

OV9726 720p HD product brief





Native 720p/30 fps HD Video for Portable Applications

The OV9726 is a 1/6.5-inch native 720p/30 frames per second (fps) high-definition (HD) CMOS image sensor, designed specifically for ultra compact, high-performance HD cameras for portable electronics. The OV9726 uses OmniVision's proprietary 1.75-micron OmniBSI™ pixel architecture to achieve superior low-light sensitivity (1300 mV/lux-sec), reduced crosstalk and excellent quantum efficiency to ensure high color fidelity and image clarity. The sensor's short stack height of only 3.5 mm enables the smallest available camera modules in its class, making it an ideal choice for notebooks, netbooks, webcams, mobile phones, portable media players (PMPs) and other mobile entertainment devices.

OmniVision's native HD sensors offer the best available image quality and camera performance as they do not suffer from degradation or image artifacts due to scaling or cropping, which is typically used to achieve HD resolution from larger array sensors. The OV9726 CMOS image sensor supports multiple platform architectures and controllers with both parallel and MIPI interfaces. It significantly reduces product development time by allowing system designers to leverage the same opto-electrical design across various products and multiple market segments.

Exposure control, white balance and defective pixel canceling are programmable through the SCCB interface. In addition, OmniVision image sensors use proprietary sensor technology to improve image quality by reducing or eliminating common lighting/electrical sources of image contamination, such as fixed pattern noise and smearing to produce a clean, fully stable color image.

Find out more at www.ovt.com.



Applications

- Cellular and Picture Phones
- Notebooks
- PC Multimedia
- Portable Media Players (PMP)
- Entertainment
- Tablets

Product Features

- MIPI and D-PHY specification (contains
 low operating voltage and low power 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
- consumption for embedded portable applications
- supports down sample mode and VarioPixel[®]
- auto black level calibration
- defect correction capability



OV9726

- OV09726-A40A (color, lead-free, 40-pin CSP3)
- OV09726-G04A (color, chip probing, 200 µm backgrinding, reconstructed wafer)

Product Specifications

- active array size: 1296 × 808
- power supply: - core: 1.5V analog: 2.8V (typical) or 3.3V (optional) maximum image transfer rate: 30 fps
 I/O: 1.8V (typical)
- power requirements:
 active: 95 mA - 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: 25.7° non-linear

SCCB

slave interface

SDA

SCL

■ input clock frequency: 6 - 27 MHz

- max S/N ratio: 36 dB
- dynamic range: 70 dB @ 8x gain
- sensitivity: 1300 mV/lux-sec
- scan mode: progressive
- maximum exposure interval: 824 x t_{ROW}
- pixel size: 1.75 µm x 1.75 µm
- dark current: 8 mV/sec @ 60°C junction temperature
- image area: 2300 μm x 1440 μm
- package/die dimensions: - CSP3: 4325 μm x 3515 μm - COB: 4340 μm x 3530 μm



register

bank

GPIO control

GPIO_0

GPIO 1

Functional Block Diagram

PLL

XVCLK

column

sample/hold

image

array

row select

power

control

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timing

generator

m,

RESET

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