A product Line of
Diodes Incorporated

PRODUCT BRIEF

PI3EQX8908A

2.5Gbps/5.0Gbps/8.0Gbps 8-channel PCI Express ReDriver with Linear Equalization

Description

The PI3EQX8908A is a PCIe, 8 differential channels ReDriver™. The device provides programmable linear equalization, output swing and gain, by either pin strapping option or I²C Control, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

The PI3EQX8908A supports eight 100-Ohm Differential CML data I/O's and extends the signals across other distant data pathways on the user's platform.

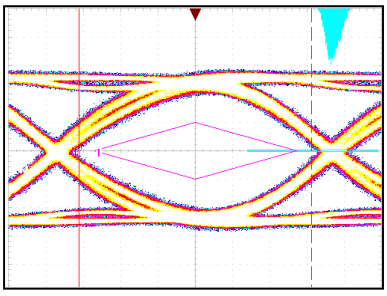
The programmable settings can be applied easily via pins, software (I²C) or loaded via an external EEPROM. When operating in the EEPROM mode, the configuration information is automatically loaded on power up, which eliminates the need for an external microprocessor or software driver.

The PI3EQX8908A offers fully Linear Transfer function to fully comply with all PCIe 3 Link Training signals.

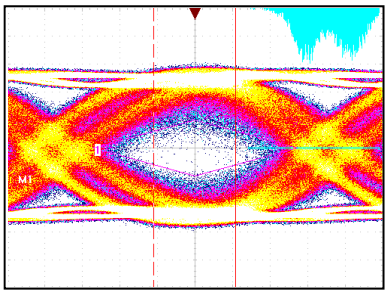
Features

- 2.5/5.0/8.0Gbps serial link with linear equalizer
- Support PCIe Gen 1/2/3 protocol
- Supporting 8 differential channels
- Independent channel configuration of receiver equalization, output swing and flat gain
- Per Channel Activity Detector with selectable input termination between 50Ω to V_{DD} and 200KΩ to V_{DD}
- Per Channel Output Termination Detector on power up with selectable output termination between 50Ω to V_{DD} and High impedance
- Very linear transfer function
- Fully compliant to PCISIG Link Training
- Single-ended mode receiver detection for PCIe
- Input Threshold detection
- Pin strap and I²C master/slave selectable device programming with external EEPROM
- 4-bit selectable address bit for I²C
- Supply Voltage: 3.3V±0.3V
- Industrial Temperature Range: -40°C to 85°C
- Packaging (Pb-free & Green):
  - 54-contact TQFN (10mm x 5.5mm x 0.5mm pitch) - flowthrough pinout

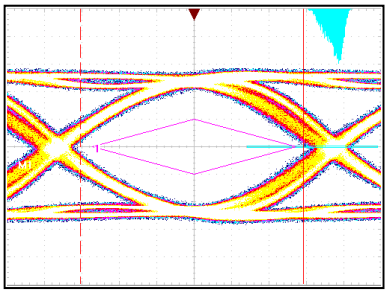
Eye Diagram



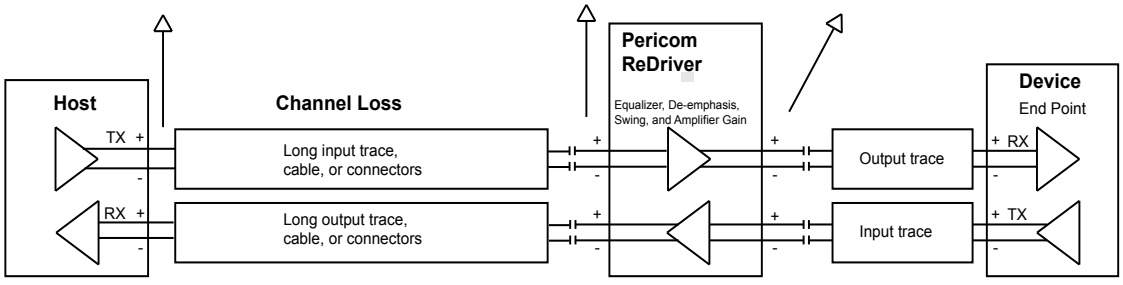
Before Channel Loss



Before ReDriver



After ReDriver



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