

# OV4686 4MP product brief



## High Sensitivity CameraChip™ Sensor with Second-Generation RGB-Ir Color Array Pattern for Security Applications



available in a lead-free package

OmniVision's OV4686 is a high sensitivity CameraChip™ sensor built on a second-generation RGB-Ir color array pattern that brings clear, high quality images and video to security and smart home applications.

Built on a 2-micron OmniBSI-2™ pixel, the OV4686 delivers best-in-class low-light and infrared performance, recording color-accurate scene reproduction even in challenging lighting environments. The 1/3-inch OV4686 enables full resolution 1080p high definition (HD) images and video at 120 frames per second (fps).

The sensor's advanced color array pattern supports dual band color filters instead of traditional mechanical rotary IR filters to capture infrared images and video with minimal color aliasing.

Find out more at [www.ovt.com](http://www.ovt.com).



## Applications

- Surveillance
- Home Automation
- Sports Cameras

## Product Features

- automatic black level calibration (ABLC)
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- static defective pixel canceling
- supports output formats:
  - 10-bit RAW RGB-Ir (MIPI)
- supports images sizes:
  - 4MP
  - 3MP
  - EIS1080p
  - 1080p
- fast mode switching
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- embedded 4K bits one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loops (PLLs)
- programmable I/O drive capability
- built-in temperature sensor
- supports staggered 3-exposure HDR mode

# OV4686



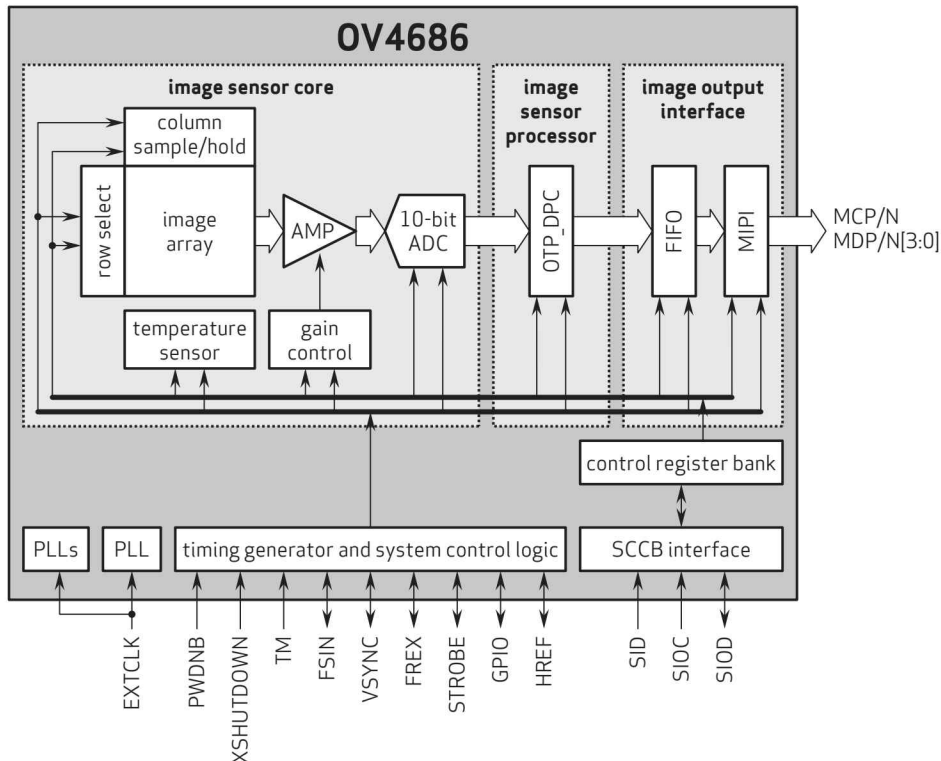
## Ordering Information

- OV04686-H67A (RGB-Ir, lead-free, 67-pin CSP)

## Product Specifications

- active array size: 2688 x 1520
- max S/N ratio: 37.8 dB
- power supply:
  - core: 1.1 - 1.3V
  - analog: 2.6 - 3.0V
  - I/O: 1.7 - 3.0V
- power requirements:
  - active: 163 mA (261 mW)
  - standby: 1 mA
  - XSHUTDOWN: <math><10 \mu\text{A}</math>
- temperature range:
  - operating: -30°C to +85°C junction temperature
  - stable image: 0°C to +60°C junction temperature
- output formats: 10-bit RAW RGB-Ir
- lens size: 1/3"
- input clock frequency: 6 - 64 MHz
- lens chief ray angle: 9°
- dynamic range: 64.6 dB @ 1x gain
- maximum image transfer rate:
  - 2688x1520: 90 fps
  - 1920x1080: 120 fps
- maximum exposure: 4 T<sub>ROW</sub>
- minimum exposure: VTS-8 T<sub>ROW</sub>
- sensitivity: 1900 mV/lux-sec
- scan mode: progressive
- maximum exposure interval: 1548 x T<sub>ROW</sub>
- pixel size: 2 μm x 2 μm
- image area: 5440 μm x 3072 μm
- package dimensions: 6630 μm x 5830 μm

## Functional Block Diagram



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