

# PI3EQX16012

## 16Gbps, 4-Channels PCIe 4.0 1:2 DeMux ReDriver

### Features

- 16Gbps Serial Link with Linear Equalizer
- Full Compliancy to PCIe 4.0 Standard
- Supports Four Differential Channels
- 1 to 2 DeMux
- Independent Channel Configuration of Receiver Equalization, Output Swing, and Flat Gain
- 100Ω Differential CML I/Os
- Automatic Receiver Detect
- Rate and Coding Agnostic
- Transparent to Link Training
- Pin Strap and I2C Selectable Device Programming
- 3 Selectable Address Bits for I2C Control
- Supply Voltage 3.3V
- Temperature Range: 0°C to 70°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/>
- Packaging (Pb-free & Green):
  - 40-Contact, ZLD40 (TQFN)

### Applications

- Motherboard
- Desktop
- IPC

### Description

The PI3EQX16012 is a low-power, high-performance 16Gbps 4-channel DeMux Redriver™.

#### The 4-Channel DeMux ReDriver

The ReDriver provides programmable equalization, 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. The ReDriver supports two 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 the ReDriver. A low-level input signal detection and output squelch function is provided for each channel. Each channel operates fully independently. The channels' input signal level determines whether the output is active.

The ReDriver also includes an adaptive power management feature to maximize battery life for power sensitive consumer devices.

### Ordering Information

Part Number	Package	Description
PI3EQX16012ZLDEX	ZLD	40-Pin, 3mm × 6mm (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