4-Channel Multiplexer and Link Extender for SAS, SATA, Ethernet and FC

FEATURES

GENERAL - SATA AND SAS

- Four bi-directional 2:1 SATA or SAS multiplexer/demultiplexer.
- Compliant with SAS Internal and External specification.
- SATA Gen1i, Gen1x, Gen2i, Gen2x compliant.
- In the downstream direction, the QuadSMX 3G demuxes the initiator-side receive ports to either the A or B device-side transmit ports.
- In the upstream direction, the QuadSMX 3G selects either the A or B device-side receive port to output on the initiator-side transmit ports.

- Passes-thru out-of-band (OOB) signaling.
- Internal OOB detectors for COMSAS, COMRESET/COMINIT and COMWAKE.
- Provides port reordering to support standard SATA/SAS 4 channel connectors and easier PCB routing.

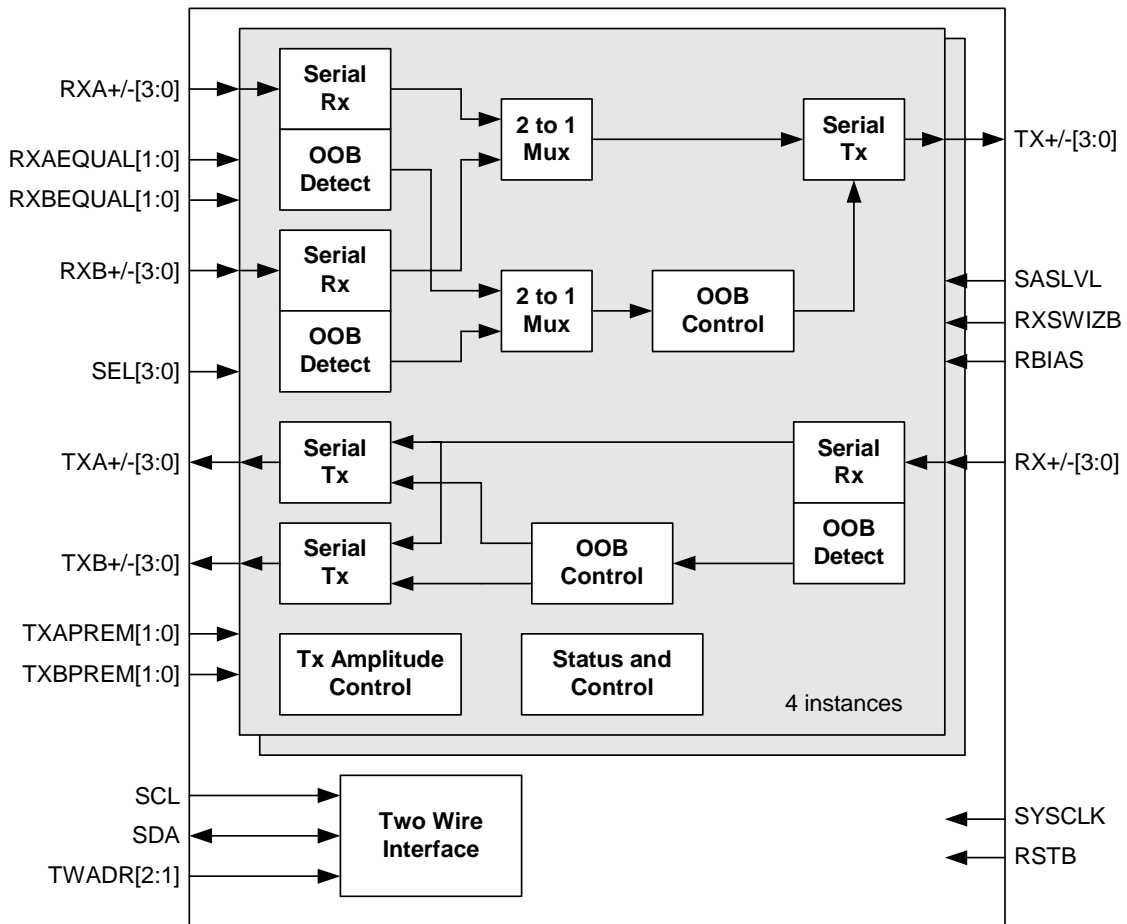### GENERAL - ETHERNET AND FIBRE CHANNEL

- Four channel bi-directional Gigabit Ethernet and 10 Gigabit Ethernet (XAUI) link extender and 2:1 serial multiplexer/demultiplexer.
- Four channel bi-directional 1G,2G and 10G Fibre Channel link extender and 2:1 serial multiplexer/demultiplexer

- Provides transmit redundancy for Ethernet and Fibre Channel Switch Applications. In this case,data is broadcast to both Port A and Port B.

