

OV10822 10MP product brief



available in
a lead-free
package

Native 16:9 10.5-Megapixel CameraChip™ Sensor with Best-in-Class High and Low Light Performance

The OV10822 is a high-performance, 10.5-megapixel CameraChip™ sensor in a native 16:9 format designed for next-generation smartphones and tablets. The sensor leverages OmniVision's most advanced 1.4-micron OmniBSI-2™ pixel technology to deliver dramatically increased sensitivity and improved high and low light performance, ensuring high image and video quality while recording in difficult lighting conditions.

The 1/2.6-inch OV10822 captures full-resolution 10.5-megapixel video at 30 fps, 4K2K (3840 x 2160 pixels) at 30 fps, and 1080p FHD video at 60 fps while

maintaining full field-of-view (FOV) with binning functionality for RAW output. It supports alternate row high dynamic range (HDR) functionality, which enables excellent scene reproduction even in difficult lighting conditions.

The OV10822 features a high speed 4-lane MIPI output interface to support the required high data transfer rate.

Find out more at www.ovt.com.



Applications

- Smartphones
- Tablets
- 4K2K Video Recorders

Product Features

- 1.4 μm x 1.4 μm pixel with OmniBSI-2™
- optical size of 1/2.6"
- programmable controls for frame rate, mirror and flip, cropping, windowing, and panning
- image quality controls: black level calibration
- support for output formats: 10-bit RAW RGB data and DPCM 10-8 compression
- support for video or snapshot operations
- support 1 x 2 binning, 2 x 2 binning
- temperature sensor
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- 12K bits of embedded one-time programmable (OTP) memory
- two on-chip phase lock loop (PLL)
- HDR output (alternate Raw output)
- programmable I/O drive capability
- support for black sun cancellation

OV10822



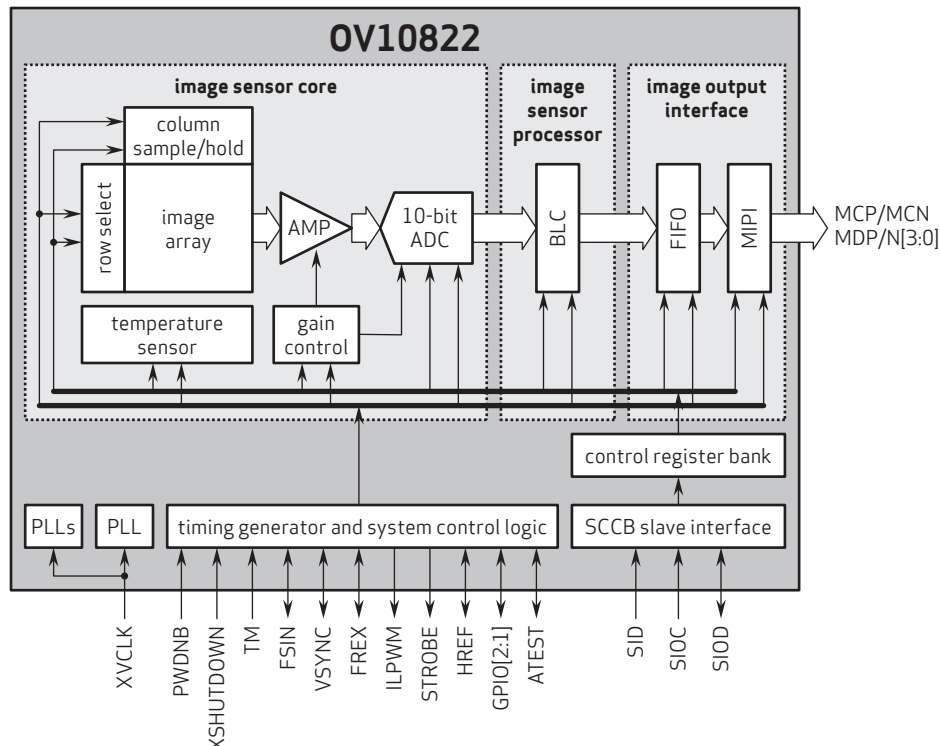
Ordering Information

- OV10822-G04A**
(color, chip probing, 200 μm backgrinding, reconstructed wafer)

Product Specifications

- active array size:** 4320 x 2432
- power supply:**
 - core: 1.2V $\pm 5\%$
 - analog: 2.7 - 3.0V
 - I/O: 1.7 - 3.0V
- power requirements:**
 - active: 296 mW
 - standby: 200 μA
 - XSHUTDOWN: 5 μA
- temperature range:**
 - operating: -30°C to +70°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- output formats:** 10-bit RAW RGBC data and DPCM 10-8 compression
- lens size:** 1/2.6"
- lens chief ray angle:** 29.4° non-linear
- input clock frequency:** 6 - 27 MHz
- maximum exposure interval:** 1 frame - 4 T_{line}
- maximum image transfer rate:**
 - 10.5MP (4320x2432): 30 fps
 - 2.6MP (2160x1216): 60 fps
- scan mode:** progressive
- shutter:** rolling shutter
- sensitivity:** 1010 mV/lux-sec @ 530 nm
- max S/N ratio:** 36.4 dB
- dynamic range:** 71.5 dB @ 8x gain
- pixel size:** 1.4 μm x 1.4 μm
- dark current:** 10 e⁻/s @ 60°C junction temperature
- image area:** 6092.8 μm x 3449.6 μm
- die dimensions:** 7600 μm x 5950 μm

Functional Block Diagram



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