



# OS03B10

## 3-megapixel product brief



### 3-Megapixel Image Sensor with OmniPixel®3-HS Brings the Most Vivid Pictures to Security, IP and HD Cameras

OMNIVISION's OS03B10 CMOS image sensor brings high-quality digital images and high-definition (HD) video to security surveillance, IP and HD analog cameras in a 3-megapixel (MP) 1/2.7-inch optical format (OF). The OS03B10 image sensor features a 2.5  $\mu\text{m}$  pixel that is based on OMNIVISION's OmniPixel®3-HS technology. The high-performance, cost-effective solution uses high-sensitivity frontside illumination (FSI) to detect objects better than the human eye for true-to-life color reproduction in bright and dark conditions.

The OS03B10 is pin2pin compatible with the 2MP 1/2.9-inch OF OS02G10, allowing customers to seamlessly upgrade to a 3MP image sensor, greatly improving the image capture and HD video of their security products without having to redesign them.

By introducing an advanced 2.5  $\mu\text{m}$  pixel architecture, the OS03B10 achieves excellent low-light sensitivity, signal-to-noise ratio, full-well capacity, quantum efficiency and low-power consumption. It has a 16:9 video format at 30 frames per second. Default and programmable modes allow for a more convenient way of controlling the parameters of frame size, exposure time, gain value, etc. It also offers image control functions such as mirror and flip, windowing, auto black level calibration, defective pixel correction, black sun cancellation and more. The OS03B10 supports DVP and MIPI interfaces.

Find out more at [www.ovt.com](http://www.ovt.com).



- OS03B10-A4 1A-001A (color, lead-free)  
41-pin CSP

### Applications

- security surveillance systems
- IP cameras
- HD analog cameras

### Product Features

- programmable controls:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports 2x2 color binning function
- supports output formats: 10-bit/12-bit RAW RGB
- SCCB control interface for register programming
- supports MIPI 2-lane serial output interface
- supports DVP 12-bit output interface
- supports image sizes: 2312 x 1304 @ 30 fps
- supports automatic black level calibration
- supports multi-camera synchronous function

### Technical Specifications

- active array size:** 2304 x 1296
- maximum image transfer rate:**
  - 2312 x 1304 (10-bit): 30 fps
  - 2312 x 1304 (12-bit): 15 fps
- power supply:**
  - analog: 2.8V
  - I/O: 1.8V/2.8V
  - core: 1.5V
- power requirements:**
  - active: 135 mW
  - XSHUTDOWN: 15 µA
- output interfaces:** 10-bit 2-lane MIPI / 12-bit DVP
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +60°C junction temperature
- output formats:** 10-bit/12-bit RAW RGB
- lens size:** 1/2.7"
- lens chief ray angle:** 15° linear
- pixel size:** 2.5 µm x 2.5 µm
- image area:** 5780 µm x 3260 µm

### Functional Block Diagram

