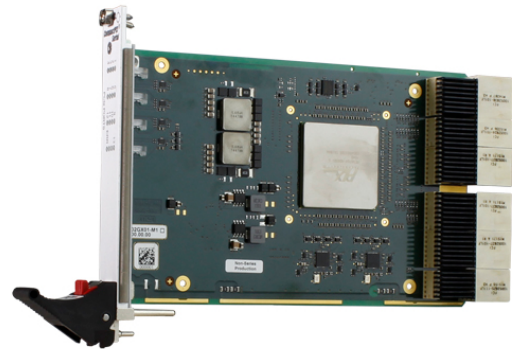


GX1

3U CompactPCI Serial PCI Express Switch

- » **64-Lane, 16-Port switch**
- » **PCI Express Generation 3 switching over CompactPCI Serial**
- » **1 GB/s per lane for each point-to-point serial link**
- » **Programmable configuration of PCIe ports according to backplane design**
- » **Software tools for diagnostics and performance monitoring**
- » **Dedicated upstream links for multiple CPUs**
- » **Multicast / broadcast capability**



The GX1 offers a cost-effective PCIe Gen 3 switching solution via the CompactPCI Serial backplane. Some typical industrial applications include multi-CPU high speed video and image processing, supercomputing and high performance routing.

High-speed connection

The GX1 enables high speed serial point-to-point communication between the CPUs and between the CPUs and end point modules. Configurable data transfer rates can reach up to 1 GB/s per PCIe lane.

Flexible configuration of multi-processor systems

The switch supports two non-transparent ports and allows connection of multiple endpoints and multiple CPUs. This way, it is possible to build powerful and cost-effective multi-processor systems.

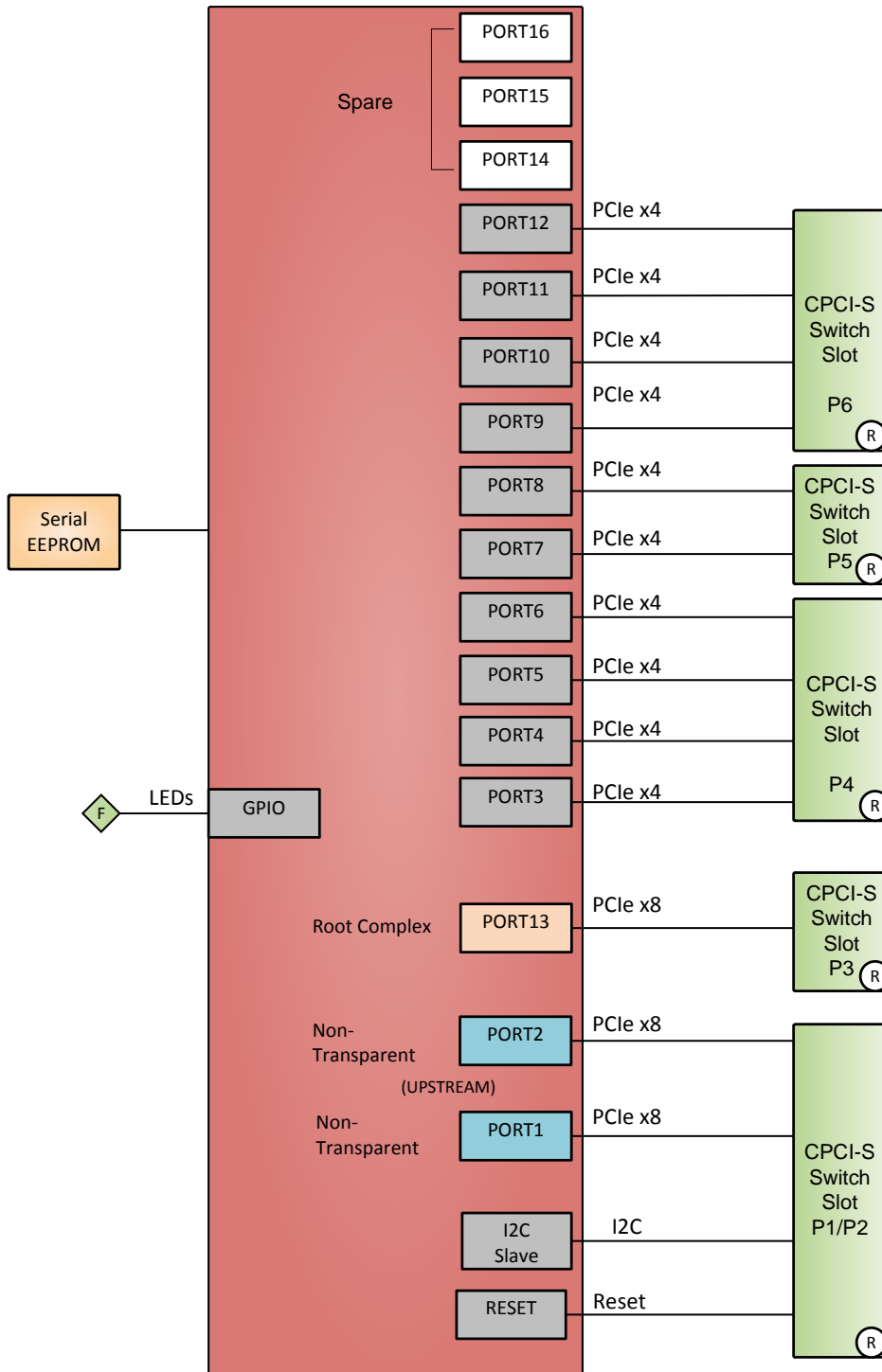
The switch ports can be configured flexibly using an application running on the root complex CPU. This way, the switch can be adapted to different backplane designs. A special backplane offering the maximum configuration is available from MEN. No programming is required to set up the ports. Setup and diagnostics tools are available from the chip manufacturer.

