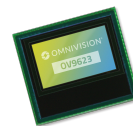




OV9623

1-megapixel product brief



Fully Integrated, High Sensitivity Imaging Solution for Advanced Video Applications

OMNIVISION's OV9623 is a fully integrated, high sensitivity color CMOS system-on-chip (SoC) camera solution for advanced video imaging applications. The OV9623's 1/2.7-inch optical format delivers full resolution high definition (HD) images and video at 30 frames per second (fps). The OV9623 also supports advanced features such as high dynamic range (HDR), auto exposure, auto white balance, color correction, HDR tone mapping, and defective pixel correction.

Built on a 4.2-micron OmniPixel®3-HS pixel, the 1-megapixel OV9623 enables best-in-class low-light sensitivity, delivering excellent scene reproduction even in demanding lighting conditions. The OV9623 offers complete user control of image quality, formatting, and output data

transfer with image size options including WXGA (1280 x 800), 720p HD (1280 x 720), WVGA (752 x 480), and VGA (640 x 480).

Camera functions are programmable through a serial camera control bus (SCCB) interface, and additional features include a horizontal and vertical windowing capability, external frame sync capability, and 50/60 Hz flicker cancellation.

The OV9623 comes in a 7.795 mm x 7.145 mm chip scale package (CSP), and operates at commercial temperature grade from -30°C to +85°C.

Find out more at www.ovt.com.



- OV9623-N29A (color, lead-free)
- 129-pin CSP, packed in tray

Applications

- security and surveillance cameras

Product Features

- support for image sizes:
 - WXGA (1280 x 800)
 - HD 720p (1280 x 720)
 - WVGA (752 x 480)
 - VGA (640 x 480)
 - 600 x 400
 - CIF (352 x 288)
 - QVGA (320 x 240)
- support for output formats: YUV and separated and combined RAW
- parallel DVP interface
- high sensitivity
- automatic exposure / gain
- horizontal and vertical windowing capability
- auto white balance control
- aperture/gamma correction
- serial camera control bus (SCCB) for register programming
- low power consumption
- external frame sync capability
- 50/60 Hz flicker cancellation
- defective pixel correction

Technical Specifications

- active array size: 1280 x 800
- maximum image transfer rate: 30 fps full resolution
- power supply:
 - analog: 3.14V ~ 3.47V
 - core: 1.425V ~ 1.575V
 - I/O: 1.7V ~ 3.47V
- power requirements:
 - active: 507 mW typical @ 3.3V AVDD, 1.5V DVDD, and 1.8V DOVDD
 - standby: 440 μ W typical @ 3.3V AVDD, 1.5V DVDD, and 1.8V DOVDD
- output formats:
 - up to 18-bit combined RAW
 - separated 10-bit RAW
 - 8/10-bit YUV422
- temperature range:
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +50°C junction temperature
- output interface: 10-bit parallel DVP
- lens size: 1/2.7"
- lens chief ray angle: 9°
- scan mode: progressive
- pixel size: 4.2 μ m x 4.2 μ m
- image area: 5510.4 μ m x 3418.8 μ m

Functional Block Diagram

