

PI3EQX8908/8984 2.5Gbps/5.0Gbps/8.0Gbps 8-channel PCI Express ReDriver™ with Equalization & De-emphasis

Pericom Semiconductor's PI3EQX8908/8984 is a PCI Express Gen1/2/3 8-differential channels ReDriver™.

The device provides per channel programmable equalization, output swing, de-emphasis, and amplifier gain.

The PI3EQX8908/8984 provides master / slave I²C Control, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

PI3EQX8908/8984 supports eight 100-Ohm differential data I/O's and extends the signals across other distant data pathways on the user's platform.

Pericom PI3EQX8908/8984 offers programmable transmit de-emphasis (up to 9 dB), transmit VOD (up to 1200 mVp-p) and receive equalization (up to 32.6 dB) to enable longer distance transmission in lossy copper cables (10m+), or backplanes (40"+) with multiple connectors. The receiver is capable of opening an input eye that is completely closed due to inter-symbol interference (ISI) introduced by the interconnect medium.

The programmable settings can be applied easily via pins, software (I²C) or loaded via an external EEPROM.

When operating in the EEPROM mode, the configuration information is automatically loaded on power up, which eliminates the need for an external microprocessor or software driver.

Features

- Support up to 8Gbps serial link
- Supporting 8 channels in Flowthrough pin-out (54-pin PI3EQX8908) and 4 bi-directional lanes (72-pin PI3EQX8984)
- Independent channel configuration of receiver equalization, output swing, de-emphasis, and amplifier gain
- Per Channel Activity Detector with selectable input termination between 50Ω to V_{DD} and > 200KΩ
- Per channel output termination detect on power-up with selectable output termination between 100Ω differential and High Impedance
- Pin strap and I²C master / slave selectable device programming with external EEPROM
- 4-bit selectable address bit for I²C
- Hot Plug Detect – allows host to reset if end point is removed (see note 1)
- Supply Voltage: 3.3V±10%
- Packaging (Pb-free & Green):
 - 54-contact TQFN (10mm x 5.5mm, 0.5mm pitch) (PI3EQX8908)
 - 72-contact TQFN (11mm x 5mm, 0.5mm pitch) (PI3EQX8984) - Backward Compatible to pinout of PI2EQX8864A

Eye Diagram

