

# OV3630 3.2 MPixel product brief



available in  
a lead-free  
package

## high-quality, ultra-compact camera solution

The OV3630 CameraChip™ is a low-cost, high performance 3.2 megapixel CMOS image sensor loaded with features to make it one of the industry's leading sensors in the market for digital still image and video/still camera products. Incorporating OmniVision's new 2.2 micron OmniPixel2™ technology and a lens format of only 1/3.2 inches, the OV3630 enables a very compact auto focus and zoom camera module to bring 3 megapixel camera phones into the mainstream handset market.

The OV3630 also features an on-chip 10-bit A/D converter capable of operating up to 15 frames per second in full resolution mode enabling the use of an electronic shutter. This saves cost and significantly reduces the mechanical envelope, providing early adopters of this technology a competitive edge in their quest for thinner and sleeker phones.

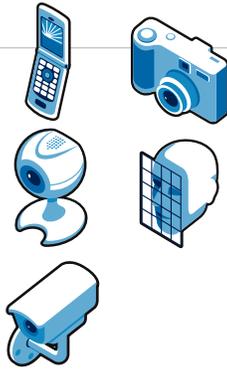
The OV3630 features built-in OmniQSP™ technology which provides high-grade picture processing and features that are traditionally only found in digital still cameras. The OV3630 offers stunning resolution, light sensitivity, superior dynamic range and power efficiency in a small, integrated design that is rich with features such as support for auto focus, zoom and digital shutter.

OmniVision's proprietary sensor technology utilizes advanced algorithms to cancel Fixed Pattern Noise (FPN), eliminate smearing, and drastically reduce blooming. The control registers allow for flexible control of timing, polarity, and CameraChip operation, which, in turn, allows the engineer a great deal of freedom in product design.

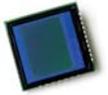
The OV3630 supports both a standard 10-bit parallel interface and a high speed serial interface compliant with the second generation compact camera port interface standard (CCP2).

## applications

- cellular phones
- digital still cameras
- PC camera/dual mode
- video conference equipment
- machine vision
- security and surveillance cameras
- biometrics



# OV3630



## ordering information

- OV03630-VL5A  
(color, CSP2-36)

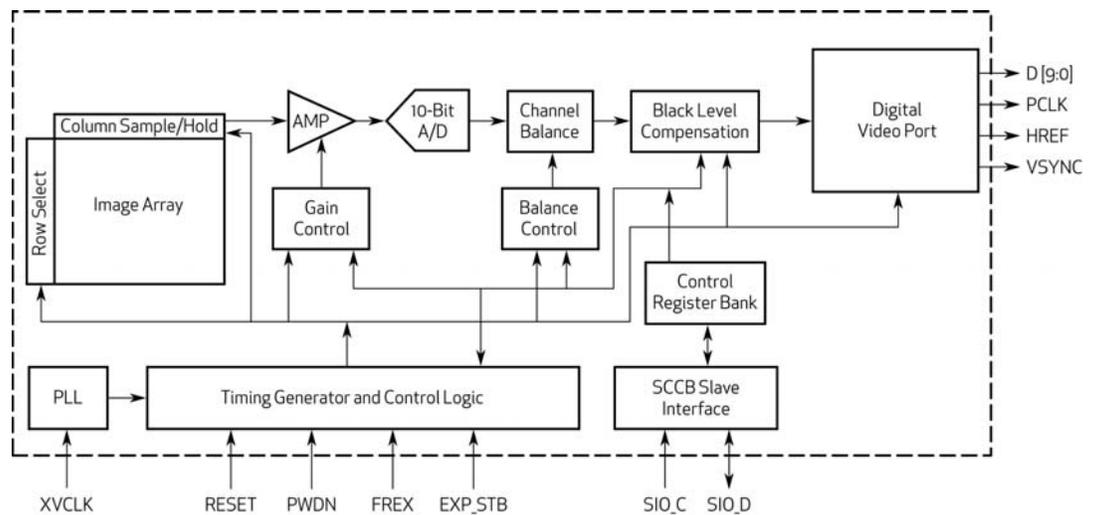
## product features

- optical black level calibration
- line optical black level output capability
- video or snapshot operations
- programmable/auto exposure and gain control
- programmable/auto white balance control
- horizontal and vertical sub-sampling (4:2 and 4:2)
- high frame rate (HF) output for auto focus mode
- programmable image windowing
- zooming and panning functions
- variable frame rate control
- on-chip R/G/B channel and luminance average counter
- internal/external frame synchronization
- SCCB slave interface
- power-on reset and power-down modes

## product specifications

- array size:  
2048 x 1536 (QXGA)  
1024 x 768 (XGA)  
1024 x 192 (HF)
- power supply  
analog: 2.8VDC  $\pm$  5%  
core: 1.8VDC  $\pm$  5%  
I/O: 1.7 - 3.3V
- power requirements  
active: < 110 mW  
standby: < 10  $\mu$ W
- lens size: 1/3"
- maximum image transfer rate  
QXGA: 15 fps  
XGA: 30 fps  
HF: 90 fps
- pixel size:  
2.2  $\mu$ m x 2.2  $\mu$ m
- package dimensions:  
6085  $\mu$ m x 6315  $\mu$ m

## block diagram



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