

# OV7710 VGA product brief



available in  
a lead-free  
package

## high-performance, all-digital security camera solution

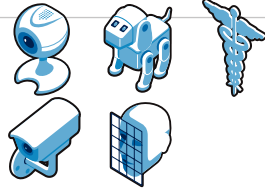
The OV7710 image sensor is a high performance 1/4 inch, single-chip VGA digital video camera designed specifically for use in the security and surveillance industry. The OV7710 excels in low light conditions and can operate within a wide temperature range from -40 °C to +105 °C.

The OV7710 meets all security and surveillance market requirements in terms of performance, quality and reliability.

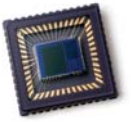
The OV7710 incorporates a 640 x 480 image array capable of operating at up to 30 frames per second (fps). The sensor technology also utilizes algorithms to cancel Fixed Pattern Noise (FPN), eliminate smearing, and drastically reduce blooming. The OV7710 possesses all required camera functions including exposure control, gain, white balance, windowing and more, which are programmable through the Serial Camera Control Bus (SCCB) interface. Other key features of the OV7710 image sensor are its low power consumption, progressive scanning, external frame sync (Genlock) capability and support for both 10-bit raw data or 8-bit YUV/RGB outputs.

## applications

- security/surveillance cameras
- video conferencing
- video phones
- video e-mail
- toys
- finger print equipment
- medical and dental equipment



# OV7710



## ordering information

- OV07710-C00A (color, CLCC-48)
- OV07211-C00A (b&w, CLCC-48)

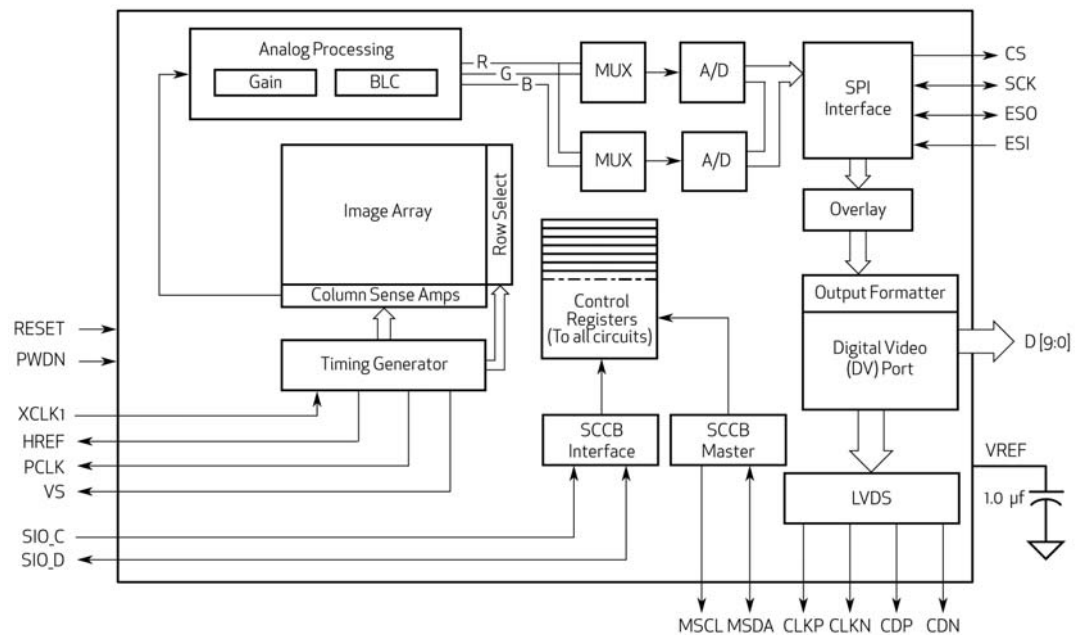
## product features

- OmniPixel2™ technology
- single chip 1/4", VGA sensor
- high sensitivity for low-light operation
- master/slave compatible Serial Camera Control Bus (SCCB) control interface for register programming
- low fixed pattern noise, anti-blooming, zero smearing
- progressive scan
- horizontal mirroring and vertical flipping
- white balance, exposure time, gain control, etc.
- low power consumption
- external frame sync capability (Genlock)
- SPI for overlay control
- supports two sets of dynamic overlay control

## product specifications

- array size: 656 x 492
- power supply analog: 3.3VDC ± 10%
- power requirements active: 140 mW typical (30 fps VGA, YUV) standby: TBD
- output format 10-bit raw data 8-bit YUV/RGB
- max image transfer rate VGA: 30 fps QVGA: 60 fps
- minimum illumination (3000K): 0.04 Lux @ f/1.2
- S/N ratio: 50 dB
- dynamic range: 53 dB
- scan mode: progressive
- electronic exposure: up to 521:1 (for selected fps)
- pixel size: 6.0µm x 6.0µm
- fixed pattern noise: < 0.03% of V<sub>PEAK-TO-PEAK</sub>
- image area: 4.080 mm x 3.102 mm
- package dimensions: 14.22 mm x 14.22 mm
- temperature range: -40/+105 °C in CLCC

## block diagram



1341 Orleans Drive  
Sunnyvale, CA 94089  
USA

tel: + 1 408 542 3000  
fax: + 1 408 542 3001  
[www.ovt.com](http://www.ovt.com)

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