OS08A20

8-megapixel product brief

High Resolution 8-Megapixel PureCel® Sensor Brings Superior Near-Infrared Imaging to Surveillance Applications

OMNIVISION's OS08A20 is the first 8-megapixel image sensor to combine Nyxel® technology with OMNIVISION's PureCel® pixel architecture, which allows the OS08A20 to capture ultra-high definition (UHD) 4K2K video and images that are bright and crisp in all lighting conditions. This makes it an ideal imaging solution for professional surveillance systems, as well as other nascent security applications such as body-worn cameras.

OMNIVISION's breakthrough Nyxel® technology delivers significant quantum efficiency (QE) improvements at 850 nm and 940 nm while maintaining high-modulation transfer function, allowing the OS08A20 to monitor a larger area.

Additionally, by reducing the need for external lighting sources, Nyxel® technology enables lower power consumption.

The OS08A20 supports a wide range of resolution formats and frame rates, including 4K2K (3840 x 2160) in a 16:9 aspect ratio at 60 frames per second (fps), quad HD (2560 x 1440) at 60 fps, or full 1080p HD at 120 fps. It comes in a 2x2-micron pixel size and 1/1.8-inch optical format for improved sensitivity.

Find out more at www.ovt.com.

OS08A20

Ordering Information

- **OS08A20-H92A-1B** (color, lead-free)
  92-pin CSP

Applications

- security cameras
- action cameras
- high resolution consumer cameras
- digital still cameras (DSC)
- digital video camcorders (DVC)

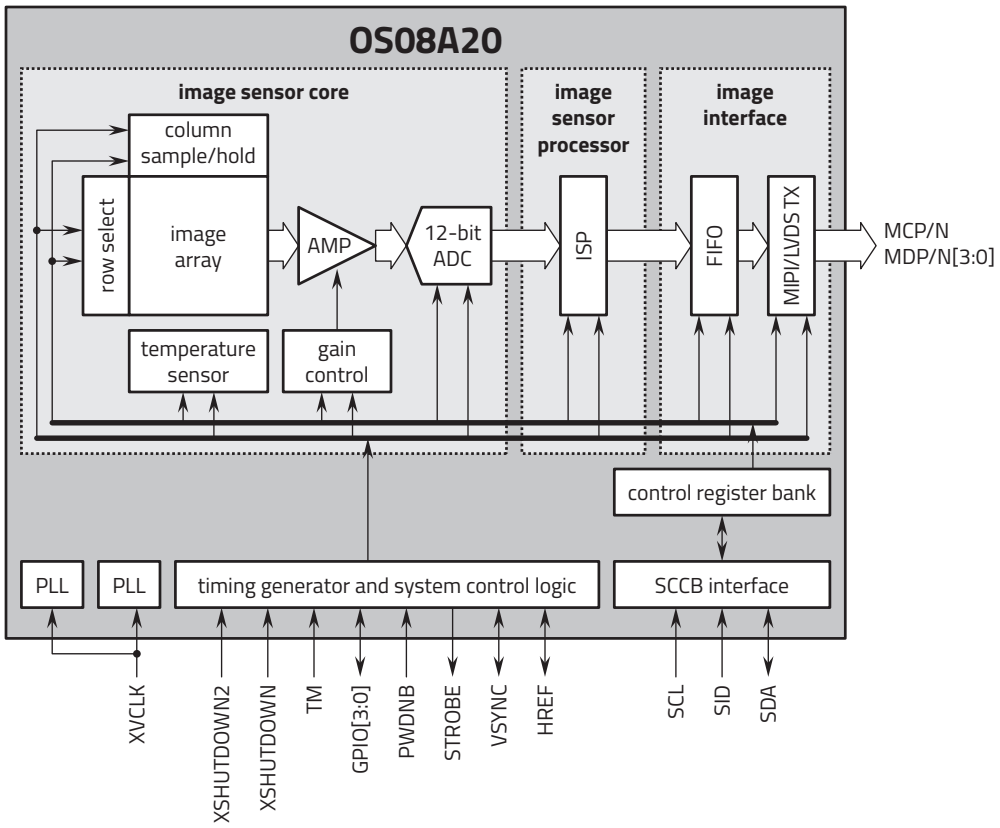
Technical Specifications

- **active array size:** 3840 x 2160
- **maximum image transfer rate:**
  - 4K2K: 60 fps
  - 2560 x 1440: 60 fps
  - 1080p: 120 fps
- **power supply:**
  - core: 1.2V
  - analog: 2.8V
  - I/O: 1.8V
- **power requirements:**
  - active: 240 mA
  - XSHUTDOWN: <10 µA
- **temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +60°C junction temperature
- **output formats:** 10/12-bit RGB RAW
- **lens size:** 1/1.8"
- **lens chief ray angle:** 11° linear
- **scan mode:** progressive
- **pixel size:** 2.0 µm x 2.0 µm
- **image area:**
  7736.256 µm x 4379.616 µm

Product Features

- 2 µm x 2 µm pixel
- optical size of 1/1.8"
- QE enhancement in 850 nm and 940 nm
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports output formats: 10/12-bit RGB RAW
- supports image sizes:
  - 4K2K (3840 x 2160)
  - 2560 x 1440
  - 1080p (1920 x 1080)
  - 720p (1280 x 720)
- supports 2x2 binning
- standard serial SCCB interface
- 12-bit ADC
- up to 4-lane MIPI/LVDS serial output interface (supports maximum speed up to 1500 Mbps/lane)
- 2-exposure staggered HDR support
- programmable I/O drive capability
- light sensing mode (LSM)
- PLL with SCC support
- support for FSIN

Functional Block Diagram



Version 1.3, July 2023

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