

OV6930 400 x 400 product brief



available in
a lead-free
package

Industry's Smallest 400 x 400 Image Sensor

With a packaged footprint of only 1.8 mm x 1.8 mm, the OV6930 is the ideal solution for camera applications that require less than a 2.6 mm outside diameter, such as medical endoscopes. The OV6930's unique architecture combines ultra-low power consumption with OmniVision's best-in-class pixel technology, OmniPixel3-HS™, enabling low-light performance of 3300 mV/lux-sec.

In addition to its small footprint and extraordinary performance, the OV6930 offers raw serial output, allowing cabling up to 14 feet with two wires.

The low-voltage OV6930 provides either full-frame or cropped analog images in RAW RGB format via serial camera control bus (SCCB) interface control.

The device offers an image array capable of operating up to 30 frames per second (fps) in 400 x 400 or 60 fps in 400 x 200 resolution, with simplified exposure control programmable through the SCCB interface. OmniVision's image sensors leverage proprietary technology to improve image quality by reducing or eliminating common lighting/electrical sources of image contamination, such as fixed pattern noise and smearing, to produce a clean, fully stable, color image.

No other image sensor on the market offers high performance and sensitivity in such a small form factor.

Find out more at www.ovt.com.



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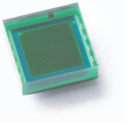
Applications

- Medical Devices
- Entertainment Multimedia, Games and Toys
- Security and Surveillance

Product Features

- OmniPixel3-HS architecture with leading low-light sensitivity (3300 mV/lux-sec)
- on-chip phase lock loop (PLL)
- low power consumption
- optical size of 1/10.6"
- single 3.3V power supply
- SCCB interface
- analog output
- automatic/manual control of AEC and AGC

OV6930



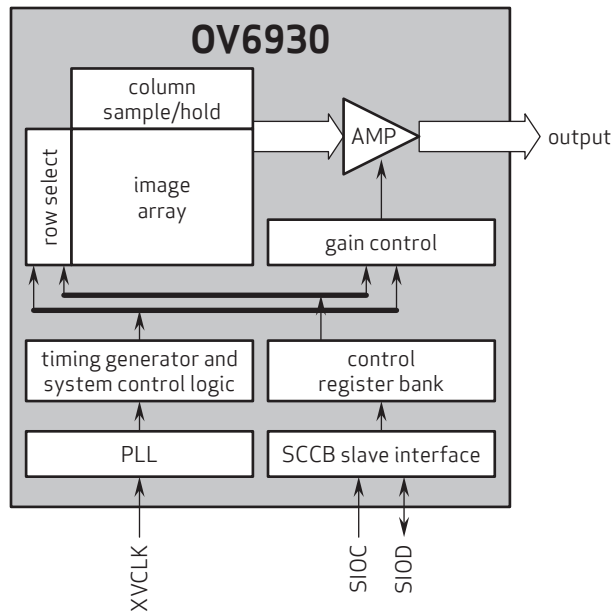
Ordering Information

- OV06930-A08A
(color, analog, 8-pin CSP3)

Product Specifications

- **active array size:** 400 x 400
- **maximum image transfer rate:**
 - 400x400: 30 fps
 - 400x200: 60 fps
- **power supply:**
 - analog: 3.3V ±5%
 - I/O: 2.3 - 3.5V
- **max S/N ratio:** 38 dB
- **power requirements:** 48 mW (typical)
- **dynamic range:** 68 dB @ 8x gain
- **temperature range:**
 - operating: -20°C to +70°C junction temperature
 - stable image: 0°C to +50°C junction temperature
- **sensitivity:** 3.0 V/lux-sec
- **color mosaic:** RGB Bayer pattern
- **pixel size:** 3.0 μm x 3.0 μm
- **output formats:** analog signal output
- **dark current:** 10 mV/s @ 60°C junction temperature
- **optical size:** 1/10.6"
- **image area:** 1224 μm x 1212 μm
- **maximum exposure:** 876 x T_{line}
- **package dimensions:** 1815 μm x 1815 μm
- **scan mode:** progressive

Functional Block Diagram



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