

OV16885-4C 16MP product brief



16-Megapixel Second-Generation PureCel®Plus-S Sensor for Front-Facing Mobile Applications



available in
a lead-free
package

OmniVision's OV16885-4C is an ultra-compact image sensor built on OmniVision's second-generation, 1.0-micron PureCel®Plus-S pixel technology that is designed to bring 16-megapixel resolution to high-end front-facing mobile applications. The OV16885-4C's on-chip pixel binning feature boosts signal levels up to four times, enabling clear images even in challenging lighting environments. The OV16885-4C pairs with OmniVision's smart resolution recovery software solutions to achieve the ideal balance between resolution and sensitivity, making it a compelling solution for "super selfie" cameras in high-end mobile applications.

The OV16885-4C offers a full 16-megapixel 4-cell RAW output mode and a 4-megapixel Bayer output mode that uses in-pixel binning to achieve a 2.0-micron pixel's performance and sensitivity. The OV16885-4C captures full-resolution 16-megapixel images and video at 30 frames per second (fps) and offers both MIPI D-PHY and C-PHY interfaces.

The OV16885-4C sensor fits into the industry-standard module form factors for slim mobile devices.

Find out more at www.ovt.com.



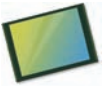
Applications

- Smartphones
- Video Conferencing
- PC Multimedia

Product Features

- 16MP @ 30 fps, 4K2K @ 60 fps (1.0 μm non-Bayer output)
- 4MP @ 60 fps, 1080p @ 120 fps (2.0 μm Bayer output)
- supports dynamic defect pixel correction (DPC) in Bayer output mode
- automatic black level calibration (ABLC)
- total embedded one-time programmable (OTP) memory: 2048 bytes, 896 bytes for customer use, remaining bytes for internal use
- supports typical images sizes:
 - 4672 x 3504
 - 3840 x 2160
 - 2336 x 1752
 - 1920 x 1080
- supports horizontal and vertical subsampling
- programmable controls for:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- up to 4-lane MIPI TX interface with speed up to 1.6 Gbps/lane
- programmable I/O drive capability
- standard serial SCCB interface
- supports output formats:
 - 10-bit RAW RGB
 - DPCM 10-8 compression
- two on-chip phase lock loops (PLLs)
- built-in temperature sensor
- typical module size: 8.5 x 8.5 x 4.9 mm

OV16885-4C



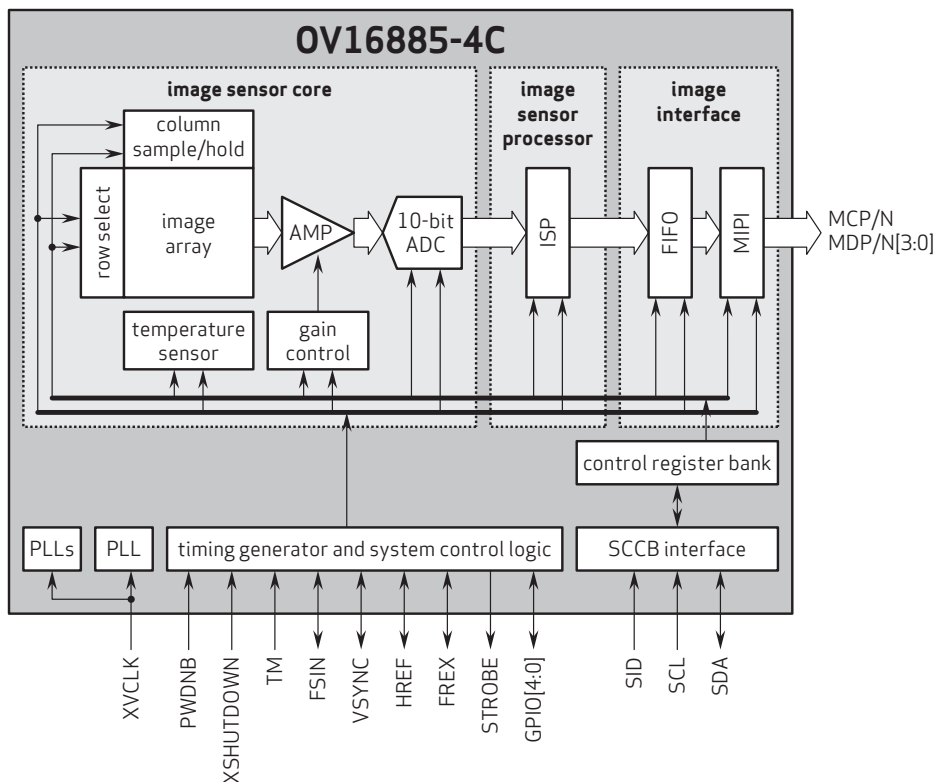
Ordering Information

- OV16885-GA5A-4C**
(4-cell color, chip probing, 150 μm backgrinding, reconstructed wafer with good die)

Product Specifications

- active array size:** 4672 x 3504
- sensitivity:** 13.8 Ke⁻/lux-sec @ 4C binning mode
- power supply:**
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V
- power requirements:**
 - active: 300 mW
 - XSHUTDOWN: <1 μW
- temperature range:**
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- input clock frequency:** 6 - 64 MHz
- lens size:** 1/3.06"
- lens chief ray angle:** 34.2° non-linear
- maximum image transfer rate:**
 - 4672 x 3504: 30 fps
 - 3840 x 2160: 60 fps
 - 2336 x 1752: 60 fps
 - 1080p: 120 fps
- max S/N ratio:** 37.5 dB @ 4C binning mode
- dynamic range:** 72 dB @ 16x gain
- scan mode:** progressive
- pixel size:** 1.0 μm x 1.0 μm
- image area:** 4741.63 μm x 3564.29 μm
- die dimensions:**
 - COB: 5690 μm x 4050 μm
 - RW: 5740 μm x 4120 μm

Functional Block Diagram



4275 Burton Drive
Santa Clara, CA 95054
USA

Tel: + 1 408 567 3000
Fax: + 1 408 567 3001
www.ovt.com

OmniVision reserves the right to make changes to their products or to discontinue any product or service without further notice. OmniVision, the OmniVision logo and PureCel are registered trademarks of OmniVision Technologies, Inc. All other trademarks are the property of their respective owners.



OmniVision