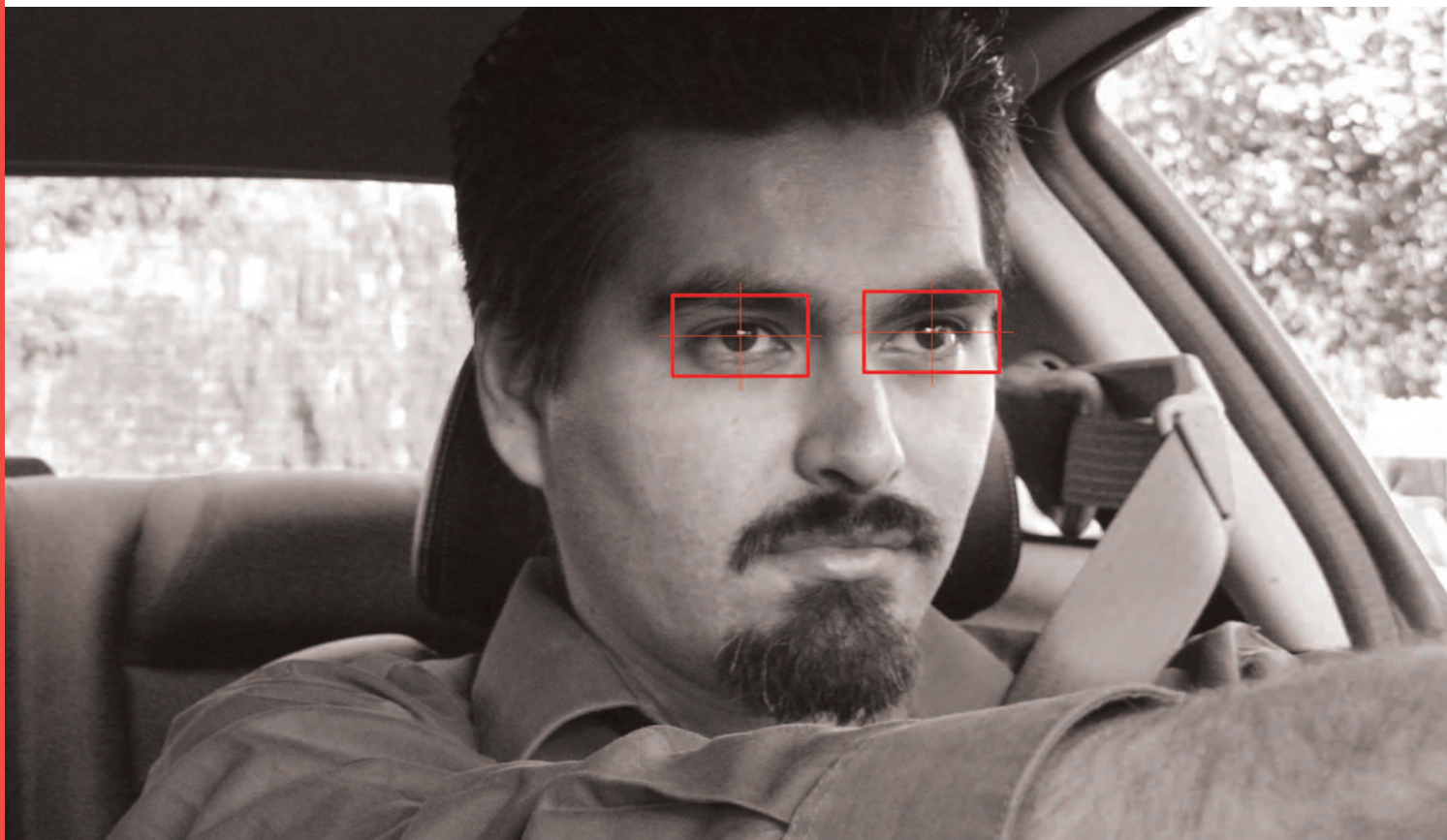


OV7261 VGA product brief



available in
a lead-free
package

Ultra-Compact Global Shutter Sensor for Automotive Applications

OmniVision's OV7261 is a 3-micron global shutter image sensor for driver monitoring systems in automotive applications. The ultra-compact and power-efficient OV7261 features high quantum efficiency at near-infrared wavelengths, bringing significant LED illuminator power reduction for advanced features in semi-autonomous vehicles such as gesture control and driver drowsiness and distraction detection.

Built on OmniVision's market-proven global shutter technology, the OV7261 enables accurate fast motion capture and stereo vision pixel-level synchronization for

driver monitoring systems. The OV7261 captures 640 x 480 (VGA) resolution up to 100 frames per second (fps) and delivers 10-bit RAW image output.

