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.
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

Product Specifications

- active array size: 2592 x 1944
- power supply:
  - core: 1.14 to 1.26V (1.2V nominal)
  - analog: 2.6 to 3.0V (2.8V nominal)
  - I/O: 1.7 to 1.9V (1.8V nominal)
- power requirements:
  - active: 96 mW
  - standby: 165 µW
  - XSHUTDN: 1 µW
- temperature range:
  - operating: -30°C to +85°C
  - stable image: 20°C to +60°C
- 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
- input clock frequency: 6 to 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
- 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

Applications

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

Ordering Information

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