OV6946

400 x 400 product brief

Cost-Effective, Ultra-Compact Camera Solution for Medical and Industrial Endoscopes

OMNIVISION's OV6946 is an ultra-compact CameraChip™ sensor that brings high quality images and video with excellent color fidelity to endoscopes. The 1/18-inch sensor's 0.9 x 0.9 mm compact package, low power consumption, coupled with wide field-of-view with short focus distance make it an ideal camera solution for medical and industrial applications.

Utilizing an advanced 1.75-micron OmniBSI™+ pixel, the OV6946 captures high quality 400 x 400 resolution images and video at 30 frames per second (fps). The OV6946 enables minimally invasive endoscope module designs with a width of 1.65 mm and height of 5 mm.

The OV6946 CameraChip™ sensor's reduced pinout and basic image signal processing functionality offer easy integration, enabling faster time-to-market.

Find out more at www.ovt.com.

OMNIVISION™

OV6946

Ordering Information

- **OV06946-A04A** (color, lead-free)
  4-pin CSP with AntLinx™

Applications

- medical endoscopes
- industrial videoscopes
- security and surveillance
- toys and games
- wearable devices

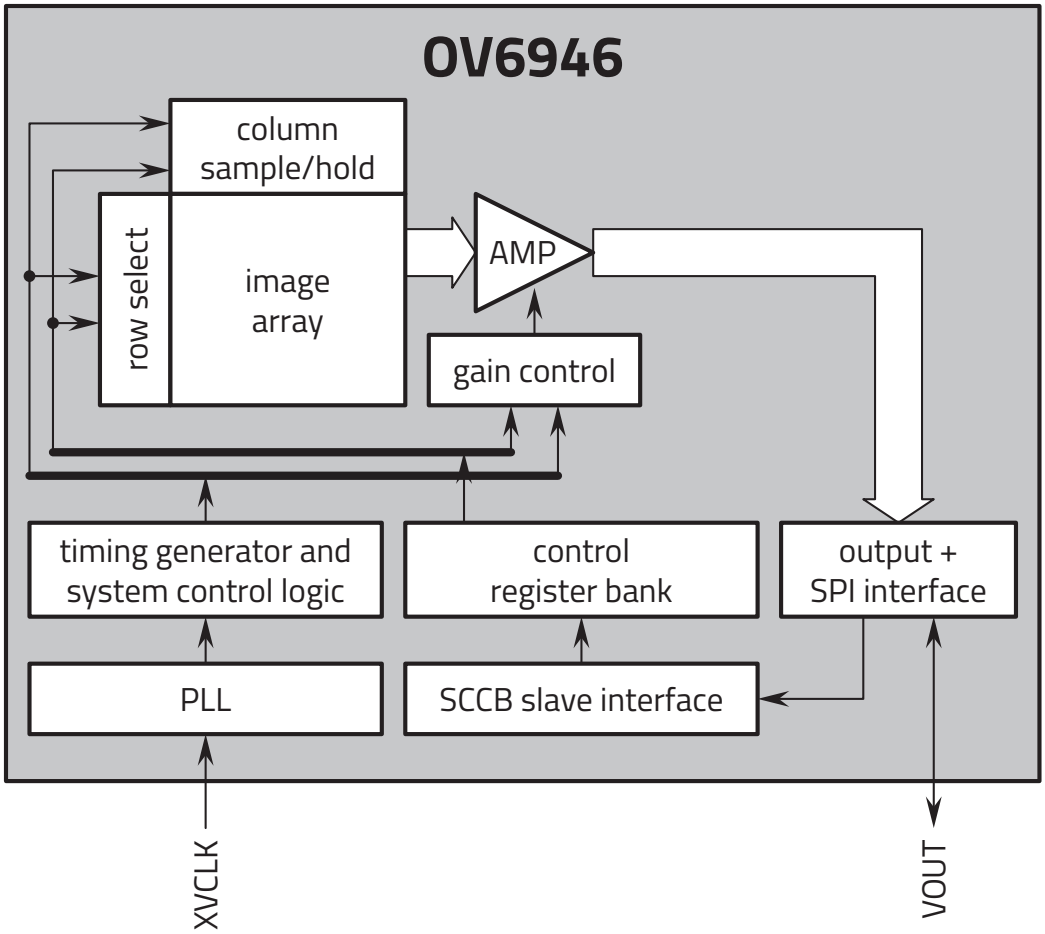
Product Features

- optical size of 1/18"
- AntLinx™ Analog output
- automatic/manual control of exposure and gain
- on-chip PLL
- low power consumption
- single 3.3V power supply
- serial peripheral interface (SPI)
- OmniBSI™+ pixel structure using 0.11 µm process

Technical Specifications

- **active array size:** 400 x 400
- **frame rate:**
  - 160 Kpixel (400 x 400): 30 fps
- **power supply:**
  - analog: 3.3V ±5%
- **power requirements:**
  25 mW (with IO consumption)
- **temperature range:**
  - operating: -20°C to +70°C junction temperature
  - stable image: 0°C to +50°C junction temperature
- **output formats:** analog signal output
- **optical size:** 1/18"
- **scan mode:** progressive
- **lens chief ray angle:**
  supports lenses up to 25° CRA
- **color mosaic:** RGB Bayer pattern
- **pixel size:** 1.75 µm x 1.75 µm
- **image area:** 714 µm x 707 µm
- **package dimensions:** 950 µm x 940 µm

Functional Block Diagram



Version 1.9, February 2023

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