



# PS8401 Jitter Cleaning 3.0Gbps HDMI™ Repeater

## Product Brief

# PS8401

### KEY FEATURES

- Clock and Data Jitter Cleaning – 12dB Jitter Attenuation performance for out-of-band HDMI clock jitter
- CrystalFree technology – no external crystal or reference clock is needed
- Compliant to HDMI 1.4b specification up to 3.0Gbps (300MHz TMDS Clock)
- Supports 4K x 2K and 1080p Stereo 3D HDMI formats which require 2.97Gbps (297MHz TMDS clock) operation
- AC input coupling capable for level shifting applications
- DC input coupling capable for repeater applications
- Programmable receiver equalization
- Programmable TMDS output pre-emphasis and EMI reduction
- Automatic inter-pair and intra-pair de-skewing
- Automatic power down management
- Automatic output squelch circuit for fail-safe operation and power management
- Flexible pin and I2C control mode options
- 3.3V and 1.5V power supplies for PS8401A
- Single 3.3 V power supply for PS8401B
- 5x5mm 40-pin TQFN and 7x7mm 48-pin QFN packages
- 0° to 70°C operating temperature range
- ESD: HBM 8 kV

### GENERAL DESCRIPTION

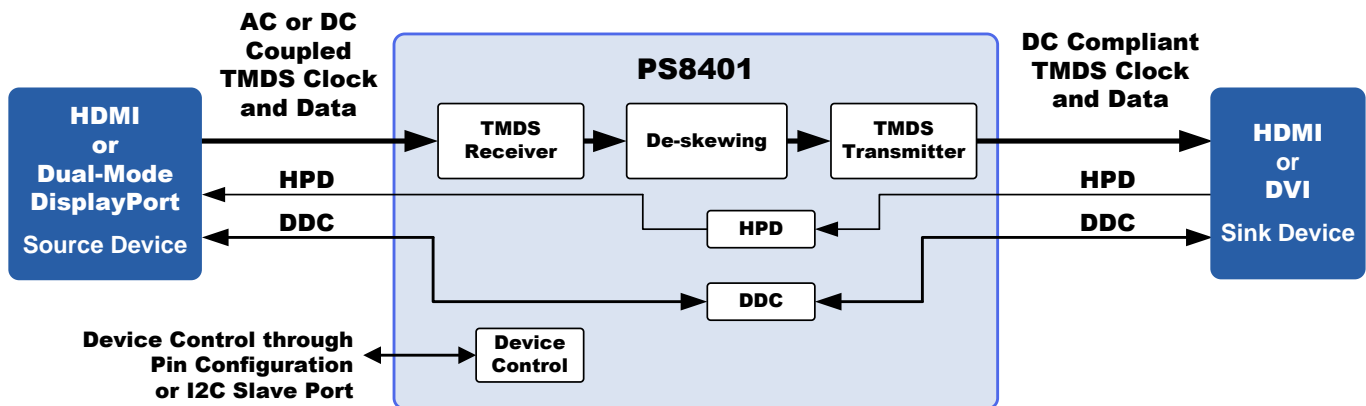
The PS8401 integrates a jitter tolerant TMDS receiver and a jitter cleaning TMDS transmitter for HDMI repeater applications. It removes both the data and clock jitter and the timing skews from the TMDS input to deliver a compliant and very low jitter HDMI output.

The PS8401 is ideal for Source, Sink and repeater device applications where jitter attenuation is needed. Such requirement might exist in a Source to remove Tx jitter and/or induced media (transmission path) jitter in order to meet HDMI output jitter requirements, especially at higher TMDS clock rates. It can also be used within a switch or Sink as a repeater function to improve signal integrity. Signal integrity can be further optimized through the use of the PS8401's programmable input equalization and output pre-emphasis controls.

The PS8401 can accept either an AC or DC coupled input signal.

### APPLICATIONS

- PC mother board or graphics card
- Dual-mode DisplayPort to HDMI/DVI Cable Adapters
- Cable extension with active repeater
- DVD Players or Set-top boxes
- Game console
- AV receivers



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