

OV2740 1080p product brief



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



available in
a lead-free
package

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.



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Applications

- Smartphones
- Ultrabooks and Notebooks
- Tablets
- Digital Still Cameras (DSC)
- Digital Video Camcorders (DVC)
- PC Multimedia

OV2740



Product Features

- 1.4 $\mu\text{m} \times 1.4 \mu\text{m}$ pixel
- optical size of 1/6"
- programmable controls for frame rate, mirror and flip, cropping, and windowing
- supports output formats: 10-bit RAW RGB
- supports images sizes:
 - 1080p (1920x1080)
 - 720p (1280x720)
 - VGA (640x480)
 - QVGA (320x240)
 - QQVGA (160x120)
- supports 2x2 binning
- standard serial SCCB interface
- up to 2-lane MIPI serial output interface (supports maximum speed up to 1000 Mbps/lane)
- embedded 4 kilobits of one-time programmable (OTP) memory for customer use
- add staggered HDR raw data output
- interleave row high dynamic range (iHDR) output
- programmable I/O drive capability
- power saving (PSV) mode
- support for LENC color shading correction

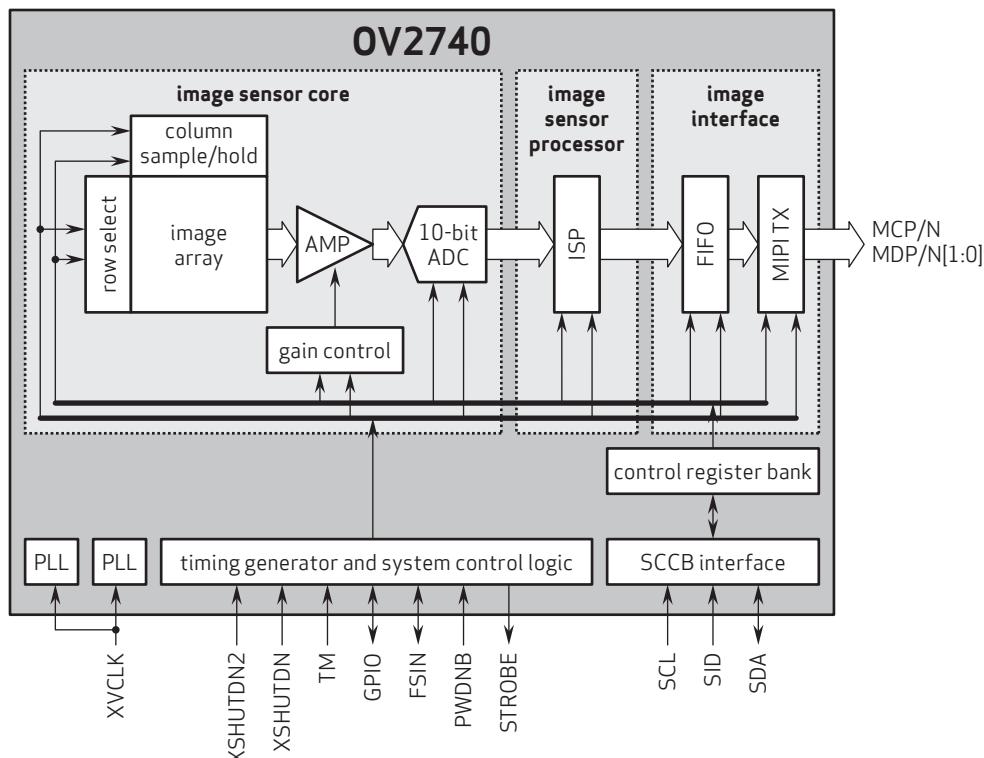
Ordering Information

- OV02740-H34A-Z
(color, lead-free, 34-pin CSP5)

Product Specifications

- **active array size:** 1920 x 1080
- **lens size:** 1/6"
- **power supply:**
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V
- **lens chief ray angle:** 33° non-linear
- **input clock frequency:** 6 - 27 MHz
- **maximum image transfer rate:**
 - 1080p: 60 fps
 - 720p: 90 fps
- **scan mode:** progressive
- **pixel size:** 1.4 $\mu\text{m} \times 1.4 \mu\text{m}$
- **image area:** 2728.8 $\mu\text{m} \times 1549.8 \mu\text{m}$
- **temperature range:**
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- **package dimensions:**
 - CSP5: 3855 $\mu\text{m} \times 2919 \mu\text{m}$
- **output formats:** 10-bit RAW RGB data

Functional Block Diagram



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Version 1.3, October, 2014

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