



# OV8865

## 8 megapixel product brief



### High-Performance, Low-Power 8-Megapixel Image Sensor for Mainstream Smartphones and Tablets

OMNIVISION's OV8865 is a low-power high-performance 8-megapixel camera solution for mainstream smartphones and tablets. Utilizing an improved 1.4-micron OmniBSI™-2 pixel, the OV8865 delivers best-in-class pixel performance in a smaller, more power efficient package compared to the previous generation OV8835 sensor.

The OV8865 offers a number of performance improvements including a five percent improvement in dynamic range and a 50 percent reduction in dark current, resulting in superior high- and low-light images. Furthermore, the OV8865 consumes considerably less power than the OV8835, achieving the sub 200 mW benchmark preferred by high-end mobile device manufacturers.

The 1/3.2-inch OV8865 supports an active array of 3264 x 2448 (8-megapixels) operating at 30 frames per second (fps) for high-speed photography. The sensor is also capable of capturing 1080p high-definition (HD) video at 30 fps or 720p at 60 fps.

The OV8865 fits into an industry standard 8.5 x 8.5 x 5 mm package.

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



- OV8865-G04A-1D (color, chip probing, 200 µm backgrinding, reconstructed wafer with good die)

## Applications

- cellular phones
- tablets
- PC multimedia

## Technical Specifications

- active array size:** 3264 x 2448
- maximum image transfer rate:**
  - 8MP (3264 x 2448): 30 fps
- power supply:**
  - core: 1.2V
  - analog: 2.8V
  - I/O: 1.8V, 1.2V
- power requirements:**
  - active: 196 mW (full resolution @ 30 fps)
  - XSHUTDOWN: 5 µW
- output formats:** 10-bit RAW RGB
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable: 0°C to +60°C junction temperature
- lens size:** 1/3.2"
- lens chief ray angle:** 28.77° non-linear
- scan mode:** progressive
- pixel size:** 1.4 µm x 1.4 µm
- image area:** 4614.4 µm x 3472 µm

## Product Features

- automatic black level calibration (ABLC)
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- static defective pixel canceling
- supports output formats:
  - 10-bit RAW RGB (MIPI)
- supports images sizes:
  - 3264 x 2448
  - 3264 x 1836
  - 2816 x 1584
  - 1632 x 1224
  - 1408 x 792
- supports horizontal and vertical subsampling
- supports 2x2 binning, re-sampling filter
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- embedded 1536 bytes one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loops (PLLs)
- programmable I/O drive capability
- built-in temperature sensor

## Functional Block Diagram

