

# OV5695 5-megapixel product brief



## High Quality 1/4-inch 5-Megapixel Selfies for Next-Generation Smartphones and Tablets



available in  
a lead-free  
package

OmniVision's new 1/4-inch OV5695 is a high performance and cost-effective 5-megapixel OmniBSI+™ sensor designed to be a cost-competitive camera solution for both front- and rear-facing camera applications in smartphones and tablets. The OV5695 features an improved design that offers superior image and video quality in a more compact, power-efficient package.

The OV5695 utilizes 1.4-micron OmniBSI+ pixel architecture to capture full resolution video in a native 4:3 aspect ratio at 30 fps or 1080p video at 60 fps with support for interleave row high dynamic range (iHDR).

The sensor's exceptional low-light sensitivity enhances image and video quality when recording in low-light conditions, and reduces user dependence on the device's front-facing flash functionality.

The OV5695 fits into an 8.5 x 8.5 mm module with a z-height of approximately 4.4 mm.

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



## Applications

- Smartphones and Feature Phones
- Tablets
- PC Multimedia
- Wearables

## Product Features

- 1.4  $\mu\text{m}$  x 1.4  $\mu\text{m}$  pixel
- 5MP at 30 fps
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports images sizes:
  - 5MP (2592x1944)
  - quad HD (2560x1440)
  - 1080p (1920x1080)
  - 720p (1280x720)
  - VGA (640 x 480), and more
- 16 bytes of embedded one-time programmable (OTP) memory for customer use
- ultra low power mode (ULPM)
- support for output formats: 10-bit RGB RAW
- interleave row HDR output
- two-wire serial bus control (SCCB)
- MIPI serial output interface (1- or 2-lane)
- 2x binning support
- image quality control:
  - defect pixel correction
  - automatic black level calibration

# OV5695



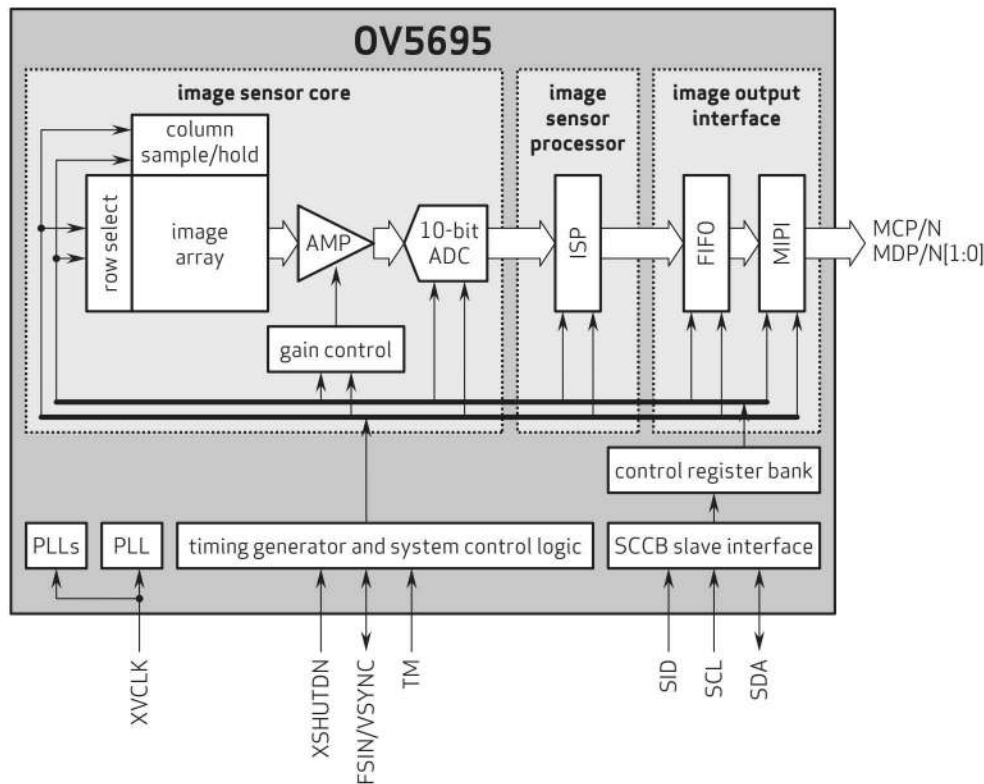
## Ordering Information

- OV5695-GA4A-1B**  
(color, chip probing, 200  $\mu\text{m}$  backgrinding, rev 1B, reconstructed wafer)

## Product Specifications

- active array size:** 2592 x 1944
- power supply:**
  - core: 1.14 - 1.26V (1.2V nominal)
  - analog: 2.7 - 3.0V (2.8V nominal)
  - I/O: 1.7 - 1.9V (1.8V nominal)
- power requirements:**
  - active: 155 mW
  - standby: 61  $\mu\text{W}$
  - XSHUTDOWN: 36  $\mu\text{W}$
- temperature range:**
  - operating: -30°C to +70°C junction temperature
  - stable image: -20°C to +60°C junction temperature
- output interface:** 2-lane MIPI serial output
- output formats:** 10-bit RGB RAW
- lens size:** 1/4"
- lens chief ray angle:** 31.08° non-linear
- input clock frequency:** 6 - 27 MHz
- maximum image transfer rate:**
  - 5MP (2592x1944): 30 fps
  - quad HD (2560x1440): 30 fps
  - 1080p (1920x1080): 60 fps
  - 720p (1280x720): 60 fps
  - VGA (640x480): 120 fps
- pixel size:** 1.4  $\mu\text{m}$  x 1.4  $\mu\text{m}$
- dark current:** 15 e<sup>-</sup>/sec @ 60°C junction temperature
- image area:** 3684  $\mu\text{m}$  x 2763  $\mu\text{m}$
- dimensions:**
  - COB: 5022  $\mu\text{m}$  x 3933  $\mu\text{m}$
  - RW: 5072  $\mu\text{m}$  x 3983  $\mu\text{m}$

## 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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