HIGH-SPEED I/O

- 1.0 Gbit/s to 3.2 Gbit/s operation.
- Automatic amplitude control for SATA and SAS applications.
- Programmable receive equalization, transmit pre-emphasis and transmit output swing.
- Integrated resistive termination and receive AC coupling.
- Analog interfaces support SATA and SAS hot plug.

BLOCK DIAGRAM

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TEST AND CONTROL
- Two-wire Interface (TWI) for configuration and status.
- Pin-strappable for standalone operation.

PHYSICAL
- 1.8 V and 3.3 V power supply.
- 0.18 μm CMOS technology.
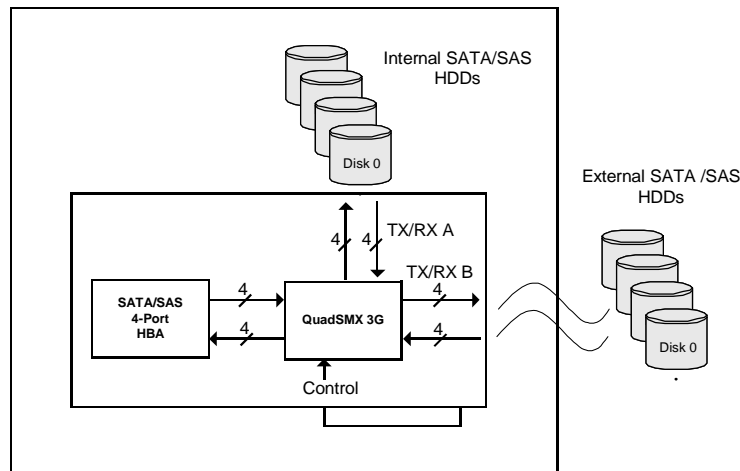- 1W typical power.

- 100-pin BGA.
- 11 x 11 mm package.

APPLICATIONS
- Host Bus Adapter.
- RAID controller.
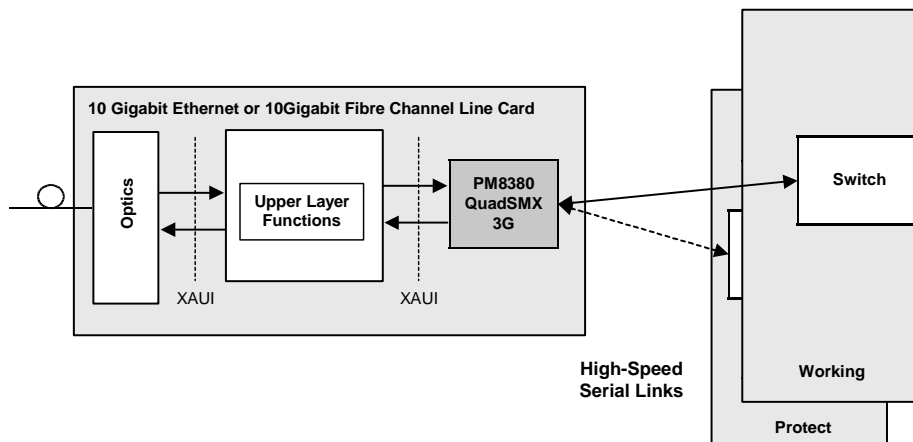- Ethernet (1GE and 10 GE XAUI) and Fibre Channel (1,2 and 10 GFC) link extender.

- Ethernet (1GE and 10 GE XAUI) and Fibre Channel (1,2 and 10 GFC) mux/demux.
- PCI Express, PCI Advanced Switching, ATCA, serial RapidIO, Infiniband, and HDTV link extender and mux/demux.

TYPICAL APPLICATIONS

SERVER-CLASS SATA/SAS CONTROLLER

ETHERNET OR FIBRE CHANNEL SWITCH