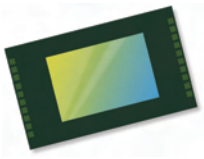


OV01A10 1-megapixel product brief

lead free

available in a lead-free package

New 720p Image-Sensor Family Combines Compact Form Factor with High Performance for Ultra-Thin Mobile Devices

The OV01A family of image sensors is built on OmniVision's most advanced 1.12-micron PureCel®Plus stacked-die architecture to deliver best-in-class performance while maintaining an extremely small footprint. By enabling a camera module size of just 2.5 mm in the "y" dimension and less than 2 mm in the "z" dimension, the OV01A image-sensor family is ideal for space-constrained applications such as notebooks and mobile devices with thin bezels.

To suit the performance requirements of different mobile applications, the OV01A is available in three versions: the OV01A10 Bayer color sensor, the OV01A1B monochrome infrared (IR) sensor and the OV01A1S RGB-Ir sensor.

Key highlights of each sensor:

- OV01A10: Delivers excellent Bayer color imaging throughout the visible light spectrum
- OV01A1B: Optimizes near-infrared (NIR) quantum efficiency for biometric imaging
- OV01A1S: Combines RGB and IR imaging capabilities in a single sensor

The sensors can output 720p high definition (HD) video at 60 frames per second (fps), 1280 x 800 resolution video at 60 fps, or VGA video at 90 fps.

Find out more at www.ovt.com.

OmniVision

OV01A10

Applications

- Notebooks / PCs
- Tablets, Detachables, and 2-in-1s
- Wearables
- Smartphones and Feature Phones

Product Features

- 1.116 µm x 1.116 µm pixel
- optical size of 1/11"
- 32° CRA
- 1MP at 60 fps
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports images sizes:
  - 1MP (1280x800)
  - 720p (1280x720)
  - VGA (640x480), and more
- 32 bytes of embedded one-time programmable (OTP) memory for customer use
- two-wire serial bus control (SCCB)
- MIPI serial output interface (1-lane)/LVDS
- two on-chip phase lock loops (PLLs)
- 2x binning support
- image quality controls:
  - defect pixel correction
  - automatic black level calibration
- targeting module "Y" of 2.5 mm

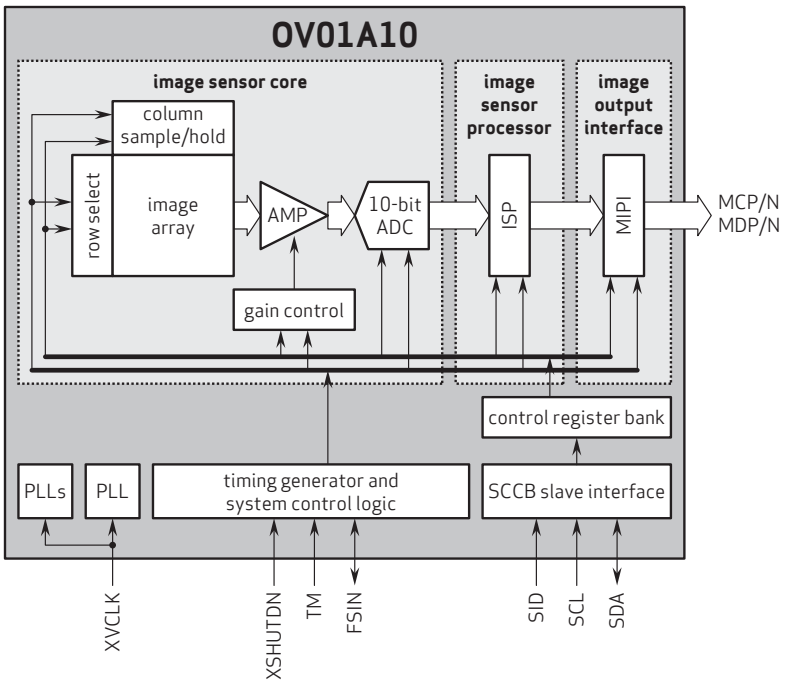
Ordering Information

- **OV01A10-GA5A-Z**
  (color, chip probing, 150 µm backgrinding, reconstructed wafer)
- **OV01A1B-GA5A-Z**
  (B&W, chip probing, 150 µm backgrinding, reconstructed wafer)
- **OV01A1S-GA5A-Z**
  (RGB-Ir, chip probing, 150 µm backgrinding, reconstructed wafer)

Product Specifications

- **active array size:** 1296 x 816
- **power supply:**
  - **analog:** 2.7 - 3.0V (2.8V nominal)
  - **core:** 1.14 - 1.26V (1.2V nominal)
  - **I/O:** 1.7 - 1.9V (1.8V nominal)
- **power requirements:**
  - **active:** 52 mA
  - **standby:** 1 mA
  - **XSHUTDN:** 10 µA
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
  - **stable:** 0°C to +60°C junction temperature
- **output formats:**
  - **OV01A10:** 8/10-bit RGB RAW
  - **OV01A1B:** 8/10-bit RAW
  - **OV01A1S:** 8/10-bit RGB-Ir (4x4 pattern)
- **output interface:** 1-lane MIPI serial output/LVDS
- **lens size:** 1/11"
- **input clock frequency:** 6 - 27 MHz
- **lens chief ray angle:** 32° non-linear
- **maximum image transfer rate:**
  - **1MP (1280x800):** 60 fps
  - **VGA (640x480):** 90 fps
- **minimum exposure:** 4-row
- **maximum exposure:** VTS-8
- **pixel size:** 1.116 µm x 1.116 µm
- **image area:** 1446.34 µm x 910.66 µm
- **die dimensions:**
  - **COB:** 2493 µm x 1494 µm
  - **RW:** 2543 µm x 1544 µm

Functional Block Diagram



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