

Video Decoder and Display Processor

Data Sheet ADV7186

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 course 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

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

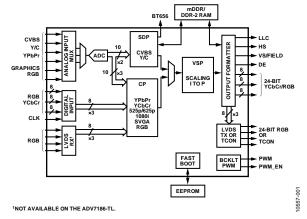


Figure 1.

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Rev. SpC

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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.

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