

CMOS CAMERA MODULES

your BEST camera module partner

KLT-E3MPF-OV9281 V1.0 NIR

OmniVision OV9281 Obturador Global MIPI e DVP Paralelo Interface Foco Fixo 1MP Módulo de Câmera No IR Filter Lens

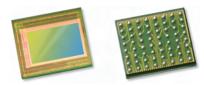


| Módulo de câmara No. | KLT-E3MPF-OV9281 V1.0 NIR |
|----------------------|---------------------------------|
| Sensor de imagem | OV9281 |
| EFL | 3.20 mm |
| F.NO | 2.8 |
| Pixel | 1296 x 816 |
| Ângulo de visão | 70° |
| Tipo de lente | 1/4 polegada, No IR Filter Lens |
| Dimensões da lente | 8.50 x 8.50 x 4.75 mm |
| Tamanho do Módulo | 24.00 x 8.50 mm |
| Tipo de Módulo | Foco Fixo |
| Interface | MIPI e DVP Paralelo |
| Modelo de lente IMT | IMT-2A6E003-N |



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OV9281-OV9282 1-megapixel product brief



1-Megapixel OmniPixel3-GS[™] Sensors for Computer Vision Applications

available in a lead-free package

OmniVision's OV9281 and OV9282 are high-speed global shutter image sensors that bring 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 OmniPixel3-GS[™] pixel technology, the OV9281 and OV9282 feature 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 OV9281 and 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 sensors are available in both narrow and wide chief ray angle (CRA) settings. The 1/4-inch OV9281 and OV9282 capture 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 OV9281 and OV9282 also feature support for frame synchronization and dynamic defective pixel correction.

The OV9281 has a chief ray angle (CRA) of 9 degrees and comes in a chip scale package (CSP). The OV9282 features a CRA of 27 degrees and is available in a reconstructed wafer (RW) format. Both sensors are currently available in volume production.

Find out more at www.ovt.com.





Applications

- Consumer HMD
- Drones

 Machine Vision PCNB

Product Features

■ 3 µm x 3 µm pixel with OmniPixel3-GS[™] technology

programmable controls for: frame rate

cropping and windowing

- automatic black level calibration (ABLC)
- support output formats: 8/10-bit RAW
- fast mode switching

- mirror and flip

- supports 2x2 monochrome binning
- two-lane MIPI serial output interface
- DVP parallel output interface
- 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

supports horizontal and vertical 2:1

and 4:1 monochrome subsampling

- two on-chip phase lock loops (PLLs) LED PWM
- built-in strobe control

Product Specifications

(b&w, lead-free, 64-pin CSP5)

- active array size: 1296 x 816
- power supply:
 core: 1.2V (nominal) - analog: 2.8V (nominal) - I/O: 1.8V (nominal)

OV09281-H64A

- power requirements: active: 134 mW
- standby: 65 µA - XSHUTDOWN: 50 µA
- 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
- output formats: 8/10-bit RAW
- lens size: 1/4"

lens chief ray angle:
 OV9281: 9° linear
 OV9282: 26.78° non-linear

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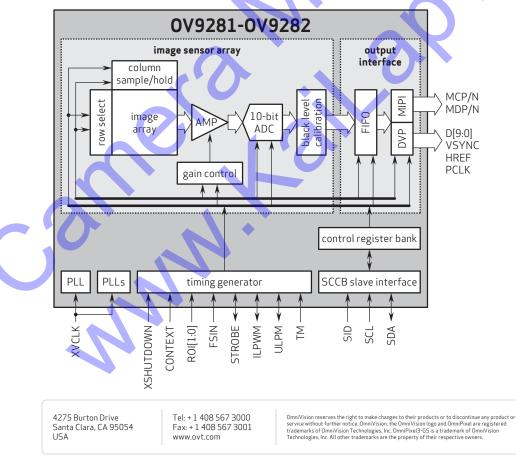
OV09282-GA4A

input clock frequency: 6 - 27 MHz

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

- scan mode: progressive
- maximum image transfer rate: 1280 x 800: 120 fps
- minimum exposure time: 1 row period
- maximum exposure time: frame length - 12 row periods, where frame length is set by registers [0x380E, 0x380F]
- pixel size: 3 μm x 3 μm
- **image area:** 3896 μm x 2453 μm
- package dimensions:
 OV9281 CSP5: 5237 μm x 4463 μm
 OV9282 RW: 5252μm x 4478 μm

Functional Block Diagram





Version 1.0, December, 2016