

# OV0VA10 VGA product brief



## SoC Provides Thin-Bezel Notebooks With Industry's Best VGA Camera Image Quality, Power Consumption and Overall Value



available in  
a lead-free  
package

OmniVision's OV0VA10 SoC integrates the industry's most advanced VGA image sensor and signal processor in a single chip-scale package. The SoC's OmniPixel®3-HS architecture enables entry level, thin-bezel notebook designers to provide the very best VGA camera performance with excellent low light image capture for applications such as videoconferencing. Additionally, it offers 30% lower power consumption than the leading competitor to extend battery life.

The OV0VA10's OmniPixel®3-HS architecture further enhances color performance with symmetric pixel design to eliminate color shading and optimize the signal-to-noise ratio. It also offers high quantum efficiency for truer-to-life color reproduction and

superior low light performance, while operating at 30 fps for smooth video conferencing. This SoC's integrated image sensor has a 1/10" optical format and 2.2  $\mu\text{m}$  pixel size, enabling a 4 mm camera module in the Y dimension for the latest entry level notebooks with thinner bezels.

Additionally, the OV0VA10 is manufactured using an advanced 200 mm wafer process and is offered in a 8" chip-scale package with a DVP interface.

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



## Applications

- Mobile Phone Cameras
- Tablet Cameras
- Notebook Cameras
- PC Cameras
- Web Cameras
- Toys

## Product Features

- supports VGA (640x480) resolution
- advanced  $2.2\ \mu\text{m} \times 2.2\ \mu\text{m}$  pixel architecture
- embedded image processor functionality:
  - auto black level calibration
  - auto white balance
  - auto exposure control
  - gamma correction
  - lens shading calibration
  - de-mosaic
  - de-noise
  - color correction
  - defect pixel correction
  - windowing
  - special effects
- supports 2x2 mono binning mode
- supports I2C bus controlling registers inside chip
- supports external frame synchronization
- supports DVP (8-bit) data output interface
- supports SPI (1/2/4-bit) data output interface

# OV0VA10



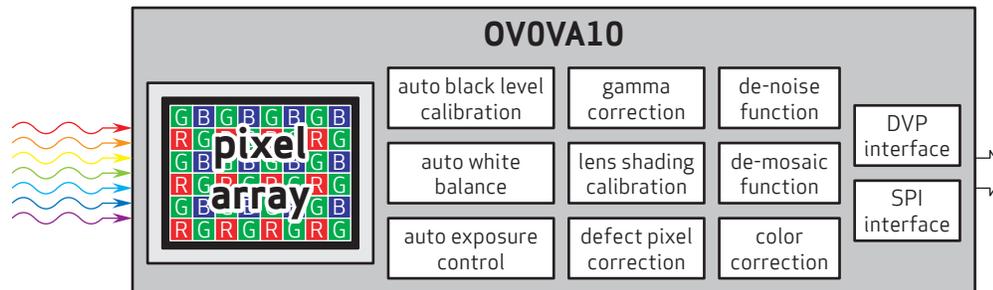
## Ordering Information

- OV0VA10-A19A-Z (color, lead-free)  
19-pin CSP

## Technical Specifications

- active array size: 640 x 480
- maximum image transfer rate:
  - VGA: 30 fps
- power supply:
  - analog: 2.6 - 3.0V
  - I/O: 1.7 - 3.0V
- power requirements:
  - active: <70 mW
  - standby: <30  $\mu\text{A}$
- temperature range:
  - operating:  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
  - stable:  $0^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- output format: YUV422, RAW8, Y only
- lens size: 1/10"
- lens chief ray angle:  $29.99^{\circ}$  linear
- pixel size:  $2.2\ \mu\text{m} \times 2.2\ \mu\text{m}$
- image area:  $1434.4\ \mu\text{m} \times 1082.4\ \mu\text{m}$

## Functional Block Diagram



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