Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!
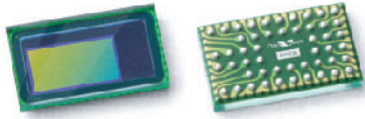

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OV2720 full HD (1080p) product brief

High Quality 1080p HD Video for Ultra-Compact Notebooks and Tablets

lead free

available in a lead-free package

The OV2720 is the world's first 1/6-inch, native 1080p/30 high-definition (HD) CMOS image sensor designed for notebook, tablet, webcam and video conferencing applications. Built on our proprietary 1.4-micron OmniBSI™ pixel architecture, the OV2720 allows for extremely thin camera modules with a z-height of 3.5 mm, while delivering video conference quality 1080p HD video, making it an ideal choice for the next generation of ultra-thin, HD video-enabled notebooks and tablets.

A native HD sensor, the OV2720 offers optimal performance because it does not suffer from degradation or image artifacts due to scaling or cropping. Instead, native HD enables full field of view video with optimized image quality, sensitivity, color reproduction and clarity. Enabled by OmniBSI architecture, the sensor achieves best-in-class low-light sensitivity of 650 mV/lux-sec. Using a binning feature, OV2720's low-light performance can be

double that of similar-sized VGA sensors, making it an ideal choice for video conferencing and webcam applications.

The OV2720 supports multiple platform architectures and controllers with both parallel and MIPI interfaces. It allows system designers to leverage the same optoelectrical design across various products and multiple market segments to reduce product development time.

Exposure control, white balance and defective pixel canceling are programmable through the SCCB interface. In addition, OmniVision image sensors use proprietary sensor technology to improve image quality by reducing or eliminating common lighting and electrical sources of image contamination, such as fixed pattern noise and smearing to produce a clean, fully stable color image.
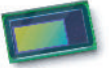
Find out more at www.ovt.com.

OmniVision®

OV2720

Applications

- Notebooks
- Portable Media Players
- Cellular Phones
- Tablets
- PC Multimedia
- Digital Still Cameras
- Entertainment

Ordering Information

- OV02720-A50A
  (color, lead-free, 50-pin CSP3)
- OV02720-G04A
  (color, chip probing, 200 µm backgrinding, reconstructed wafer)

Product Features

- 1.4 µm x 1.4 µm pixel with OmniBSI technology for high performance (high sensitivity, low crosstalk, low noise)
- optical size of 1/6"
- automatic image control functions:
  - automatic exposure control (AEC)
  - automatic white balance (AWB)
  - automatic band filter (ABF)
  - automatic black level calibration (ABLC)
- programmable controls for frame rate, AEC/AGC 16-zone size/position/weight control, mirror and flip, cropping, windowing, and panning
- image quality controls: lens correction, 2-D defective pixel canceling
- support for output formats: 8/10-bit RAW RGB data
- support for video or snapshot operations
- support for horizontal and vertical sub-sampling
- standard serial SCCB interface
- digital video port (DVP) parallel output interface
- MIPI interface (two lanes)
- support for second camera interface
- 32 bytes of embedded one-time programmable (OTP) memory
- on-chip phase lock loop (PLL)
- embedded 1.5V regulator for core power
- programmable I/O drive capability, I/O tri-state configurability
- support for black sun cancellation
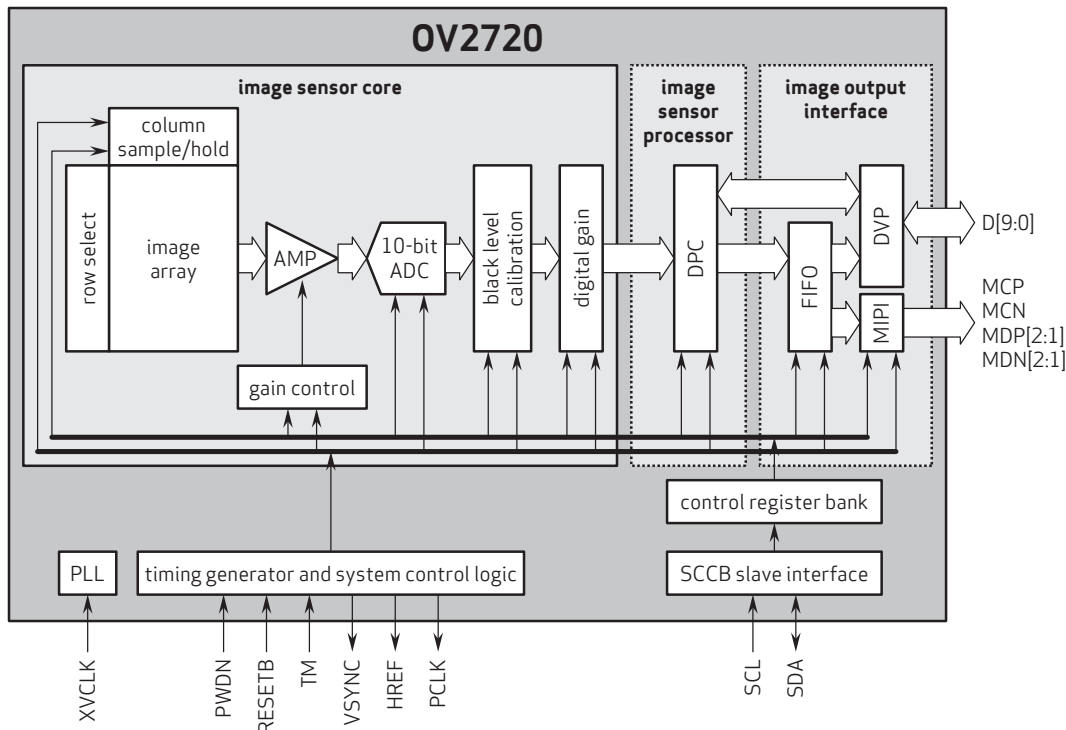- suitable for module size of 6.5 x 6.5 x 3.5 mm

Product Specifications

- **active array size:** 1932 x 1092
- **power supply:**
  - **analog:** 2.6 - 3.0V (2.8V typical)
  - **core:** 1.5V ±5% (with embedded 1.5V regulator)
  - **I/O:** 1.7 - 3.0V
- **power requirements:**
  - **active:** 74 mA
  - **standby:** 15 µA
- **temperature range:**
  - **operating:** -20°C to 70°C junction temperature
  - **stable image:** 0°C to 50°C junction temperature
- **output formats:** 8/10-bit RAW RGB
- **lens size:** 1/6"
- **lens chief ray angle:** 28°
- **input clock frequency:** 6 - 27 MHz
- **max S/N ratio:** 35 dB
- **dynamic range:** 68 dB @ 8x gain
- **maximum image transfer rate:**
  - **1080p:** 30 fps
  - **720p:** 60 fps
  - **VGA:** 120 fps
  - **QVGA:** 240 fps
- **sensitivity:** 650 mV/lux-sec
- **shutter:** rolling shutter
- **maximum exposure interval:** $1118 \times t_{ROW}$
- **pixel size:** 1.4 µm x 1.4 µm
- **dark current:** 5 mV/s @ 60°C junction temperature
- **image area:** 2732.8 µm x 1534.4 µm
- **package/die dimensions:**
  - **CSP3:** 5385 µm x 3285 µm
  - **COB:** 5400 µm x 3300 µm

Functional Block Diagram

OmniVision.