Parade Technologies

HDMI™ 1.3a REPEATER

PS121

KEY FEATURES

- **Programmable Receiver Equalization to Compensate Cable Loss up to 17-dB**
- **Integrated 50-ohm Active Receiver Termination**
- **Low Intra-pair and Inter-pair skews**
- **Compliant with HDMI 1.3a specification up to 2.25 Gbps**
- **Built-in active DDC buffer with 5V tolerance**
- **Local I2C control for flexible feature selection and host interface**
- **Single 3.3V Power Supply, 48-pin QFN RoHS Package**
- **0°C to 70°C Operating Temperature Range**
- **DC or AC coupling receiving capable**
- **ESD: Human Body Mode at 8 kV, Machine Mode at 400 V, and Charged Device Mode at 2 kV**

APPLICATIONS

- **Digital TV**
- **Digital Set-Top-Box**
- **Digital DVR**
- **1-to-1 HDMI/DVI Switch Box**

GENERAL DESCRIPTION

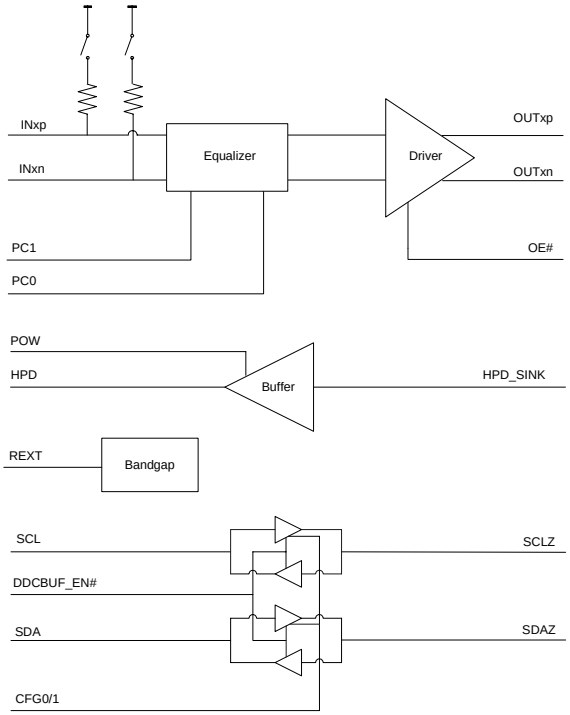
PS121 integrates 1-to-1 HDMI/DVI Repeater to simplify system level design and reduce system level cost for applications requiring single HDMI/DVI input connector and single output device in digital TV and other emerging digital appliances.

The DDC I2C signals are bidirectional and are buffered actively to isolate and reduce I2C bus capacitance loading. The active DDC buffer is high impedance when DDCBUF_EN# is HIGH. The configuration select pins CFG0/CFG1 provide the flexibility of adjusting the output voltage level of SCLZ/SDAZ to optimize noise margins. HPD signal is unidirectional and is buffered with 5V tolerance for level shifting.

Receiver inputs are terminated with integrated active 50-ohm pull-up resistors. A precision resistor is connected from REXT pin to ground for output swing control and for termination resistor calibration. The output is at high impedance when OE# is set at HIGH in pin control mode.

PS121 supports ten level equalizations from 1.5dB to 17dB @ 2.25 Gbps in I2C control mode. In Pin control mode, four level equalizations of 12-dB, 7-dB, 10-dB and 16-dB can be programmed by PC0 and PC1 pins, with default setting at 12-dB.

FUNCTIONAL BLOCK DIAGRAM



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