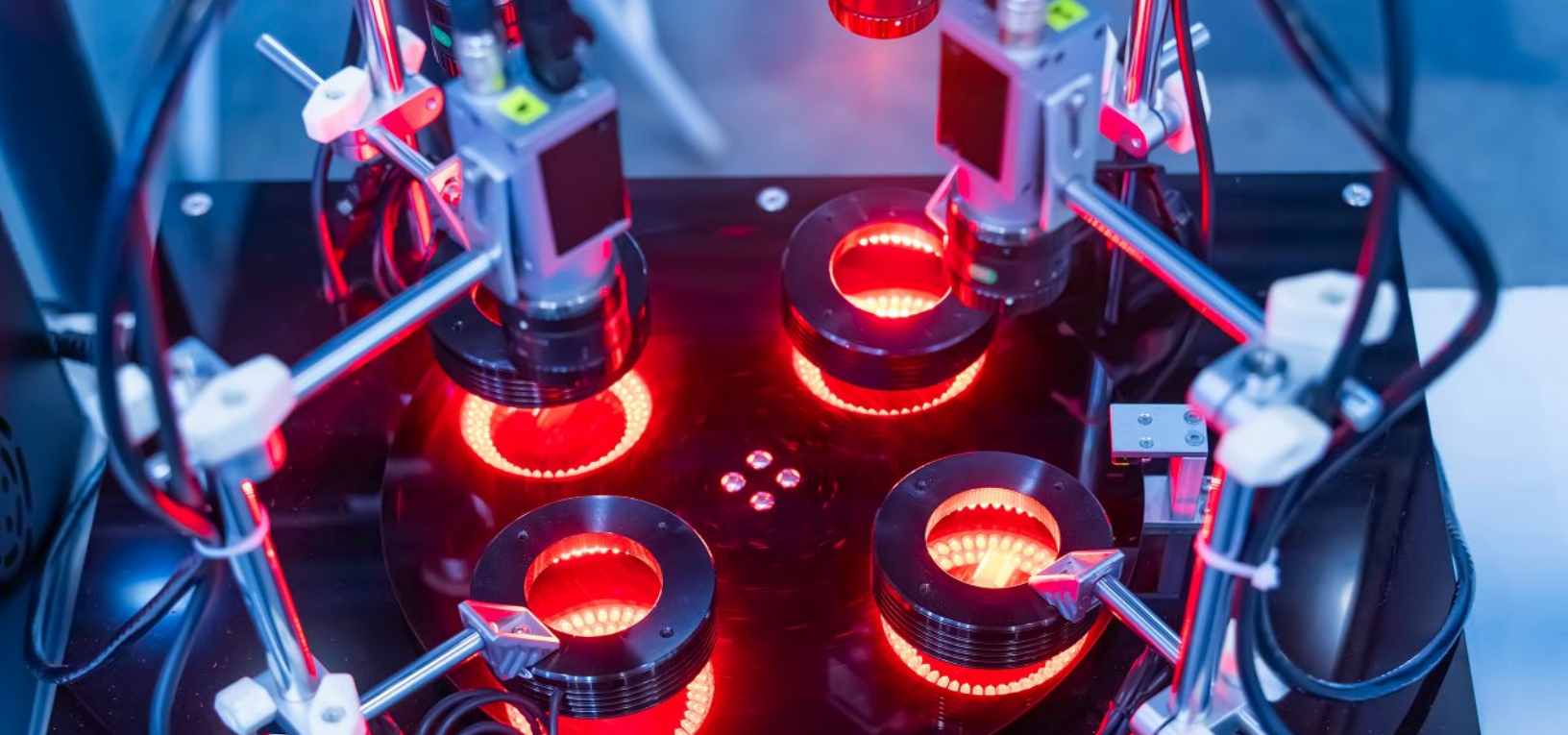




OG05D

5-Megapixel Product Brief



2.2-micron 5-Megapixel BSI Global Shutter Sensor for Flagship Industrial and Robotics Machine Vision Cameras

The OG05D is the industry's first 2.2-micron (μm) 5-megapixel (MP) global shutter (GS) high dynamic range (HDR) CMOS image sensor that is purpose-built for industrial machine vision applications, such as barcode scanners, factory automation, compact AI cameras and humanoid robotics, especially data-collection devices for robotics training. At a maximum output of 146 frames per second (fps) in linear mode, the OG05D is 143% faster than previous-generation sensors.

The OG05D combines Nyxel® near-infrared (NIR) technology, HDR, low power consumption and a compact optical format in a stacked backside-illuminated (BSI) sensor design—

delivering an optimized imaging solution for industrial and robotic vision systems where imaging performance, sensor size and power efficiency are essential. It overcomes the imaging challenges faced by traditional non-HDR sensors through its industry-leading RGB-IR on-chip processing and imaging performance, combined with higher NIR quantum efficiency (QE) and low noise enabled by dual conversion gain (DCG™). Additionally, it is 30% smaller than previous-generation sensors.

The OG05D sensor is available now for sampling and will be in mass production in Q4 2026.

Applications

- Machine vision cameras
- Logistics applications
- Industrial bar code scanning
- Robotics

Features

- **Active array size:** 2592 x 1944
- **Maximum image transfer rate:**
 - 60 fps in 3-exposure HDR
 - 60 fps in single-exposure DCG HDR
 - 130 fps in linear mode with crypto
 - 146 fps in linear mode without crypto
- **Power supply:**
 - Analog: 2.9V
 - Digital: 1.15V (linear, DCG and 2-exposure HDR), 1.2V (3-exposure HDR)
 - I/O pins: 1.8V
- **Output interfaces:**
Up to 4-lane MIPI serial output
- **Output formats:** 10/12/14/16-bit HDR RAW
- **Lens size:** 1/2.525"
- **Pixel size:** 2.2 μm x 2.2 μm

Version 1.1, October 2026