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]
- 10-bit RGB RAW
- support for output formats:
  - 2x binning support
- image quality control:
  - automatic black level calibration
  - gain control
  - focus control
- row select
- sample/hold
- column
- image array
- image sensor core
- image sensor processor
- image output interface
- IP
- FIFO
- MDP/N[1:0]
- control register bank
- PLLs
- PLL
- timing generator and system control logic
- SCCL Slave Interface
- XCLK
- XSHUTDN
- TM
- SID
- SCL
- SDA

### Functional Block Diagram

### Ordering Information
- OV5675-6A4A
  (color, chip probing, 200 µm backgrinding, reconstructed wafer)

### Product Specifications
- active array size: 2592 x 1944
- 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
  - XSHUTDN: 1 µW
- temperature range:
  - operating: -30°C to +85°C junction
  - stable image: -20°C to +60°C junction
- output interface: 2-lane MIPI serial output
- output formats: 10-bit RGB RAW
- lens size: 1/5" non-linear
- image 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
- maximum image transfer rate:
  - 10-bit RGB RAW
  - windowing
  - cropping
  - mirror and flip
  - frame rate
  - 69.7 dB @ 16x gain
  - data format: 2x binning support
  - image quality control:
  - automatic black level calibration
  - gain control
  - focus control
  - row select
  - sample/hold
  - column
  - image array
  - image sensor core
  - image sensor processor
  - image output interface
  - IP
  - FIFO
  - MDP/N[1:0]
  - control register bank
  - PLLs
  - PLL
  - timing generator and system control logic
  - SCCL Slave Interface
  - XCLK
  - XSHUTDN
  - TM
  - SID
  - SCL
  - SDA

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