

OV9715 720p HD video image sensor product brief



available in
a lead-free
package

High Definition (HD) Video Image Sensor

The OV9715 offers best-in-class 720p HD video performance at 30 frames per second (fps).

Enabled by OmniVision's proprietary OmniPixel3-HS™ high sensitivity pixel technology with $3 \times 3 \mu\text{m}$ pixel and low-light sensitivity of 3.3 V/lux-sec, the OV9715 provides vivid imaging in virtually every lighting condition from bright daylight to nearly complete darkness. As a result, it is ideally suited for use in security and surveillance cameras.

The 1/4-inch OV9715 sensor provides full-frame, sub-sampled or windowed 8-bit/10-bit images in raw RGB format via the digital video port and with complete

user control over image quality, formatting and output data transfer. The OV9715 offers a chief ray angle (CRA) of 0°.

The OV9715 incorporates advanced image processing functions, including exposure control, gain control, white balance, lens correction and defective pixel correction, programmable through the serial camera control bus (SCCB) interface. For storage purposes, it includes one-time programmable (OTP) memory.

The OV9715 is available in a CSP2 package and is capable of operating within a temperature range of -30°C to +85°C.

Find out more at www.ovt.com.

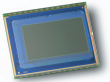
Applications

- Security and Surveillance

Product Features

- high sensitivity for low-light operation
- ultra low power and low cost
- automatic image control functions:
 - automatic exposure control (AEC)
 - automatic gain control (AGC)
 - automatic white balance (AWB)
 - automatic band filter (ABF)
 - automatic black level calibration (ABLC)
- programmable controls: frame rate, AEC/AGC 16-zone size/position/weight control, mirror, flip and windowing
- image quality controls: lens correction and defective pixel canceling
- output support for raw RGB
- on-chip phase lock loop (PLL)
- support for horizontal and vertical sub-sampling
- supports image sizes:
 - WXGA (1280x800) at 30 fps
 - 640x400 (sub-sampled WXGA) at 60 fps
 - HD 720p (1280x720) at 30 fps
- support for black sun cancellation
- standard serial camera control bus (SCCB) interface
- digital video port (DVP) parallel output interface
- embedded one-time programmable (OTP) memory
- built-in 1.5 V regulator for core

OV9715



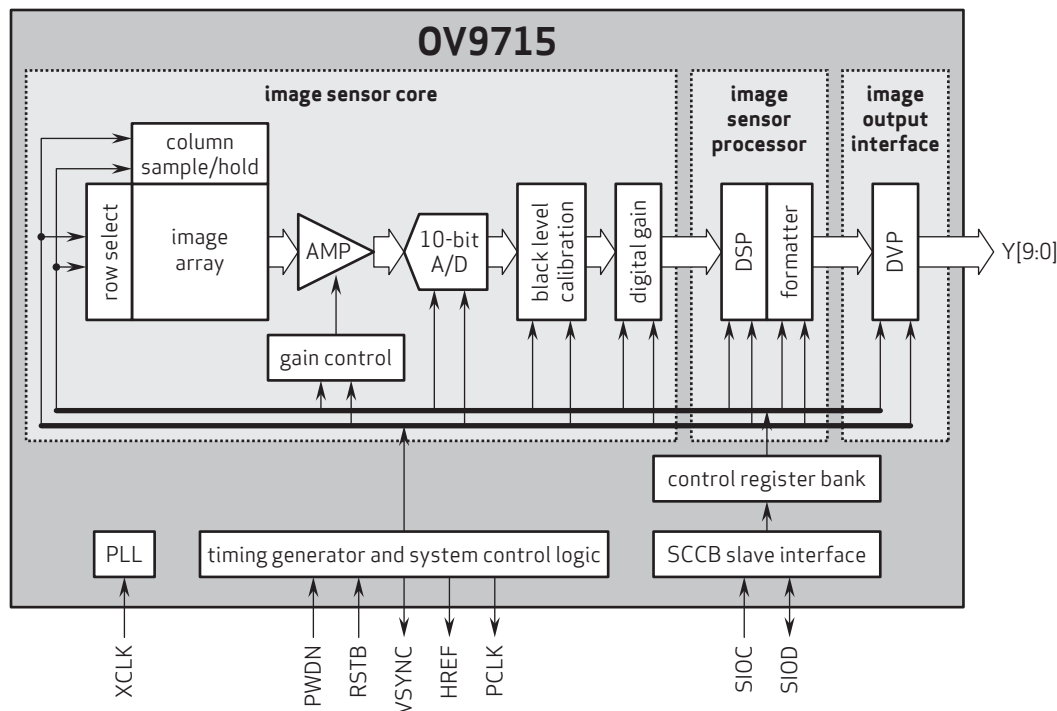
Ordering Information

- OV09715-V28A
(color, lead-free, 28-pin CSP2)

Product Specifications

- active array size: 1280 x 800
- power supply:
 - core: 1.5 VDC $\pm 5\%$ (built-in regulator)
 - analog: 3.0 - 3.6V
 - I/O: 1.7 - 3.6V
- power requirements:
 - active: 110 mW
 - standby: 50 μ A
- temperature range:
 - operating: -30°C to 85°C junction temperature
 - stable image: 10°C to 60°C junction temperature
- output formats: 10-bit raw RGB data
- lens size: 1/4"
- lens chief ray angle: 0°
- input clock frequency: 6 - 27 MHz
- scan mode: progressive
- maximum image transfer rate:
 - WXGA (1280x800): 30 fps
 - 640x400: 60 fps
- sensitivity: 3300 mV/lux-sec
- max S/N ratio: 39 dB
- dynamic range: 69 dB @ 8x gain
- maximum exposure interval: 826 x t_{row}
- pixel size: 3 μ m x 3 μ m
- dark current: 20 mV/s @ 60°C junction temperature
- image area: 3888 μ m x 2430 μ m
- package dimensions: 5415 μ m x 4415 μ m

Functional Block Diagram



4275 Burton Drive
Santa Clara, CA 95054
USA

Tel: +1 408 567 3000
Fax: +1 408 567 3001
www.ovt.com

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