

PI3HDX231

3:1 HDMI 1.4/2.0 Switch with Linear ReDriver and I2C Control

Description

PI3HDX231 is an 3 ports in and 1 port out HDMI active switch with linear-EQ Redriver to achieve optimized signal integrity.

Programmable TMDS input termination settings helps designers to avoid the compatibility issue caused by non standard HDMI source.

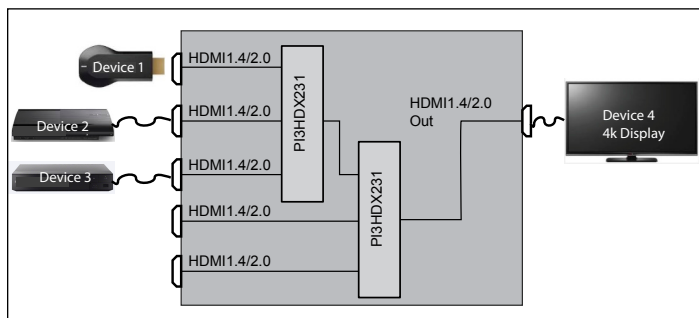
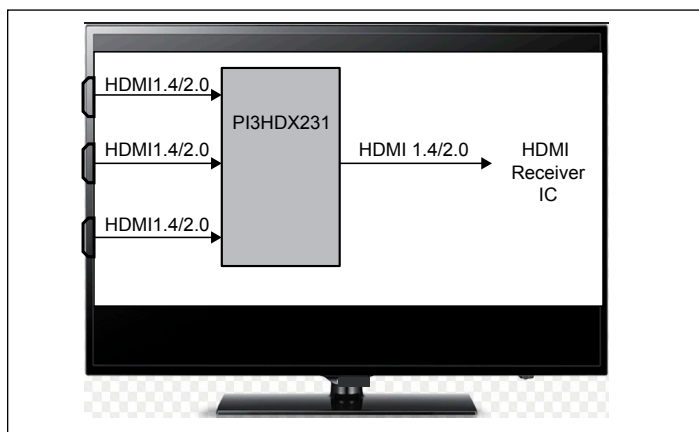
Input Equalization, Voltage Swing and Flat Gain control can configure with pin-strapping or I2C programing to optimized Main Link high speed signals over a variety of physical medium by reducing inter-symbol interference. Pericom's Linear Redriver technology can deliver 2 times less additive jitters around 6 ps.

Linear Equalizer always provide very flexible component placement/layout and easy adjustment after the Redriver location changes in the product development.

Applications

- HDMI Switch Box
- Sink-side TV and Display

Block Diagram



Features

- HDMI 2.0 compliant with fast video switch among each input signal ports
- I2C control 3:1 TMDS port Switch up to 8.1 Gbps DC-coupled or AC-coupled differential input signals, applicable for DP++ Level Shifter
- Tunable Input Equalizer, Flat Gain and Voltage Swing to achieve optimized HDMI signal integrity
- Every Channel's Equalizations, Swings and Gains are programmable Independently
- Linear Redriver delivers 2x Improved Jitter Performance than conventional CMOS-based redriver technology
- Linear ReDriver increases TMDS Link Margin supporting Sink-side DFE (Decision Feedback Equalizers)
- Input clock detection for auto power-down mode
- Selectable Active/passive DDC buffer
- Independent channel configuration of equalizer, flat gain and output swing
- Standby current <50uA when all three ports are off by port selection control or HPD_SINK=0
- HPD1/2/3 open drain output
- 8KV contact per IEC61000-4-2, level 3
- Power supply: 3.3V
- Package (Pb-Free & Green):
– 72-pin TQFN

Ordering Information

Part Number	Package	Description
PI3HDX231ZLEX	ZL	72-contact, Very Thin Quad Flat No-Lead (TQFN)

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <http://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free. Thermal characteristics can be found on the company web site at www.diodes.com/design/support/packaging/
3. E = Pb-free and Green
4. X suffix = Tape/Reel