

## JAL-KR5-OV5658 V2.0

### OmniVision OV5658 MIPI Interface Fixed Focus 5MP Camera Module

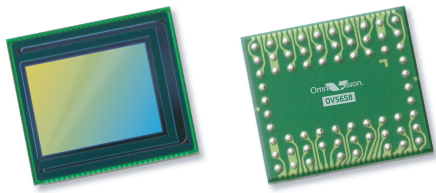


<b>Camera Module No.</b>	<b>JAL-KR5-OV5658 V2.0</b>
<b>Image Sensor</b>	OV5658
<b>EFL</b>	4.27 mm
<b>F.NO</b>	2.8
<b>Pixel</b>	2592 x 1944 (QXGA)
<b>View Angle</b>	67°
<b>Lens Type</b>	1/3.2 inch
<b>Lens Dimensions</b>	8.5 x 8.5 x 5.62 mm
<b>Module Size</b>	21 x 8.5 mm
<b>Module Type</b>	Fixed Focus
<b>Interface</b>	MIPI

**Mating Connector Part No. 24-5804-024-000-829**



Mating Connector On Main Board. Sold Separately.



# 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).



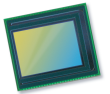
## Applications

- 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



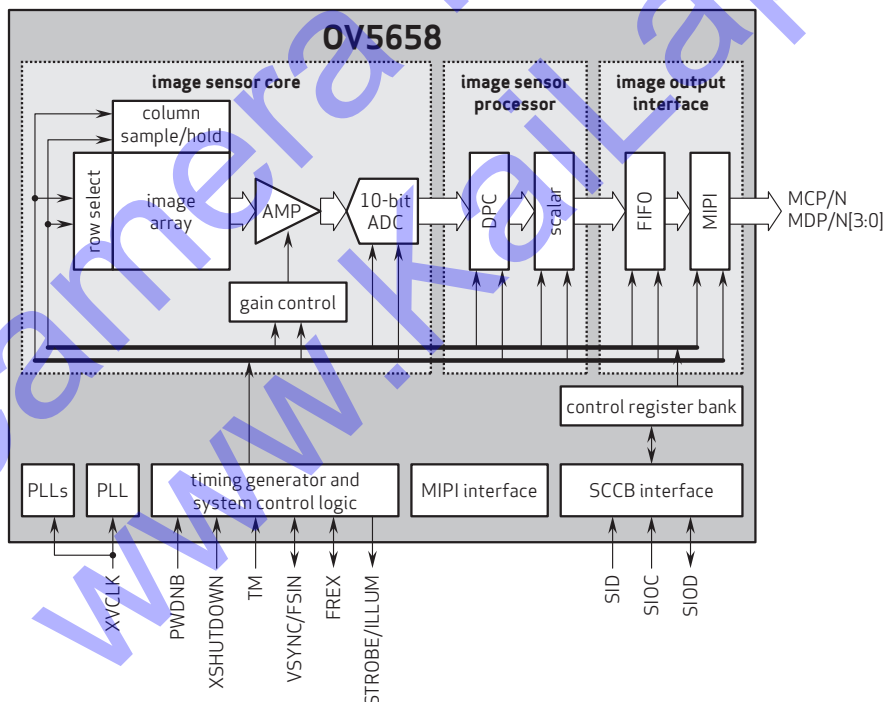
## Ordering Information

- 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



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