



OGOVA

VGA Product Brief



OMNIVISION Expands Industry's Smallest BSI Global Shutter Pixel Family with VGA CMOS Image Sensor

OMNIVISION's OGOVA is a low voltage, high performance CMOS image sensor with the industry's smallest pixel size of 2.2 microns. The OGOVA features OMNIVISION's PureCel®Plus-S stacked pixel architecture and Nyxel® NIR technology to enable optimal performance and precision along with industry-leading QE and excellent MTF for sharp, accurate images in machine vision and 3D sensing applications. This image sensor is an expansion of its backside-illuminated (BSI), global shutter (GS) sensor family that provides VGA resolution options with the best NIR performance in a global shutter device.

The OGOVA image sensor provides 640 x 480 VGA resolution at 240 frames per second (fps) and 320 x 240 QVGA resolution at 480 fps, in the industry's smallest optical format of

1/10.227 inches. Additionally, its low light sensitivity is excellent, with significantly lower gain than the industry's typical 3.0-micron pixel size for an improved signal-to-noise ratio.

The image sensor's high MTF enables sharper images with greater contrast and more detail, which helps to enhance machine vision decision-making processes. The OGOVA also has a high QE of 40% at 940 nm and 60% at 850 nm. This industry-leading QE enables the device to see farther and better in low- and no-light conditions, which allows designers to use less IR LED light and achieve lower system-level power consumption. For AR/VR headsets, this reduces heat generation, while industrial and robotics applications can use fewer IR LEDs for lower system cost, or use the same number to achieve a greater image detection range.

Applications

- Machine vision
- Factory automation (FA)
- Augmented and virtual reality
- Gaming
- Biometric authentication
- 3D imaging
- Industrial bar code scanning

Features

- **Active array size:** 640 x 480
- **Maximum image transfer rate:**
 - 640 x 480: 240 fps
 - 320 x 240: 480 fps
- **Power supply:**
 - Analog: 2.8V (nominal)
 - Core: 1.2V (nominal)
 - I/O: 1.8V (nominal)
- **Output interfaces:** 1-lane MIPI / LVDS serial output
- **Output formats:** 10-bit RAW
- **Lens size:** 1/10.227"
- **Pixel size:** 2.2 µm x 2.2 µm

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