



OV5675

5-megapixel product brief



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

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.



- OV5675-GA4A (color, chip probing, 200 µm backgrinding, reconstructed wafer)

Applications

- smartphones and feature phones
- tablets
- PC multimedia
- wearables

Technical Specifications

- active array size: 2592 x 1944
- 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
- pixel size: 1.12 µm x 1.12 µm
- image area: 2928.384 µm x 2205.216 µm
- maximum image transfer rate:
 - 5MP (2592 x 1944): 30 fps
 - quad HD (2560 x 1440): 30 fps
 - 1080p (1920 x 1080): 60 fps
 - 720p (1280 x 720): 60 fps
 - VGA (640 x 480): 120 fps
- power supply:
 - analog: 2.6 ~ 3.0V (2.8V nominal)
 - core: 1.14 ~ 1.26V (1.2V nominal)
 - I/O: 1.7 ~ 1.9V (1.8V nominal)
- power requirements:
 - active: 96 mW
 - standby: 165 µW
 - XSHUTDOWN: 1 µW

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 (2592 x 1944)
 - quad HD (2560 x 1440)
 - 1080p (1920 x 1080)
 - 720p (1280 x 720)
 - VGA (640 x 480), 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

Functional Block Diagram

