OV2770 full HD (1080p) product brief

lead free

available in
a lead-free
package

Exceptional Low-Light Sensitivity and 1080p High Definition Video for Mainstream Security Applications

OmniVision's OV2770 is a native 16:9 high definition (HD) CameraChip™ sensor that delivers exceptional low-light sensitivity, high dynamic range (HDR), and 1080p HD video. These capabilities make the OV2770 an ideal camera solution for mainstream security and surveillance systems.

Built on advanced 2.8-micron OmniBSI-2™ pixel architecture, the sensor can record 1080p HD video at 30 frames per second (fps) in HDR mode. The 1/2.9-inch

OV2770 leverages OmniVision's in-pixel HDR technology to capture exceptional images and video when recording in high- and low-light environments, a critical benefit for security and surveillance cameras.

The OV2770 is available in a 6.5 x 5.7 mm chip scale package (CSP).

Find out more at www.ovt.com.

Applications

- Security and Surveillance Cameras
- Smart Home
- Video Applications

Product Features

- support for image size:
  - 1920 x 1080
  - VGA
  - QVGA, and any cropped size
- high dynamic range
- high sensitivity
- low power consumption
- image sensor processor functions:
  - lens correction
  - defective pixel cancelation
  - HDR combination
  - automatic black level correction

- supported output formats: RAW
- horizontal and vertical sub-sampling
- SCCB for register programming
- high speed serial data transfer with MIPI CSI-2/LVDS
- parallel 12-bit DVP output
- external frame synchronization capability
- embedded temperature sensor
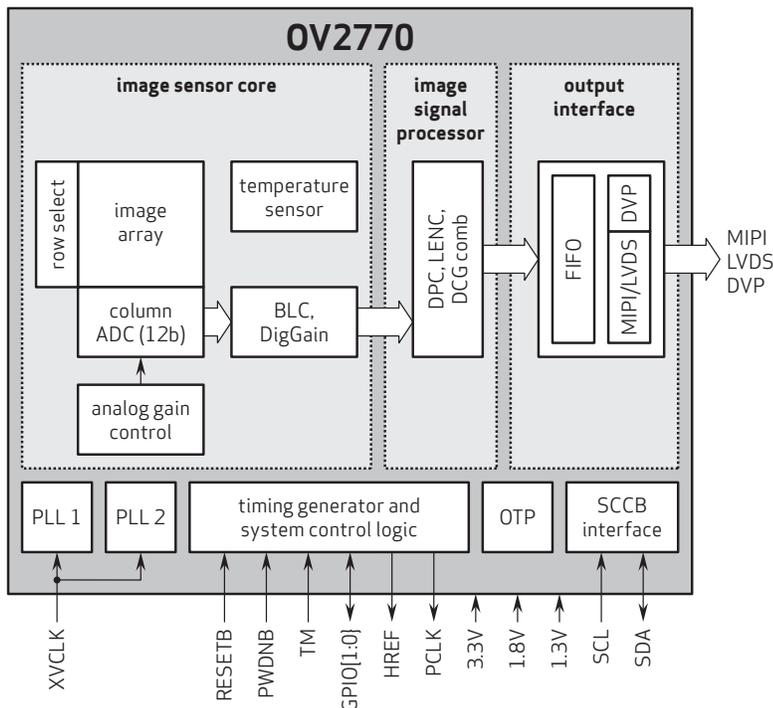- one time programmable (OTP) memory

OV2770
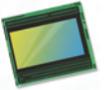
Product Specifications

- **active array size:** 1920 x 1080
- **power supply:**
  - **analog:** 3.14 - 3.47V
  - **digital:** 1.2 - 1.4V
  - **DOVDD:** 1.7 - 1.9V
  - **AVDD:** 1.7 - 1.9V
- **power requirements:**
  - **active:** 395 mW
  - **software standby:** 20 mW
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
- **output interfaces:** up to 4-lane MIPI CSI-2/LVDS, 12-bit DVP
- **input clock frequency:** 6 - 36 MHz
- **lens size:** 1/2.9"
- **lens chief ray angle:** 15°
- **scan mode:** progressive
- **shutter:** rolling shutter

- **output formats:** linear - 12-bit RAW, 10-bit compressed RAW; single exposure HDR - 16-bit combined RAW, 12-bit compressed combined RAW, 2x12 bit RAW; dual exposure HDR - 16-bit combined RAW + 12-bit VS RAW, 12-bit compressed combined RAW + 12-bit VS RAW, 3x12 bit RAW, 3x10 bit combined RAW, 12-bit (10-bit) RAW (HCG or LCG) + 12-bit (10-bit) VS
- **maximum image transfer rate:** 30 fps
- **sensitivity:** 26200 e⁻/lux.sec @ 530 nm
- **max S/N ratio:** 42.6 dB
- **dynamic range:** 120 dB
- **pixel size:** 2.8 μm x 2.8 μm
- **image area:** 5482.35 μm x 3202 μm
- **package dimensions:** 6544 μm x 5734 μm

Functional Block Diagram