Multi-root and multi-host configuration

The GX1 supports both multi-root and multi-host configuration.

For multi-root configuration, the GX1 can be partitioned into four fixed virtual bridges supporting up to four root complexes. Each root complex is allowed to enumerate its own endpoints. Non-transparent bridging is not required in this case.

For multi-host configuration, the primary host CPU is acting as a root complex enumerating all the endpoints and up to two additional secondary host CPUs connected over the non-transparent bridge. In this configuration, all host CPUs are able to communicate with all endpoints. Using the non-transparent bridging the primary CPU is able to share control, status and interrupt information with the secondary hosts. This allows more efficient load sharing in data intensive computing applications.



GX1 Standard Configuration

PCI Express Switch Features

- 64-Lanes, 16-Ports
- PCIe 3.x support
- Data rate up to 985 MB/s for each point-to-point serial link (8 Gbit/s per lane)

Front I/O

- 13 PCI port activity LEDs
- 2 LEDs signaling inactivity
- 1 LED signaling fatal error reported by switch

Rear I/O

- Four x4 PCI Express ports on CompactPCI Serial rear connector P6
- Two x4 PCI Express ports on CompactPCI Serial rear connector P5
- Four x4 PCI Express ports on CompactPCI Serial rear connector P4
- One x8 PCI Express ports on CompactPCI Serial rear connector P3
- Two x8 PCI Express ports on CompactPCI Serial rear connector P1/P2
- One I2C interface

CompactPCI Serial

- Peripheral slot

Electrical Specifications

- Isolation voltage:
 - 1500 V DC front panel (shield) connections to ground
- Supply voltage
 - +12 V (-5%/+5%)
- Power consumption
 - 28 W typ, 34 W max. (estimated)

Mechanical Specifications

- Dimensions: conforming to CompactPCI Serial specification for 3U boards
- Front panel: 4 HP with ejector
- Weight: tbd g (w/o heat sink)

Environmental Specifications

- Temperature range (operation)
 - 0°C to +60°C
 - Airflow: min. 1.5 m/s
- Temperature range (storage): -40°C to +85°C
- Relative humidity: according to EN 60068-2-30
- Altitude: -300 m to +3000 m
- Shock: according to EN 61373 cat 1, class B
- Vibration: according to EN 61373 cat 1 class B
- Conformal coating on request

Reliability

- MTBF: tbd h @ 40°C according to IEC/TR 62380 (RDF 2000)

Safety

- Flammability
 - UL 94V-0
- Electrical Safety
 - EN 62368-1 (former EN 60950-1)

EMC

- EN 55022 class B (radiated and conducted emission)
- EN 55024 (immunity)

Software Support

- 3rd party tool from chip manufacturer (PLX SDK)

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Up-to-date information, documentation and ordering information:

www.men.de/products/gx1/

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