



# OV02G10

## 2-megapixel product brief

### 1/2.9" Color 2-Megapixel CMOS Image Sensor for Smart Home / IoT Consumer Cameras

The OV02G10 is a high quality, 1/2.9-inch 1080p CMOS image sensor providing high-definition (HD) video and high quality digital imaging for smart home / IoT consumer camera applications.

By introducing an advanced 2.8  $\mu\text{m}$  pixel architecture, the OV02G10 achieves excellent low-light sensitivity, signal-to-noise ratio, full-well capacity, quantum efficiency and low-power consumption. The default mode and programmable mode allow for a more convenient way of controlling the parameters of frame size, exposure time, gain value, etc.

It also offers the following image control functions: mirror and flip, windowing, auto black level calibration, defective pixel correction, black sun cancellation, and other functions.

The OV02G10 supports a high frame rate of up to 30 fps @ 1080p format through the DVP interface or MIPI interface. These prominent features integrated in the OV02G10 allow for a best-in-class image sensor that will bring users vivid pictures and an excellent experience.

Find out more at [www.ovt.com](http://www.ovt.com).



- OV02G10-A41A-001A (color, lead-free)  
41-pin CSP

## Applications

- security surveillance systems
- DVRs
- smart TVs
- IoT

## Product Features

- programmable controls:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports 2x2 color binning function
- supports output formats: 10-bit RAW RGB
- SCCB control interface for register programming
- supports MIPI 2-lane serial output interface
- supports DVP 10-bit output interface
- supports image sizes: 1920 x 1080 @ 30 fps
- supports automatic black level calibration
- supports multi-camera synchronous function

## Technical Specifications

- active array size:** 1920 x 1080
- maximum image transfer rate:**
  - 1920 x 1080: 30 fps
- power supply:**
  - analog: 2.8V
  - I/O: 1.8/2.8V
  - core: 1.5V
- power requirements:**
  - active: 115 mW
  - standby: 10  $\mu$ A
- output interfaces:** 10-bit 2-lane MIPI/10-bit DVP
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: -20°C to +60°C junction temperature
- output formats:** 10-bit RAW RGB
- lens size:** 1/2.9"
- lens chief ray angle:** 34.04° non-linear
- scan mode:** progressive
- pixel size:** 2.8  $\mu$ m x 2.8  $\mu$ m
- image area:** 5398.4  $\mu$ m x 3046.4  $\mu$ m

## Functional Block Diagram

