



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



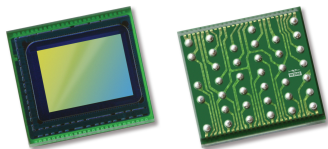
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# OV2686 2MP product brief



## 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).



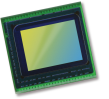
## Applications

- 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



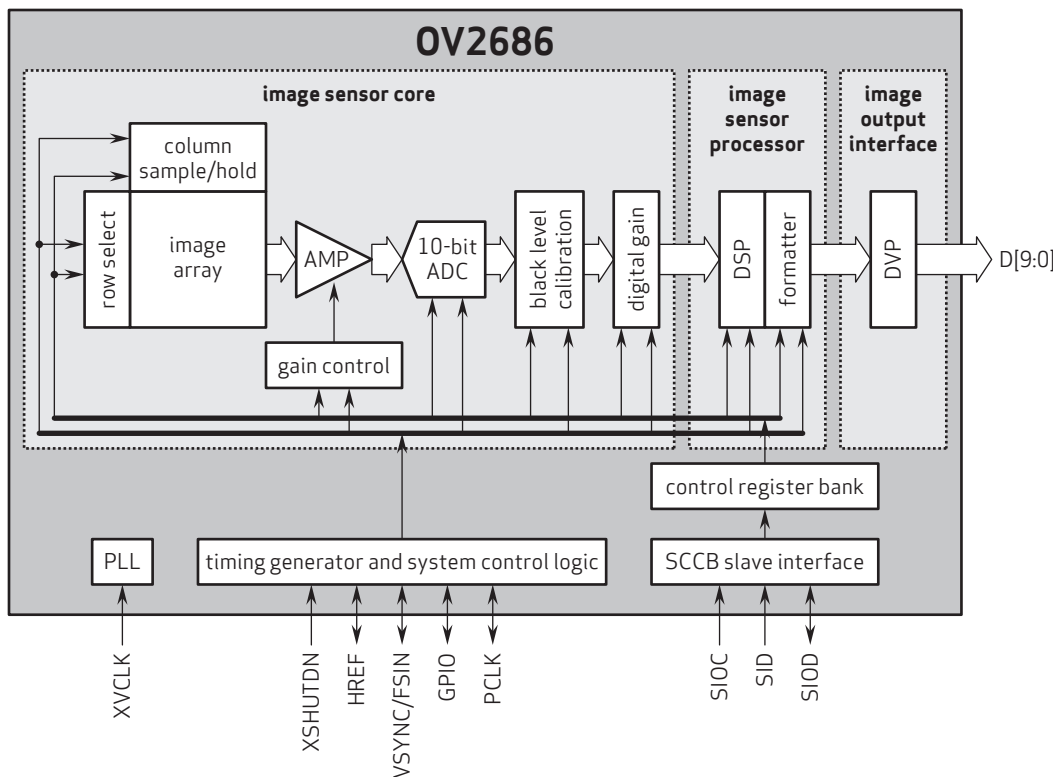
## Ordering Information

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

## Product Specifications

- active array size:** 1616 x 1216
- 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
- output formats:** 10-bit RGB RAW, 8-bit YUV422
- 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



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