CMOS CAMERA MODULES

KLT

KLT-USB1A-OV10635 V1.0

**OmniVision OV10635 USB 接口 固定焦距 100万像素 M12 摄像头模组**

摄像头模组型号	KLT-USB1A-OV10635 V1.0	
图像感光芯片	OV10635	输出格式：MJPG, YVY2
焦距	2.3 mm	15 FPS 1280 x 720 (HD 720P)
光圈	2.5	15 FPS 640 x 480 (0.3MP VGA)
像素	1280 x 800	15 FPS 320 x 240 (0.07MP)
可视角度	170°	支持的操作系统
镜头类型	1/2.7 英寸	Windows 7, 8.1, 10,Vista
镜头尺寸	13.70 x 13.70 x 20.92 mm	Windows XP SP2 under UVC
模组尺寸	30.50 x 28.50 mm	Linux Kernel V2.6.2.1 or later
模组类型	固定焦距	MAC OS 10.4 or later
接口	USB 2.0	工作电压：5V +/- 5%
IMT镜头型号	IMT-1B12E005-6	符合UVC 1.0版

配对USB线型号： KLT-USB1A-Cable
USB延长线。分开售卖。.
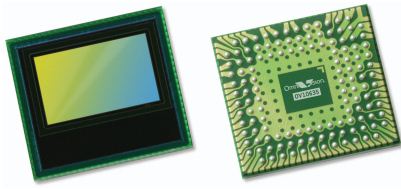
OV10635 HD HDR product brief

Megapixel, Color HDR Sensors for Advanced Automotive Display and Sensing Applications

lead free

available in a lead-free package

The OV10635 system-on-chip (SoC) sensor raises the standard in automotive imaging by combining megapixel resolution with color HDR. The AEC-Q100 qualified OV10635 comes with a full set of automatic controls and an image processing pipeline for display and sensing applications. Ideally suited for wide field of view and multi-camera applications, the OV10635 also incorporates special features and output formats for automotive machine vision applications. With its proprietary capability to simultaneously deliver high image quality and superior scene information, the OV10635 is designed for automotive applications that perform vision and sensing functions in tandem.

The sensor is built on a 4.2-micron OmniPixel3-HS™ pixel, enabling best-in-class low-light sensitivity of 3.65 V/lux-sec to capture detail-rich, high-definition color video in any environment. Using a proprietary new high dynamic range (HDR) concept and processing technology, this automotive sensor delivers excellent scene reproduction in the most demanding lighting conditions, achieving a dynamic range up to 115 dB in color and black-and-white. The OV10635 not only has the ability to accurately reproduce high-contrast scenes, but also employs auto dynamic range control to adjust to changing lighting and scene conditions to produce a clear, detailed and low-noise color image in any automotive situation. A proprietary approach to generating HDR images also dramatically reduces or eliminates many typical HDR image sensor artifacts such as motion ghost artifacts and other unwanted effects.

The OV10635 offers all required automatic image control functions, including automatic exposure control, automatic white balance, automatic black level calibration, as well as defective pixel correction, gamma correction and lens shading correction. The sensor supports a digital video parallel port, and provides full-framed or windowed 10- or 8-bit YUV and 10- to 18-bit combined HDR RAW output format with complete user control over formatting and output data transfer.

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

The OV10635 comes in a 7.8 mm x 7.1 mm aCSP package.

Find out more at www.ovt.com.

Omni Vision
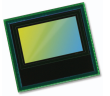
OV10635/OV10135

Applications

- Automotive
  - 360° surround view
  - automotive machine vision
  - lane departure warning
  - traffic sign recognition
  - automatic high beam control
  - object detection
  - pedestrian detection
  - rear view camera
  - blind spot detection
  - mirror replacement
  - occupant sensor
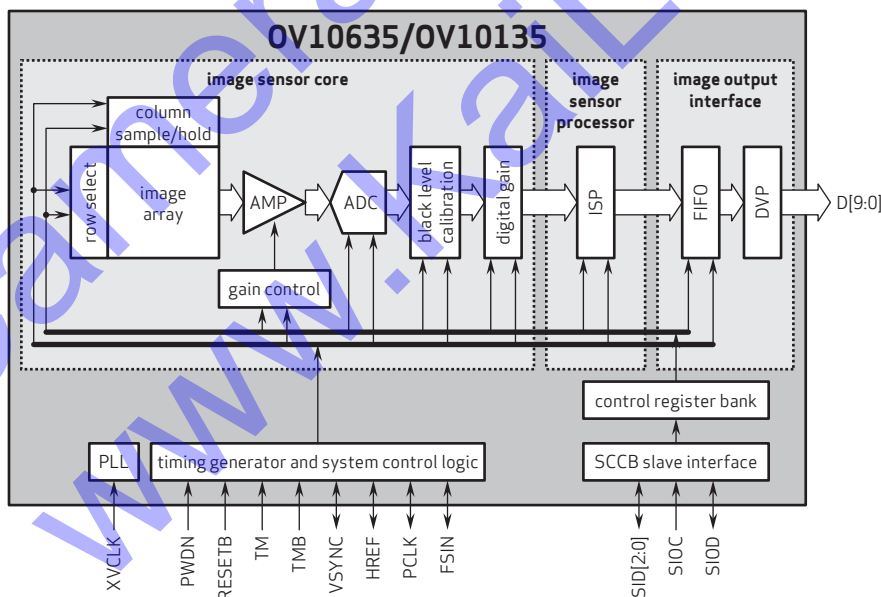 - night vision

Ordering Information

- **OV10635-N29Y-PB**
  (color sensor with protective film in tray, lead-free, 129-pin aCSP™)

- **OV10635-N29Y-RB**
  (with protective film in tape and reel, lead-free, 129-pin aCSP™)

- **OV10135-N29Y**
  (b&w sensor with protective fim in tray, lead-free, 129-pin aCSP™)

Product Features

- support for image sizes:
  - WXGA (1280x800)
  - HD 720p (1280x720)
  - WVGA (752x480)
  - VGA (640x480)
  - 600x400
  - CIF (352x288)
  - QVGA (320x240)

- 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

Product Specifications

- **active array size:** 1280 x 800

- **power supply:**
  - core: 1.425 - 1.575V
  - analog: 3.14 - 3.47V
  - I/O: 1.7 - 3.47V

- **power requirements:**
  - active: 485 mW typical @ 3.3V AVDD, 1.5V DVDD, and 1.8V DOVDD
  - standby: 267 µW typical @ 3.3V AVDD, 1.5V DVDD, and 1.8V DOVDD

- **temperature range:**
  - operating: -40°C to +105°C sensor ambient temperature (operating sensor ambient temperatures above +60°C may result in degraded image quality)

- **output interfaces:**
  10-bit parallel DVP

- **output formats:** up to 18-bit combined RAW, separated 10-bit RAW, 8-/10-bit YUV422

- **lens size:** 1/2.7"

- **lens chief ray angle:** 9°

- **input clock frequency:** 6 - 27 MHz

- **max S/N ratio:** 39 dB

- **dynamic range:** 115 dB

- **maximum image transfer rate:** 30 fps full resolution

- **sensitivity:** 3650 mV/lux-sec

- **scan mode:** progressive

- **shutter:** rolling shutter

- **maximum exposure interval:** $838 \times t_{ROW}$

- **pixel size:** 4.2 µm x 4.2 µm

- **dark current:** 2.5 mV/s @ 50°C junction temperature

- **image area:** 5510.4 µm x 3418.8 µm

- **package dimensions:**
  - aCSP™: 7795 µm x 7145 µm

Functional Block Diagram

OmniVision®