ActiveEye™ HDMI1.4 Redriver™ Source-side Application

Features

- HDMI1.4 compliant re-driver
- Operation up to 3.4Gbps per lane (340MHz pixel clock) for 4K x 2K 24Hz(297MHz) and 3D Video formats(1080p, 1080i, 720p)
- 48-bit per pixel Deep Color ™
- Convert low-swing DC and AC coupled differential inputs including Dual Mode DisplayPort AC coupled signals
- Open-drain current steering Rx terminated differential output
- Support Output Squelch function for the power-down mode
- Idle clock detection function for output squelch and auto standby features
- Provide Output squelch function to turn off TMDS common mode output when the clock is not present
- Built-in Rx sense detection function and Passive DDC level shifter
- Programmable equalizer, Pre-emphasis and amplitude settings to achieve optimized HDMI signal integrity
- Support 3.3V source to 5V sink-side system
- Integrated ESD protection on I/O pins for 8kV HBM and contact per IEC61000-4-2, level 4
- 3.3V Power supply
- 32-pin TQFN (ZL), Pb-free & Green

Description

PI3HDMI511 is TMDS ReDriver (Repeater) supporting HDMI 1.4 and legacy DVI 1.0 specifications up to the 3.4Gbps data rate with 48-bit per pixel Deep Color ™.

It converts the DC and AC coupled source devices into the HDMI compliant signal with proper signal swing, especially in the Notebook HDMI and Dual mode DisplayPort PC chipset and docking products.

Programmable termination settings at TMDS input helps to avoid the compatibility issue caused by non -standard HDMI source to determine the connection status of TMDS channel with proper termination voltage setting.

PI3HDMI511 also supports low power mode when no valid signal presents on the TMDS link with the clock detection and Receiver sensing features. The double termination HDMI output can drive long cable connections.

Applications

- Notebook computers
- PC docking station
- Set-Top Box (STB)
- A/V Home entertainment systems
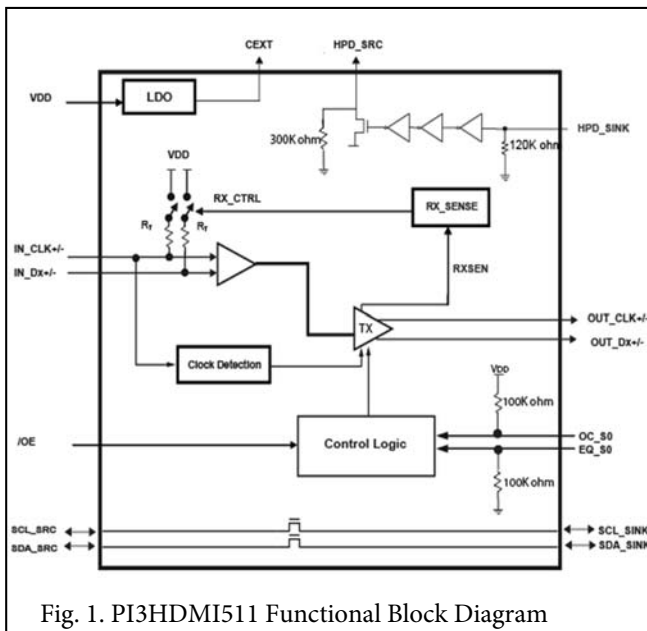- Dongle, switch boxes
- Long HDMI cables
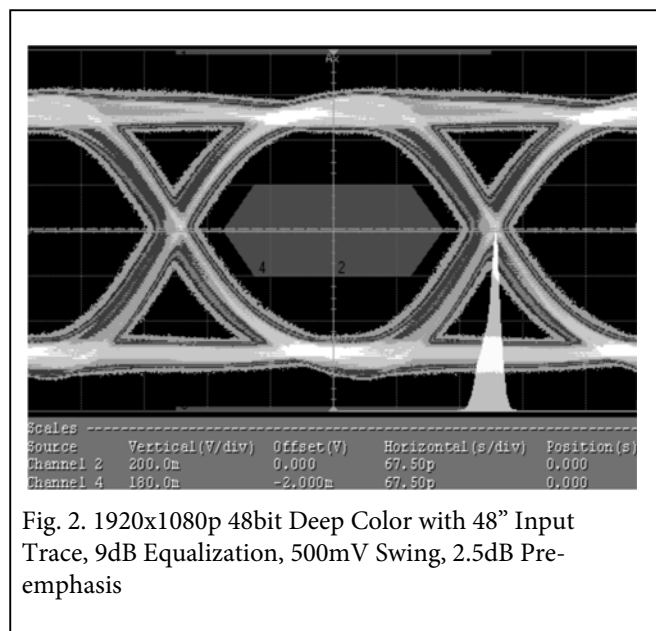

Fig. 1. PI3HDMI511 Functional Block Diagram

Fig. 2. 1920x1080p 48bit Deep Color with 48" Input Trace, 9dB Equalization, 500mV Swing, 2.5dB Pre-emphasis

Ordering Information

Ordering Code	Package Code	Package Description
PI3HDMI511ZLE	ZLE	Pb-free & Green 32-Contact TQFN

Notes:

1. Thermal characteristics can be found on the company web site at www.pericom.com/packaging/

2. "E" = Pb-free and Green, Adding an "X" suffix = Tape/Reel

Related Products

Part Number	Product Description
PI3EQXDP1201	ActiveEye™ DisplayPort 1.2 ReDriver with the built-in AUX listener
PI3VDP1430	ActiveEye™ Dual Mode DisplayPort to HDMI Level Shifter and Re-driver
PI3HDMI412AD	ActiveEye™ 1:2 Active HDMI1.4 compliant Splitter/Re-driver
PI3HDMI336	ActiveEye™ 3:1 Active HDMI1.4 Switch/Re-driver with I2C control and ARC
PI3HDMI611	ActiveEye™ 3.4G HDMI1.4 ReDriver for Sink-side application
PI3HDMI521	ActiveEye™ 2:1 3.4Gbps HDMI1.4 Switch/Re-driver with built-in ARC and Fast Switching support for Sink Application
PI3HDMI621	ActiveEye™ 2:1 3.4Gbps HDMI1.4 Switch/Re-driver with built-in ARC and Fast Switching support for Sink Application
PI3VDP3212	2-Lane DisplayPort1.2 Compliant Switch
PI3VDP12412	4-Lane DisplayPort1.2 Compliant Switch