

## JAL-KJ9-OV5670 V1.0

OmniVision OV5670 MIPI串行接口 固定焦距 500万像素 摄像头模组

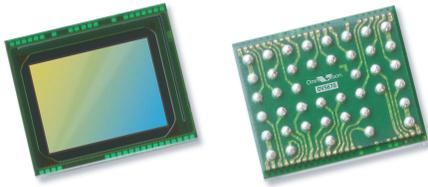


摄像头模组型号	<b>JAL-KJ9-OV5670 V1.0</b>
图像感光芯片	OV5670
焦距	2.32 mm
光圈	2.2
像素	2592 x 1944
可视角度	76.1°
镜头类型	1/5 英寸
镜头尺寸	6.5 x 6.5 x 3.9 mm
模组尺寸	19 x 6.5 mm
模组类型	固定焦距
接口	MIPI串行

配对连接器型号: **DF37B-20DS-0.4V**



主板上的对应连接器。分开售卖。



# OV5670 5-megapixel product brief



## 5-Megapixel PureCel® Image Sensor Brings Improved Image Quality to Rear- and Front-Facing Cameras in Mobile Devices

 lead free  
available in  
a lead-free  
package

The OV5670 is a 5-megapixel PureCel image sensor that leverages a 1.12-micron pixel to deliver exceptional still images and high-definition (HD) video to front- and rear-facing cameras in smartphones and tablets.

The OV5670 PureCel image sensor can capture full resolution 5-megapixel (2592x1944) images at 30 frames per second (fps), quad HD video at 30 fps, cropped 1080p HD at 60 fps, or 720p HD at 60 fps. When recording 720p HD video with binning, the sensor achieves sensitivity and signal-to-noise ratio that is comparable to the industry's popular 1.75-micron pixel. Additionally, the sensor's 1.12-micron pixel achieves similar full-well capacity (FWC) as the previous generation's 1.4-micron pixel.

When recording full resolution video, the OV5670 uses approximately 35 percent less power compared to OmniVision's previous generation 5-megapixel sensor. The sensor's ultra low power mode further reduces power consumption, thus minimizing battery drain.

The OV5670 fits into a compact 6 x 6 x 3.5 mm camera module, and is available in a cost-effective chip scale package (CSP).

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



## Applications

- Smartphones and Feature Phones
- Tablets
- PC Multimedia
- Wearables

## Product Features

- 1.12  $\mu\text{m}$  x 1.12  $\mu\text{m}$  pixel
- 5MP at 30 fps
- programmable controls for frame rate, mirror and flip, cropping, and windowing
- supports images sizes:
  - 5MP (2592x1944)
  - Quad HD (2560x1440)
  - 1080p (1920x1080)
  - 720p (1280x720)
  - VGA (640x480), and more
- 2k bits of embedded one-time programmable (OTP) memory for customer use
- ultra low power mode (ULPM)
- support for output formats: 10-bit RAW
- interleave row HDR output
- two-wire serial bus control (SCCB)
- MIPI serial output interface (1- or 2-lane)
- 2x binning support
- image quality control:
  - defect pixel correction
  - automatic black level calibration

# OV5670



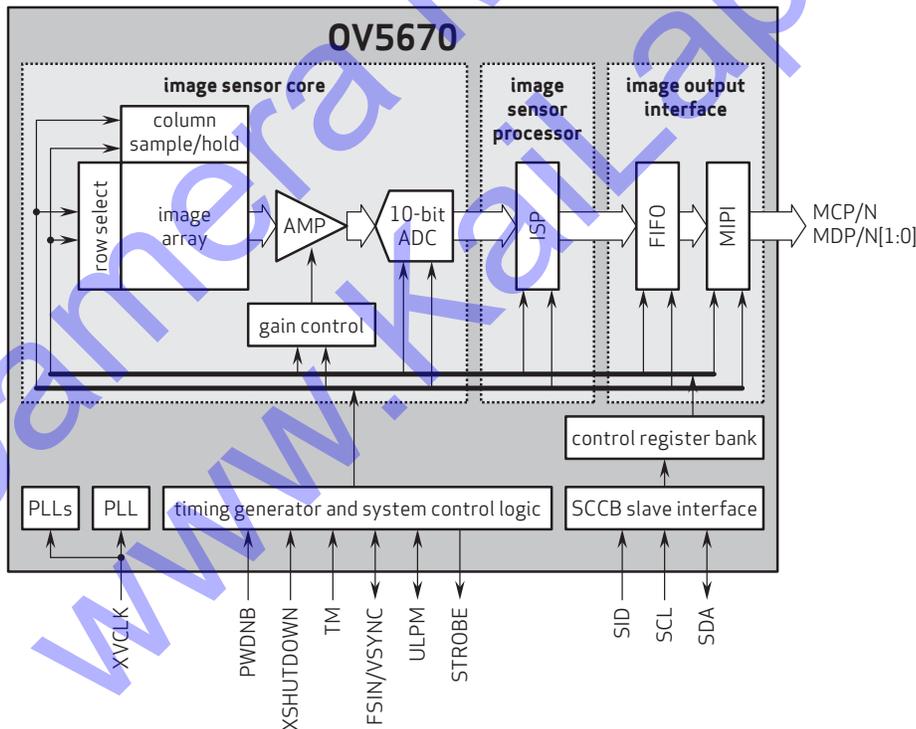
## Ordering Information

- OV05670-G04A**  
(color, chip probing, 200  $\mu\text{m}$  backgrinding, reconstructed wafer)
- OV05670-H42A**  
(color, lead-free, 42-pin CSP5)

## Product Specifications

- active array size:** 2592 x 1944
- input clock frequency:** 6 - 27 MHz
- power supply:**
  - core: 1.14 - 1.26V (1.2V nominal)
  - analog: 2.6 - 3.0V (2.8V nominal)
  - I/O: 1.7 - 1.9V (1.8V nominal)
- power requirements:**
  - active: 126 mW
  - standby: 166  $\mu\text{W}$
  - XSHUTDOWN: 1  $\mu\text{W}$
- temperature range:**
  - operating: -30°C to +85°C junction temperature
  - stable image: -20°C to +60°C junction temperature
- output interfaces:** 2-lane MIPI serial output
- output formats:** 10-bit RAW RGB data
- lens size:** 1/5"
- lens chief ray angle:** 31.24° non-linear
- max S/N ratio:** 35.6 dB
- dynamic range:** 68.4 dB @ 16x gain
- maximum image transfer rate:**
  - 5MP (2592x1944): 30 fps
  - Quad HD (2560x1440): 30 fps
  - 1080p (1920x1080): 60 fps
  - 720p (1280x720): 60 fps
  - VGA (640x480): 120 fps
- sensitivity:** 490 mV/lux-sec
- pixel size:** 1.12  $\mu\text{m}$  x 1.12  $\mu\text{m}$
- dark current:** 14 e<sup>-</sup>/sec @ 60°C junction temperature
- image area:** 2945.7  $\mu\text{m}$  x 2214  $\mu\text{m}$
- package/die dimensions:**
  - CSP5: 4080  $\mu\text{m}$  x 3430.2  $\mu\text{m}$
  - COB: 4050  $\mu\text{m}$  x 3400.2  $\mu\text{m}$
  - RW: 4100  $\mu\text{m}$  x 3450.2  $\mu\text{m}$

## Functional Block Diagram



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