

PI3HDX12211A

4 Channel HDMI2.1 Linear Redriver with Low Equalizer Option

Features

- Supports 12Gbps HDMI2.1 signals with non-blocking linear redriver via I²C or pin control settings
- Supports 4 differential channels
- Supports 11dB 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 1200mVpp output swing
- Supports back current leakage free (Ioff) on I²C and HDMI output pins
- Supports 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)
- 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](#) or your local Diodes representative.

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

Description

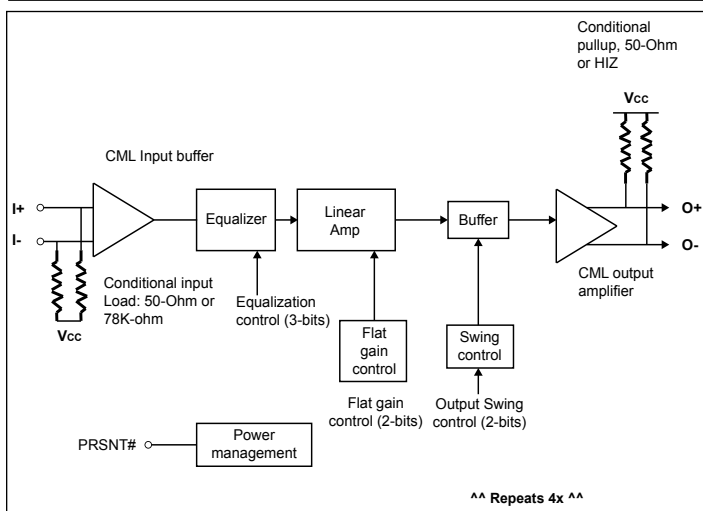
Diodes' PI3HDX12211A is a multi-data rate, 4 differential channels ReDriver™. The device provides programmable linear equalization, output swing and flat gain, by either pin strapping option or I2C Control, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference. PI3HDX12211A supports four 100Ω 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. The chip provides low equalizer options for short prechannel.

Applications

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

Block Diagram



Ordering Information

| Part Number | Package Code | Description |
|------------------|--------------|--|
| PI3HDX12211AZHEX | 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