

OV6946 400 x 400 product brief



available in
a lead-free
package

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.



Applications

- Medical Endoscopes
- Industrial Videoscopes
- Security and Surveillance
- Toys and Games
- Wearable Devices

Product Features

- optical size of 1/18"
- 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

OV6946



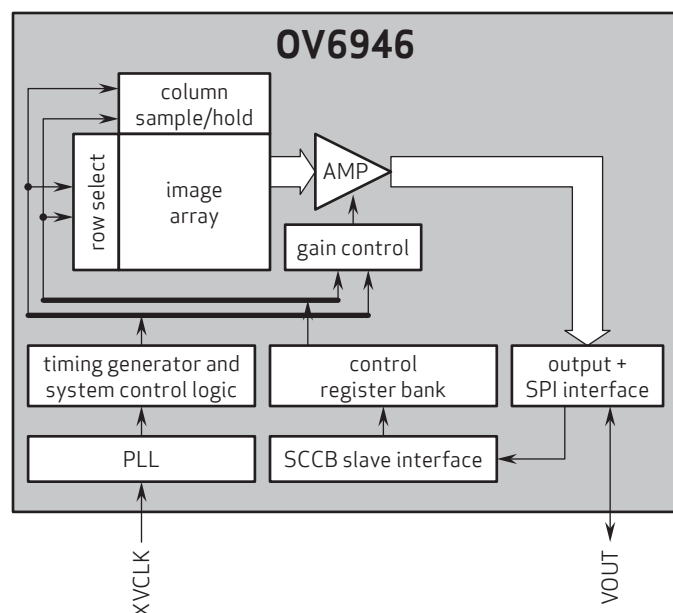
Ordering Information

- OV06946-A04A (color, lead-free)
4-pin CSP

Technical Specifications

- active array size: 400 x 400
- frame rate:
- 160 Kpixel (400x400): 30 fps
- power supply:
- analog: 3.3V $\pm 5\%$
- 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



4275 Burton Drive
Santa Clara, CA 95054
USA

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

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