

# PI3EQX25904

## 25Gbps 4-Channel ReDriver with Linear Equalization

### Features

- 2.5 to 25Gbps Serial Link with Linear Equalizer
- Supports SAS3/ SAS4/ IB FDR/ PCIe4/ UPI Protocols
- Supporting Four Differential Channels
- Handles up to 20dB Channel Loss (~30" FR4 Trace or 7m of High-Speed Low-Loss Cable)
- Independent Channel Configuration of Receiver Equalization, Output Swing, and Flat Gain
- Rate and Coding Agnostic
- Transparent to Link Training, OOB
- Pin Strap and I2C Selectable Device Programming
- 3-bit Selectable Address bit for I<sup>2</sup>C
- Supply Voltage: 3.3V±0.3V
- Industrial Temperature Range: -40°C to 85°C
- Pin Strap Value Latched into I<sup>2</sup>C Register
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Packaging (Pb-free & Green):
  - 42-Contact TQFN (9mm × 3.5mm)

### Description

Diodes' PI3EQX25904 is a multi-data rate, four differential channels ReDriver™. The device provides programmable linear equalization, output swing, and flat gain by either pin strapping option or I2C control to optimize performance over a variety of physical mediums by reducing intersymbol interference.

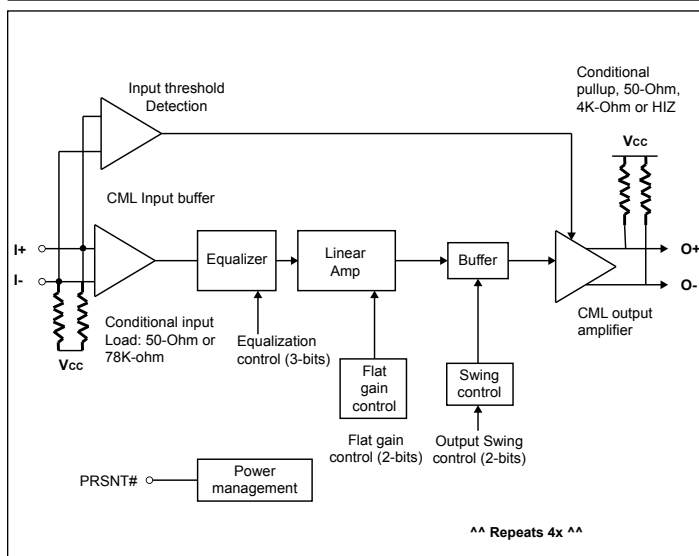
PI3EQX25904 supports four 100Ω differential CML data I/Os and extends the signals across other distant data pathways on the user's platform.

The integrated equalization circuitry provides flexibility with signal integrity of the signal before the ReDriver, whereas the integrated linear amplifier/buffer circuitry provides flexibility with signal integrity of the signal after the ReDriver.

### Applications

- Networking
- Enterprise
- Server
- Storage

### Block Diagram



### Ordering Information

Part Number	Package	Description
PI3EQX25904ZH	ZH	42-Contact, Thin Fine Pitch 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