

OV10823 4K2K product brief



Ultra-High Resolution CameraChip™ Sensor for the Next Generation of Feature-Rich Security and Surveillance Systems



available in
a lead-free
package

OmniVision's OV10823 CameraChip™ sensor brings best-in-class light sensitivity, outstanding high dynamic range (HDR) and wide field-of-view (FOV) to high-end security and surveillance applications. The sensor's ability to capture ultra-high resolution images and video enables a host of features for the next generation of surveillance systems, including crowd faction recognition, video analytics and highly detailed video zoom.

The 1/2.6-inch OV10823 uses advanced 1.4-micron OmniBSI-2™ pixel architecture to capture full-resolution 10.5-megapixel (4320 x 2432 pixels) video at 30 fps

and ultra-high resolution 4K2K video at 30 fps. In addition to capturing ultra-high definition video, the OV10823 supports 720p HD video with up to 3x zoom with no moving lenses.

The OV10823 fits into a 7.63 x 5.98 mm chip scale package (CSP), making the security industry's smallest image sensor capable of recording 4K2K video. It features a high-speed 4-lane MIPI interface to facilitate the required high data transfer rate.

Find out more at www.ovt.com.



Applications

- Security and Surveillance

Product Features

- 1.4 μm x 1.4 μm pixel with OmniBSI-2™
- optical size of 1/2.6"
- programmable controls for frame rate, mirror and flip, cropping, windowing, and panning
- image quality controls: black level calibration
- support for output formats: 10-bit RAW RGB data and DPCM 10-8 compression
- support for video or snapshot operations
- support 1x2 binning, 2x2 binning
- temperature sensor
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- 12K bits of embedded one-time programmable (OTP) memory
- two on-chip phase lock loop (PLL)
- programmable I/O drive capability
- support for black sun cancellation

OV10823



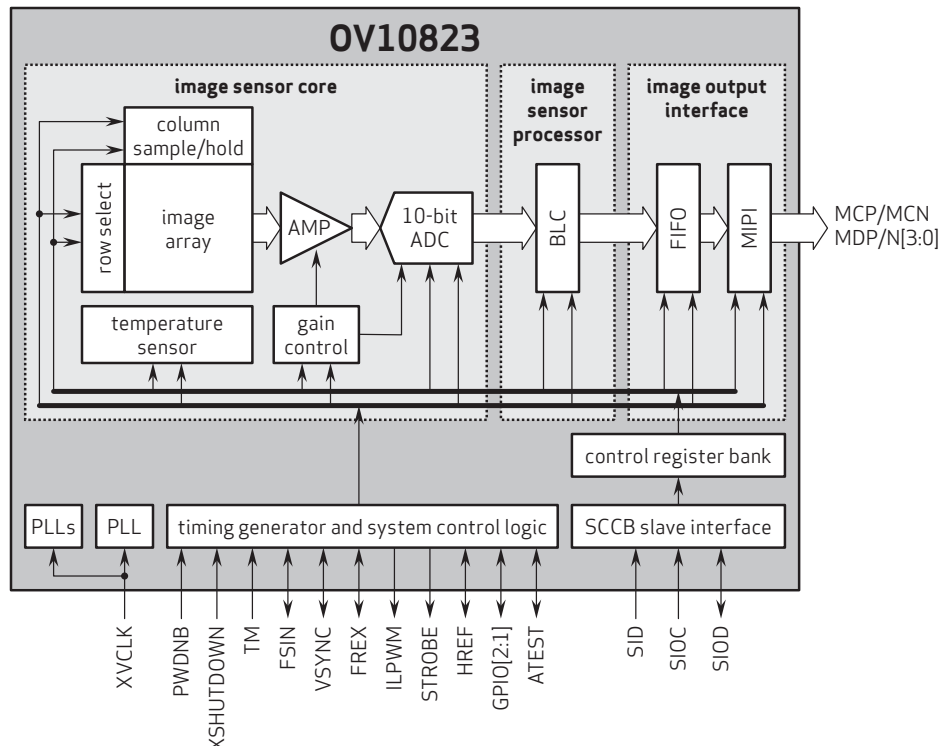
Ordering Information

- OV10823-H75A
(color, lead-free, 75-pin CSP5)

Product Specifications

- **active array size:** 4320 x 2432
- **power supply:**
 - core: 1.2V \pm 5%
 - analog: 2.7 - 3.0V
 - I/O: 1.7 - 3.0V
- **power requirements:**
 - active: 296 mW
 - standby: 200 μA
 - XSHUTDOWN: 5 μA
- **temperature range:**
 - operating: -30°C to +70°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- **output formats:** 10-bit RAW RGB data and DPCM 10-8 compression
- **lens size:** 1/2.6"
- **lens chief ray angle:** 0°
- **input clock frequency:** 6 - 27 MHz
- **maximum exposure interval:** 1 frame - 4 T_{line}
- **maximum image transfer rate:**
 - 10.5MP (4320x2432): 30 fps
 - 2.6MP (2160x1216): 60 fps
- **scan mode:** progressive
- **shutter:** rolling shutter
- **sensitivity:** 1010 mV/lux-sec @ 530 nm
- **max S/N ratio:** 36.4 dB
- **dynamic range:** 71.5 dB @ 8x gain
- **pixel size:** 1.4 μm x 1.4 μm
- **dark current:** 10 e⁻/s @ 60°C junction temperature
- **image area:** 6092.8 μm x 3449.6 μm
- **die dimensions:** 7630 μm x 5980 μm

Functional Block Diagram



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