OS04D10

4 megapixel product brief

High-performance, Low-power 2K 4-megapixel Image Sensor for Consumer Security and Surveillance Cameras

The OS04D is a 4-megapixel (MP) image sensor that brings 2K resolution digital images and high-definition (HD) video at 30 frames per second (fps) to IP and HD analog security cameras, including smart home, doorbell and baby monitoring devices. The OS04D CMOS image sensor utilizes a high-performance backside-illuminated (BSI) pixel while also providing 40% power consumption savings, as well as improvements of over 30% in signal-to-noise ratio (SNR1) and 40% in sensitivity when compared with its predecessor.

The OS04D image sensor's 2.0-micron (µm) BSI pixel is based on OMNIVISION's PureCel®Plus technology and enables higher sensitivity, ultra-low noise and better overall image quality. Select conversion gain (SCG) allows the sensor to flexibly select low and high conversion gain depending on the lighting conditions. On-chip auto explorer control (AEC) and auto gain control (AGC) further accelerate system-on-chip (SoC) booting time. Low power consumption is beneficial for battery operated devices, especially doorbell security cameras. It comes in a cost-effective 1/3-inch optical format and is pin-to-pin compatible with OMNIVISION's OS04L image sensor as well as other new products that will be launched in the future.

The OS04D supports MIPI interfaces.

Find out more at www.ovt.com.

OS04D10

Ordering Information

- **OS04D10-A44A-001A-Z**
  (color, lead-free) 44-pin CSP

Applications

- security surveillance systems
- IP cameras
- HD analog cameras

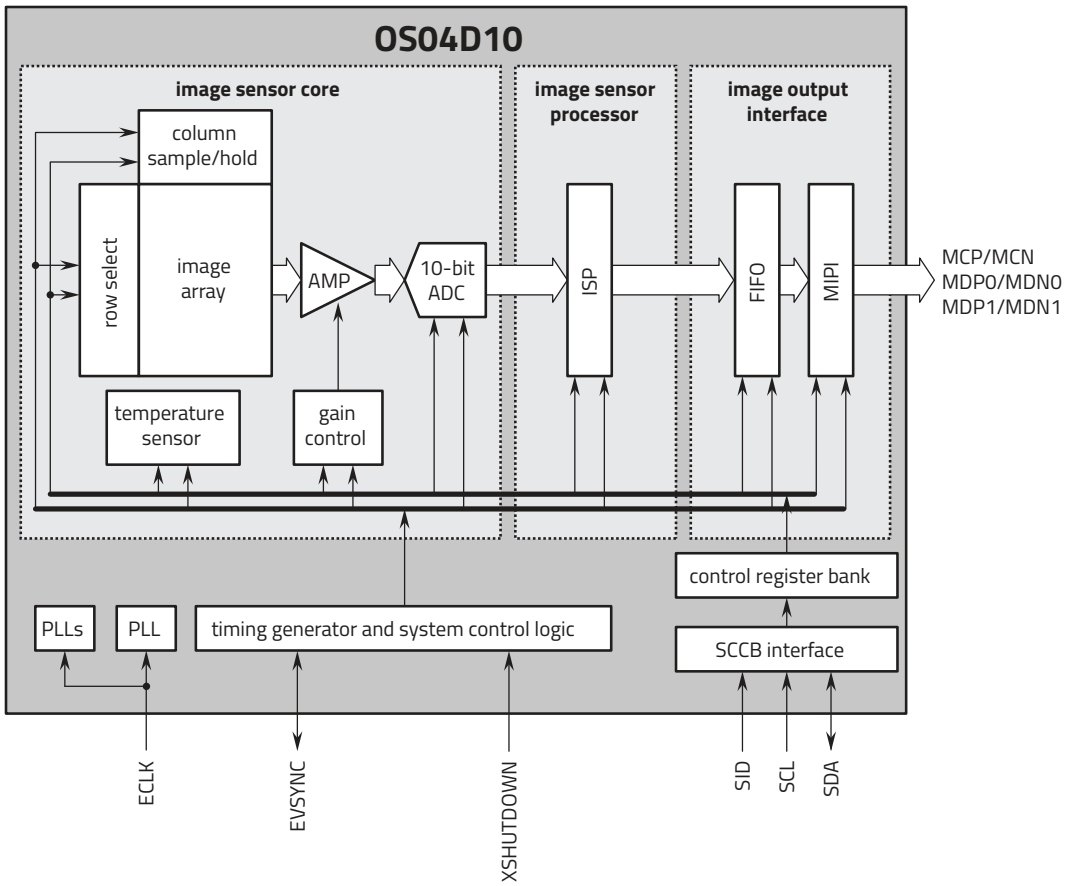
Technical Specifications

- **active array size:** 2560 x 1440
- **maximum image transfer rate:**
  - 2568 x 1448: 30 fps
- **power supply:**
  - analog: 2.8V
  - I/O: 1.8V
  - core: 1.2V
- **power requirements:**
  - active: ~76 mW
  - standby: 5 µA
- **output interfaces:** 10-bit 2-lane MIPI
- **output formats:** 10-bit RAW RGB
- **temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable: -20°C to +60°C junction temperature
- **lens size:** 1/3"
- **lens chief ray angle:** 12° linear
- **scan mode:** progressive
- **pixel size:** 1.998 µm x 1.998 µm
- **image area:**
  5130.864 µm x 2893.104 µm

Product Features

- programmable controls:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports 2x2 color binning function
- support for output format:
  10-bit 2-lane MIPI TX
- SCCB control interface
  for register programming
- supports MIPI serial output interface (1-lane/2-lane)
- dynamic DPC
- supports image sizes:
  - 2568 x 1448 @ 30 fps
- supports automatic black level calibration
- supports multi-camera synchronous function
- supports fast boot function

Functional Block Diagram



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