



The OV5693 is OMNIVISION's highest performance 1/4-inch, 5-megapixel image sensor, delivering DSC-quality imaging and low-light performance as well as full 1080p highdefinition video recording at 30 frames per second (fps). Using OMNIVISION's proprietary 1.4-micron OmniBSI™-2 pixel architecture, the OV5693 provides best-in-class lowlight performance and image quality in a slim camera module. This makes the OV5693 an ideal camera solution for slim flagship smartphones and tablets, providing exceptional 5-megapixel "selfie" images and high-quality 1080p video.

Leveraging OMNIVISION's second-generation industryleading backside illumination pixel technology, the OV5693 offers full resolution 5-megapixel images at 30 fps, an integrated scaler, and 2x2 binning functionality with re-sampling filter. The scaler enables electronic image stabilization, while maintaining full field-of-view in both 720p and 1080p HD video modes. The 2x2 binning functionality, which features a post-binning re-sampling filter, further increases the sensor's sensitivity, while minimizing spatial artifacts and removing image artifacts around edges to produce crisp, clean color images.

The sensor features a high-speed 2-lane MIPI interface running up to 900 Mbps per lane and fits into an industry standard module size of 8.5 x 8.5 mm with a z-height of 4.2 mm for an autofocus module.

Find out more at www.ovt.com.



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OV5693

OV05693-G06H-3A (color, chip probing, 180 μm backgrinding, reconstructed 8" wafer with good die)

 OV05693-G36H-3A (color, chip probing, 180 µm backgrinding, reconstructed 12" wafer with good die)

Applications

- cellular and mobile phones
- digital still cameras (DSC)
- digital video camcorders (DVC)

Technical Specifications

- active array size: 2592 x 1944
- maximum image transfer rate:
 5MP: 30 fps
 EIS1080p: 30 fps
- 1080p: 30 fps
- power supply:
- core: 1.16 ~ 1.3V (1.2V typical) - analog: 2.6 ~ 3.0V
- I/0: 1.7 ~ 3.0V
- power requirements:
 active: 239 mW
- XSHUTDN: 1 µW
- output formats: 10-bit RGB RAW

- temperature range:
 operating: -30°C to +85°C
 - junction temperature - stable image: 0°C to +60°C junction temperature
- Iens size: 1/4"

PC multimedia

3D cameras

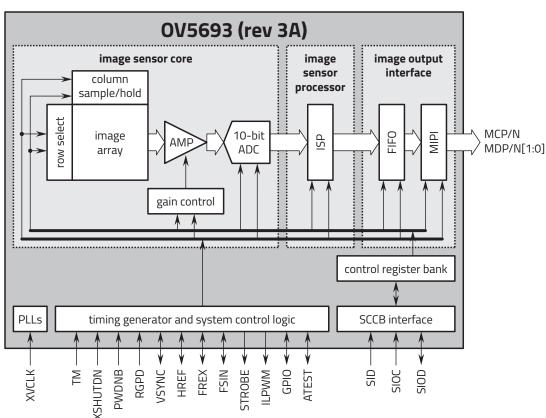
- Iens chief ray angle: 29.7° non-linear
- scan mode: progressive
- pixel size: 1.4 µm x 1.4 µm
- image area: 3673.6 μm x 2738.4 μm

Product Features

Ordering Information

- automatic black level calibration (ABLC)
- programmable controls for:
 - frame rate
- mirror and flip
- croppingwindowing
- scaling
- image quality controls:
- lens correction
 defective pixel canceling
- supports output formats: 10-bit RAW RGB (MIPI)
- supports horizontal and vertical subsampling
- supports images sizes:
 5MP
- EIS1080p
- 1080p
- 720p
- VGA - QVGA

- fast mode switching
- supports 3D applications
- support 2x2 binning, full scalar
- standard serial SCCB interface
- up to 2-lane MIPI serial output interface
- embedded 512 bytes one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loop (PLL)
- programmable I/O drive capability
- built-in 1.2V regulator for core
- built-in temperature sensor
- supports alternate row HDR timing





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Functional Block Diagram