Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Semiconductors

Product description

SAA7115; PAL/NTSC/SECAM video decoder

On this page

General description

The SAA7115 is a video capture device for applications ranging from small screen products such as digital set-top boxes and personal video recording applications to large screen devices like LCD projectors that benefit from its improved comb filter performance and 10-bit video output capabilities.

It combines a two channel analog pre-processing circuit and a high performance scaler. The pre-processing circuit includes source selection, an anti-aliasing filter and an analog to digital converter, an automatic clamp and gain control, two clock generation circuits and a digital multi-standard decoder containing two-dimensional chrominance/luminance separation using an improved adaptive comb filter. The high performance scaler features variable horizontal and vertical up and down scaling and a Brightness Contrast Saturation (BCS) control circuit. Based on the principle of line-locked clock decoding, the decoder is able to decode PAL, SECAM and NTSC signals into ITU-601 compatible colour component values.

It accepts CVBS or S-Video (Y-C) analog inputs from TV or VCR sources, including weak and distorted signals. The expansion port (X-port) for digital video (bi-directional half duplex, D1 compatible) can be used either to output unscaled video using 10-bit or 8-bit dithered resolution or to connect to other external digital video sources for reuse of the SAA7115's scaler features. An enhanced image port (I-port) supports 8(16)-bit wide output data with auxiliary reference data for interfacing to VGA controllers, set-top box applications, etc. It is also possible to output video in

Square Pixel formats accompanied by a square pixel clock of the appropriate frequency.

The SAA7115 can capture the serially coded data in the vertical blanking interval (VBI-data) of several broadcast standards. It also incorporates also a frame locked audio clock generation. This ensures that there is always the same number of audio samples associated with a frame or set of fields. This prevents the loss of synchronisation between video and audio, during capture or playback. Furthermore the second analog onboard PLL optionally can be used to enhance this audio clock to a low jitter frame locked audio clock. All the functions of the SAA7115 can be controlled via I²C-bus.

Features

Video acquisition

- Six analog inputs, internal analog source selectors (e.g.: 6 x CVBS or (2 x YC and 2 CVBS) or (1 x YC and 4xCVBS))
- Two built in analog anti-alias filters
- Two improved 9-bit CMOS analog-to-digital converters
- Fully programmable static gain or automatic gain control (AGC) for the selected CVBS or Y/C channel
- Automatic Clamp Control (ACC) for CVBS, Y and C
- Switchable white peak control
- Requires only one crystal (32.11 MHz or 24.576 MHz) for all standards
- Independent gain and offset - adjustment for raw data path

Comb filter video decoder

- Digital PLL for Synchronization and Clock Generation from all Standards and Non Standard Video Sources e.g. consumer grade VTR
- Automatic detection of 50/60Hz field frequency, and automatic recognition of all common broadcast standards
- Enhanced Horizontal and vertical Sync Detection
- Luminance and chrominance signal processing
- Improved 2/4-line comb filter for two-dimensional chrominance/luminance-separation operating with adaptive comb filter parameters.
- Independent Brightness Contrast Saturation (BCS)
- User programmable sharpness control
- Detection of copy protected input signals and level according to Macrovision

standard
- Automatic TV/VCR detection
- 10 bit wide video output at comb filter video decoder

Video Scaler

- Horizontal and vertical down-scaling and up-scaling to randomly sized windows
- Horizontal and vertical scaling range: variable zoom to 1/64 (icon)
- Vertical scaling with linear phase interpolation and accumulating filter for anti-aliasing (6-bit phase accuracy)
- Conversion to square pixel format
- Generation of a video output stream with improved synchronisation grid at the I-Port
- Two independent programming sets for scaler part
- Fieldwise switching between decoder and expansion port (X-port) input
- Brightness, contrast and saturation controls for scaled outputs

