

# PI3HDX12211

## 12Gbps 4-Channel HDMI2.1 Linear ReDriver

### Features

- Supports 12Gbps HDMI2.1 signals with non-blocking linear redriver via I2C or pin control settings
- Support 4 differential channels
- Support 16dB gain compensation @6GHz
- Independent channel configuration of receiver equalization, output swing and flat gain in I2C control mode
- Transparent to link training, rate and coding
- 220mW per channel power dissipation with 1200 mVpp output swing
- Support back current leakage free (Ioff) on I2C and HDMI output pins
- Support I2C slave mode setting and I2C master mode for external EEPROM setting
- Pin strap value latched into I2C register
- 3-bit selectable address bit for I2C
- 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-contact TQFN (9mm x3.5mm) (ZH)

### Description

Diodes’ PI3HDX12211 is a multi-data rate, 4 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 Inter-symbol interference.

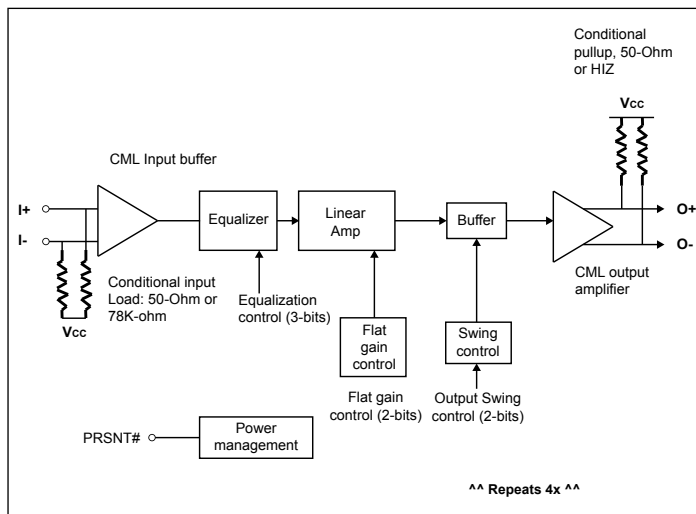
PI3HDX12211 supports four 100-Ohm Differential CML data I/O’s and extends the signals across other distant data pathways on the user’s platform.

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

- Laptop and Desktop PC
- Gaming Console
- DTV and Set-top-Box
- Docking Station and Peripherals

### Block Diagram



### Ordering Information

| Part Number     | Package | Description  |
|-----------------|---------|--|
| PI3HDX12211ZHEX | 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