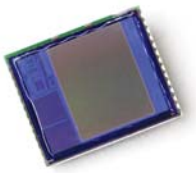


OV9655 1.3 MPixel product brief

lead free

available in a lead-free package

ultimate 1/4 inch camera-on-a-chip

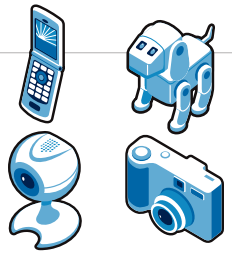
The OV9655 CameraChip™ is a quarter inch, low-voltage SXGA (1.3 MegaPixel) CMOS image sensor that offers the full functionality of a camera and image processor on a single chip, making it especially suitable for mobile applications.

The OV9655 is built on OmniVision's proprietary OmniPixel® architecture which is a guarantee for excellent image quality because it reduces or eliminates common sources of image contamination such as fixed pattern noise and smearing to produce a clean, fully stable color image. OmniPixel's unique pixel architecture also offers a high signal-to-noise ratio, enabling the OV9655 to perform exceptionally well in low-light conditions.

The OV9655 supports image sizes SXGA(1280 x 1024), VGA and any size scaling down from VGA to 40x30. It provides full-frame, sub-sampled, scaled or windowed 8-bit/10-bit images in a wide range of formats controlled through a serial camera control bus (SCCB) interface. The image array is capable of operating at up to 30 frames per second (fps) in VGA and 15 fps in full mode with complete user control over image quality, formatting and output data transfer. All required image processing functions, including exposure control, gamma, white balance, color saturation, hue control, white pixel canceling and noise reduction are programmable through the SCCB interface. The OV9655 also integrates an LCD scaler and strobe controller.

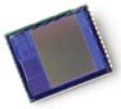
OmniVision

applications



- cellular and picture phones
- PC multimedia
- toys
- digital still cameras

OV9655



ordering information

- **OV09655-VL1A**
  (color, CSP2-28)

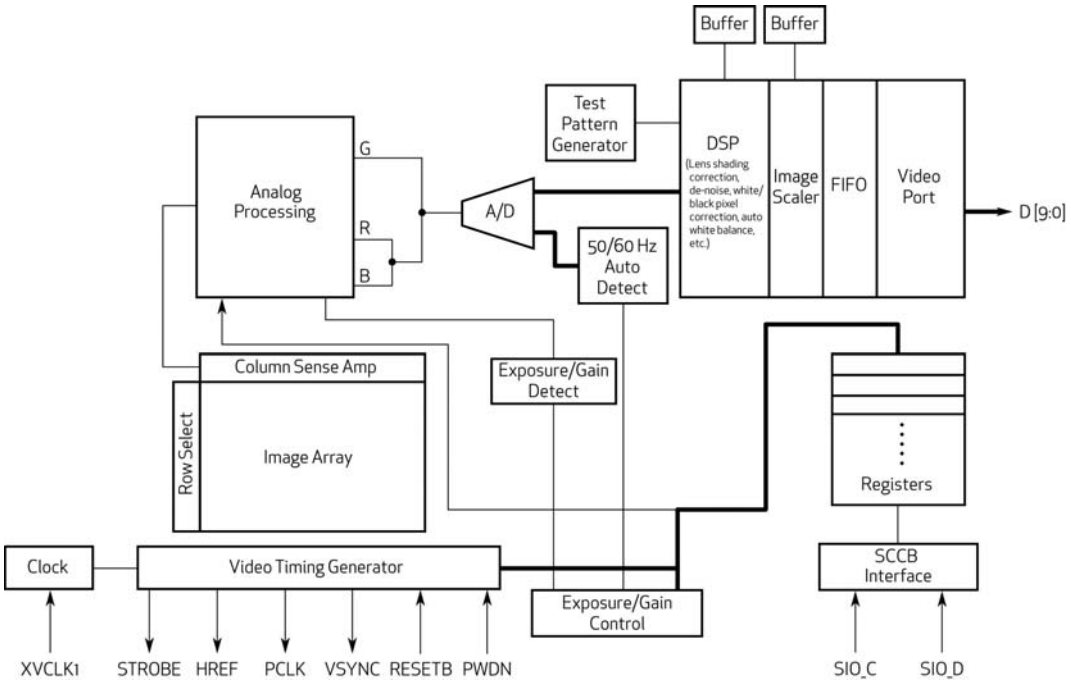
product features

- high sensitivity for low-light operation
- low operating voltage for embedded portable apps
- standard SCCB interface
- output support for Raw RGB, RGB (GRB 4:2:2, RGB565/555), YUV (4:2:2) and YCbCr (4:2:2) formats
- supports image sizes: SXGA, VGA, CIF, and any size scaling down from CIF to 40x30
- VarioPixel® method for sub-sampling
- automatic image control functions: AEC, AGC, AWB, ABF, and ABLC
- supports LED and flash strobe mode

product specifications

- **active array size:**
  1280 x 1024 (SXGA)
- **power supply**
  core: 1.8VDC ± 10%
  analog: 2.45 to 3.0VDC
  I/O: 1.7V to 3.3V
- **power requirements**
  active: 90 mW typical
  (15fps SXGA YUV format)
  standby: <20 µA
- **temperature range**
  operation: -30°C to 70°C
  stable image: 0°C to 50°C
- **output formats (8-bit):**
  YUV or RGB
- **lens size:** 1/4"
- **chief ray angle:** 25°
- **maximum image transfer rate**
  SXGA: 15 fps
  VGA, CIF and down scaling: 30 fps
- **scan mode:** progressive
- **pixel size:**
  3.18 µm x 3.18 µm
- **package dimensions:**
  5145 µm x 6145 µm

block diagram



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