

PI2EQX8864

8.0Gbps, 4-Lane PCIe® 3.0 ReDriver™ with Equalization and Emphasis

Pericom Semiconductor's PI2EQX8864 is a low power PCIe® 3.0 (8Gbps) ReDriver™. The device provides programmable equalization, pre-emphasis, and output voltage swing control via I²C/SMBus to optimize over a variety of physical mediums by reducing Inter-symbol interference (ISI). The PI2EQX8864 also provides advanced features such as bi-directional loop back functionality for easy debug, a selectable signal detector threshold, and I²C/SMBus programmability just to name a few. The integrated equalization circuitry provides flexibility with signal integrity of the PCIe signal before the ReDriver, whereas the integrated pre-emphasis circuitry provides flexibility with signal integrity of the signal after the ReDriver. In addition to providing signal reconditioning, Pericom's PI2EQX8864 also provides power management stand-by mode operated by a power-down pin.

Block Diagram

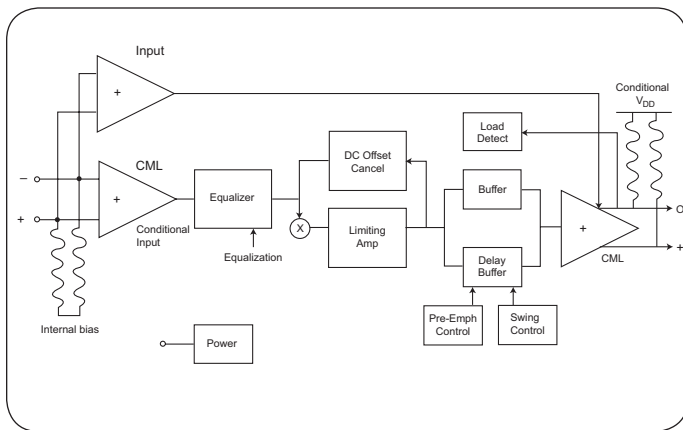


Figure 1

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 lengths over even low-quality cables.

Features

- 8 differential channels, support x4 lane PCIe® 1.0/2.0/3.0 application
- Fully Compatible with PCIe 3.0 compliant channels
- Selectable adjustment of receiver equalization, output swing and pre-emphasis
- Selectable input termination between 50Ω to V_{DD} and Hi-Z
- Selectable output termination between 50Ω to V_{DD} and 2KΩ to V_{DD}
- Control on Standby and output enable
- Programmability via I²C/SMBus
- 3-bit selectable address bits for I²C
- Support I²C and SMBus format
- 2-bit threshold adjustment for signal detector
- Single supply: 1.5V
- Packaging (Pb-free & Green): 72-contact TQFN (ZL)
- Transparent to In Band Link Training Signals

Figure 1

