

GX5293

3U PXI HIGH SPEED DYNAMIC DIGITAL I/O CARD

- 16 input / output channels, dynamically configurable on a per channel basis
- 32 input / output channels for vector rates < 100 MHz
- 256 MB of on-board vector memory
- Supports 1.5 V, 1.8 V, 2.5 V, and 3.3 V LVTTTL interfaces
- Supports LVDS, M-LVDS, LVDM interfaces
- 200 MHz vector rate
- Operates as a stand-alone card or with up to seven additional synchronous slave boards (128 channels operating with the same timing set)



DESCRIPTION

The GX5293 is a high performance, cost-effective 3U PXI dynamic digital I/O boards offering 16 LVTTTL or LVDS input or output channels with dynamic direction control. The GX5293 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 200 MHz. For vector rates of < 100 MHz, the board can be configured to support 32 digital I/O channels. The single board design supports both master and slave functionality without the use of add-on modules.

FEATURES

The GX5293 supports selectable I/O levels of 1.5 V, 1.8 V, 2.5 V, or 3.3 V (TTL, LVTTTL, CMOS, and LVCMOS). In addition, the GX5293 supports 16 differential channels for LVDS, M-LVDS, or LVDM logic families. The TTL/LVTTTL 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 are supported for input signals. Recommended operating input voltage range is from 0 V to 3.6 V.

The GX5293 offers 256 MB of vector memory, with 128 Mb per channel. A windowing method is utilized for PCI memory accesses, which limits the required PCI memory space for each board to only 16MB, thus conserving test system resources.

The GX5293 provides programmable TTL/LVTTTL output clocks and strobes, and supports external clock and strobe. A programmable PLL (phase locked loop) provides configurable clock frequencies and delays. An LVDS output clock is also provided.

The GX5293'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 GX5293 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
- ASIC and FPGA testing
- A/D and D/A testing
- Video acquisition / playback applications
- High speed, bi-directional bus testing / emulation

GX5293

SPECIFICATIONS

| | |
|---|---|
| LOGIC FAMILIES | LVTTTL/CMOS/LVCMOS (1.5 V, 1.8 V, 2.5 V, or 3.3 V) , LVDS/LVDM/M-LVDS, |
| I/O LEVELS | LVTTTL/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 Recommended Operating Conditions 0V (Min.); 3.6V (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 | 16 I/O, direction and configuration is dynamically configurable on a per vector and per channel basis 32 I/O, for vector rates < 100 MHz |
| MEMORY DEPTH PER CHANNEL | 128 Mb |
| TIMING | |
| INTERNAL TEST CLOCK | |
| FREQUENCY RANGE | 5 Hz (Min.); 200 MHz (Max.) |
| RESOLUTION | Greater of 1 Hz or .5% |
| INTERNAL B CLOCK OUTPUT (TTL/LVTTTL) | |
| 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 | 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.) |
| 5 VDC | 50 mA (Min.); 2 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

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| GX5293 | 200 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 for all 5xxx/35xx, SCSI to 100 Mil Grid, differential |
| 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) |