



HDMI 1.4 Transceiver with Xpressview Fast Switching Technology

Preliminary Technical Data

ADV7623

FEATURES

- 4-input, 1-output HDMI 1.4 transceiver
- HDMI 1.4 support
 - Audio return channel (ARC)
 - 3D TV support
 - Content type bits
 - CEC 1.4 compatible
- Xpressview fast switching on all HDMI ports
- Character- and icon-based on-screen display (OSD)
- High-Bandwidth Digital Content Protection (HDCP 1.4)
- HDCP repeater support
- 225 MHz HDMI Rx and Tx support 36-/30-/24-bit Deep Color
- Supports DVI RGB graphics up to 1600 × 1200 at 60 Hz
- Ultralow jitter digital PLL (100% deskew)
- Quad HDMI Rx input
 - Format details available on all unselected ports
 - Adaptive equalizer for cable lengths up to 30 meters
 - Internal EDID RAM
 - EDID replication (512 bytes per port)
 - EDID with HDMI cable 5 V power support
 - 5 V detect inputs
 - Hot plug assertion control pins
- Single HDMI Tx output
 - EDID data extraction
 - Hot plug detect (HPD) input
- Audio support
 - HDMI 1.4-compatible audio interface
 - Dedicated, flexible audio input/output port
 - S/PDIF (IEC60958-compatible) digital audio input/output
 - SACD (super audio CD) with DSD input/output interface
 - Compressed SACD with DST input/output interface
 - High bit rate (HBR) audio
 - Dolby® TrueHD
 - DTS-HD Master Audio™
 - Full audio input and output support
- General
 - Interrupt controller with 3 interrupt outputs
 - STDI (standard identification circuit)
 - Software libraries, driver and application available
 - 2-layer PCB design supported

APPLICATIONS

- AVR
- HTiB
- Sound bar with HDMI repeater support
- HBR enabled TVs
- Other repeater applications

GENERAL DESCRIPTION

The ADV7623 is a high performance four-input, one-output, High-Definition Multimedia Interface (HDMI™) transceiver that integrates an HDMI receiver and transmitter with digital audio inputs and outputs onto one chip. It supports all HDCP repeater functions through fully tested Analog Devices, Inc., repeater software libraries and drivers.

The ADV7623 incorporates Xpressview™ fast switching on all input HDMI ports. Using the Analog Devices hardware-based HDCP engine that minimizes software overhead, Xpressview allows fast switching between any HDMI input ports in less than 1 second.

The ADV7623 supports all mandatory 3D TV formats in addition to all HDTV formats up to 1080p, 12-bit Deep Color. The ADV7623 also integrates an HDMI v1.4 CEC controller that supports the capability discovery and control (CDC) feature.

The ADV7623 has an integrated on-screen display (OSD) feature that allows generation and control of high quality character- and icon-based system status and control displays. Customers interested in using the OSD feature can make use of the Analog Devices OSD software development kit.

The ADV7623 offers a dedicated flexible audio output port and a dedicated audio input port to allow easy extraction and insertion of audio data into and out of the HDMI stream. All HDMI audio formats, including super audio CD (SACD) via DSD, compressed SACD via DST, and HBR, are supported. The ADV7623 also features an audio return channel (ARC) receiver. ARC simplifies cabling by combining upstream audio capability in a conventional HDMI cable.

Fabricated in an advanced CMOS process, the ADV7623 is provided in a 144-lead, 20 mm × 20 mm, Pb-free LQFP package and is specified over the -20°C to +70°C temperature range.

For more information on the ADV7623, contact a local Analog Devices sales office or email ATV_VIDEORX_INFO@analog.com.

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