

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.



Applications

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

Product Features

- 1.4 μm x 1.4 μm 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



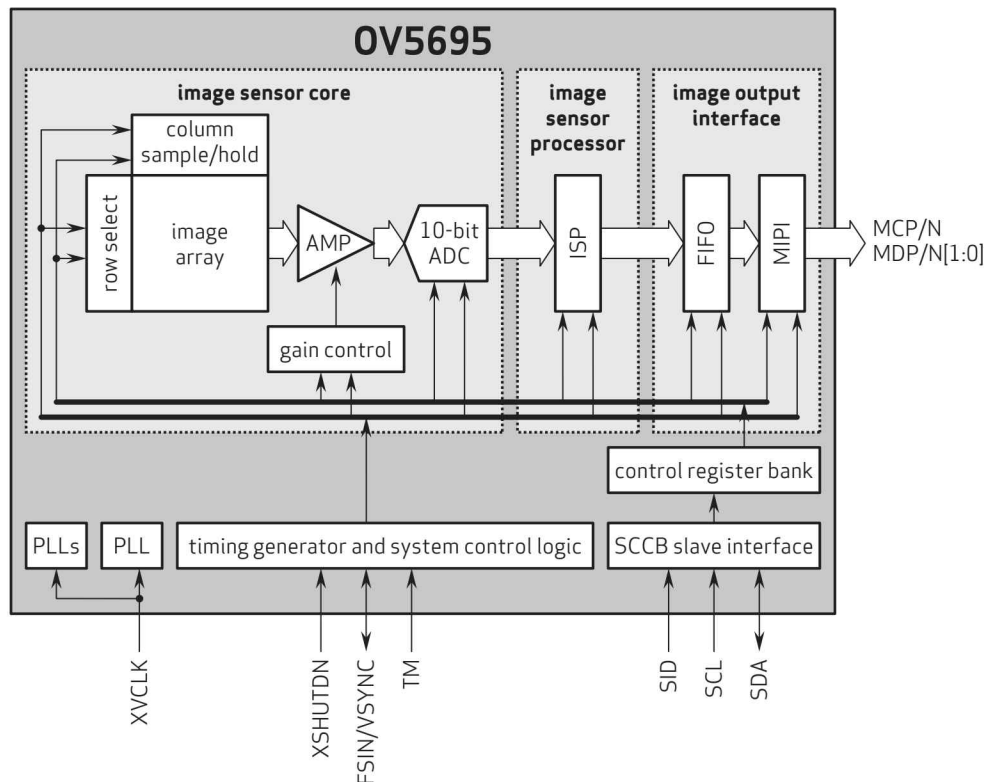
Ordering Information

- OV5695-GA4A-1B**
(color, chip probing, 200 μm 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)
- 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 μm x 1.4 μm
- dark current:** 15 e⁻/sec @ 60°C junction temperature
- image area:** 3684 μm x 2763 μm
- dimensions:**
 - COB: 5022 μm x 3933 μm
 - RW: 5072 μm x 3983 μm

Functional Block Diagram



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