The OV7261 comes in an ultra-compact AEC-Q100 Grade 2-qualified 3.9 x 3.4 mm chip scale package.

Find out more at www.ovt.com.



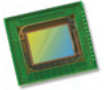
Applications

- Occupant Detection
- Driver Monitor
- Vehicle Entry
- Stereo Vision
- Gesture Control

Product Features

- 3 μm x 3 μm pixel with OmniPixel3-GS™ technology
- automatic black level calibration (ABLC)
- programmable controls for frame rate, mirror and flip, cropping and windowing
- support output formats: 8/10-bit RAW
- support for image sizes: 640x480, 320x240, 160x120
- fast mode switching
- supports horizontal and vertical 2:1 and 4:1 monochrome subsampling
- supports 2x2 monochrome binning
- one-lane MIPI serial output interface
- one-lane LVDS serial output interface
- embedded 256 bits of one-time programmable (OTP) memory for part identification
- two on-chip phase lock loops (PLLs)
- built-in 1.5V regulator for core
- PWM
- built-in strobe control

OV7261



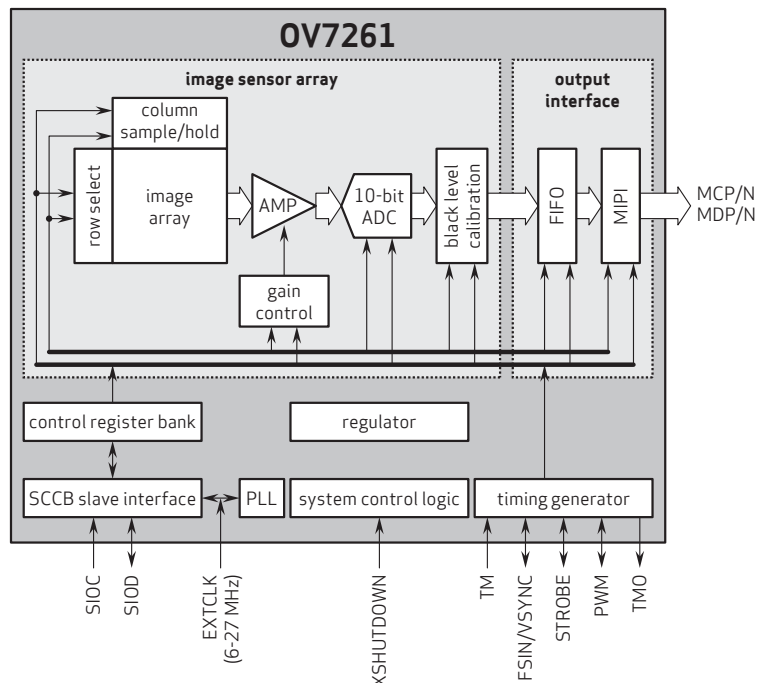
Ordering Information

- **OV7261-N35Y-MA**
(B&W, lead-free, 35-pin a-CSP™ packed in tray with protective film, tab in top right direction)
- **OV7261-N35Y-NA**
(B&W, lead-free, 35-pin a-CSP™ packed in tape & reel with protective film, tab in top right direction)

Product Specifications

- **active array size:** 640 x 480
- **power supply:**
 - core: 1.5V (optional)
 - analog: 2.8V (nominal)
 - I/O: 1.8V (nominal)
- **power requirements:**
 - active: 117 mW (VGA @ 100 fps)
 - standby: 15 μA for AVDD, 40 μA for DOVDD without input clock, 700 μA for DOVDD with input clock
 - XSHUTDOWN: 5 μA for AVDD, 5 μA for DOVDD
- **temperature range:**
 - operating: -40°C to +105°C ambient temperature and -40°C to +125°C junction temperature
- **output interface:** 1-lane MIPI/LVDS serial output
- **output formats:** 10-bit B&W RAW
- **lens size:** 1/7.5"
- **input clock frequency:** 6 - 27 MHz
- **lens chief ray angle:** 29° non-linear
- **max S/N ratio:** 38 dB
- **dynamic range:** 69.6 dB @ 8x gain
- **maximum image transfer rate:**
 - 640x480: 100 fps
- **sensitivity:**
 - 10,800 mV/($\mu\text{W}\cdot\text{cm}^2\cdot\text{sec}$) @ 850 nm
- **scan mode:** progressive
- **maximum exposure interval:** 502 x t_{row}
- **pixel size:** 3 μm x 3 μm
- **dark current:** 350 e⁻/s @ 50°C junction temperature
- **image area:** 1968 μm x 1488 μm
- **package dimensions:**
 - a-CSP™: 3910 μm x 3410 μm

Functional Block Diagram



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