



OS06A10

6-megapixel product brief

1/2.4" Color 6-Megapixel CMOS Image Sensor with PureCel® Plus and Nyxel® Technologies



The OS06A10 RAW RGB PureCel® Plus image sensor is a high performance, 1/2.4-inch, 6-megapixel CMOS image sensor that delivers 3200 x 1944 at 60 frames per second (fps) 10-bit. It provides full-frame, sub-sampled, and windowed 10-bit/12-bit MIPI images in various formats via the control of the serial camera control bus (SCCB) interface.

The OS06A10 has a 6-megapixel image array capable of operating at up to 60 fps in 10-bit (or 30 fps in 12-bit) resolution with complete user control over image quality, formatting, and output data transfer. Some image processing functions, such as defective pixel canceling, etc., are programmable through the SCCB interface.

In addition, OMNIVISION image sensors use proprietary sensor technology to improve image quality by reducing or eliminating common lighting / electrical sources of image contamination, such as fixed pattern noise, smearing, etc., to produce a clean, fully stable, color image.

The OS06A10 has a MIPI interface of up to four lanes.

Find out more at www.ovt.com.



- OS06A10-A45A-001A (color, lead-free)
45-pin CSP

Applications

- security cameras
- action cameras
- high resolution consumer cameras

Technical Specifications

- active array size:** 3200 x 1944
- maximum image transfer rate:**
 - 3200 x 1944: 60 fps
 - 1920 x 1080: 80 fps
 - 1280 x 720: 240 fps
 - 640 x 480: 360 fps
- power supply:**
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V
- power requirements:**
 - active: 216.5 mW (typical)
 - XSHUTDN: <5 μ A
- output formats:** 10/12-bit RGB RAW
- temperature range:**
 - operating: -30°C to +85°C junction temperature
 - stable image: -10°C to +60°C junction temperature
- lens size:** 1/2.4"
- lens chief ray angle:** 9° linear
- scan mode:** progressive
- pixel size:** 1.998 μ m x 1.998 μ m
- image area:** 6425.568 μ m x 3916.08 μ m

Product Features

- programmable controls for:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- supports output formats: 12-bit/10-bit RAW RGB
- supports image sizes:
 - full (3200 x 1944)
 - 6MP (3200 x 1800)
 - 5MP (2592 x 1944)
 - 1080p (1920 x 1080)
 - 720p (1280 x 720)
 - VGA (640 x 480)
- supports 2x2 binning
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface (supports maximum speed up to 1500 Mbps/lane * 2-lane, or 1200 Mbps/lane * 4-lane)
- staggered HDR RAW data output
- programmable I/O drive capability
- built-in temperature sensor
- MIPI serial output interface (1-lane, 2-lane, or 4-lane)
- image quality controls:
 - defect pixel correction
 - automatic black level calibration

Functional Block Diagram

