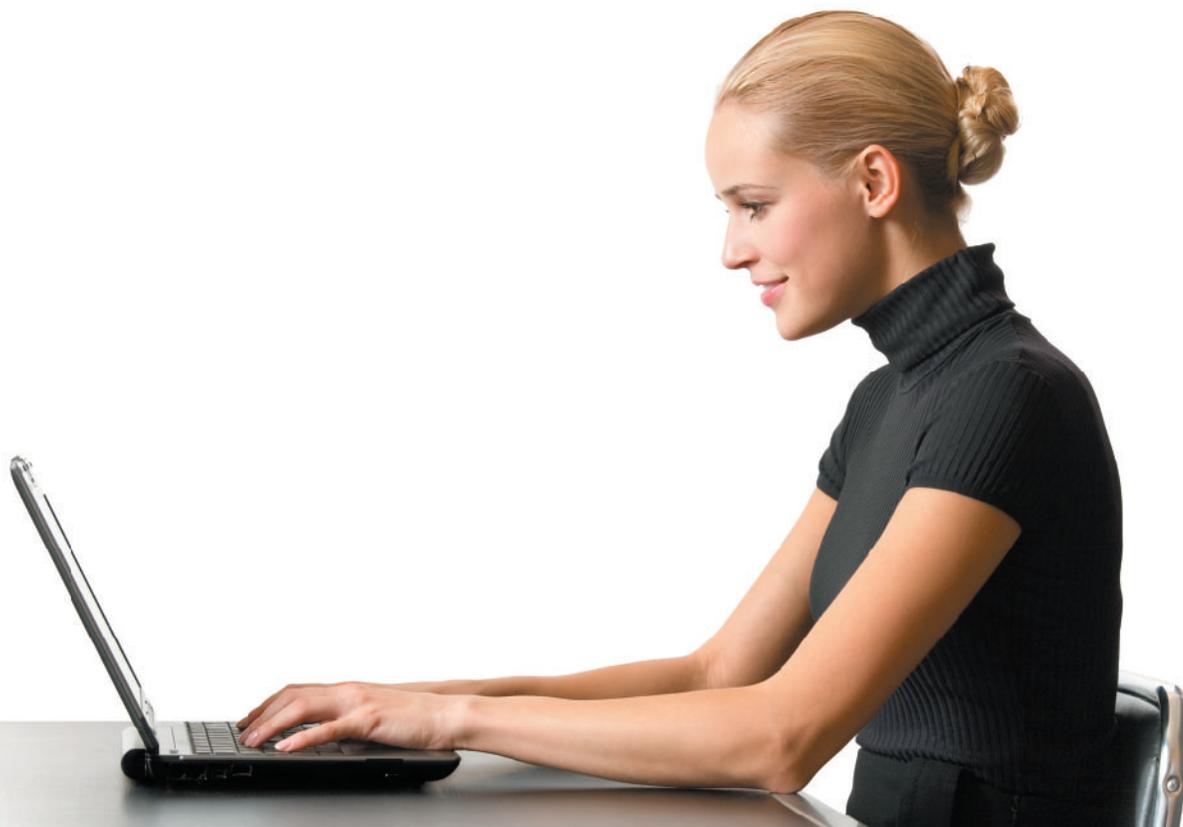


# OV2710 full HD (1080p) product brief



## OmniVision's True 1080p High Definition (HD) Video Image Sensor



available in  
a lead-free  
package

The OV2710 is a true full HD (1080p) CMOS image sensor designed specifically to deliver high-end HD video to digital video camcorders, notebooks, PC webcam and other mobile applications. The 1/2.7-inch OV2710 addresses the fast growing demand for affordable, HD-quality digital video solutions for video conferencing and recording.

The OV2710 is among the very first no-compromise full HD (1080p) sensors available on the market, meaning it offers the HD video format with a display resolution of 1920 x 1080 pixels, operating at 30 frames per second. Built with OmniVision's proprietary 3  $\mu\text{m}$  OmniPixel3-HS™ high sensitivity pixel technology, the OV2710 delivers low-light sensitivity of 3300 mV/lux-sec, S/N ratio of 39 dB, and a peak

dynamic range of 69 dB, enabling cameras to operate in virtually every lighting condition from bright daylight to nearly complete darkness below 15 lux.

The OV2710 supports multiple platform architectures and controllers with both parallel and MIPI interfaces. By allowing system designers to leverage the same opto-electrical design across various products and multiple market segments, the OV2710 significantly reduces product development time. OmniVision's OmniPixel3-HS pixel technology has already been proven in high quality webcam/video applications and is now available in 1080p full HD in the OV2710.

Find out more at [www.ovt.com](http://www.ovt.com).

