

OV9710 1.0 Mpixel product brief

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high definition (HD) video CameraChip sensor

The low-power OV9710 CameraChip™ is a high performance HD video camera providing the full functionality of a single-chip WXGA (1280x800) camera in a small footprint package.

The 1/4 inch, 1.0 megapixel OV9710 meets all camera phone and pc multimedia market requirements in terms of performance, quality and reliability. Using OmniPixel3™ technology, the OV9710 excels in low light conditions and can operate within a wide temperature range (-30°C to +70°C).

The OV9710 provides a full-frame, sub-sampled, windowed 8-bit/10-bit images in raw RGB format via the digital video port (DVP). The OV9710 incorporates a 1280 x 800 image array, capable of delivering HD video at 30 frames per second (fps) in WXGA with complete user control over image quality, formatting and output data transfer.

The OV9710 possesses camera processing functions including exposure control, gain control, white balance, lens correction, defect pixel canceling and more. These functions are also programmable through the serial camera control bus (SCCB) interface.

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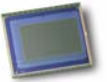
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applications

- camera phones
- toys
- digital still cameras
- webcams



OV9710



ordering information

- **OV9710-VL1A**
(color, lead-free, CSP2-28)
- **OV9710-G00A**
(color, no chip probing, no backgrinding)

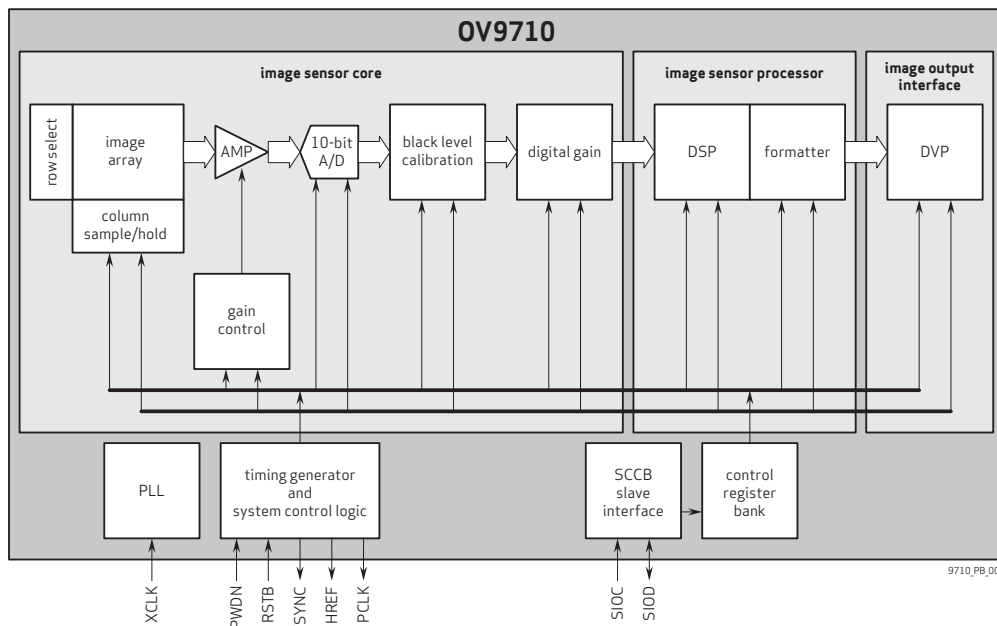
product features

- high sensitivity for low-light operation
- ultra low power and low cost
- automatic image control functions:
 - automatic exposure control (AEC)
 - automatic gain control (AGC)
 - automatic white balance (AWB)
 - automatic band filter (ABF)
 - automatic black level calibration (ABLC)
- programmable controls:
 - frame rate
 - AEC/AGC
 - 16-zone size/position/weight control
 - mirror
 - flip
 - cropping
 - windowing
- output support for raw RGB
- on-chip phase lock loop (PLL)
- image quality controls: lens correction and defective pixel canceling
- supports image sizes: WXGA (1280x800) and 640x400
- support for horizontal and vertical sub-sampling
- support for black sun cancellation
- support for internal and external frame synchronization
- standard serial camera control bus (SCCB) interface
- digital video port (DVP) parallel output interface
- embedded one-time programmable (OTP) memory

product specifications

- **array size:** 1280 x 800
- **pixel size:** 3 μ m x 3 μ m
- **power supply**
analog: 3.0V - 3.6V
core: 1.5 VDC \pm 5%
I/O: 1.7V - 3.6V
- **power requirements**
active: TBD
standby: TBD
- **image area:**
3888 μ m x 2430 μ m
- **maximum image transfer rate:**
WXGA (1280x800): 30 fps
640x400: 60 fps
- **lens size:** 1/4"
- **scan mode:** progressive
- **package dimensions:**
CSP2: 5415 μ m x 4415 μ m
COB: 5430 μ m x 4430 μ m
- **temperature range**
operating: -30°C to +70°C
stable image: -20°C to +70°C

functional block diagram



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