



# OS08C10

## 8-megapixel product brief

### 4K2K Resolution Image Sensor for Home and Professional Security Cameras



The OS08C10 is an 8-megapixel (MP) backside illumination (BSI) image sensor that features both staggered high dynamic range (HDR) and single exposure dual analog gain (DAG) for high-performance imaging in challenging lighting conditions. The 1.45-micron ( $\mu\text{m}$ ) BSI pixel supports 4K2K resolution and high frame rates. It comes in a small 1/2.8-inch optical format, a popular size for home and professional security, IoT and action cameras.

The OS08C10 captures real-time 4K video at 60 frames per second (fps) with minimal artifacts. Its selective conversion gain (SCG) pixel design allows the sensor to flexibly select low and high conversion gain, depending on the lighting conditions. The sensor adopts the new correlated

multi-sampling (CMS) to further reduce readout noise and improve SNR1 and low-light performance. The OS08C10's on-chip defective pixel correction (DPC) improves quality and reliability above and beyond standard devices by providing real-time correction of defective pixels that can result throughout the sensor's life cycle, especially in harsh operating conditions.

The OS08C10 is built on OMNIVISION's PureCel®Plus-S stacked-die technology, enabling high-resolution 8MP in a small pixel. At 300 mW (60 fps), the OS08C10 achieves the lowest power consumption on the market.

Find out more at [www.ovt.com](http://www.ovt.com).



- OS08C10-A59A-001A-Z (color, lead-free)  
59-pin CSP package

## Applications

- security camera
- high resolution consumer camera

## Technical Specifications

- active array size:** 3872 x 2192
- maximum image transfer rate:**
  - full size 60 fps @ 10-bit / 48 fps @ 12-bit
  - DAG HDR mode 30 fps @ 12-bit/14-bit
- power supply:**
  - analog: 2.8V
  - digital: 1.2V
  - I/O pins: 1.8V
- power requirements:**
  - active: 296 mW
  - XSHUTDOWN: <10  $\mu$ A
- temperature range:**
  - operating: -30°C to +85°C junction temperature
- output interfaces:** 4-lane LVDS/4-lane MIPI
- output formats:** 10-bit/12-bit/14-bit RAW
- lens size:** 1/2.82"
- lens chief ray angle:** 12° linear
- pixel size:** 1.449  $\mu$ m x 1.449  $\mu$ m
- image area:** 5610.528  $\mu$ m x 3176.208  $\mu$ m

## Product Features

- 1.449  $\mu$ m, high sensitivity, PureCel®Plus-S, rolling shutter pixel
- on sensor DAG high dynamic range (HDR)
- staggered-HDR
- horizontal/vertical 2x2 sub-sampling
- embedded frame counter feature
- dynamic defective pixel cancellation (DPC) and OTP DPC
- automatic black level correction
- up to 4-channel sub-LVDS high speed serial interface
- 4-lane MIPI interface
- SCCB for register programming
- embedded temperature sensor
- one-time programmable (OTP) memory
- 12-bit A/D converter

## Functional Block Diagram

