



# OV9282

## 1-megapixel product brief



### 1/4" B&W 1-Megapixel (1280 x 800) CMOS Image Sensor with OmniPixel®3-GS Technology for Computer Vision Applications

OMNIVISION's OV9282 is a high-speed global shutter image sensor that brings 1-megapixel resolution to a wide range of consumer and industrial computer vision applications, including augmented reality (AR), virtual reality (VR), collision avoidance in drones, bar code scanning and factory automation. Built on OMNIVISION's OmniPixel®3-GS pixel technology, the OV9282 features a high-speed global shutter pixel with best-in-class near-infrared (NIR) quantum efficiency (QE) to meet high-resolution and low-latency requirements.

Special features of the OV9282 include region of interest (ROI) selection and context switching. This allows some of the camera settings to change dynamically as fast as alternating frames. The sensor is available in both narrow and wide chief ray angle (CRA) settings.

The 1/4-inch OV9282 captures 1280 x 800 resolution images at 120 frames per second (fps) and VGA resolution at 180 fps with 2-lane MIPI and DVP output. The OV9282 also features support for frame synchronization and dynamic defective pixel correction.

The OV9282 features a CRA of 27 degrees and is available in a reconstructed wafer (RW) format. The sensor is currently available in volume production.

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



- OV9282-GA4A (b&w, lead-free, 200 µm backgrinding, reconstructed wafer with good die)

## Applications

- consumer HMD
- drone
- machine vision
- PCNB

## Technical Specifications

- active array size:** 1296 x 816
- maximum image transfer rate:**
  - 1280 x 800: 120 fps
- power supply:**
  - analog: 2.8V (nominal)
  - core: 1.2V (nominal)
  - I/O: 1.8V (nominal)
- power requirements:**
  - active: 156 mW
  - standby: 150 µA
  - XSHUTDOWN: 150 µA
- output formats:** 8/10-bit RAW
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +50°C junction temperature
- output interfaces:** 2-lane MIPI serial output and DVP parallel output
- lens size:** 1/4"
- lens chief ray angle:** 26.78° non-linear
- scan mode:** progressive
- pixel size:** 3 µm x 3 µm
- image area:** 3896 µm x 2453 µm

## Product Features

- 3 µm x 3 µm pixel with OmniPixel@3-GS technology
- automatic black level calibration (ABLC)
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- support output formats: 8/10-bit RAW
- fast mode switching
- supports 2x2 monochrome binning
- two-lane MIPI serial output interface
- DVP parallel output interface
- supports horizontal and vertical 2:1 and 4:1 monochrome subsampling
- support for image sizes:
  - 1280 x 800
  - 1280 x 720
  - 640 x 480
  - 640 x 400
- embedded 256 bits of one-time programmable (OTP) memory for part identification
- two on-chip phase lock loops (PLLs)
- LED PWM
- built-in strobe control

## Functional Block Diagram

