



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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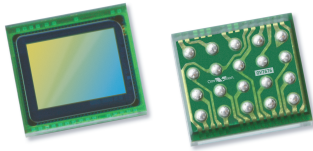
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China







# OV7676 VGA product brief



available in  
a lead-free  
package

## Cost-Effective VGA Sensor Delivers Best-In-Class Pixel Performance to Wide Range of Consumer Applications

OmniVision's high performance OV7676 is a cost-effective 1/7.5-inch system-on-a-chip (SOC) VGA sensor that brings best-in-class pixel performance to a wide range of applications, including mobile phones, tablets, wearables, notebooks, and IP network cameras.

Utilizing OmniVision's 3-micron OmniPixel3-HS™ technology, the OV7676 achieves best-in-class low-light sensitivity, signal-to-noise ratio, full-well capacity (FWC), quantum efficiency and low-power consumption. The OV7676 supports serial peripheral interface (SPI) and digital video port (DVP) interface customization for both smartphone and feature phone platforms.

When used as a front-facing camera solution in smartphones, tablets and notebooks, the OV7676 also supports video-in-video functionality, allowing users to record and stitch together video being recorded simultaneously by the front- and rear-facing cameras.

The OV7676 fits into a 2.73 x 2.47 mm chip-scale package (CSP).

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



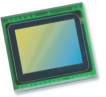
## Applications

- Mobile Phones
- Toys
- PC Multimedia
- Digital Still Cameras

## Product Features

- support for image sizes: VGA (640x480), QVGA (320x240) and CIF (352x288)
- support for horizontal and vertical sub-sampling
- support for output formats: RAW RGB and YUV output with DVP and SPI port
- automatic image control functions:
  - automatic exposure control (AEC)
  - automatic white balance (AWB)
  - automatic black level calibration (ABLC)
- on-chip phase lock loop (PLL)
- image quality controls: defect pixel correction and lens shading correction
- built-in 1.8V regulator for digital block
- support for black sun cancellation
- capable of maintaining register values at software power down
- standard serial SCCB interface
- programmable controls for frame rate, mirror and flip, AEC/AGC, and windowing
- parallel I/O tri-state configurability and programmable polarity

# OV7676



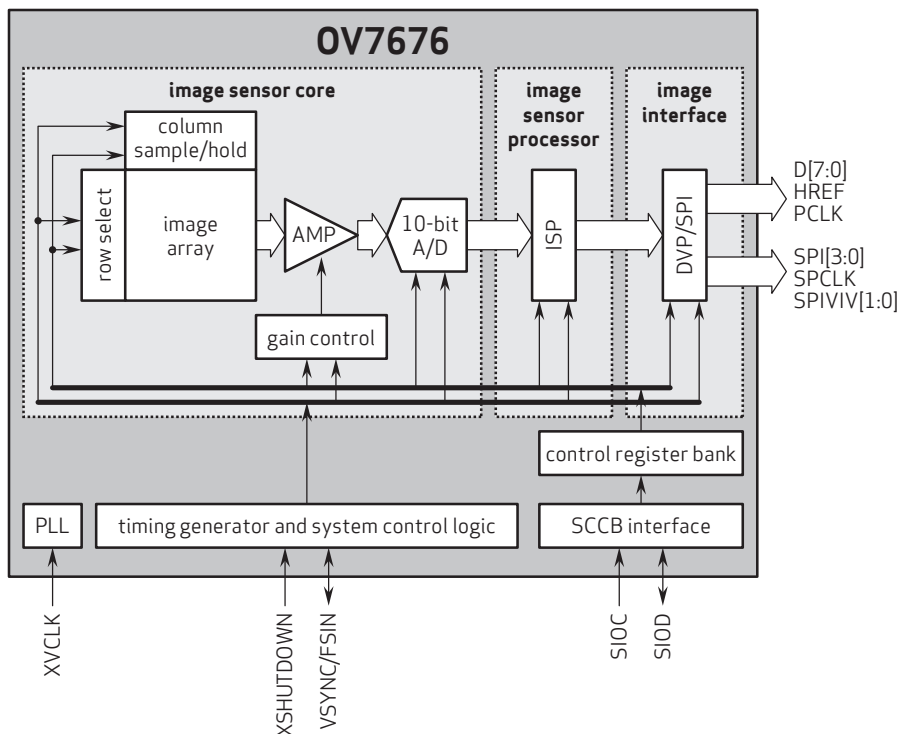
## Ordering Information

- OV07676-H20A (color, lead-free, 20-pin CSP5)

## Product Specifications

- active array size: 640 x 480
- maximum image transfer rate:
  - VGA: 30 fps
  - QVGA: 60 fps
  - CIF: 30 fps
- power supply:
  - analog: 2.8V ±5%
  - core: 1.8VDC ±5% (internal regulator)
  - I/O: 2.8V, 1.8V
- sensitivity: 1900 mV/lux-sec
- power requirements:
  - I<sub>DD-A</sub>: 15 mA
  - I<sub>DD-IO</sub>: 17 mA
  - XSHUTDOWN: <15 μA
- shutter: rolling shutter
- max S/N ratio: 38 dB
- temperature range:
  - operating: -30°C to +70°C junction temperature
  - stable image: 0°C to +50°C junction temperature
- dynamic range: 70.4 dB @ 8x gain
- output formats: YUV422, RAW RGB
- maximum exposure interval: 506 x t<sub>ROW</sub>
- lens size: 1/7.5"
- pixel size: 3 μm x 3 μm
- lens chief ray angle: 26.6°
- dark current: 6 mV/sec @ 60°C junction temperature
- input clock frequency: 6 - 27 MHz
- image area: 1962 μm x 1482 μm
- scan mode: progressive
- package dimensions:
  - CSP5: 2734 μm x 2474 μm

## Functional Block Diagram



4275 Burton Drive  
Santa Clara, CA 95054  
USA

Tel: + 1 408 567 3000  
Fax: + 1 408 567 3001  
www.ovt.com

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