OVO2C 2 megapixel product brief

Industry's Smallest 1080p Full HD Image Sensor for High Performance Video Communication in Thin Bezel Notebooks and Tablets

OMNIVISION's OVO2C is a 1/7-inch, 2 megapixel image sensor for full high definition (HD) video performance in thin bezel premium notebooks, tablets and IoT devices. The OVO2C is a full-featured image sensor that combines superior video performance and ultra-low power in a miniature size for high screen-to-body ratio designs. The sensor combines smaller pixel size and high resolution in the smallest form factor, enabling the most vivid quality video and image capabilities. The sensor offers 60 frames per second (fps) and excellent pixel performance in the thinnest 3 mm module Y size for high screen-to-body ratio designs.

Built on OMNIVISION's PureCel®Plus-S stacked die technology, the OVO2C enables high functionality in the smallest die size. This next-generation pixel technology also provides higher color fidelity and excellent low light sensitivity, along with a high signal-to-noise ratio of 37.5 dB for crisper images. Additionally, PureCel®Plus-S provides higher full well capacity, zero blooming and lower power consumption.

The OV02C's "Always On" feature senses user presence in ultra-low-power mode and the system can be locked and woken up touchlessly, extending the lifetime of the battery. The OV02C also supports multi-camera synchronization and multi-frame HDR at 30 fps real time video streaming.

Find out more at www.ovt.com.



OV02C

Ordering Information

maximum image transfer rate:
 2MP (1920x1080): 60 fps

power supply:

power requirements:

active: 115.4 mW

standby: 0.25 mA

- XSHUTDN: 1 µA

output interfaces:

2x2 binning RGB (640x480): 60 fps

- 2x2 binning b&w (640x480): 60 fps

analog: 2.7 ~ 3.0V (2.8V nominal)
 core: 1.14 ~ 1.26V (1.2V nominal)

1-lane or 2-lane MIPI serial output /

1-lane 2-wire serial interface

- I/O: 1.7 ~ 1.9V (1.8V nominal)

- OV02C10-GA5A-001A (color, chip probing, 150 μm backgrinding, reconstructed wafer)
- OVO2C1B-GA5A-001A (b&w, chip probing, 150 μm backgrinding, reconstructed wafer)
- OV02C10-A21A-001A (color, lead-free) 21-pin CSP

Applications

- notebooks / PC
- tablets, detachables, and 2-in-1s

Product Features

- 1.116 μm x 1.116 μm pixel
- optical size of 1/7.25"
- 34° CRA
- 2MP at 60 fps
- programmable controls for: frame rate
- mirror and flip
- cropping
- windowing
- supports images sizes: 2MP (1920x1080)
 - 720p (1280x720)
- VGA (640x480), and more

 support for output formats: 8-bit or 10-bit RGB RAW

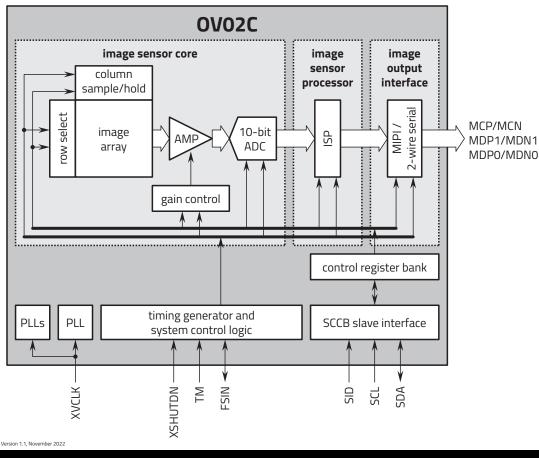
smartphones and feature phones

- two-wire serial bus control (SCCB)
- MIPI serial output interface (1-lane or 2-lane) / 2-wire serial output
- two on-chip phase lock loops (PLLs)
- 2x binning support
- image quality controls: defect pixel correction
- automatic black level calibration
- suitable for module size of 4.5 x 3.2 x 2.6 mm

Technical Specifications • active array size: 1920 x 1080

- temperature range:
 operating: -30°C to +85°C
- junction temperature
- stable: 0°C to +60°C
- junction temperature
- output formats: 8/10-bit RGB RAW MIPI, 8-bit in 2-wire serial interface
- lens size: 1/7.25"
- Iens chief ray angle: 33.98° non-linear
- shutter: rolling shutter
- pixel size: 1.116 μm x 1.116 μm
- image area: 2160.576 μm x 1223.136 μm

Functional Block Diagram





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wearables