## Applications

- Notebooks
- Digital Still Cameras
- PC Webcams
- Telepresence
- Camcorders
- Portable Media Players

## Product Features

- programmable controls: gain, exposure, frame rate, image size, horizontal mirror, vertical flip, cropping, windowing, and panning
- automatic image control functions:
  - automatic exposure (AEC)
  - automatic gain control (AGC)
  - automatic white balance (AWB)
  - automatic black level calibration (ABLC)
- serial camera control bus (SCCB)
- lens correction (LENC)
- defect pixel correction (DPC)
- support for digital video port (DVP) parallel output interface
- integrated auto focus filter
- support for one lane MIPI interface (up to 800 Mbps)
- support for 8-/10-bit RAW RGB output format
- support for image sizes:
  - 1080p at 30 fps
  - cropped 720p at 60 fps
  - VGA at 120 fps
- support for black sun cancellation
- embedded one-time programmable (OTP) memory
- on-chip phase lock loop (PLL)
- built-in 1.5V regulator for core

# OV2710



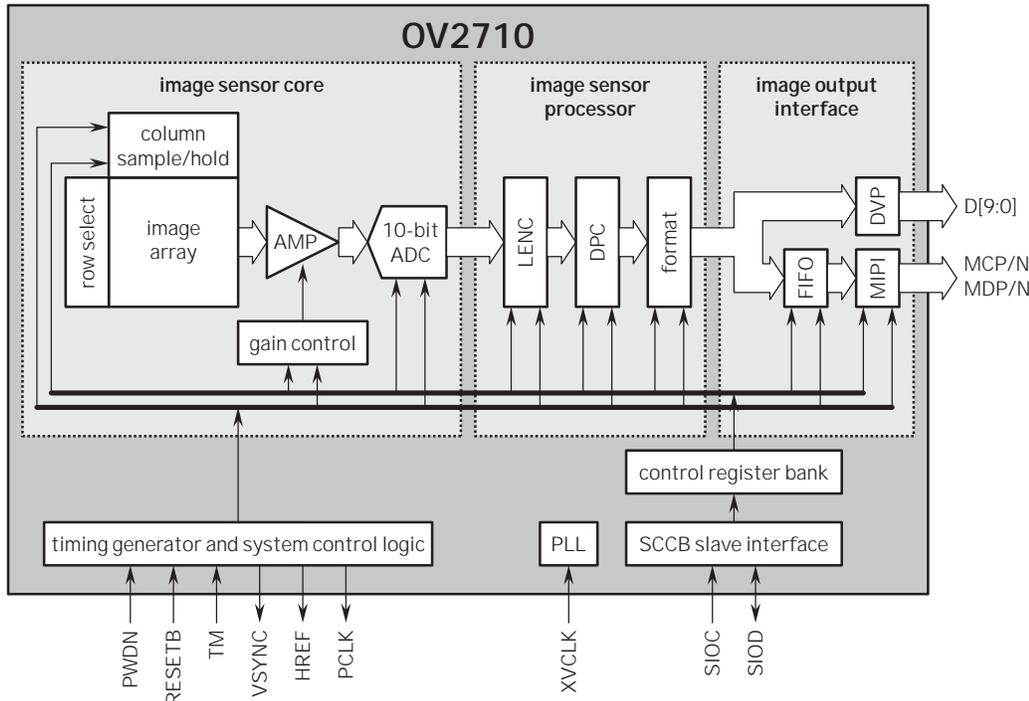
## Ordering Information

- OV02710-A68A (color, lead-free, 68-pin CSP3)
- OV02710-G04A (color, chip probing, 200 µm backgrinding, reconstructed wafer)

## Product Specifications

- active array size: 1920 x 1080
- scan mode: progressive
- power supply:
  - analog: 3.0 - 3.6V (3.3V typical)
  - core: 1.425 - 1.575V (1.5V typical)
  - I/O: 1.7 - 3.6V (1.8V typical)
- power requirements:
  - active: 350 mW
  - power down: 70 µA
- temperature range:
  - operating: -30°C to 85°C junction temperature
  - stable image: 0°C to 65°C junction temperature
- output interfaces: 10-bit parallel/one lane MIPI
- output formats: 10-bit RAW RGB
- lens size: 1/2.7"
- lens chief ray angle: 23.6°
- input clock frequency: 6 - 27 MHz
- maximum image transfer rate:
  - 1080p: 30 fps
  - cropped 720p: 60 fps
  - VGA: 120 fps
  - QVGA: 240 fps
- sensitivity: 3300 mV/lux-sec
- shutter: rolling
- max S/N ratio: 39 dB
- dynamic range: 69 dB @ 8x gain
- maximum exposure interval: 1096 x t<sub>row</sub>
- pixel size: 3 µm x 3 µm
- dark current: 20 mV/sec @ 60°C junction temperature
- image area: 5856 µm x 3276 µm
- package dimensions:
  - CSP3: 7465 µm x 5865 µm
  - COB: 7460 µm x 5860 µm

## Functional Block Diagram



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