

## PI2EQX5904

### 5.0Gbps 4-Lane PCIe<sup>®</sup> 2.0 ReDriver with Equalization & Emphasis

#### Description

PI2EQX5904 is a low power, PCIe<sup>®</sup> 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.

PI2EQX5904 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. PI2EQX5904 compensates signal insertion loss at designated BER issued by PCIe2.0 endpoint device.

The integrated equalization circuitry provides flexibility with signal integrity of the PCIe 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, Diodes' PI2EQX5904 also provides power management Stand-by mode operated by a Power Down pin.

#### Features

- Up to 5.0Gbps PCIe<sup>®</sup> 2.0 Serial ReDriver
- Supporting 8 differential channels or 4 lanes of PCIe Interface
- Pin strapped and I2C configuration controls
- (3.3V tolerant I2C)
- Adjustable receiver equalization
- Adjustable transmitter amplitude and de-emphasis
- Variable input an output termination
- 1:2 channel broadcast
- Channel loop-back/Mux and Demux Mode
- Low Power: 660mW, Typical
- Electrical Idle fully supported
- Receiver detect and individual output control
- Single supply voltage, 1.2V ± 0.05V
- Power down modes
- Industrial Temp support, -40°C ~ +85°C
- Packaging: 100-contact LPGA, Pb-free & Green

#### Application Diagram

