



OG12S

12-Megapixel Product Brief



12-Megapixel BSI Global Shutter Sensor for Factory Automation and Intelligent Transportation Systems

The OG12S 12-megapixel (MP) backside illuminated (BSI) global shutter (GS) CMOS image sensor for factory automation and intelligent transportation systems (ITS) features a large 3.45-micron (μm) pixel, providing exceptional sensitivity and high quantum efficiency (QE). It supports an ultra-short exposure time of 1 microsecond (μs) for extreme accuracy control in high-speed motion scenarios.

The OG12S PureCel®Plus-S pixel GS sensor has on-chip dual conversion gain (DCG™) high dynamic range (HDR) and features a

4096 x 3072 resolution. Nyxel® near-infrared (NIR) technology enables clear image capture with high pixel sensitivity and no motion artifacts. The imaging performance of the 12MP GS sensor is further enhanced by its 12-bit ADC (analog-to-digital conversion). With a maximum of 75 frames per second (fps), the sensor can easily capture fast-moving objects.

The OG12S is available for sampling in November 2026; it will be in mass production in Q4 2026.

Applications

- Factory automation (FA)
- 3D machine vision
- Industrial bar code scanning

Features

- **Active array size:** 4112 x 3072
- **Maximum image transfer rate:**
 - 4112 x 3072: 75 fps (10-bit)
 - 4112 x 3072: 50 fps (12-bit)
 - 4112 x 3072: 37.5 fps (12/14-bit DCG™ HDR mode)
- **Power supply:**
 - Analog: 2.8V
 - Digital: 1.2V
 - I/O pins: 1.8V
- **Output interfaces:** 8/16-lane sub-LVDS / 4-lane D-PHY MIPI
- **Output formats:** 10/12/14-bit RAW
- **Lens size:** 1/0.904"
- **Pixel size:** 3.45 μm x 3.45 μm

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