

OSO8B10 8-megapixel product brief





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 OSO8B10 features OMNIVISION's PureCel®Plus-S and Nyxel® technologies to extend the dynamic range. The OSO8B10 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 OSO8B10 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

Ordering Information

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

Applications

- security cameras
- action cameras

Product Features

- QE enhancement in NIR range
- support for image size:
 3840 x 2160 (UHD 4K2K)
- 1080p - 720p
- VGA
- QVGA, and any cropped size
- high dynamic range
- high sensitivity
- image sensor processor functions:
 defective pixel cancelation
- DCG[™] combination
- automatic black level correctionPWL compression, etc.

high resolution consumer cameras

- pixel data: 10-bit/12-bit RAW RGB
- SCCB for register programming
- programmable GPIOs
- high speed serial data transfer with MIPI CSI-2 or LVDS
- external frame synchronization capability
- embedded temperature sensor
- one-time programmable (OTP) memory

Technical Specifications

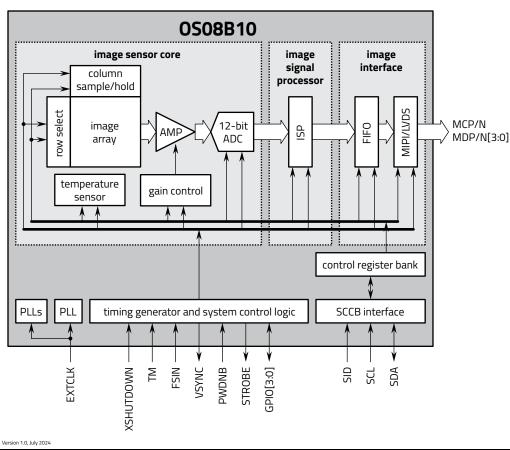
- active array size: 3840 x 2160
- maximum image transfer rate:
 30x3 fps @ UHD 4K2K
- power supply:
 analog: 2.8V
 digital: 1.2V
- digital: 1.2V
 I/O pads: 1.8V
- power requirements:
 active: 548 mW
- temperature range:
 operating: -30°C to +85°C
- junction temperatureoutput interfaces:
- up to 4-lane MIPI CSI-2 or LVDS

• 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

- lens size: 1/1.25"
- Iens 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





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