Video Decoder and Display Processor

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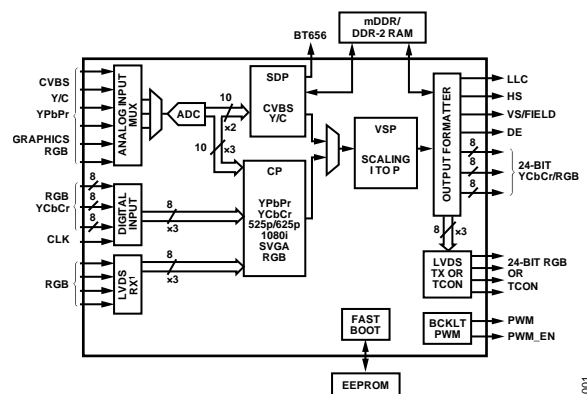General
    Dual standard identification (STDI) function support
    1 programmable interrupt request output pin
    Spread spectrum output pixel clock
    Support for low power mobile DDR (LPDDR) and DDR2
        SDRAM
    LVDS Rx available on ADV7186BBCZ and ADV7186BBCZ-T
        only
    LVDS Tx available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

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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.

SAMPLE AND BUY

Visit the product page to see pricing options.

TECHNICAL SUPPORT

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NOTES

ANALOG DEVICES

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