



OS08B10

8-megapixel product brief

1/1.25" Color 8MP CMOS Image Sensor with PureCel®Plus-S and Nyxel® Technologies



The OS08B10 color image sensor is a 1/1.25" optical format, 3840 x 2160 single-chip, CMOS, active-pixel, digital high dynamic range sensor, intended for the high-end security market.

The OS08B10 features OMNIVISION's PureCel®Plus-S and Nyxel® technologies to extend the dynamic range. The OS08B10 has the option to output up to 12-bit, 30 fps video with 90 dB dynamic range from a single exposure (DCG™) plus with very short exposure. The sensor supports 3-exposure, staggered HDR for >120 dB, but in this case, the HDR combination is done externally.

The OS08B10 performs sophisticated camera functions on-chip controlled via the serial camera control bus (SCCB) interface. These functions include black level correction (BLC), defect pixel correction (DPC), dual conversion gain (DCG™) combination, and piece-wise linear (PWL) image compression.

The OS08B10 enables advanced HDR imaging in a simple, cost effective system.

Find out more at www.ovt.com.



- OS08B10-J92A (color, lead-free)
92-pin fan-out package

Applications

- security cameras
- high resolution consumer cameras
- action cameras

Product Features

- QE enhancement in NIR range
- pixel data: 10-bit/12-bit RAW RGB
- support for image size:
 - 3840 x 2160 (UHD 4K2K)
 - 1080p
 - 720p
 - VGA
 - QVGA, and any cropped size
- SCCB for register programming
- programmable GPIOs
- high dynamic range
- high speed serial data transfer with MIPI CSI-2 or LVDS
- high sensitivity
- external frame synchronization capability
- image sensor processor functions:
 - defective pixel cancelation
 - DCG™ combination
 - automatic black level correction
 - PWL compression, etc.
- embedded temperature sensor
- one-time programmable (OTP) memory

Technical Specifications

- active array size:** 3840 x 2160
- output formats:**
 - single exposure HDR - 16-bit/14-bit combined RAW, 12-bit (PWL) compressed combined RAW; dual exposure HDR - 16-bit combined RAW + 12-bit VS RAW, 12-bit (PWL) compressed combined RAW + 12-bit VS RAW; 3-exposure HDR - 12-bit long exposure + 12-bit medium exposure + 12-bit short exposure
- maximum image transfer rate:**
 - 30x3 fps @ UHD 4K2K
- power supply:**
 - analog: 2.8V
 - digital: 1.2V
 - I/O pads: 1.8V
- power requirements:**
 - active: 548 mW
- temperature range:**
 - operating: -30°C to +85°C junction temperature
- output interfaces:**
 - up to 4-lane MIPI CSI-2 or LVDS
- lens size:** 1/1.25"
- lens chief ray angle:** 9° linear
- scan mode:** progressive
- pixel size:** 2.9 μm x 2.9 μm
- image area:** 11228.8 μm x 6310.4 μm

Functional Block Diagram

