

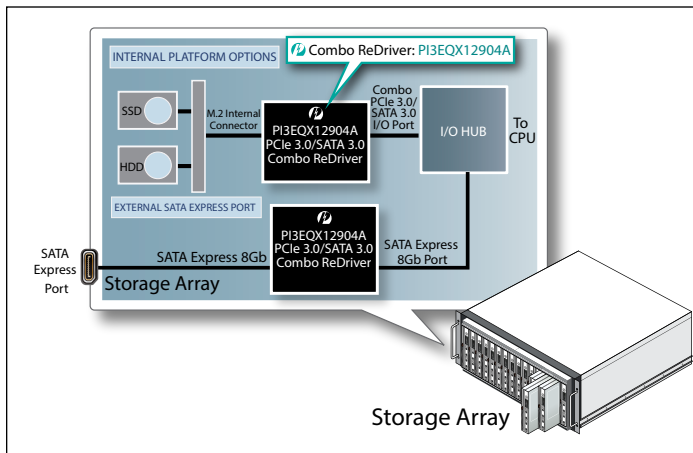
# PI3EQX12904A

## 8Gbps 2-Lane/4 Channels PCIe3/SATA3 Combo ReDriver with Linear Equalization

### Features

- 8Gbps Serial Link With Linear Equalizer
- Four 8Gbps Differential Signal Pairs
- Supports PCIe3 and SATA3 Protocols
- Transparent to Link Training, OOB, Idle
- Pin Adjustable Receiver Equalization
- Pin Adjustable Output Linear Swing
- Pin Adjustable Flat Gain
- 100Ω Differential CML I/Os
- Auto Receiver Detection for Adaptive Power Management
- Auto “Low Power” Mode for Adaptive Power Management
- Single Supply Voltage: 3.3V ± 0.3V
- Industrial Temperature Range: -40°C to 85°C
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. “Green” Device (Note 3)
- Packaging: (Pb-free & Green)
  - 42-pin, TQFN 3.5mm × 9mm (ZH42)

### Block Diagram



### Description

PI3EQX12904A is a low-power, high-performance 8Gbps 4-channel PCIe3/SATA3 linear ReDriver™.

The device provides programmable equalization, linear swing, and flat gain to optimize performance over a variety of physical mediums by reducing intersymbol interference. PI3EQX12904A supports four 100Ω differential CML data I/Os between the protocol ASIC to a switch fabric, over cable, or to extend the signals across other distant data pathways on the user’s platform.

The integrated equalization circuitry provides flexibility with signal integrity of the signal before and after the ReDriver.

Each channel operates fully independently. The channels’ input signal level determines whether the output is active.

The PI3EQX12904A is a flexible, multiprotocol linear ReDriver designed to support new processor chipsets with dual protocol I/O pins, supporting PCIe3 8Gbps SATA3 6Gbps speeds and connectors, such as mSATA/M.2/SATAe, that can provide control signals. The PI3EQX12904A is also an excellent choice for dual lane applications requiring low power and small package, such as docking station connectivity.

### Applications

- Notebook PC
- Server Motherboards
- Rack Server
- JBOD Storage
- Blade Server

### Ordering Information

Part Number	Package	Description
PI3EQX12904AZHXX	ZH	42-contact, Very Thin Quad Flat No-Lead (TQFN)

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated’s definitions of Halogen- and Antimony-free, “Green” and Lead-free.
3. Halogen- and Antimony-free “Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. E = Pb-free and Green
5. X suffix = Tape/Reel