



KEY FEATURES

- Programmable Receiver Equalization to compensate cable loss
- Up to 14-dB for 1.65 Gbps and 16-dB for 2.25 Gbps Equalization
- Integrated 50-ohm Active Receiver Termination
- HDMI 1.4a compliant up to 2.25 Gbps
- DC or AC coupling Receiver up to 2.7 Gbps, capable of supporting DisplayPort 2.7 Gbps
- Support UXGA, WUXGA, & 1080p with 10/12 bit deep color
- Built-in Side-band Signals Multiplexer with 5V tolerance for SDAx/SCLx pins
- Support both Active DDC Buffering and Side-band Multiplexing
- I2C interface for flexible feature selection and host control
- EDID shadow to save system BOM cost
- Support CEC interfacing I/O
- Support Active Port Detection function
- Single 3.3V Power Supply, 100-pin TQFP RoHS Package
- 0°C to 70°C Operating Temperature Range
- ESD: Human Body Mode at 8 kV for all receiver inputs, Machine Mode at 300 V, and Charged Device Mode at 2 kV

APPLICATIONS

- Digital TV
- Digital Set-Top-Box
- A/V Receiver
- Digital DVR
- 4-to-1 HDMI/DVI Switch Box

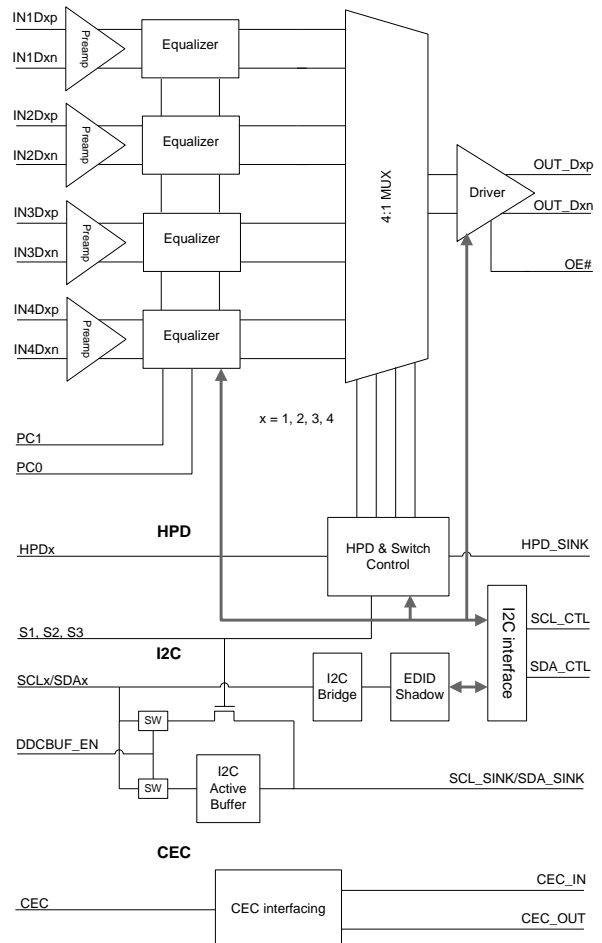
GENERAL DESCRIPTION

PS421 integrates 4-to-1 HDMI/DVI switch to simplify system level design and reduce system level cost for applications requiring multiple HDMI/DVI input connectors and single output device in digital TV and other emerging digital appliances.

TMDS inputs and corresponding I2C and HPD connection are selected by S1, S2 & S3 pins or by I2C control. I2C control pins are bi-directional and HPD control pins are uni-directional, SDAx/SCLx and HPD_SINK are 5V tolerant I/O. Each TMDS channel can support data rate up to 2.7 Gbps with flexible cable equalization up to 16 dB. By supporting both DC and AC coupling, PS421 also enable DisplayPort (2.7 or 1.62 Gbps) switching function.

Receiver inputs are terminated with integrated active 50 Ω resistors connected to AVCC. The output is at high impedance state when OE# input is set at high. PS421 provides flexible power management with power down and standby modes.

FUNCTIONAL BLOCK DIAGRAM



The PS421 supports either fixed cable equalization with default setting of 10-dB at 1.65Gbps and 12-dB at 2.25Gbps receiver equalization, or programmable equalization from 0 to 14-dB/16-dB (1.65Gbps/2.25Gbps) by pin selection or I2C control registers.

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