



OV2310



1.3-megapixel product brief

1/3.6" B&W 1.3MP CMOS Image Sensor with OmniPixel®3-GS Technology for In-Cabin Applications

The OV2310 is a low voltage, high-performance, 1/3.6-inch, monochrome, global shutter CMOS image sensor that provides the functionality of a 1.3-megapixel (1312 x 1000) camera using OmniPixel®3-GS technology.

The OV2310 provides full-frame, sub-sampled, cropped, or windowed 8/10-bit images via the control of the serial camera control bus (SCCB) interface.

The OV2310 has an image array capable of operating at up to 60 frames per second (fps) in 10-bit, 2-megapixel resolution with complete user control over image quality, formatting and output data transfer.

In addition, OMNIVISION image sensors use proprietary sensor technology to improve image quality by reducing or eliminating common lighting / electrical sources of image contamination, such as fixed pattern noise, smearing, etc., to produce a clean, fully stable image.

For customized information purposes, the OV2310 includes 128 bytes of one-time programmable (OTP) memory. The OV2310 has a one/two-lane MIPI interface and parallel DVP interface. The OV2310 has been developed according to ISO 26262 ASIL requirements.

Find out more at www.ovt.com.



- OV2310-E75Y-1B (b&w, lead-free) 75-pin a-CSP™, rev 1B, with DAR coating, packed in tray without protective film

Applications

- automotive
 - driver monitoring systems (DMS)
 - in-cabin & passenger monitoring

Technical Specifications

- active array size:** 1312 x 1000
- maximum image transfer rate:** 1312 x 1000: 60 fps
- power supply:**
 - analog: 2.8V (nominal)
 - core: 1.2V (nominal)
 - I/O: 1.8V (nominal)
- power requirements:**
 - active: 155 mW
 - XSHUTDOWN: <25 μ W
- output formats:** 10-bit RAW
- temperature range:**
 - operating: -40°C to +105°C sensor ambient temperature and -40°C to +125°C junction temperature
- output interface:** 2-lane MIPI serial output and DVP parallel output
- lens size:** 1/3.6"
- lens chief ray angle:** 11.9° linear
- pixel size:** 3 μ m x 3 μ m
- image area:** 3955.9 μ m x 3054.1 μ m

Product Features

- 3 μ m x 3 μ m 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 monochrome subsampling
- support for image sizes:
 - 1312 x 1000
 - 1280 x 720
 - 640 x 480
- built-in strobe control
- embedded 128 bytes of one-time programmable (OTP) memory
- two on-chip phase lock loops (PLLs)
- temperature sensor
- LED PWM
- low power modes
- frame sync mode
- dedicated safety features for supporting ASIL applications

Functional Block Diagram

