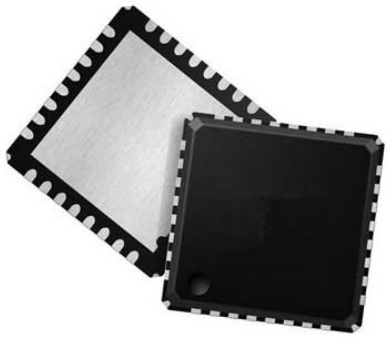
ADV7392BCPZ

Data Sheet

Low Power, Chip Scale 10-Bit SD/HD Video Encoder

Manufacturers	Analog Devices, Inc
Package/Case	QFN32
Product Type	Encoders, Decoders, Converters
RoHS	Pb-free Halide free
Lifecycle	



Images are for reference only

Please submit RFQ for ADV7392BCPZ or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The ADV7390/ADV7391/ADV7392/ADV7393 are a family of high speed, digital-to-analog video encoders on single monolithic chips. Three 2.7 V/3.3 V 10-bit video digital-to-analog converters (DACs) provide support for composite (CVBS), S-Video (YC), or component (YPrPb/RGB) analog outputs in either standard definition (SD) or high definition (HD) video formats.

Optimized for low power operation, occupying a minimal footprint and requiring few external components, these encoders are ideally suited to portable and power sensitive applications requiring TV-out functionality. Cable detection and DAC automatic power-down features ensure that power consumption is kept to a minimum.

The ADV7390/ADV7391 have an 8-bit video input port that supports SD video formats over a software defined radio (SDR) interface and HD video formats over a double data rate (DDR) interface.

The ADV7392/ADV7393 have a 16-bit video input port that can be configured in a variety of ways. SD RGB input is supported. All members of the family support embedded EAV/SAV timing codes, external video synchronization signals, and the I2C communication protocol.

Features

3 high quality, 10-bit video DACs

16× (216 MHz) DAC oversampling for SD

8× (216 MHz) DAC oversampling for ED

4× (297 MHz) DAC oversampling for HD

37 mA maximum DAC output current

Multiformat video input support

4:2:2 YCrCb (SD, ED, and HD)

Application

Mobile handsets

Digital still cameras

Portable media and DVD players

Portable game consoles

Digital camcorders

Set-top box (STB)

Automotive infotainment (ADV7392 and ADV7393 only)

4:4:4 RGB (SD)

Multiformat video output support

Composite (CVBS) and S-Video (Y-C)

Component YPrPb (SD, ED, and HD)

Component RGB (SD, ED, and HD)

Lead frame chip scale package (LFCSP) options

32-lead, 5 mm × 5 mm LFCSP

40-lead, 6 mm × 6 mm LFCSP

Wafer level chip scale package (WLCSP) option

30-ball, 5 × 6 WLCSP with single DAC output

Advanced power management

Patented content-dependent low power DAC operation

Automatic cable detection and DAC power-down

Individual DAC on/off control

Sleep mode with minimal power consumption

74.25 MHz 8-/10-/16-bit high definition input support

Compliant with SMPTE 274M (1080i), 296M (720p),and 240M (1035i)

EIA/CEA-861B compliance support

NTSC M, PAL B/D/G/H/I/M/N, PAL 60 support

NTSC and PAL square pixel operation (24.54 MHz/29.5 MHz)

Macrovision Rev 7.1.L1 (SD) and Rev 1.2 (ED) compliant

Copy generation management system (CGMS)

Closed captioning and wide screen signaling (WSS)

Integrated subcarrier locking to external video source

Complete on-chip video timing generator

On-chip test pattern generation

Programmable features

Luma and chroma filter responses

Vertical blanking interval (VBI)

Subcarrier frequency (fSC) and phase

Luma delay

High definition (HD) programmable features

4× oversampling (297 MHz)

Internal test pattern generator

Color and black bar, hatch, flat field/frame

Fully programmable YCrCb to RGB matrix

Gamma correction

Programmable adaptive filter control

Programmable sharpness filter control

CGMS (720p/1080i) and CGMS Type B (720p/1080i)

Dual data rate (DDR) input support

Enhanced definition (ED) programmable features

8× oversampling (216 MHz output)

Internal test pattern generator

Black bar, hatch, flat field/frame

Individual Y and PrPb output delay

Gamma correction

Programmable adaptive filter control

Fully programmable YCrCb to RGB matrix

Undershoot limiter

Macrovision Rev 1.2 (525p/625p) (ADV7390/ADV7392 only)

CGMS (525p/625p) and CGMS Type B (525p)

Dual data rate (DDR) input support

Standard definition (SD) programmable features

16× oversampling (216 MHz)

Internal test pattern generator

Color and black bar

Controlled edge rates for start and end of active video

Individual Y and PrPb output delay

Undershoot limiter

Gamma correction

Digital noise reduction (DNR)

Multiple chroma and luma filters

Luma-SSAF filter with programmable gain/attenuation

PrPb SSAF

Separate pedestal control on component and

composite/S-Video output

VCR FF/RW sync mode

Macrovision Rev 7.1.L1 (ADV7390/ADV7392 only)

Copy generation management system (CGMS)

Wide screen signaling (WSS)

Closed captioning

Serial MPU interface with I2C compatibility

2.7 V or 3.3 V analog operation

1.8 V digital operation

1.8 V or 3.3 V I/O operation

Temperature range: −40°C to +85°C

W Grade automotive range: −40°C to +105°C

Qualified for automotive applications

Related Products

ADV7181CBSTZ

Analog Devices, Inc

LQFP-64

AD8170AR

Analog Devices, Inc

SOP8

AD724JR

Analog Devices, Inc

SOIC-16

ADV7393BCPZ

Analog Devices, Inc

LFCSP-VQ-40

ADV7391WBCPZ

Analog Devices, Inc

LFSCP-3

ADV7390BCPZ

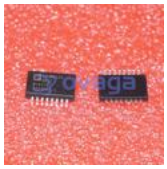
Analog Devices, Inc

QFN32

ADV7341BSTZ

Analog Devices, Inc

LQFP-64



ADUM4160BRIZ

Analog Devices, Inc

SOIC-16