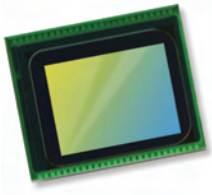
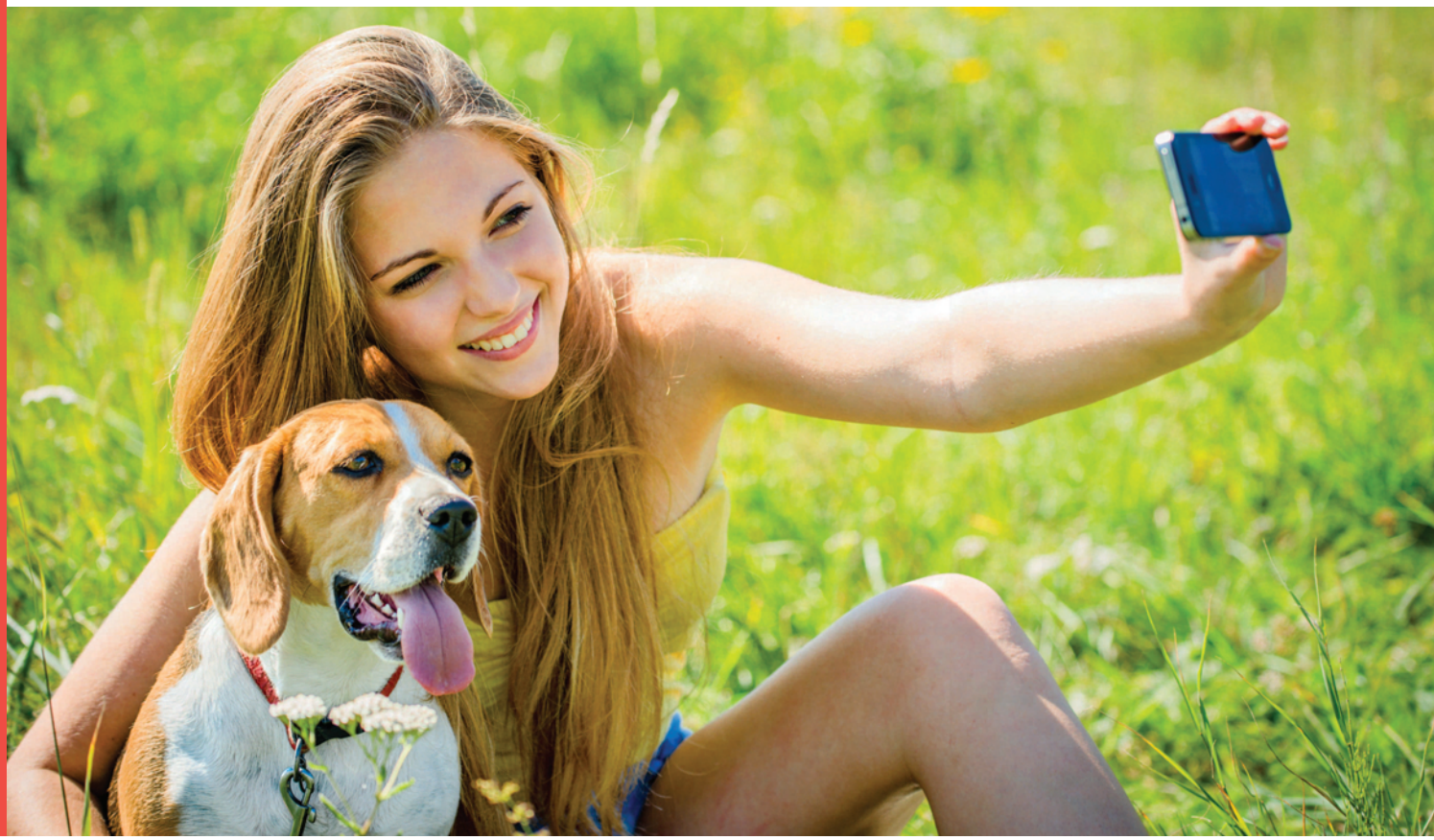


OV2685 2MP product brief



lead free

available in a lead-free package

Cost-Effective, Low-Power 2-Megapixel Sensors for Feature Phones, Smartphones and Tablets

The OV2685 is a cost-effective, low-power 2-megapixel CameraChip™ sensor for feature phones and front-facing camera applications in smartphones and tablets. The 1/5-inch sensors leverage a 1.75-micron OmniPixel3-HS™ pixel to deliver high quality 2-megapixel images and video at 30 frames per second (fps). The sensor's high sensitivity and low dark current deliver exceptional image and video quality, even in low-light conditions.

The OV2685 is a cost-effective upgrade solution to the OV2659 & OV2675 CameraChip sensors with a smaller footprint and smaller die size.

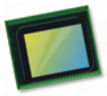
Compared to previous generations, the OV2685 offers improved image quality with the latest OmniPixel3-HS pixel architecture. Using OmniVision's proprietary sensor technology, the sensor reduces or eliminates common lighting and electrical sources of image contamination, such as fixed pattern noise, smearing, etc., to produce a clean, stable, color image.

The OV2685 features a single-lane MIPI interface, which allows for a simple design with modern basebands.

Find out more at www.ovt.com.

