

ActiveEye™ 2:1 HDMI1.4 Source-side Switch with ARC & Fast Switching

Features

- HDMI1.4 compliant ActiveEye™ 2:1 source-side switch
- Operation up to 3.4Gbps per lane (340MHz pixel clock) for 4K x 2K@24Hz (297MHz), 3D video format (1080p, 1080i and 720p)
- Support up to 48-bit per pixel Deep Color™
- Integrated Audio Return Channel (ARC) and Rx Sense function
- Fast switching between two HDMI input ports
- Programmable equalizer, Pre-emphasis and amplitude settings to achieve optimized HDMI signal integrity
- Each input can be AC coupled or DC coupled, while the output will maintain TMDS compliance current steering signals
- Rx-sense detector for power-down mode support when the 50 Ohm is not present in the incoming side
- Squelch function to save power when TMDS input clock frequency is less than 10 MHz
- Integrated ESD protection on I/O pins to connector, 8 KV contact per IEC61000-4-2, level 4, 8 KV HBM
- Industrial temperature coverage
- 48-contact LQFP (FB)

Description

PI3HDMI521 is 2:1 ActiveEye™ switch that supports HDMI 1.4 specification with 3.4Gbps data rate. It supports backward compatibility to the DVI 1.0 standard.

The IC programming function helps to save the extra requirement of GPIO control pins or control chip and provide optimized trace routing and component reduction. The termination setting at TMDS inputs 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.

The output termination setting programmable supports double termination to ease the reflection caused by improper impedance matching and jittery signals.

PI3HDMI521 also integrated Audio Return Channel and fast HDMI switching.

Applications

- HDMI Switch Box
- STB (Set-top Box)
- Digital TV
- LCD monitors

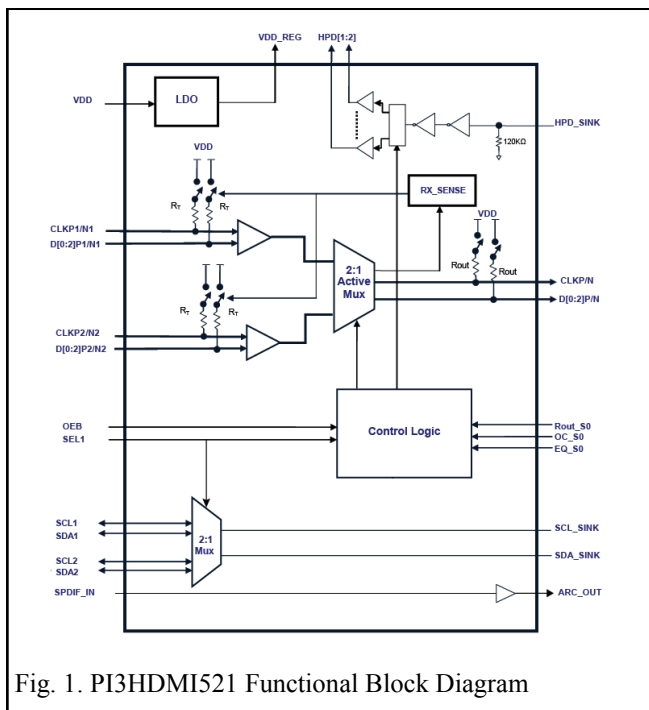


Fig. 1. PI3HDMI521 Functional Block Diagram

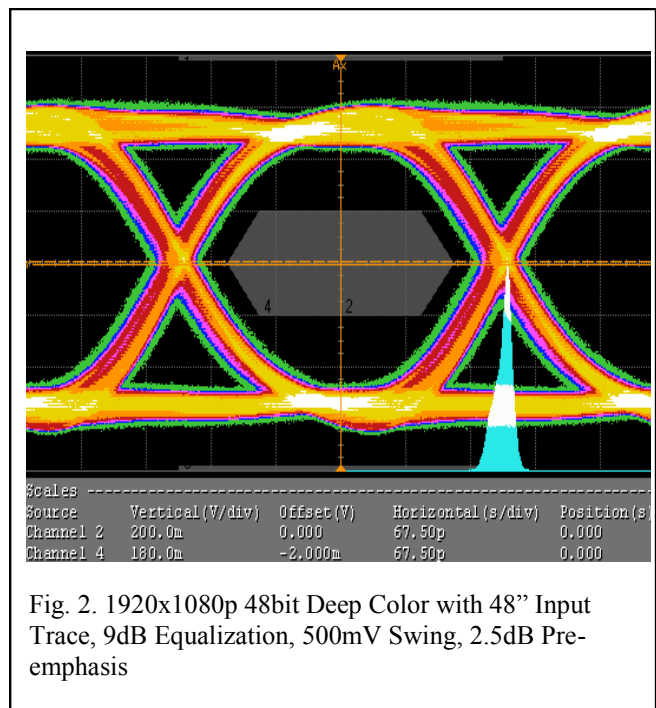


Fig. 2. 1920x1080p 48bit Deep Color with 48" Input Trace, 9dB Equalization, 500mV Swing, 2.5dB Pre-emphasis

Ordering Information

| Ordering Code | Package Code | Package Description |
|---------------|--------------|---------------------|
| PI3HDMI521FB | FB | 48-pin LQFP |

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 |
| PI3HDMI511 | ActiveEye™ 3.4G HDMI1.4 ReDriver for Source-side application |
| PI3HDMI611 | ActiveEye™ 3.4G HDMI1.4 ReDriver for Sink-side application |
| PI3HDMI336 | ActiveEye™ 3:1 HDMI Switch with I2C control and ARC Transmitter |
| PI3HDMI621 | ActiveEye™ 2:1 3.4Gbps HDMI1.4 Sink-side Switch with built-in ARC and Fast Switching |
| PI3VDP3212 | 2-Lane DisplayPort1.2 Compliant Switch |
| PI3VDP12412 | 4-Lane DisplayPort1.2 Compliant Switch |

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