



# OV02K

## 2-megapixel product brief



### 2.9 $\mu\text{m}$ Image Sensor Enables High-Quality, Low-Light Video for Smartphones

OMNIVISION's OV02K is a video-centric, 2.9  $\mu\text{m}$  1080p image sensor designed for smartphones. Built on our PureCel®Plus pixel technology, the OV02K allows the secondary camera in multi-camera configurations to capture high-quality videos, even in very low ambient light conditions. With the increasing demand from smartphone users for high-quality video, particularly for social media sharing, the OV02K is perfect for capturing super-high-quality video captures even in a wide variety of environments.

The OV02K's 2.9  $\mu\text{m}$  pixel size imparts it with greater sensitivity and very low noise, resulting in an SNR10 of less than 10 lux. This sensor, which comes in a 1/2.8" optical format, features 1080p resolution at up to 120 frames per second (fps), suitable for either standard or slow-motion video capture. It also supports up to three exposures of staggered timing to enable high dynamic range (HDR), and supports frame-to-frame dual conversion gain (DCG™).

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



- OV02K10-GA5A (color, chip probing, 150 μm backgrinding, reconstructed wafer with good die)

## Applications

- mobile smartphones
- dual cameras
- action / IoT cameras

## Product Features

- support for image size:
  - 1920 x 1080
  - VGA
  - QVGA, and any cropped size
- high dynamic range
- high sensitivity
- programmable conversion gain
- image sensor processor functions:
  - defective pixel cancellation
  - automatic black level correction, etc.
- pixel data: 12b RAW RGB
- SCCB for register programming
- programmable GPIOs
- high speed serial data transfer with MIPI CSI-2 or LVDS
- external frame synchronization capability
- embedded temperature sensor
- one time programmable (OTP) memory

## Technical Specifications

- active array size: 1920 x 1080
- maximum image transfer rate:
  - 40X3 fps @ 1080p in 10-bit
  - 30X3 fps @ 1080p in 12-bit
- power requirements:
  - active: 250 mW
- power supply:
  - analog: 2.8V
  - digital: 1.1V
  - I/O pads: 1.8V
- temperature range:
  - operating: -30°C to +85°C junction temperature
- output interfaces:
  - up to 4-lane MIPI CSI-2 or LVDS
- lens size: 1/2.8"
- lens chief ray angle: 35.5° non-linear
- scan mode: progressive
- shutter: rolling shutter
- output formats:
  - linear output
  - dual exposure HDR (long and short)
  - 3-exposure HDR (long, short, and very short)
  - conversion gain programmable in each channel
- pixel size: 2.9 μm x 2.9 μm
- image array area: 5614.4 μm x 3178.4 μm

## Functional Block Diagram

