OV6930

400 x 400 product brief

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, OmniPixel®3-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.

OV6930

Ordering Information

- **OV06930-A08A** (color, lead-free)
  8-pin CSP

Applications

- medical endoscopes
- medical and dental equipment
- security and surveillance
- toys and games

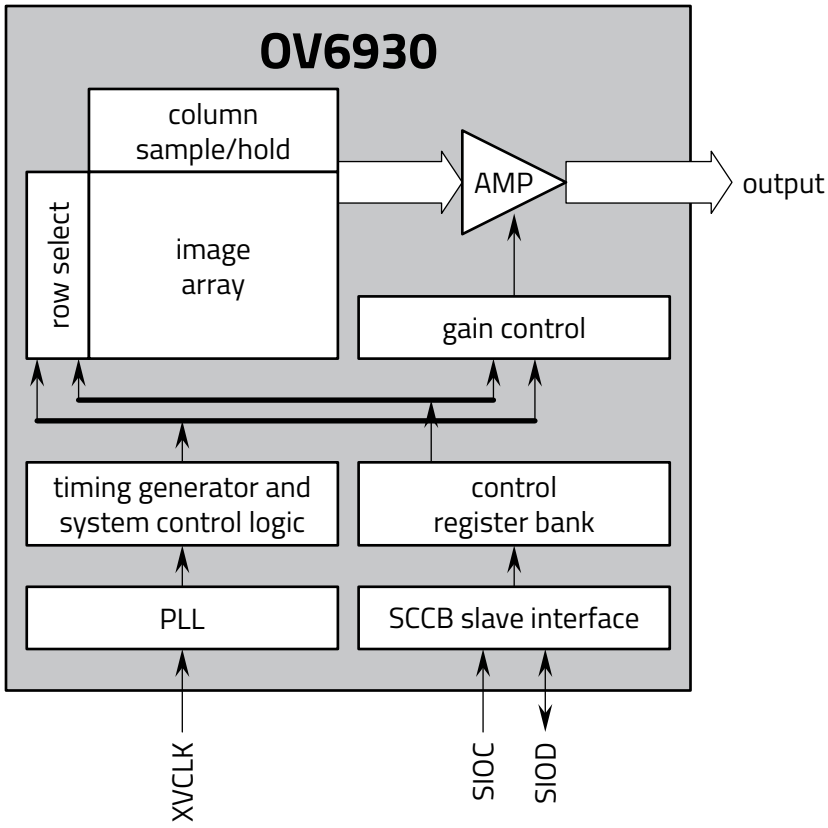
Product Features

- OmniPixel®3-HS architecture using 0.11 µm process with leading low-light sensitivity (3300 mV/lux-sec)
- optical size of 1/10.6"
- analog output
- automatic/manual control of exposure and gain
- on-chip phase lock loop (PLL)
- low power consumption
- single 3.3V power supply
- SCCB interface

Technical Specifications

- **active array size:** 400 x 400
- **maximum image transfer rate:**
  - 400 x 400: 30 fps
  - 400 x 200: 60 fps
- **power supply:**
  - analog: 3.3V ±5%
  - I/O: 2.3 ~ 3.5V
- **power requirements:**
  48 mW (typical)
- **output formats:**
  analog signal output
- **temperature range:**
  - operating: -20°C to +70°C junction temperature
  - stable: 0°C to +50°C junction temperature
- **lens size:** 1/10.6"
- **lens chief ray angle:** 37.24° non-linear
- **scan mode:** progressive
- **pixel size:** 3.0 µm x 3.0 µm
- **image area:** 1224 µm x 1212 µm
- **package dimensions:**
  1815 µm x 1815 µm

Functional Block Diagram



Version 1.7, March 2024

4275 Burton Drive
Santa Clara, CA 95054
USA

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

OMNIVISION®