



OGOVE

VGA product brief



New-Generation Global Shutter Image Sensor for Mainstream AR/VR/MR and Metaverse

OGOVE global shutter (GS) image sensor is a small-form-factor, high-sensitivity device for AR/VR/MR, metaverse, drone, machine vision, and barcode scanner products.

The OGOVE CMOS image sensor has a sensitive 3.0-micron pixel based on OMNIVISION's OmniPixel®3-GS technology. The sensor's global shutter pixel architecture and excellent low-light sensitivity allow it to be used for any application requiring simultaneous localization and mapping (SLAM), gesture detection, head and eye tracking, and depth and motion detection.

The OGOVE has 640 x 480 resolution with a package size of just 3.6 mm x 2.7 mm and comes in a 1/7.5-inch optical format. It has very low power consumption, at less than 34 mW when running at 60 frames per second (fps) with VGA.

The sensor supports one-lane MIPI D-PHY at up to 800 Mbps. It comes in OMNIVISION's CSP package or as bare die.

Find out more at www.ovt.com.



- OGOVE1B-A25A-001A-Z (b&w, lead-free)
25-pin CSP
- OGOVE1B-GA5A-001A-Z (b&w, chip probing,
150 μm backgrinding, reconstructed wafer with good die)

Applications

- augmented and virtual reality
- gaming
- machine vision
- industrial automation
- drones
- biometric authentication
- 3D imaging
- industrial bar code scanning

Technical Specifications

- active array size: 640 x 480
- maximum image transfer rate:
 - VGA (640x480): 240 fps
 - QVGA (320x240): 480 fps
- power supply:
 - analog: 2.6V ~ 3.0V
 - core: 1.2V ± 5%
 - I/O: 1.7V ~ 3.0V
- power requirements:
 - active: 68 mW
 - standby: 66 μA (without input clock),
1.2 mA (with input clock)
 - XSHUTDOWN: 50 μA
- lens size: 1/7.5"
- temperature range:
 - operating: -30°C to +70°C
junction temperature
 - stable image: 0°C to +50°C
junction temperature
- lens chief ray angle: 29.04° non-linear
- output formats: 8/10-bit RAW
- pixel size: 3.006 μm x 3.006 μm
- image area: 1971.936 μm x 1490.976 μm

Product Features

- 3.006 μm global shutter pixel
- automatic black level calibration (ABLC)
- programmable controls for:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- supports output formats: 8/10-bit RAW
- supports images sizes:
 - 640 x 480
 - 400 x 400
 - 200 x 200
 - 100 x 100
- fast mode switching
- supports horizontal and vertical 2:1 and 4:1 monochrome subsampling
- supports 2x2 monochrome binning
- one-lane MIPI serial output interface
- embedded 256 bits of one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loop (PLL)
- programmable I/O drive capability
- PWM
- built-in strobe control

Functional Block Diagram

