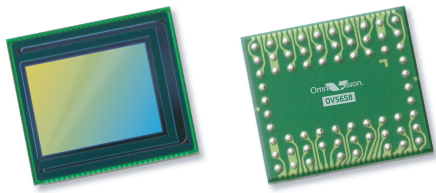


**KLT-KX5-OV5658 V1.0****OmniVision OV5658 MIPI串行接口 固定焦距 500万像素 M12 摄像头模组**

摄像头模组型号	<b>KLT-KX5-OV5658 V1.0</b>
图像感光芯片	OV5658
焦距	2.3 mm
光圈	2.5
像素	2592 x 1944 (QSXGA)
可视角度	159°
镜头类型	1/3.2 英寸
镜头尺寸	13.7 x 13.7 x 21.5 mm
模组尺寸	22 x 22 mm
模组类型	固定焦距
接口	MIPI串行
IMT镜头型号	IMT-1B12E005-6



# OV5658 5-megapixel product brief



## Full Resolution 5-Megapixel HD Video with High Dynamic Range for High-End Security and Surveillance Systems



available in  
a lead-free  
package

The OV5658 is a 5-megapixel CameraChip™ sensor designed specifically for high-end security and surveillance applications. The high performance OV5658 leverages a 1.75-micron OmniBSI+™ pixel to deliver industry-leading sensitivity and high dynamic range (HDR) while maintaining the standard form factor for security applications.

The sensor's industry-leading image and video quality ensure crisp and clear scene reproduction, even when recording in difficult lighting conditions. Additionally, the OV5658's resolution (up to 2592 x 1944 pixels) enables

advanced features such as video analytics, biometrics and facial recognition.

The OV5658 is the world's first security targeted, 1/3.2-inch sensor capable of capturing full-resolution 5-megapixel video at 30 frames per second (fps). The sensor is also capable of recording both 1080p or 720p HD video at 60 fps, or at 30 fps with extra pixels for electronic image stabilization (EIS).

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



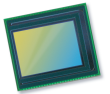
## Applications

- Security and Surveillance

## Product Features

- 1.75  $\mu\text{m}$  x 1.75  $\mu\text{m}$  pixel with OmniBSI+™ technology for high performance (high sensitivity, low crosstalk, low noise)
- fast mode switching
- supports 2x2 binning, re-sampling filter
- support for image sizes: 5 Mpixel (2592x1944), EIS 1080p (2112x1188), 1080p (1920x1080), EIS 720p (1536x864), 720p (1280x720), and VGA (640x480)
- supports 3D applications
- EIS 1080p scalar (allows scale down to EIS 1080p or any size below)
- standard serial SCCB interface
- up to 4-lane MIPI/LVDS serial output interface
- embedded 64 bytes of one-time programmable (OTP) memory for part identification, etc.
- programmable controls for frame rate, mirror and flip, cropping, windowing, and scaling
- two on-chip phase lock loop (PLL)
- programmable I/O drive capability
- image quality controls: defect pixel correction, lens shading correction, and black level calibration
- built-in 1.5V regulator for core
- support for output formats: 10-bit RAW RGB
- supports alternate row HDR timing
- supports horizontal and vertical subsampling

# OV5658



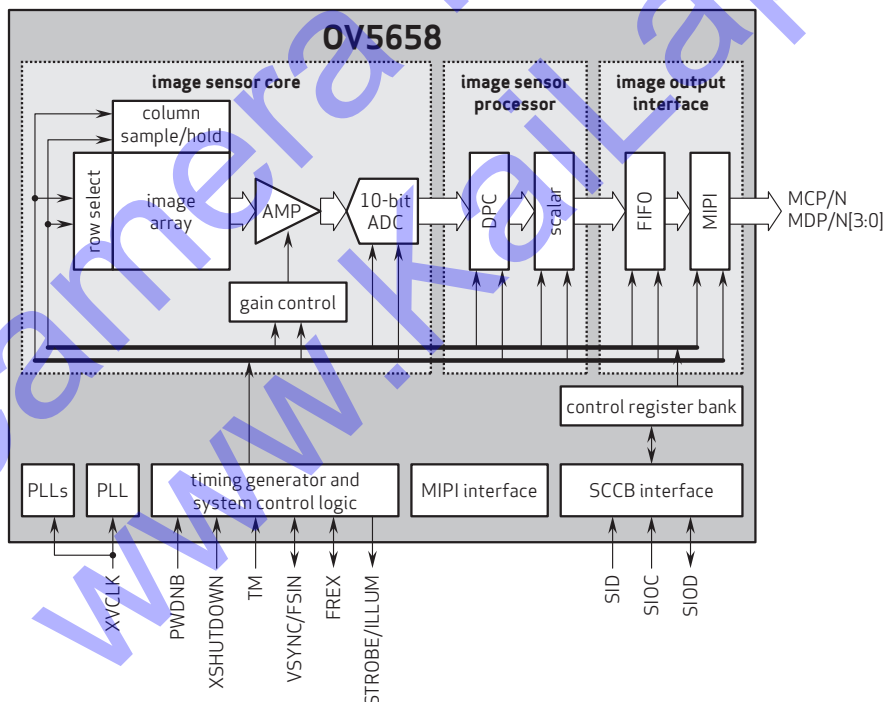
## Ordering Information

- OV05658-G04A** (color, chip probing, 200  $\mu\text{m}$  backgrinding, reconstructed wafer with good die)
- OV05658-A66A** (color, lead-free, 66-pin CSP3)

## Product Specifications

- active array size:** 2592 x 1944
- input clock frequency:** 6 - 27 MHz
- power supply:**
  - core: 1.5V
  - analog: 2.6 - 3.0V
  - I/O: 1.7 - 3.0V
- max S/N ratio:** 37 dB
- dynamic range:** 73.7 dB @ 8x gain
- power requirements:**
  - active: 150 mA (325 mW)
  - standby: 300  $\mu\text{A}$
  - XSHUTDOWN: 2  $\mu\text{A}$
- maximum image transfer rate:**
  - SMP (2592x1944): 30 fps
  - EIS 1080p (2112x1188): 30 fps
  - 1080p (1920x1080): 30 fps
  - EIS 720p (1536x864): 30 fps
  - 720p (1280x720): 60 fps
  - VGA (640x480): 90 fps
- temperature range:**
  - operating: -30°C to +70°C junction temperature
  - stable image: 0°C to +50°C junction temperature
- sensitivity:** 1200 mV/lux-sec
- scan mode:** progressive
- output interfaces:** 4-lane MIPI/LVDS serial
- pixel size:** 1.75  $\mu\text{m}$  x 1.75  $\mu\text{m}$
- output formats:** RAW RGB data
- dark current:** 1.3 mV/sec @ 50°C junction temperature
- lens size:** 1/3.2"
- image area:** 4592  $\mu\text{m}$  x 3423  $\mu\text{m}$
- lens chief ray angle:** 11° non-linear
- package/die dimensions:**
  - CSP3: 6360  $\mu\text{m}$  x 5670  $\mu\text{m}$
  - COB: 6350  $\mu\text{m}$  x 5660  $\mu\text{m}$

## 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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