



OMNIVISION S02N10 Enhanced Performance 2MP Image Sensor Owner's Manual

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Image Sensor Owner's Manual



OS02N10



2-megapixel product brief

Low-Power, Enhanced Performance 2MP Image Sensor for Security Surveillance Cameras

The OS02N10 is a 2-megapixel (MP) frontside illumination (FSI) image sensor with an optimized defective pixel correction (DPC) algorithm for higher sensitivity, improved performance and increased reliability for IP and HD analog security cameras, including professional surveillance and outdoor home security cameras. The OS02N10 supports always-on for low-power capability.

The OS02N10 features a 2.5-micron pixel based on OMNIVISION's OmniPixel®3-HS technology. This enhanced performance, cost-effective solution uses FSI technology for

true-to-life color reproduction in both bright and dark conditions. An optimized DPC algorithm improves sensor quality and reliability above and beyond standard devices by providing real-time correction of defective pixels that can result through the sensor's life cycle, especially in harsh operating conditions. The OS02N10 features 1920 x 1080 resolution at 30 frames per second and supports MIPI and DVP interfaces.

Find out more at www.ovt.com.

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Applications

- security surveillance systems
- IP cameras
- HD analog cameras

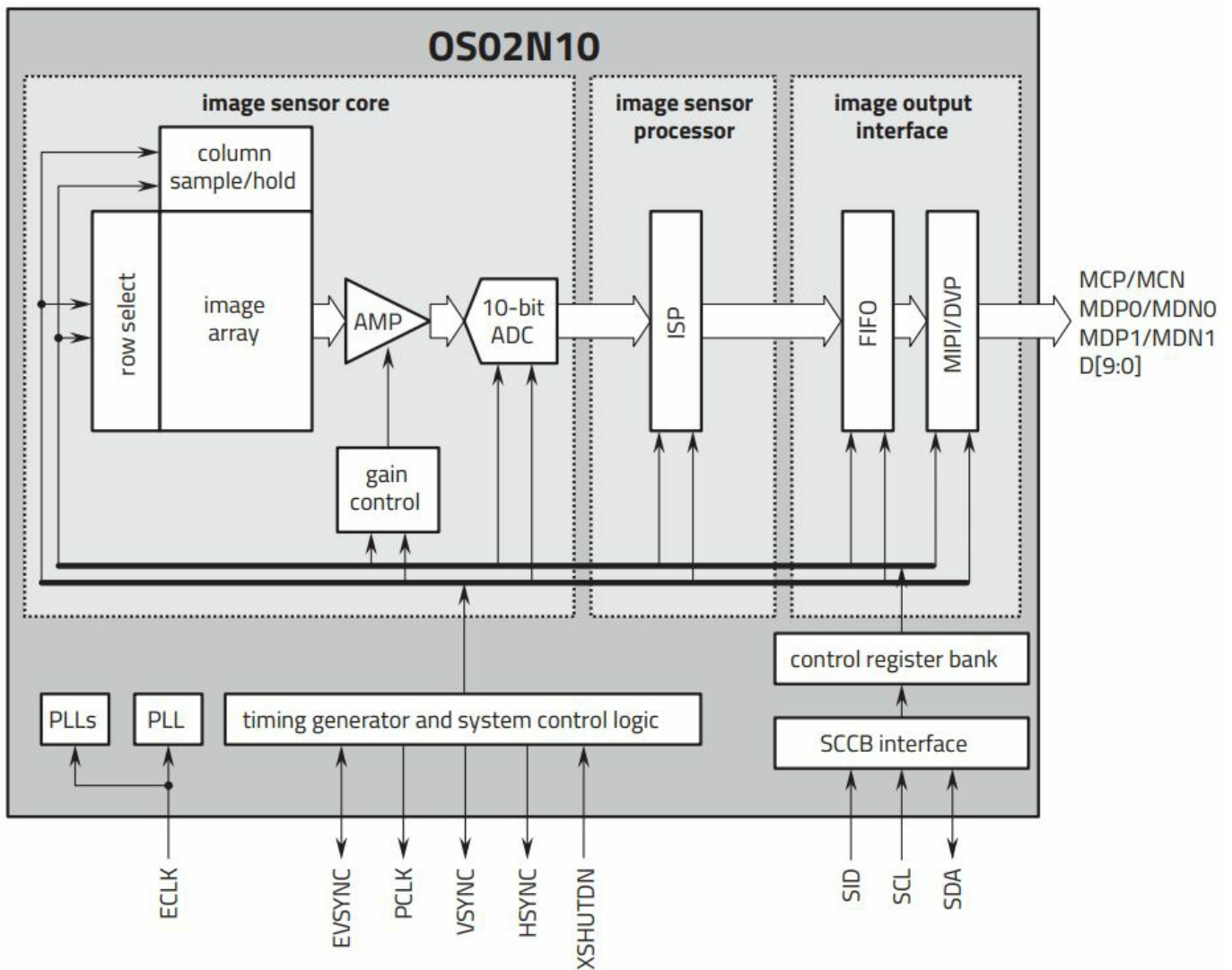
Technical Specifications

- active array size: 1928 x 1088
- maximum image transfer rate:
 - full-size: 1920H x 1080V @ 30 fps
 - always-on mode: 480H x 270V @ 1 fps / 3 fps
- power supply:
 - analog: 2.8V
 - I/O: 1.8V / 2.8V
 - core: 1.5V
- power requirements:
 - active: 100 mW
- output interfaces: 10-bit 2-lane MIPI / 10-bit DVP
- temperature range: – operating: -30°C to +85°C junction temperature
 - stable: 0°C to +60°C junction temperature
- output formats: 10-bit RGB RAW / 8-bit RGB RAW for AO mode
- lens size: 1/3.27"
- lens chief ray angle: 15° linear
- shutter: rolling
- pixel size: 2.5 μm x 2.5 μm
- image area: 4820 μm x 2720 μm

Product Features

- programmable controls:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- supports 2x2 color binning function
- supports output formats: 8-bit/10-bit RAW RGB
- SCCB control interface for register programming
- supports MIPI 2-lane serial output interface
- supports DVP 8-bit/10-bit output interface
- 1920H x 1080V @ 30 fps in 10-bit mode, or always-on mode 480H x 270V @ 1 fps / 3 fps in 8-bit mode
- supports automatic black level calibration
- supports multi-camera synchronous function
- supports dynamic defective pixel correction
- 32 bytes OTP integrated (1 bytes for OSC, 20 bytes for product information, 11 bytes reserved for customer)

Functional Block Diagram



<https://www.ovt.com/products/os02n10/>

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Documents / Resources



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mage Sensor, 2MP Image Sensor, Image Sensor, Sensor

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