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APIX2 Receiver with LVDS, HDCP, and MIPI Support

Data Sheet

ADV7782

FEATURES

APIX2 receiver with HDCP
 High-bandwidth Digital Content Protection (HDCP) 1.4
  support with internal preprogrammed HDCP keys HDCP
  decryption of video and audio
 HDCP repeater support
 Supports 2 independent video streams
 One TDM channel with support for up to 4 stereo pairs
 Up to 3000 Mbps sustained downstream link bandwidth
 Up to 187.5 Mbps upstream link bandwidth
 Media independent interface (MII), serial port interface (SPI),
  I²C, and GPIO interfaces for sideband communication
LVDS receiver (OpenLDI)
 85 MHz maximum clock frequency
 Maximum resolution supported is WXGA
 Supports receiving video in both 24-bit mode over 4
  differential pairs, and 18-bit mode over 3 differential pairs
Dual MIPI CSI 2.0 transmitters
 MIPI-A: clock and 4 data lanes
 MIPI-B: clock and 2 data lanes
Video processing
 Color space conversion
 4:2:2 to 4:4:4 interpolation
Software driver
 MISRA-C compliant software driver for automotive acceptability
General
 Qualified for automotive applications
 −40°C to +85°C temperature grade
 100-ball, 9 mm × 9 mm, RoHS-compliant CSP_BGA package

APPLICATIONS

Automotive high end head unit
Automotive infotainment
Portable devices
The approved use of the ADV7782 device is limited to use
 cases where the ADV7782 data output is directly input to a
 processing unit

GENERAL DESCRIPTION

The ADV7782 is a receiver that is compatible with an APIX® or
APIX2® serial data stream. The ADV7782 performs limited
processing (color space conversion and interpolation 4:2:2 to 4:4:4),
and forwards the data via MIPI® camera serial interface (CSI).
Data from the LVDS input (OpenLDI) can also be routed through
the same processing blocks. It supports a point-to-point connection
topology, and supports HDCP repeater implementations with a
key selection vector (KSV) list memory of 25 entries.

There are three primary video sources: LVDS OpenLDI, APIX
Channel 0, and APIX Channel 1. These three primary video
streams are input to a video switch matrix. Any two of the three
streams can be selected and output from the switch matrix.

Of the two video channels output from the video switch matrix,
one output channel is unprocessed, and the other output channel
passes through a combination of an interpolation block (4:2:2 to
4:4:4) and a color space converter.

*For more information about the ADV7782, including the
complete data sheet, contact your local Analog Devices, Inc., sales
office at www.analog.com/sales.*

FUNCTIONAL BLOCK DIAGRAM

Figure 1.

Document Feedback
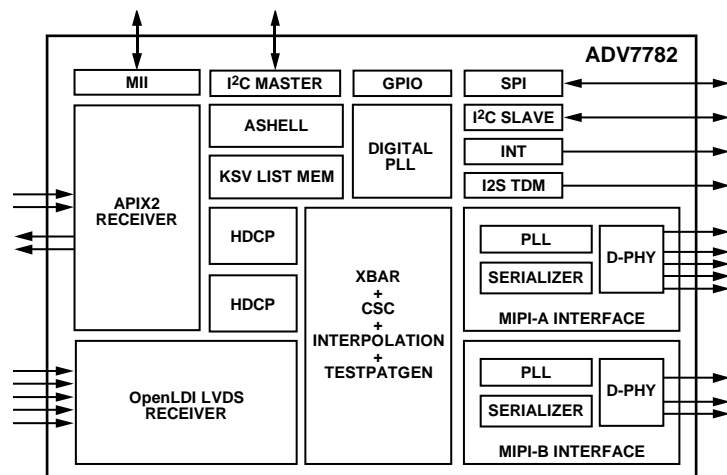
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ADV7782* PRODUCT PAGE QUICK LINKS

Last Content Update: 02/23/2017

COMPARABLE PARTS 🗗

View a parametric search of comparable parts.

DOCUMENTATION 🗗

Data Sheet

- ADV7782: APIX2 Receiver with LVDS, HDCP, and MIPI Support Data Sheet

DESIGN RESOURCES 🗗

- ADV7782 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS 🗗

View all ADV7782 EngineerZone Discussions.

SAMPLE AND BUY 🗗

Visit the product page to see pricing options.

TECHNICAL SUPPORT 🗗

Submit a technical question or find your regional support number.

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NOTES

APIX® is a registered mark of INOVA Semiconductors GMbH.

I²C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).

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