

## CMOS CAMERA MODULES



your BEST camera module partner

#### JAL-KD3-OV8825 V4.0

#### OmniVision OV8825 MIPI Interface Auto-foco 8MP Módulo de Câmera



Módulo de câmara No.	JAL-KD3-OV8825 V4.0
Sensor de imagem	OV8825
EFL	3.57 mm
F.NO	2.8
Pixel	3264 x 2448
Ângulo de visão	68°
Tipo de lente	1/3.2 polegada
Dimensões da lente	8.5 x 8.5 x 5.9 mm
Tamanho do Módulo	17.9 x 8.5 mm
Tipo de Módulo	Auto-foco
Interface	MIPI



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## OV8825 8-megapixel product brief





# High Performance 8-Megapixel Camera With Advanced OmniBSI+ Pixel Architecture for Superior Image Quality With Low-Cost Structure

The 1/3.2-inch OV8825 is an 8-megapixel CameraChip™ sensor built on OmniVision's advanced OmniBSI+™ pixel architecture, providing many significant improvements over the previous OmniBSI™ generation, including a 60 percent increase in full-well capacity, a 10 percent increase in quantum efficiency and a 10 percent improvement in low-light sensitivity. OmniBSI+ pixel architecture enables the OV8825 to dramatically improve image and video capture in both bright and low-light conditions, making it a highly attractive solution for next generation for smartphones and tablets.

The OV8825 operates at 24 frames per second (fps) in full resolution, and in 1080p high-definition (HD) video mode at 30 fps or 720p at 60 fps. The sensor's high frame rate also helps eliminate image lag for shutter-less designs, and enables continuous shooting, minimized rolling shutter effect and real-time image capture with no lag between resolutions. A high-speed, 4-lane MIPI interface facilitates the required high data transfer rates necessary for capturing 10-bit 8-megapixel images and HD video.

An integrated scaler offers electronic image stabilization and enables it to maintain full field-of-view (FOV) with improved signal-to-noise performance in 1080p high-definition (HD) video mode at 30 fps. The sensor's 2 x 2 binning functionality with a post-binning re-sampling filter function minimizes spatial artifacts and removes image artifacts around edges, delivering clean, crisp color images.

The OV8825 fits into the industry standard  $8.5 \times 8.5$  mm module size and features certain image processing functions such as lens shading correction and defect pixel correction, as well as 256-bytes of embedded one-time programmable memory.

Find out more at www.ovt.com.



#### **Applications**

- Mobile Phones
- Digital Video Camcorders (DVC)
- Digital Still Cameras (DSC)

#### **Product Features**

- OmniBSI+<sup>™</sup> technology
- automatic black level calibration (ABLC) standard serial SCCB interface
- programmable controls for frame rate, MIPI serial output interface mirror and flip, cropping, windowing, and scaling
- image quality controls: lens correction and defective pixel canceling
- support for output formats: 10-bit RAW RGB (MIPI)
- support for horizontal and vertical subsampling
- support for images sizes: 8 Mpixel, EIS1080p, 1080p, EIS720p, EISQ 1080p, Q1080p, EISVGA, VGA, QVGA, etc.

- support 2x2 binning

- 256 bytes embedded one-time programmable (OTP) memory for part identification, etc.
- on-chip phase lock loop (PLL)
- programmable I/O drive capability
- built-in 1.5V regulator for core

### OV8825



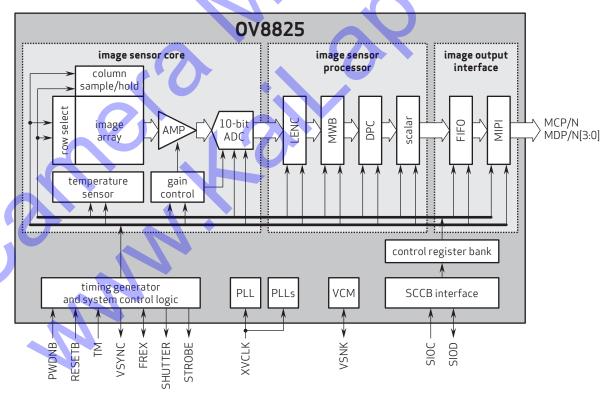
■ 0V08825-G04A (color, chip probing, 200 µm backgrinding, reconstructed wafer)

#### **Product Specifications**

- active array size: 3296 x 2460
- power supply: core: 1.5 VDC ±5%
- (internal regulator optional)
  analog: 2.6 ~ 3.0 V
  I/O: 1.7 ~ 3.0 V
- power requirements:
- active: 160 mA (358 mW) - standby: 30 µA
- temperature range:
   operating: -30°C to 70°C junction temperature
  - stable image: 0°C to 50°C junction temperature
- output formats: 10-bit RGB RAW
- lens size: 1/3.2"
- lens chief ray angle: 27° non-linear
- input clock frequency: 6 27 MHz

- max S/N ratio: 35.7 dB
- dynamic range: 70.45 dB @ 8x gain
- maximum image transfer rate:
- -8MP: 24 fps -EIS1080p: 30 fps -EIS720p: 60 fps
- sensitivity: 725 mV/lux-sec
- scan mode: progressive
- maximum exposure interval: 2480 x t<sub>ROW</sub>
- pixel size: 1.4 μm x 1.4 μm
- dark current: 8 mV/s @ 50°C junction temperature
- image area: 4614 µm x 3444 µm
- die dimensions: 6350 μm x 6750 μm

#### Functional Block Diagram



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