

# OV9728 720p HD product brief



## Low-Power and Cost-Efficient 720p HD CameraChip™ Sensor for Portable Devices and Smart TVs



available in  
a lead-free  
package

The OV9728 is a low-power, cost-efficient CameraChip sensor designed for secondary camera applications in notebooks, tablets, smartphones and smart TVs. The high-performance OV9278 delivers exceptional 720p high-definition (HD) video, which exceeds the criteria of premium video specifications for Microsoft® Lync™ and Skype®.

The OV9728 utilizes a 1.75-micron OmniBSI+™ pixel architecture to deliver best-in-class low-light sensitivity, a 60 percent improvement in full-well capacity (FWC), a 4 dB improvement in dynamic range, and a significantly enhanced signal-to-noise ratio (SNR). A 1/6.5-inch sensor, the OV9728 can record 720p HD video at 30 frames per second (fps) or high-quality cropped VGA video at 60 fps.

The OV9728 provides full-frame, sub-sampled, windowed or scaled 8- and 10-bit images. All required image processing functions, including exposure control and defective pixel cancelling, are programmable through the serial camera control bus (SCCB) interface. It features a one-lane high-speed MIPI interface and fits into a compact 6 x 6 x 3 mm module.

Find out more at [www.ovt.com](http://www.ovt.com).



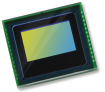
## Applications

- Ultrabooks/Notebooks
- Smartphones
- Gaming
- Tablets
- Televisions
- Toys
- PC Multimedia

## Product Features

- MIPI and D-PHY specification (contains one clock lane and one data lane) with a maximum of 600 Mbps data transfer rate
- supports free-running clock and gated clock
- supports global analog gain
- high sensitivity and low dark current for low-light conditions
- low operating voltage and low power consumption for embedded portable applications
- supports down sample mode and VarioPixel\*
- auto black level calibration
- defect correction capability

# OV9728



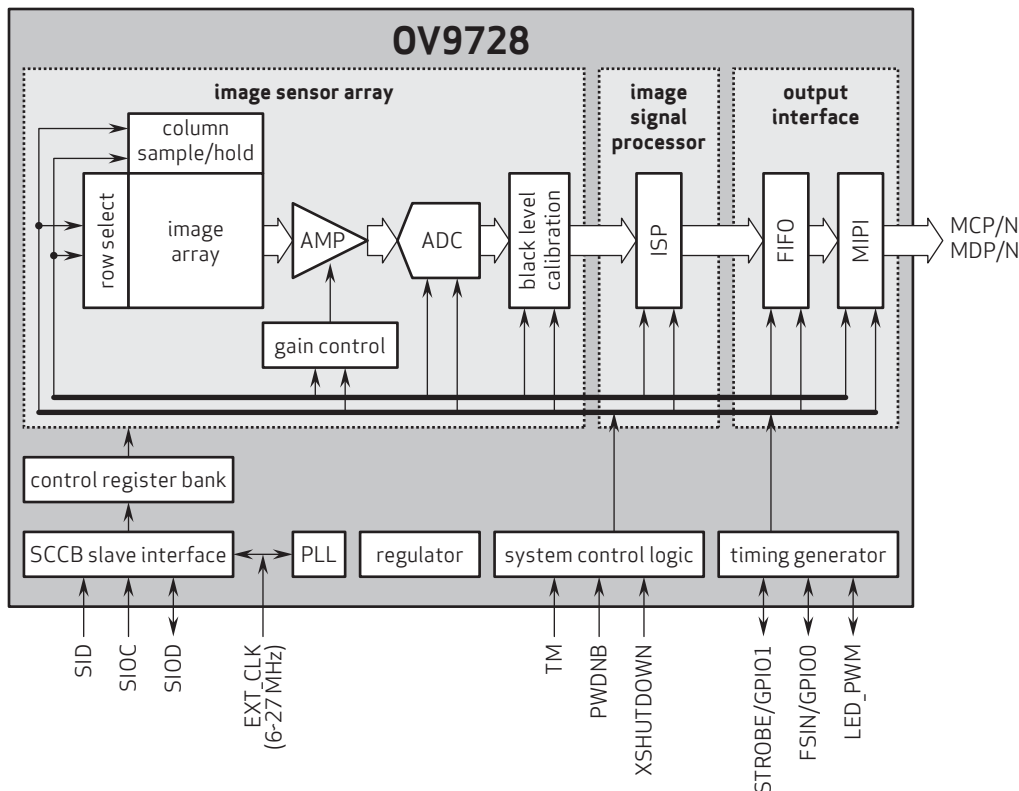
## Ordering Information

- OV9728-A30A (color, lead-free, 30-pin CSP3)

## Product Specifications

- active array size: 1296 x 808
- power supply:
  - core: 1.5V
  - analog: 2.8V (typical)
  - I/O: 1.8V (typical)
- power requirements:
  - I<sub>DD-A</sub>: 18 mA
  - I<sub>DD-IO</sub>: 28 mA
  - XSHUTDOWN: 5 μA
- temperature range:
  - operating: -30°C to +70°C junction temperature
  - stable image: 0°C to +50°C junction temperature
- output formats: 10-bit RAW RGB data
- lens size: 1/6.5"
- lens chief ray angle: 31.6° non-linear
- input clock frequency: 6 - 27 MHz
- max S/N ratio: 38 dB
- dynamic range: 74 dB @ 8x gain
- maximum image transfer rate: 30 fps
- sensitivity: 1000 mV/lux-sec
- scan mode: progressive
- maximum exposure interval: 824 x t<sub>row</sub>
- pixel size: 1.75 μm x 1.75 μm
- dark current: 12 e<sup>-</sup>/s @ 50°C junction temperature
- image area: 2296 μm x 1428 μm
- package dimensions: 3810 μm x 3260 μm

## Functional Block Diagram



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