Semiconductors languages

English

PRODUCTS PORTAL

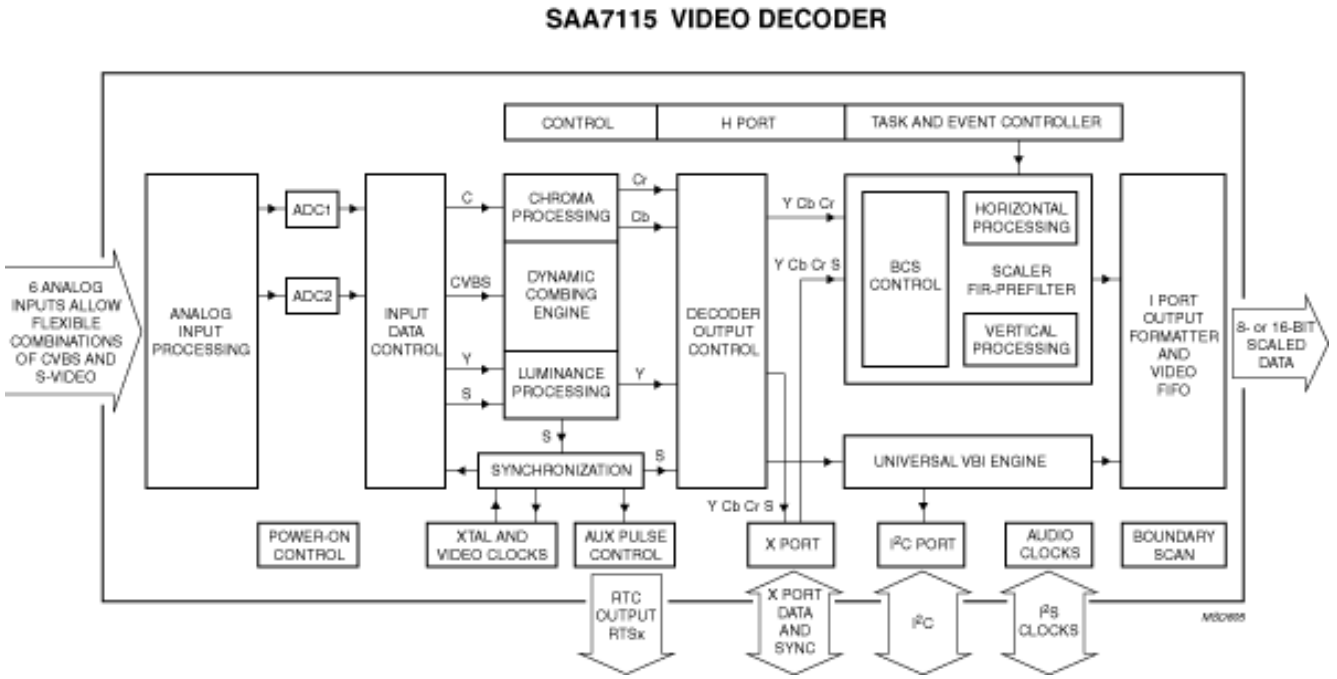
PRODUCT SELECTOR

CONTACT

Datasheet

The information on this product can be found on this page. There is no datasheet with additional information available.

Blockdiagram(s)



Products and packages

Type number	North American type number	Ordering code (12NC)	Marking	Packing	Package	Product status	Chemical Content
SAA7115HL/V1	SAA7115HLBE-T	9352 706 66518 Pb RoHS	Standard Marking	Reel Dry Pack, SMD, 13"	SOT407-1 (LQFP100)	Full production	+ Chemical content
	SAA7115HLBE	9352 706 66557 Pb RoHS	Standard Marking	Tray Dry Pack, Bakeable, Multiple	SOT407-1 (LQFP100)	Full production	+ Chemical content

Pricing and availability

Type number	North American type number	Ordering code (12NC)	Indicative price/unit ($)	Buy online
SAA7115HL/V1	SAA7115HLBE-T	9352 706 66518	not available	+ Buy online
	SAA7115HLBE	9352 706 66557	not available	+ Buy online

Leadfree status

Type number	North American type number	Ordering code (12NC)	Leadfree conversion date
SAA7115HL/V1	SAA7115HLBE-T	9352 706 66518	week 12, 2004
	SAA7115HLBE	9352 706 66557	week 12, 2004

Similar products

MORE SAA7115 links to the similar products page containing an overview of products that are similar in function or related to the type number(s) as listed on this page. The similar products page includes products from the same catalog tree(s), relevant selection guides and products from the same functional category.

Support & tools

PDF SAA7115 Mach-2 Evaluation System Decoder(date 2001-11-01)
PDF SAA7115 NTSC/PAL/SECAM/ 9-bit Video Decoder(date 2001-11-01)
PDF Your Digital Gateway to the Analog World - Decoder(date 2001-11-01)

Email this product information

+ Email this product information.

Disclaimer

The information published on product information pages of the www.semiconductors.philips.com or www.semiconductors.com websites is an extract from product data sheets and is for information purposes only. For detailed information please check the most recent version of the relevant product data sheet as published on these websites. In the event of any conflict between product information pages and data sheets or deviations from information provided in the product data sheets on these product information pages, the information provided in the product data sheets shall prevail.

The product status of the product(s) described in the product data sheet may have changed since publication of the data sheet and therefore information in datasheets on product status may be outdated. The latest information on product status is published on the product information pages of the above-mentioned websites.