



OGOTB

400 x 400 Product Brief



World's Smallest Global Shutter CMOS Image Sensor for AR/VR/MR and Metaverse

The OGOTB is a three-layer stacked BSI global shutter (GS) CMOS image sensor for eye and face tracking in AR/VR/MR and metaverse consumer devices. It features a $2.2\ \mu\text{m}$ pixel in a $1/14.46$ -inch optical format (OF) and its module size can be as small as $1.69\ \text{mm} \times 1.69\ \text{mm}$. The 400×400 resolution image sensor offers ultra-low power consumption, less than $7.2\ \text{mW}$ at 30 fps, ideal for some of the smallest and lightest battery-powered wearables, such as eye goggles and glasses.

The OGOTB GS image sensor features some of OMNIVISION's most advanced technology. It is built on OMNIVISION's PureCel® Plus-S stacked-die technology. Nyxel® technology enables the best quantum efficiency (QE) at the $940\ \text{nm}$ NIR wavelength for sharp, accurate

images of moving objects. High modulation transfer function (MTF) enables sharper images with greater contrast and more detail, which is especially important for enhancing decision-making processes in machine vision applications.

The OGOTB supports a flexible interface, including MIPI with multi-drop, CPHY, SPI, etc.



Applications

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

Features

- **Active array size:** 400×400
- **Maximum image transfer rate:**
 - 400×400 : 240 fps
 - 200×200 : 480 fps
- **Power supply:**
 - Analog: 2.8V (nominal)
 - Core: 1.1V (nominal)
- **Output interfaces:** 1-lane / 1-trio MIPI / 2-lane SPI serial output
- **Output formats:** 8/10-bit RAW (8-bit SPI)
- **Lens size:** $1/14.46$ "
- **Pixel size:** $2.2\ \mu\text{m} \times 2.2\ \mu\text{m}$

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