



OS02F10 2-megapixel product brief



available in
a lead-free
package

Backside Illumination 2-Megapixel 1080p Image Sensor is Cost-Effective, Ultra Compact, and High-Performance for Industrial and IoT Security Cameras

OmniVision's OS02F10 is a 2-micron image sensor built with OmniBSI™ pixel technology. It 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 the OS02F10, even security cameras designed for residential applications will no longer have to sacrifice performance for cost effectiveness. The compact OmniBSI™ architecture reduces pixel crosstalk, yielding excellent image quality.

The OS02F10, with superior low-light sensitivity, can produce high-quality digital images and HD video, even in poor lighting conditions. This capability is critical for security applications. Its wide chief ray angle (CRA) of

9 degrees enables thinner modules with wide-aperture lenses for accurate, unobtrusive surveillance. It supports 1080p (1920x1080) resolution streaming video at 30 frames per second (fps). This ultra-compact sensor features a 1/4-inch optical format and a chip scale package (CSP). Its high quantum efficiency (QE) requires less IR illumination, thus enabling low power consumption for excellent camera battery life. The OS02F10 itself consumes less than 120 mW.

Find out more at www.ovt.com.



OmniVISION.

Applications

- Security Surveillance Systems
- IP Cameras
- HD Analog Cameras

Product Features

- supports 1080p (2-megapixel, 1920 x 1080) 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 1k-bit OTP memory, 9 bytes for customer
- supports 2x2 binning function
- supports 10-bit / 8-bit RAW image data output
- supports MIPI 1-lane serial output interface
- supports DVP 10-bit / 8-bit output interface
- low power mode
- supports multi-camera synchronous function

OS02F10



Ordering Information

- OS02F10-A34A (color, lead-free)
34-pin CSP

Product Specifications

- **active array size:** 1920 x 1080
- **maximum image transfer rate:**
 - 1080p: 30 fps
 - 720p: 45 fps
 - VGA: 60 fps
- **power supply:**
 - core: 1.15V - 1.3V (1.2V nominal)
 - analog: 2.7V - 3.0V (2.8V nominal)
 - I/O: 1.7V - 1.9V
- **power requirements:**
 - active: <120 mW
- **temperature range:**
 - **operating:** -30°C to +85°C junction temperature
 - **stable image:** -10°C to +60°C junction temperature
- **output interfaces:** one-lane MIPI / DVP 10-bit/8-bit
- **lens size:** 1/4"
- **lens chief ray angle:** 9° linear
- **output formats:** RAW10/RAW8
- **shutter:** rolling
- **pixel size:** 2 μm x 2 μm
- **image area:** 3868.128 μm x 2198.808 μm

Functional Block Diagram

