

# OV2686 2MP product brief



## Cost-Effective, Low-Power 2-Megapixel Sensors for Feature Phones, Smartphones and Tablets



available in  
a lead-free  
package

The OV2686 (SoC) is a low-power 2-megapixel CameraChip™ sensor for feature phones and front-facing camera applications in smartphones and tablets. The 1/5-inch sensor leverages a 1.75-micron OmniPixel3-HS™ pixel to deliver high quality 2-megapixel images and video at 15 frames per second (fps). The sensor's high sensitivity and low dark current deliver exceptional image and video quality, even in low-light conditions.

The OV2686 is a cost-effective sensor with a smaller footprint and smaller die size. Compared to previous generations, the OV2686 offers improved image quality with the latest OmniPixel3-HS pixel architecture. Using OmniVision's proprietary sensor technology, the sensor reduces or eliminates common lighting and electrical sources of image contamination, such as fixed pattern noise, smearing, etc., to produce a clean, stable, color image.

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



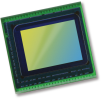
## Applications

- Cellular and Picture Phones
- Home Entertainment
- PC Multimedia
- Toys

## Product Features

- 1.75  $\mu\text{m}$  x 1.75  $\mu\text{m}$  pixel with OmniPixel3-HS™ technology
- 2MP at 15 fps
- optical size of 1/5"
- supports images sizes:
  - UXGA (1600x1200)
  - HD+ (1600x900)
  - SXGA (1280x960)
  - 720p (1280x720), and more
- support for output formats: 10-bit RGB RAW, 8-bit YUV
- programmable controls for frame rate, mirror and flip, cropping, and windowing
- two-wire serial bus control (SCCB)
- 28.5° CRA
- digital video port (DVP) parallel output interface
- automatic image control functions:
  - automatic exposure control (AEC)
  - automatic gain control (AGC)
  - auto white balance (AWB)
- on-chip phase lock loops (PLLs)
- image quality control:
  - defect pixel correction (DPC)
  - denoise
  - lens shading

# OV2686



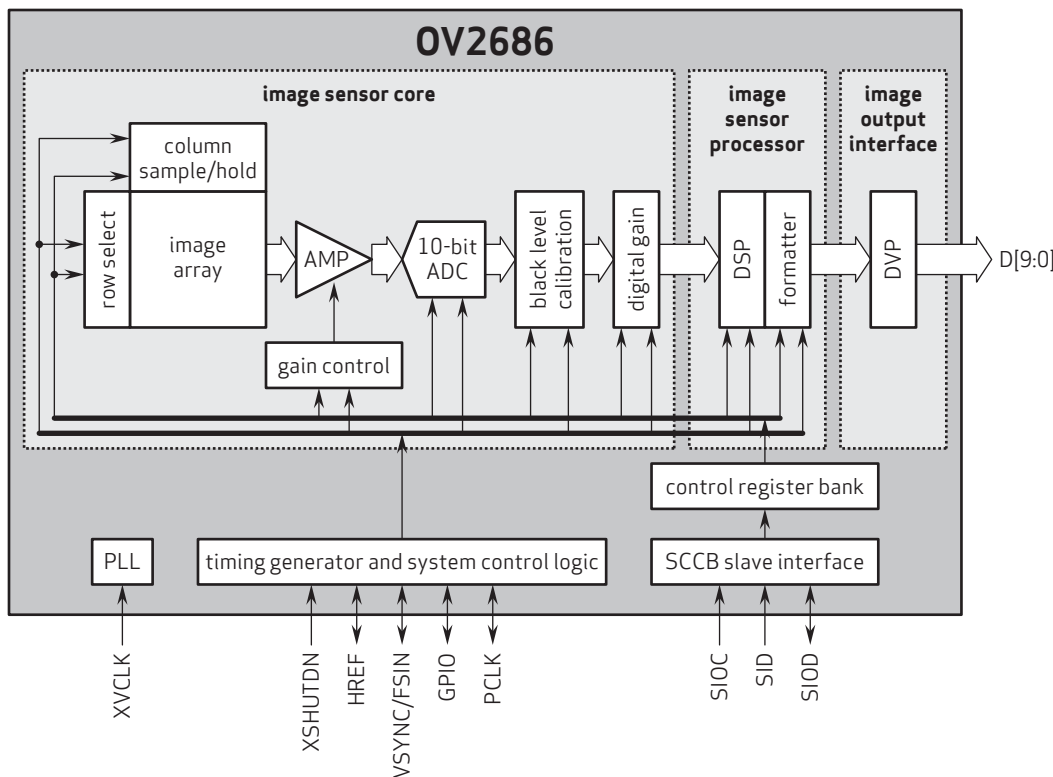
## Ordering Information

- OV02686-H38A**  
(color, lead-free, 38-pin CSP5)

## Product Specifications

- active array size:** 1616 x 1216
- output formats:** 10-bit RGB RAW, 8-bit YUV422
- power supply:**
  - core: 1.8V
  - analog: 2.8V
  - I/O: 1.8V/2.8V
- power requirements:**
  - active: 137 mW
  - XSHUTDN: <1  $\mu\text{A}$
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +50°C junction temperature
- output interfaces:** 10-bit DVP parallel output
- lens size:** 1/5"
- lens chief ray angle:** 28.5° non-linear
- input clock frequency:** 6 - 27 MHz
- maximum image transfer rate:** 15 fps
- scan mode:** progressive
- pixel size:** 1.75  $\mu\text{m}$  x 1.75  $\mu\text{m}$
- image area:** 2840  $\mu\text{m}$  x 2150  $\mu\text{m}$
- package/die dimensions:**
  - CSP5: 4254  $\mu\text{m}$  x 3984  $\mu\text{m}$

## Functional Block Diagram



4275 Burton Drive  
Santa Clara, CA 95054  
USA

Tel: +1 408 567 3000  
Fax: +1 408 567 3001  
www.ovt.com

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