

# OV9728 720p HD product brief



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

lead free

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®.

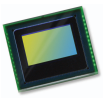
The OV9728 utilizes a 1.75-micron OmniBSI+™ pixel architecture to deliver best-in-class low-light sensitivity, a 60 percent improvement in full-well capacity (FWC), a 4 dB improvement in dynamic range, and a significantly enhanced signal-to-noise ratio (SNR10). A 1/6.5-inch sensor, the OV9728 can record 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.

OmniVision

# OV9728



## Applications

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

## Ordering Information

- **OV09728-A30A**
  (color, lead-free, 30-pin CSP3)

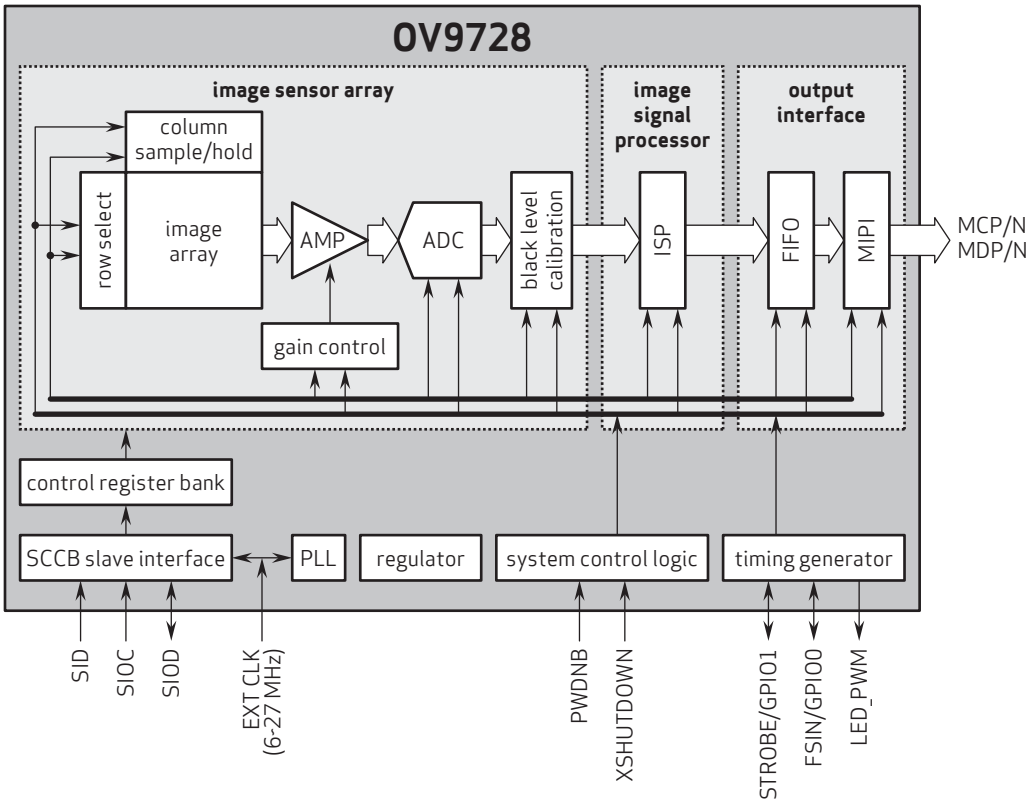
## Product Features

- 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

## Product Specifications

- **active array size:** 1296 x 808
- **power supply:**
  - **core:** 1.5V
  - **analog:** 2.8V (typical)
  - **I/O:** 1.8V (typical)
- **power requirements:**
  - **active:** TBD
  - **standby:** 60 µA
  - **RESETB:** 20 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 $t_{ROW}$
- **pixel size:** 1.75 µm x 1.75 µm
- **dark current:** 12 $e^-$/s @ 50°C junction temperature
- **image area:** 2270 µm x 1806 µm
- **package/die dimensions:**
  - **CSP3:** 3810 µm x 3260 µm

## Functional Block Diagram





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