

**FEATURES****General**

- Low power MIPI/DSI receiver**
- Low power HDMI/DVI transmitter ideal for portable applications**
- CEC controller and expanded message buffer (3 messages) reduces system overhead**
- Compatible with DVI v.1.0**
- Embedded HDCP keys to support HDCP 1.3**
- 1.8 V and 3.3 V supplies for ultralow operating power**
- Audio inputs accept logic levels from 1.8 V to 3.3 V**

**MIPI/DSI receiver**

- 2-, 3-, or 4-lane DSI receiver**
- Supports up to 891 Mbps per lane**
- Compatible with D-PHY V.0.90 and DSI V.1.02**
- Supports inputs of 24-bit RGB 4:4:4**

**HDMI (TMDS) video out**

- 148.5 MHz maximum TMDS output clock frequency supports video resolutions up to 1080p at 60 Hz**
- Programmable 2-way color space converter**
- Output supports**
  - 36-, 30-, or 24-bit RGB 4:4:4**
  - 36-, 30-, or 24-bit YCbCr 4:4:4**
- Automatic input video format timing detection (CEA-861E)**

**Digital audio**

- Supports standard S/PDIF for stereo LPCM or compressed audio up to 192 kHz**
- 2-channel uncompressed LPCM I<sup>2</sup>S audio up to 192 kHz**
- No audio master clock needed for supporting S/PDIF and I<sup>2</sup>S**

**Special features for easy system design**

- On-chip MPU with I<sup>2</sup>C master to perform EDID reading and HDCP operations**
- 5 V tolerant I<sup>2</sup>C and HPD inputs/outputs (I/Os), no extra device needed**

**APPLICATIONS**

- Mobile devices**
- Cellular handsets**
- Digital video cameras**
- Digital still cameras**
- Personal media players**
- Gaming**

**GENERAL DESCRIPTION**

The [ADV7535](#) provides a MIPI® display serial interface (MIPI/DSI) input receiver and a High-Definition Multimedia Interface (HDMI®) transmitter output. The DSI receiver input supports DSI video mode operation only, and specifically, only supports nonburst mode with sync pulses. The DSI receiver provides up to four lanes of MIPI/DSI data, each running up to 891 Mbps. The HDMI transmitter supports video resolutions up to a maximum TMDS clock frequency of 148.5 MHz. The [ADV7535](#) also provides an audio input port, which supports the insertion of audio into the HDMI stream.

Fabricated in an advanced CMOS process, the [ADV7535](#) is available in a space saving, 49-ball, WLCSP surface-mount package. This package is RoHS-compliant and specified to operate from -10°C to +85°C.

For more information about the [ADV7535](#), including the complete data sheet, contact your local Analog Devices, Inc., sales office at [www.analog.com/sales](http://www.analog.com/sales).

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