

OV16A10 16MP product brief



Cost-Effective 16MP Image Sensor for Rear- and Front-Facing Cameras on Mainstream Smartphones with Thin Bezels



available in
a lead-free
package

OmniVision's OV16A is an affordable 16-megapixel image sensor that enables smartphone cameras to capture higher quality photos. This versatile image sensor, built on OmniVision's PureCel®Plus 1.0 micron advanced pixel architecture, allows better autofocus for mainstream smartphones. With the OV16A, manufacturers can add a third camera for high-quality, ultra-wide-angle photos in high-end smartphones. Additionally, the OV16A extends battery life with the industry's lowest power consumption—10% lower than the nearest competitor's 16MP 1.0 micron sensor. Space limiting thin-bezel smartphone designs require compact front-facing cameras. The OV16A allows designers to incorporate just such a camera in the bezel, and with 2.0-micron-equivalent pixel performance.

The OV16A's 4-cell color filter allows users to consistently capture high-quality photos without motion blur, even in low-light conditions indoors. Its compact size enables the industry's smallest fixed-focus camera modules, with dimensions down to 6.5 mm x 6 mm. Additionally, its top and bottom pad configuration allows thin-bezel designs for full-display selfie screens. The OV16A's 2x1 microlens phase detection autofocus (ML-PDAF) boosts autofocus accuracy, especially in low light.

Find out more at www.ovt.com.



Applications

- Mobile Smart Phones
- Video Conferencing
- PC Multimedia

Product Features

- automatic black level calibration (ABLC)
- programmable controls for:
 - frame rate
 - mirror and flip
 - binning
 - cropping
 - windowing
- support for dynamic DPC cancellation
- supports output formats:
 - 10-bit RGB RAW
- supports horizontal and vertical subsampling
- programmable I/O drive capability
- standard serial SCCB interface
- supports typical images sizes:
 - 4656 x 3496
 - 3840 x 2160
 - 1920 x 1080
 - 1280 x 720
- up to 4-lane MIPI TX interface with speed up to 1.8 Gbps/lane
- supports for 2/3 trio CPHY interface (up to 1.6 Gbps/trio)
- three on-chip phase lock loops (PLLs)
- built-in temperature sensor
- typical module size: 8.5 x 8.5 x 5 mm

OV16A10



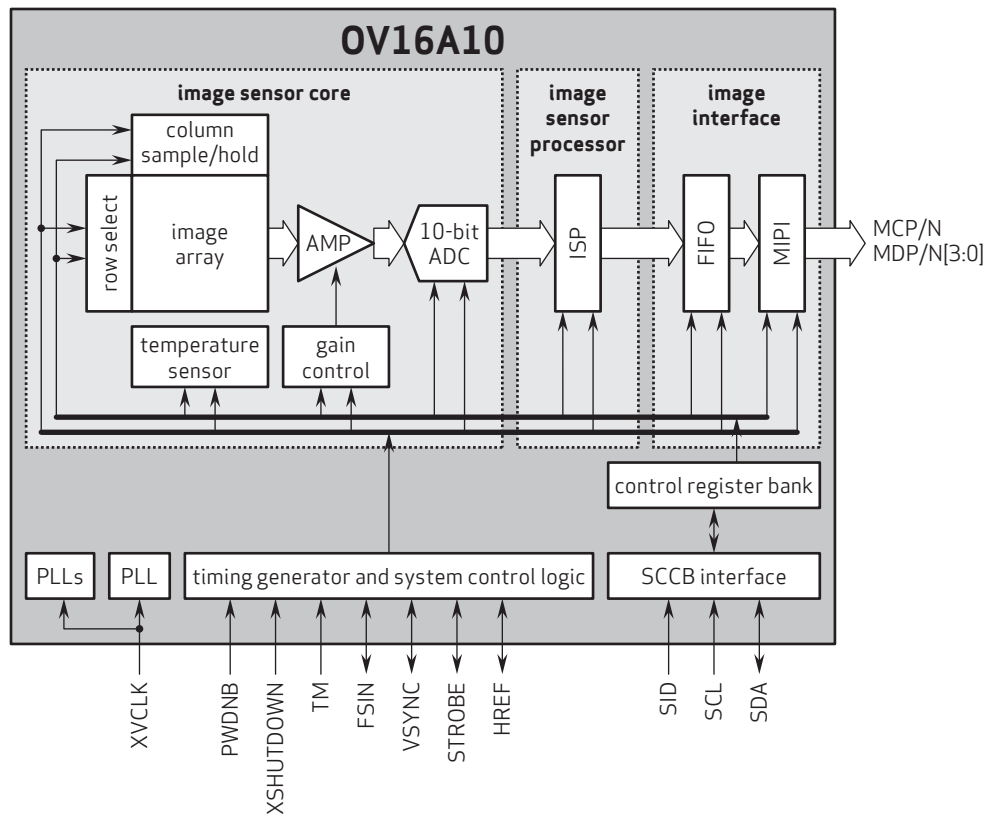
Ordering Information

- **OV16A10-GA5A-Z**
(color, chip probing, 150 μm backgrinding, reconstructed wafer with good die)

Technical Specifications

- **active array size:** 4656 x 3496
- **maximum image transfer rate:**
 - 4656 x 3496: 30 fps
 - 3840 x 2160: 45 fps
 - 1920 x 1080: 90 fps
- **power supply:**
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V
- **temperature range:**
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- **output formats:** 10-bit RGB RAW
- **lens size:** 1/3.06"
- **lens chief ray angle:** 34.2° non-linear
- **scan mode:** progressive
- **pixel size:** 1.0 μm x 1.0 μm
- **image area:** 4725.5 μm x 3556.2 μm

Functional Block Diagram



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