OV2740

1080p product brief

World's Most Power-Efficient 1080p/60 High Definition Image Sensor for Front-Facing Camera Applications

OMNIVISION's OV2740 PureCel® is an ultra-low power, full high-definition (FHD) image sensor for front-facing camera applications in smartphones, tablets, notebooks and Ultrabooks. By consuming under 90 mW when recording 1080p HD video at 60 frames per second (fps), the OV2740 is the lowest power 1080p/60 image sensor currently on the market.

Built on a 1.4-micron pixel, the OV2740 PureCel® image sensor boasts a signal-to-noise ratio of less than 50 lux, with improvements in full-well capacity (FWC) and sensitivity. The sensor records best-in-class 1080p HD video at 60 fps and 720p HD video at 90 fps, and uses staggered high dynamic range (HDR) to minimize motion artifacts to capture crisp, clear video in difficult lighting conditions.

The OV2740 is the only 1080p HD image sensor to feature light-sensing mode (LSM) and ultra-low power mode (ULPM), enabling advanced features such as motion detection or gesture control. Additionally, the sensor is stereo ready with frame synchronization to support a host of depth perception applications. The OV2740 fits into a compact 5.5 x 5.5 x 3 mm module.

Find out more at www.ovt.com.

OMNIVISION®

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Ordering Information

- OV02740-H34A (color, lead-free)
  34-pin CSP

Applications

- smartphones
- Ultrabooks and notebooks
- tablets
- digital still cameras (DSC)
- digital video camcorders (DVC)
- PC multimedia

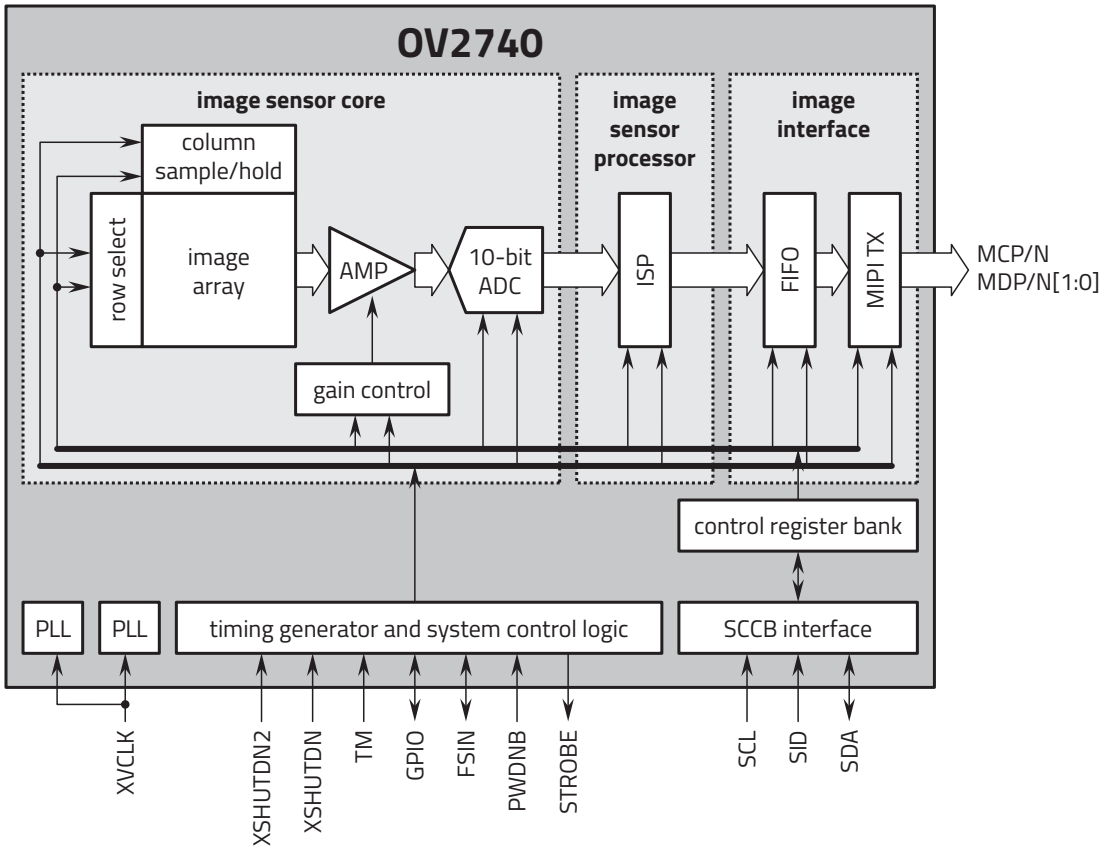
Technical Specifications

- **active array size:** 1920 x 1080
- **maximum image transfer rate:**
  - 1080p: 60 fps
  - 720p: 90 fps
- **power supply:**
  - core: 1.2V
  - analog: 2.8V
  - I/O: 1.8V
- **power requirements:**
  - active: 90 mW
  - standby: 210 µA
  - XSHUTDN: 0.6 µA
- **output formats:** 10-bit RAW RGB
- **temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +60°C junction temperature
- **lens size:** 1/6"
- **lens chief ray angle:** 33° non-linear
- **scan mode:** progressive
- **pixel size:** 1.4 µm x 1.4 µm
- **image area:** 2728.8 µm x 1549.8 µm

Product Features

- 1.4 µm x 1.4 µm pixel
- optical size of 1/6"
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports output formats: 10-bit RAW RGB
- supports images sizes:
  - 1080p (1920 x 1080)
  - 720p (1280 x 720)
  - VGA (640 x 480)
  - QVGA (320 x 240)
  - QQVGA (160 x 120)
- supports 2x2 binning
- standard serial SCCB interface
- up to 2-lane MIPI serial output interface (supports maximum speed up to 1000 Mbps/lane)
- embedded 2 kilobits of one-time programmable (OTP) memory for customer use
- add staggered HDR raw data output (does not support LENC and DPC for staggered HDR)
- interleave row high dynamic range (iHDR) output
- programmable I/O drive capability
- light sensing mode (LSM)
- support for LENC color shading correction

Functional Block Diagram



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