

FEATURES

- 3D comb video decoder
- Overlay support for external graphical HMI/OSD
- Fastboot and bitmap load from external EEPROM
- LVDS transmitter and receiver (OpenLDI mapping)
- Hardware downscaling/upscaling to QVGA and WXGA panel resolutions
- Fully differential analog input
- LCD controller
- Qualified for automotive applications
- Video decoder
 - NTSC/PAL/SECAM color standards support
 - NTSC/PAL 2D/3D motion detecting comb filter
 - Advanced time-base correction (TBC) with frame synchronization
 - Vertical peaking and horizontal peaking filters
 - Any-to-any, 3 × 3 color space conversion (CSC) matrix
- Video signal processor
 - Edge adaptive interlaced-to-progressive conversion of 525i and 625i
 - Bitmap overlay from EEPROM
 - Low cost bitmap overlay requiring no external memory
 - Hardware downscaling/upscaling to QVGA and WXGA panel resolutions
 - Adaptive contrast enhancement (ACE)
 - Up-dither of coarse resolution input signals
 - Vertical flip/horizontal mirror orientation control
- Analog input
 - Single low power 10-bit analog-to-digital converter (ADC)
 - 6-channel analog input mux
 - Single-ended or fully differential input
 - 3-channel antialiasing filter
 - 525i-/525p-/625i-/625p-/720p-/1080i-component analog input
 - RGB graphics up to 800 × 600 at 60 Hz (SVGA)
- Digital input
 - Flexible 24-bit pixel input interface
 - LVDS receiver (OpenLDI mapping)

Digital output

- Flexible 24-bit pixel output interface
- LVDS transmitter (OpenLDI mapping)
- Independent BT.656 output channel

LCD controller

- Timing controller (TCON) for LCD panels PWM backlight control
- Programmable gamma correction

General

- Dual standard identification (STDI) function support
- 1 programmable interrupt request output pin
- Spread spectrum output pixel clock
- Support for low power mobile DDR (LPDDR) and DDR2 SDRAM
- LVDS Rx available on **ADV7186BBCZ** and **ADV7186BBCZ-T** only
- LVDS Tx available on **ADV7186BBCZ** only
- TCON available on **ADV7186BBCZ-T** and **ADV7186BBCZ-TL**

APPLICATIONS

- Navigation radios and infotainment head units
- Central console and rear seat monitors
- Parking guide and ADAS vision systems
- Pico and mini projectors
- Industrial monitors and displays

FUNCTIONAL BLOCK DIAGRAM



¹NOT AVAILABLE ON THE ADV7186-TL.

Figure 1.

For more information about the **ADV7186**, including the complete data sheet, contact your local Analog Devices, Inc., sales office at www.analog.com/sales.

ADV7186* PRODUCT PAGE QUICK LINKS

Last Content Update: 02/23/2017

COMPARABLE PARTS

View a parametric search of comparable parts.

DOCUMENTATION

Application Notes

- AN-1256: Manual Scaling in the ADV7186
- AN-1260: Crystal Design Considerations for Video Decoders, HDMI Receivers, and Transceivers

Data Sheet

- ADV7186: Video Decoder and Display Processor Data Sheet

DESIGN RESOURCES

- ADV7186 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all ADV7186 EngineerZone Discussions.

SAMPLE AND BUY

Visit the product page to see pricing options.

TECHNICAL SUPPORT

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NOTES