OS04B10 2K product brief

lead free

available in a lead-free package

Backside Illumination 2K Image Sensor is Cost-Effective, Space Saving, and High-Performance for Industrial and IoT Security Cameras

OmniVision's OS04B10 is a 2-micron image sensor built with OmniBSI™ pixel technology, which reduces pixel crosstalk, yielding excellent image quality. This sensor provides the industry's most cost-effective backside illumination (BSI) solution and is designed for capturing high definition (HD) images in entry-level IoT, industrial, commercial, and residential security and surveillance cameras. With its superior low-light sensitivity, the OS04B10 can produce high-quality digital images and HD video, even in poor lighting conditions. This capability is critical for security applications.

The OS04B10 is designed for applications covering larger surveillance areas, and supports 2K (2560x1440) resolution streaming video at 30 frames per second (fps). It features a 1/3-inch optical format and a chip scale package (CSP). The OS04B10's power consumption is less than 140 mW, and it has high QE for low system power. Its wide chief ray angle (CRA) of 9 degrees enables thinner modules with wide-aperture lenses for accurate, unobtrusive surveillance.

Find out more at www.ovt.com.

OmniVision.

Applications

- Security Surveillance Systems
- IP Cameras
- HD Analog Cameras

OS04B10

Ordering Information

- OS04B10-A51A
  (color, lead-free) 51-pin CSP

Product Features

- supports 2K (2560x1440) resolution
- supports windowing
- supports mirror and flip function
- supports auto black level calibration
- supports defective pixel correction
- supports black sun cancellation
- SCCB control interface
  for register programming

- supports 2k-bit OTP memory,
  9 bytes for customer
- supports 2x2 binning function
- supports 10-bit / 8-bit RAW
  image data output
- supports MIPI 1-lane or
  2-lane serial output interface
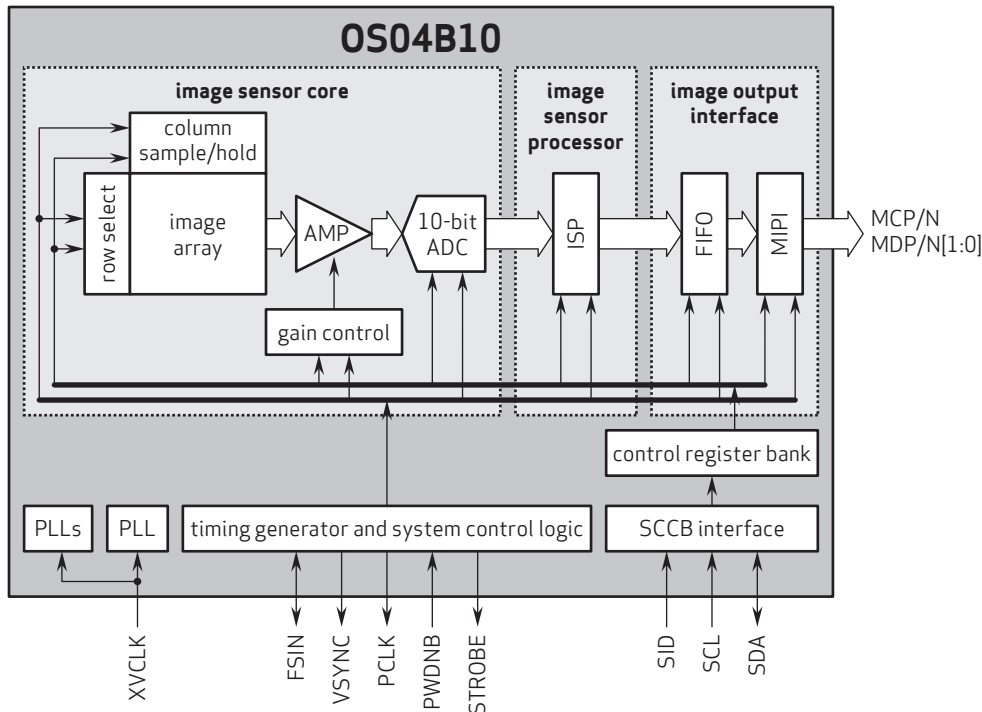- low power mode
- supports multi-camera
  synchronous function

Technical Specifications

- **active array size:** 2560 x 1440
- **maximum image transfer rate:**
  - **2K:** 30 fps
  - **720p:** 60 fps
- **power supply:**
  - **core:** 1.15 - 1.3V (1.2V nominal)
  - **analog:** 2.7 - 3.0V (2.8V nominal)
  - **I/O:** 1.7 - 1.9V (1.8V nominal)
- **power requirements:**
  - **active:** <140 mW
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
  - **stable image:** -10°C to +60°C junction temperature

- **output interfaces:** MIPI 2-lane
- **output formats:** RAW10/RAW8
- **lens size:** 1/3"
- **lens chief ray angle:** 9° linear
- **shutter:** rolling
- **pixel size:** 2 µm x 2 µm
- **image area:**
  5146.848 µm x 2909.088 µm

Functional Block Diagram