PI3EQX12908A

PCIe3/10GE/SAS3 12Gps 8-channel ReDriver with Linear Equalization

Description

Diodes' PI3EQX12908A is a PCIe3, 10GE-KR, SAS3, 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 PI3EQX12908A 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 PI3EQX12908A offers fully Linear Transfer function to fully comply with all PCIe 3, 10GE & SAS3 Link Training signals.

Features

→ 8-12Gbps serial link with linear equalizer
→ Support PCIe Gen 3, 10GE, SAS3 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 VDD and 200KΩ to VDD
→ Per Channel Output Termination Detector on power up with selectable output termination between 50Ω to VDD and High impedance
→ Very linear transfer function
→ Fully compliant to PCISIG, 10GE-KR, SAS3 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: -40ºC to 85ºC
→ 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