

OV5675 5-megapixel product brief



The Industry's Smallest 5-Megapixel PureCel® Sensor for Smartphones and Tablets



available in
a lead-free
package

OmniVision's high performance OV5675 is a 5-megapixel PureCel sensor designed to bring high quality imaging capabilities to front- and rear-facing cameras in smartphones and tablets. The industry's smallest 5-megapixel currently available, the cost-effective OV5675 offers dramatically improved image and video quality in a compact and power-efficient package.

The 1/5-inch sensor can capture full resolution 5-megapixel images in a native 4:3 aspect ratio at 30 frames per second (fps), or 720p high definition (HD) and 1080p video at 60 fps. Additionally, the OV5675 supports ultra-low power mode, which enables QVGA video recording at 30 fps while requiring less than 25 mW.

The OV5675 fits into a compact 5.5 x 5.5 x 3.5 mm module.

Find out more at www.ovt.com.



Applications

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

Product Features

- 1.12 μm x 1.12 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 (640x480), and more
- 260 bytes of embedded one-time programmable (OTP) memory for customer use
- 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

OV5675



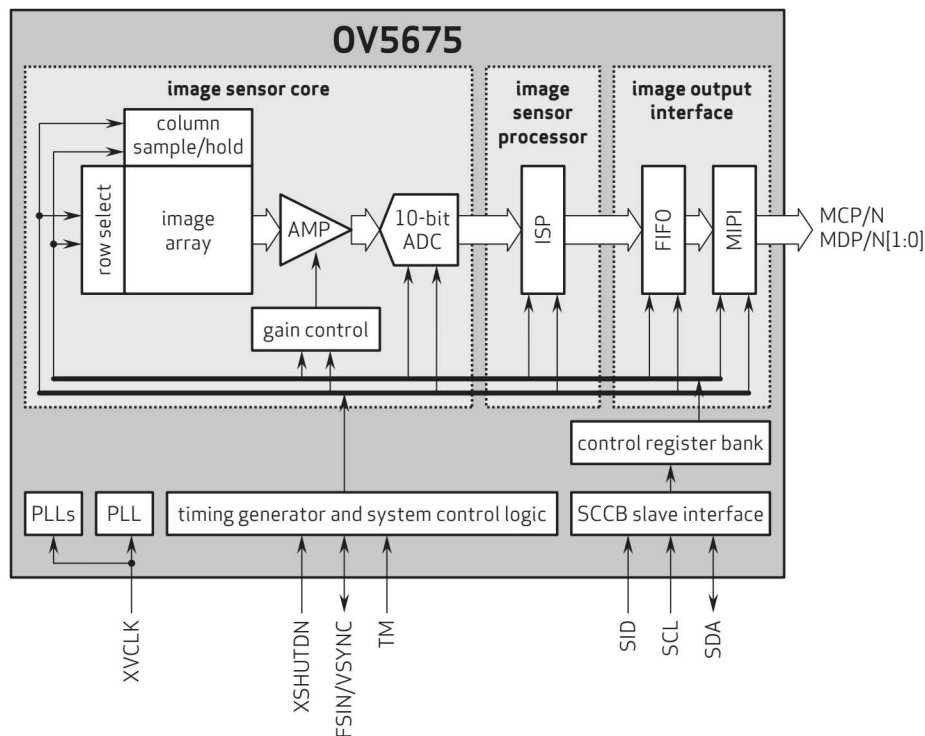
Ordering Information

- OV05675-GA4A**
(color, chip probing, 200 μm backgrinding, reconstructed wafer)

Product Specifications

- active array size:** 2592 x 1944
- input clock frequency:** 6 - 27 MHz
- power supply:**
 - core: 1.14 - 1.26V (1.2V nominal)
 - analog: 2.6 - 3.0V (2.8V nominal)
 - I/O: 1.7 - 1.9V (1.8V nominal)
- power requirements:**
 - active: 96 mW
 - standby: 165 μW
 - XSHUTDOWN: 1 μW
- temperature range:**
 - operating: -30°C to +85°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:** 1/5"
- lens chief ray angle:** 31.24° non-linear
- 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
- sensitivity:** 530 mV/lux-sec
- max S/N ratio:** 35.7 dB
- dynamic range:** 69.7 dB @ 16x gain
- pixel size:** 1.12 μm x 1.12 μm
- dark current:** 6 e⁻/sec @ 60°C junction temperature
- image area:** 2928.384 μm x 2205.216 μm
- dimensions:**
 - COB: 3771 μm x 3226.5 μm
 - RW: 3821 μm x 3276.5 μm

Functional Block Diagram



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