

# OV8865 8MP product brief



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



available in  
a lead-free  
package

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).



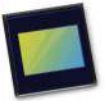
## Applications

- Cellular Phones
- Tablets
- PC Multimedia

## Product Features

- automatic black level calibration (ABLC)
- programmable controls for frame rate, mirror and flip, cropping, and windowing
- static defective pixel canceling
- supports output formats: 10-bit RAW RGB (MIPI)
- supports horizontal and vertical subsampling
- supports images sizes: 3264x2448, 3264x1836, 2816x1584, 1632x1224, 1408x792
- 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

# OV8865



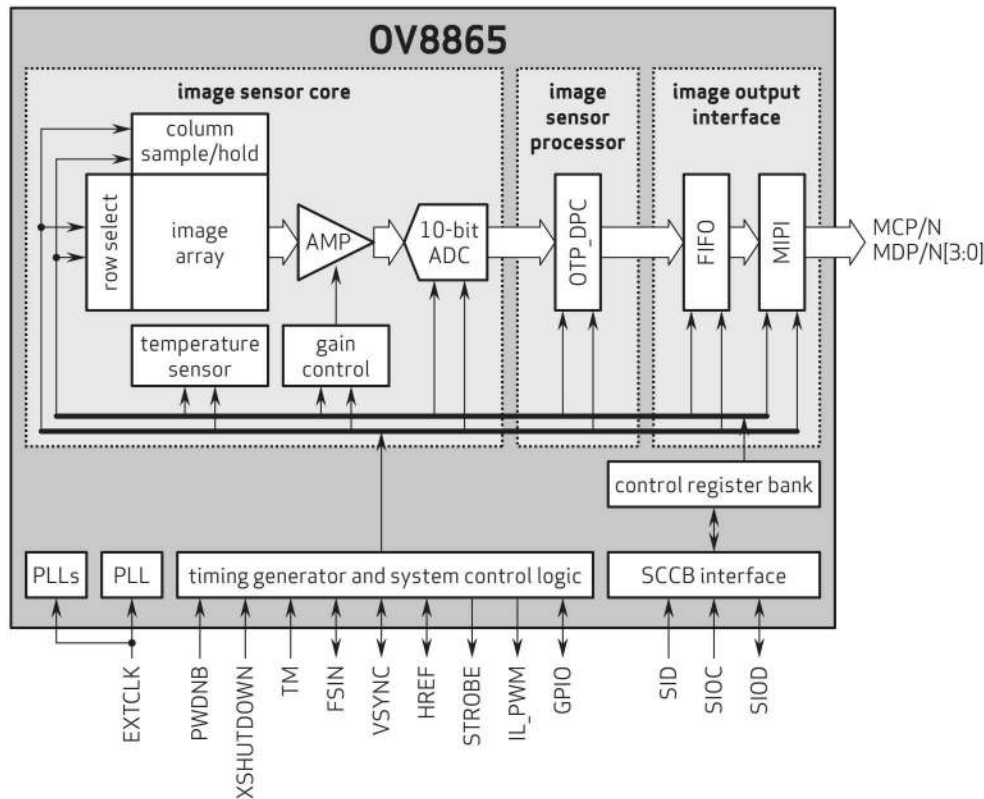
## Ordering Information

- OV8865-G04A-1D**  
(color, chip probing, 200  $\mu\text{m}$  backgrinding, reconstructed wafer with good die)

## Product Specifications

- active array size:** 3264 x 2448
- power supply:**
  - core: 1.2V
  - analog: 2.8V
  - I/O: 1.8V, 2.8V
- power requirements:**
  - active: 196 mW (full resolution @ 30 fps)
  - XSHUTDOWN: 5  $\mu\text{W}$
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +60°C junction temperature
- output formats:** 10-bit RAW RGB data
- lens size:** 1/3.2"
- lens chief ray angle:** 32.2° non-linear
- input clock frequency:** 6 - 27 MHz
- max S/N ratio:** 36.7 dB
- dynamic range:** 68.8 dB
- maximum image transfer rate:** 30 fps
- sensitivity:** 940 mV/lux-sec
- scan mode:** progressive
- pixel size:** 1.4  $\mu\text{m}$  x 1.4  $\mu\text{m}$
- dark current:** 20 e<sup>-</sup>/sec @ 60°C junction temperature
- image area:** 4614.4  $\mu\text{m}$  x 3472  $\mu\text{m}$
- die dimensions:** 5850  $\mu\text{m}$  x 5700  $\mu\text{m}$

## Functional Block Diagram



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