



OG01H1B

1.55-megapixel product brief

New 2.2-micron BSI Global Shutter Image Sensor for Industrial Machine Vision Applications

The new OG01H1B Global Shutter (GS) sensor features the industry's smallest 2.2 μm backside illuminated (BSI) pixel for high resolution in a compact design, replacing the larger 2.5 μm frontside-illuminated (FSI) GS sensors traditionally used in machine vision cameras. This high-resolution, small-format GS sensor provides the highest shutter efficiency available on the market with the ability to capture high-speed moving objects clearly and accurately at high frame rates, ideal for barcode scanners, robotics, and intelligent transportation systems. It also features high sensitivity, low noise and enhanced NIR quantum efficiency (QE) for industry-leading low-light performance.

The new OG01H1B is a 1.55MP resolution CMOS GS sensor in a 1/4.51-inch OF. It has a fast frame rate of 120 fps and high shutter efficiency of 106 dB.

The image sensor features OMNIVISION's Nyxel® near-infrared (NIR) technology, which boosts QE to 700-1050 nm, enabling the capture of brighter images from farther away; PureCel®Plus-S stacked-die architecture for best-in-class image sensor performance; and CSP package technology for the smallest possible solution.

The OG01H1B supports 4-lane MIPI & DVP.

Find out more at www.ovt.com.



OG01H1B

Ordering Information

- OG01H1B-A49A-001A (b&w, lead-free)
49-pin CSP, packed in tray without protective film
- OG01H1B-A49A-00MA (b&w, lead-free)
49-pin CSP, packed in tray with protective film (tab top right)

Applications

- logistics barcode applications
- vision guided camera for robotics
- 3D applications
- machine vision

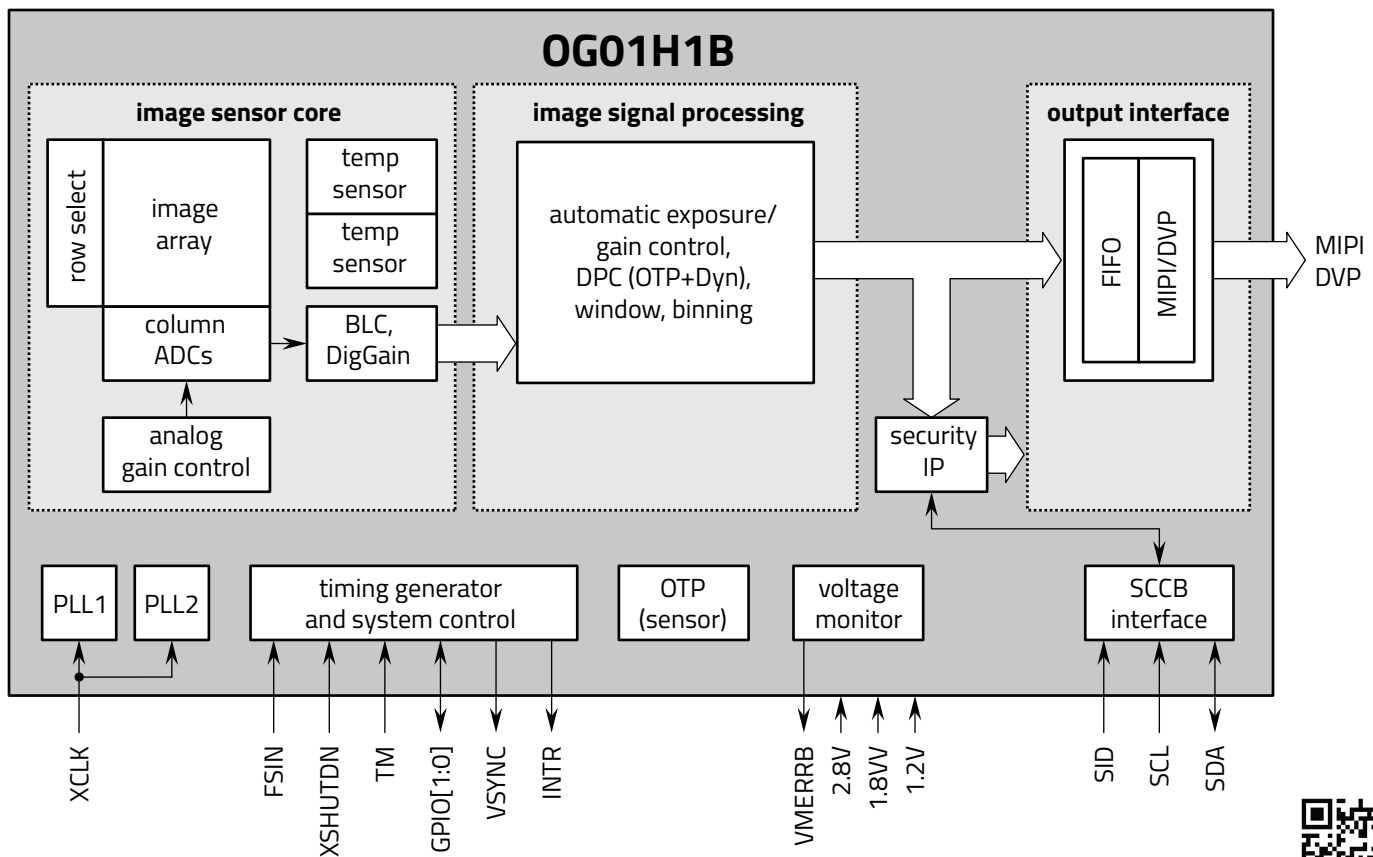
Technical Specifications

- active array size:** 1440 x 1080
- maximum image transfer rate:**
 - 1440 x 1080 @ 120 fps (MIPI)
 - 1440 x 1080 @ 30 fps (DVP)
- power supply:**
 - analog: 2.8V
 - digital: 1.2V
 - I/O pads: 1.8V
- power requirements:**
 - active: 192 mW
 - XSHUTDOWN: 0.3 mW
- temperature range:**
 - operating: -30°C to +85°C junction temperature
- output interfaces:** up to 4-lane MIPI serial output and 10-bit DVP
- lens size:** 1/4.51"
- lens chief ray angle:** 22.4° non-linear
- pixel size:** 2.2 μm x 2.2 μm
- image area:** 3203.2 μm x 2402.4 μm

Product Features

- support for image size: 1440 x 1080 and any cropped size
- data format: RAW
- 2.2 μm x 2.2 μm pixel with PureCel®Plus-S, Global Shutter, and Nyxel® technologies
- image sensor processor functions:
 - defective pixel cancellation
 - automatic black level correction
 - automatic exposure/gain control, etc.
- parallel 10-bit DVP output
- high speed serial data transfer with MIPI CSI-2
- SCCB for register programming
- external frame synchronization capability
- embedded temperature sensor
- one time programmable (OTP) memory

Functional Block Diagram



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