OmniVision

OV2685



Applications

- Ultrabooks
- PC Multimedia
- Games
- Home Entertainment
- Cellular and Picture Phones
- Tablets
- Toys

Ordering Information

- **OV02685-H53A**
  (color, lead-free, 53-pin CSP5)

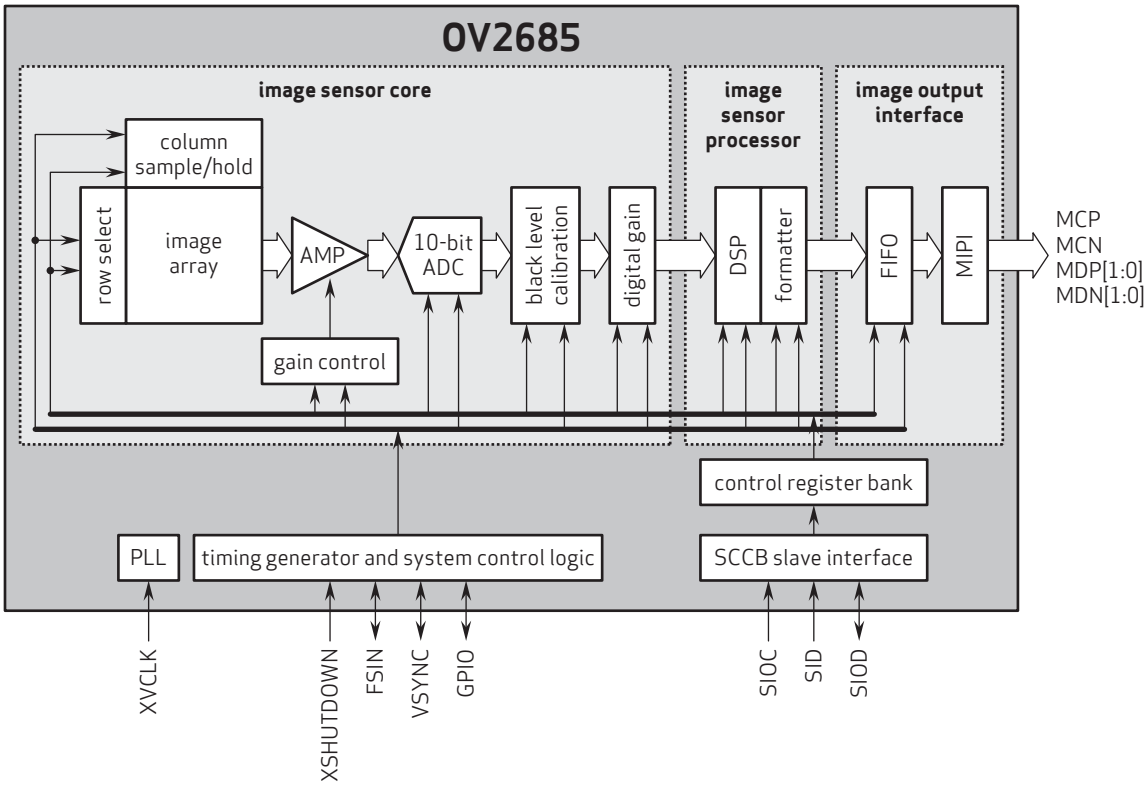
Product Features

- 1.75 µm x 1.75 µm pixel with OmniPixel3-HS™ technology
- optical size of 1/5"
- 28.0° CRA
- supports images sizes:
  - UXGA (1600Hx1200V)
  - 1600 HD+ (1600Hx900V)
  - SXGA (1280Hx960V)
  - 720p (1280Hx720V), and more
- support for output formats:
  - 10-bit RGB RAW
  - 8-bit YUV
- 2MP at 30 fps
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- two-wire serial bus control (SCCB)
- MIPI serial output interface (2-lane MIPI)
- automatic image control functions:
  - automatic exposure control (AEC)
  - automatic gain control (AGC)
  - auto white balance (AWB)
  - image de-noise
- on-chip phase lock loops (PLLs)
- image quality control:
  - defect pixel correction
  - saturation
  - hue
  - gamma
  - lens correction
  - automatic black level calibration
- suitable for module size of 6 x 6 x 4.43 mm

Product Specifications

- **active array size:** 1616 x 1216
- **power supply:**
  - **core:** 1.7 - 1.9V
  - **analog:** 2.6 - 3.0V
  - **I/O:** 1.7 - 3.0V
- **power requirements:**
  - **active:** 259 mW
  - **XSHUTDN:** <1 µA
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
  - **stable image:** 0°C to +50°C junction temperature
- **output formats:** 10-bit RGB RAW, 8-bit YUV
- **lens size:** 1/5"
- **lens chief ray angle:** 28.5° non-linear
- **input clock frequency:** 6 - 27 MHz
- **max S/N ratio:** 36 dB
- **dynamic range:** 66 dB @ 8x gain
- **maximum image transfer rate:** 30 fps
- **sensitivity:** 7 ke-/lux-sec
- **scan mode:** progressive
- **maximum exposure interval:** 1 frame - 4 t_{ROW}
- **pixel size:** 1.75 µm x 1.75 µm
- **dark current:** 6.5 e-/sec @ 50°C junction temperature
- **image area:** 2840 µm x 2150 µm
- **package dimensions:** 4454 µm x 4014 µm

Functional Block Diagram



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