PERICOM®

PI2EQX5984

## 5.0Gbps 4-Lane PCIe® 2.0 ReDriver™ with Equalization, Emphasis, & I²C Control

Pericom Semiconductor's PI2EQX5984 is a low power, PCIe® compliant signal ReDriver™. The device provides programmable equalization, amplification, and de-emphasis by using 8 select bits, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

PI2EQX5984 supports eight 100-Ohm Differential CML data I/O's between the Protocol ASIC to a switch fabric, across a backplane, or extends the signals across other distant data pathways on the user's platform.

The integrated equalization circuitry provides flexibility with signal integrity of the PCI Express signal before the ReDriver™, whereas the integrated de-emphasis circuitry provides flexibility with signal integrity of the signal after the redriver.

In addition to providing signal re-conditioning, Pericom's PI2EQX5984 also provides power management Stand-by mode operated by a Bus Enable pin.
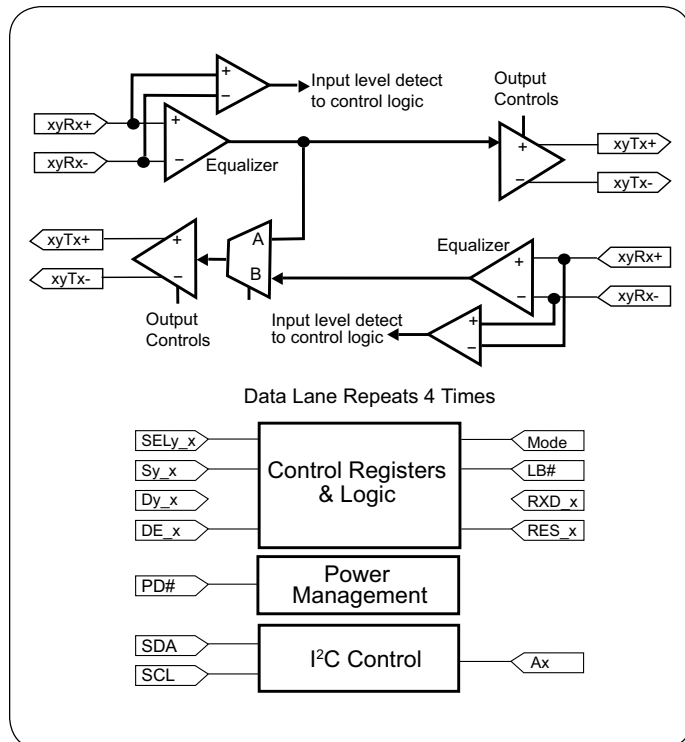
Features

- Up to 5.0Gbps PCI Express® 2.0 Serial ReDriver

- Supporting 8 differential channels or 4 lanes of PCIe Interface

- I²C configuration controls (3.3V tolerant)

- Adjustable receiver equalization and transmitter de-emphasis and output levels

- Variable input an output termination

- 1:2 channel broadcast

- Channel loop-back/Mux and Demux Mode

- Electrical Idle fully supported

- Receiver detect and individual output control

- Fine adjustment of electrical idle threshold via I²C

- Single supply voltage, 1.2V ± 0.05V

- Power down modes

- Industrial Temp support, -40°C ~ +85°C

- Packaging: 72-contact TQFN, Pb-free & Green

Block Diagram

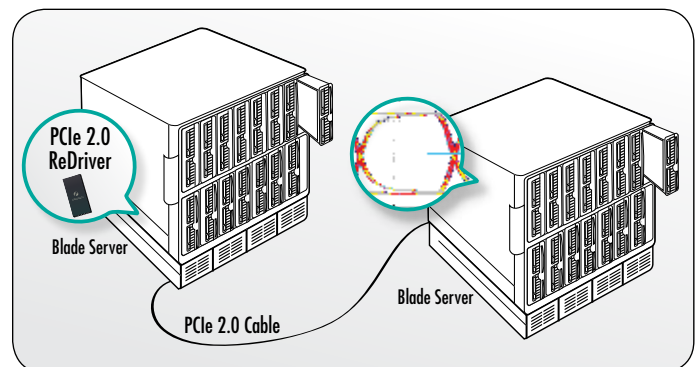Data Lane Repeats 4 Times

Figure1

Figure1

Redrivers with emphasis and equalization signal conditioning technology ensure the integrity of high-frequency PCIe signals by opening closed signal eyes to recover data and meet strict compliance testing requirements. Increased signal margin also supports longer drive lenghts over even low-quality cables.