.); 4 A (Max.)
5 V_{DC}	50 mA (Min.); 2 A (Max.)
12 V_{DC}	.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

GX5281	50 MHz Digital I/O Board with 128 MB memory
GX5282	100 MHz Digital I/O Board with 256 MB memory and LVDS levels
GX5283	200MHz Digital I/O board with 512 MB memory
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)
GT95022E	3' shielded cable for GT5xxx/GX5xxx/GC5xxx (68 Pin) not terminated one end
GT95028	10' Shielded cable (68-pin SCSI)
GT95031	6' Shielded cable (68-pin SCSI)