

# PI3EQX12904E

## 8 Gbps 2-Lane/4 Channels PCIe 3.0/SATA3 Combo ReDriver with Modern Standby Mode

### Features

- 8 Gbps Serial Link With Linear Equalizer
- Four 8 Gbps Differential Signal Pairs
- Supports PCIe 3.0 and SATA3 Protocols
- Supports Modern Standby Requirement
- Transparent to Link Training, OOB, Idle
- Pin Adjustable Receiver Equalization
- Pin Adjustable Output Linear Swing
- Pin Adjustable Flat Gain
- 100 Ω Differential CML I/Os
- Auto Receiver Detection for Adaptive Power Management
- Auto “Low Power” Mode for Adaptive Power Management
- Supports L1.2 Mode for Adaptive Power Management
- Single Supply Voltage: 3.3 V ± 0.3 V
- 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)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact_us) or your local Diodes representative.

<https://www.diodes.com/quality/product-definitions/>

### Description

PI3EQX12904E is a low-power, high-performance 8 Gbps 4-channel PCIe 3.0/SATA3 linear ReDriver.

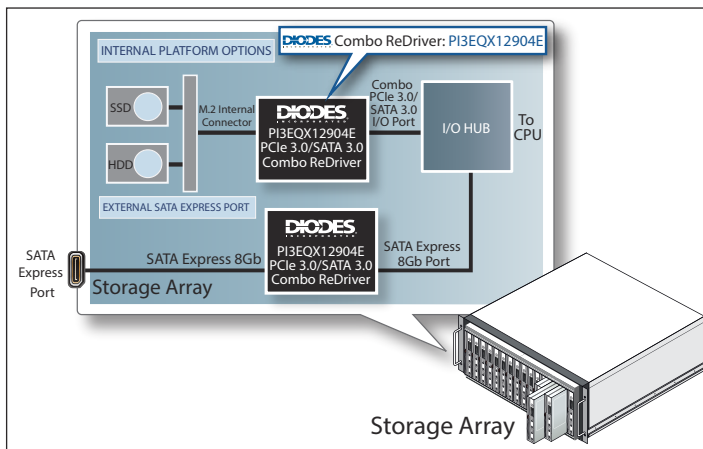
The device provides programmable equalization, linear swing, and flat gain to optimize performance over a variety of physical mediums by reducing intersymbol interference. PI3EQX12904E supports four 100 Ω differential CML data I/Os between the protocol ASIC to a switch fabric, over cable, or to extend the signals across other distant data pathways on the user’s platform.

The integrated equalization circuitry enhances the signal integrity of the waveform through the ReDriver.

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

The PI3EQX12904E is a flexible, multi-protocol linear ReDriver designed to support new chipsets with dual protocol I/O pins, which support 8 Gbps PCIe 3.0 and 6 Gbps SATA3 speeds. It also supports connectors, such as mSATA/M.2/SATAe, that provide control signals. The PI3EQX12904E is also an excellent choice for dual lane applications requiring low power and small package, for docking station connectivity.

### Application Diagram



### Applications

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

### Ordering Information

Part Number	Package Code	Description
PI3EQX12904EZHEX	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