CMOS CAMERA MODULES

your BEST camera module partner

KLT-USB1A-OS05A10 V1.0

OmniVision OS05A10 USB Interface Fixed Focus 5MP M12 Camera Module

Camera Module No.	KLT-USB1A-OS05A10 V1.0	
Image Sensor	OS05A10	Output Format: MJPG, YVY2
EFL	3.07 mm	25 FPS 2592 x 1944 (Full Frame)
F.NO	1.8	25 FPS 1920 x 1080 (Full HD)
Pixel	2592 x 1944	25 FPS 1280 x 720 (HD 720P)
View Angle	164°	Supporting OS
Lens Type	1/2.7 inch	Windows 7, 8.1, 10, Vista
Lens Dimensions	13.00 x 13.00 x 18.07 mm	Windows XP SP2 under UVC
Module Size	30.50 x 28.50 mm	Linux Kernel V2.6.2.1 or later
Module Type	Fixed Focus	MAC OS 10.4 or later
IMT Lens Model	IMT-2B12E001-6	Operating Voltage: 5V +/- 5%
Interface	USB 2.0	Compliant with UVC Version 1.0

Mating USB Cable Part No. KLT-USB1A-Cable

USB Cable Extension Cord. Sold Separately.

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OS05A10 5-megapixel product brief

Versatile 5-Megapixel PureCel® Sensor with High Dynamic Range for a Wide Range of Commercial Security and Consumer Applications

lead free

available in a lead-free package

OmniVision's low-power OS05A10 is a 5-megapixel image sensor that brings crisp 1080p high definition, 2K, and 5-megapixel video to a wide range of commercial security and consumer applications, including 360-degree full-view cameras. Built on OmniVision's advanced PureCel® pixel architecture, the OS05A10 utilizes backside illumination (BSI) technology to deliver enhanced low-light sensitivity and wide field of view (FOV).

Available in the popular 1/2.7-inch optical format, the OS05A10 enables video applications in widely used 4:3 and 16:9 aspect ratios. The sensor can capture 1080p full high definition slow-motion video at 120 frames per second (fps) and 2688 x 1944 resolution at 60 fps.

Additionally, the OS05A10 features a 12-degree chief ray angle (CRA) and a dual-exposure staggered high dynamic range (HDR) mode to enable excellent scene reproduction in difficult high-contrast lighting conditions.

The OS05A10 is compatible with MIPI and LVDS interfaces and comes in a chip scale package (CSP) of 6.6 mm x 5.9 mm.

Find out more at www.ovt.com.

OmniVision

OS05A10

Applications

- Security Cameras
- Action Cameras
- High Resolution Consumer Cameras

Product Features

- 2 µm x 2 µm pixel
- optical size of 1/2.7"
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
- supports output formats:
  - 10/12-bit RAW RGB
- supports images sizes:
  - 5MP (2688x1944)
  - 1080p (1920x1080)
  - 720p (1280x720)
- supports 2x2 binning
- standard serial SCCB interface
- 12/10-bit ADC
- up to 4-lane MIPI/LVDS serial output interface (supports maximum speed up to 1500 Mbps/lane)
- 2-exposure staggered HDR support
- programmable I/O drive capability
- light sensing mode (LSM)
- PLL with SCC support
- support for frame sync

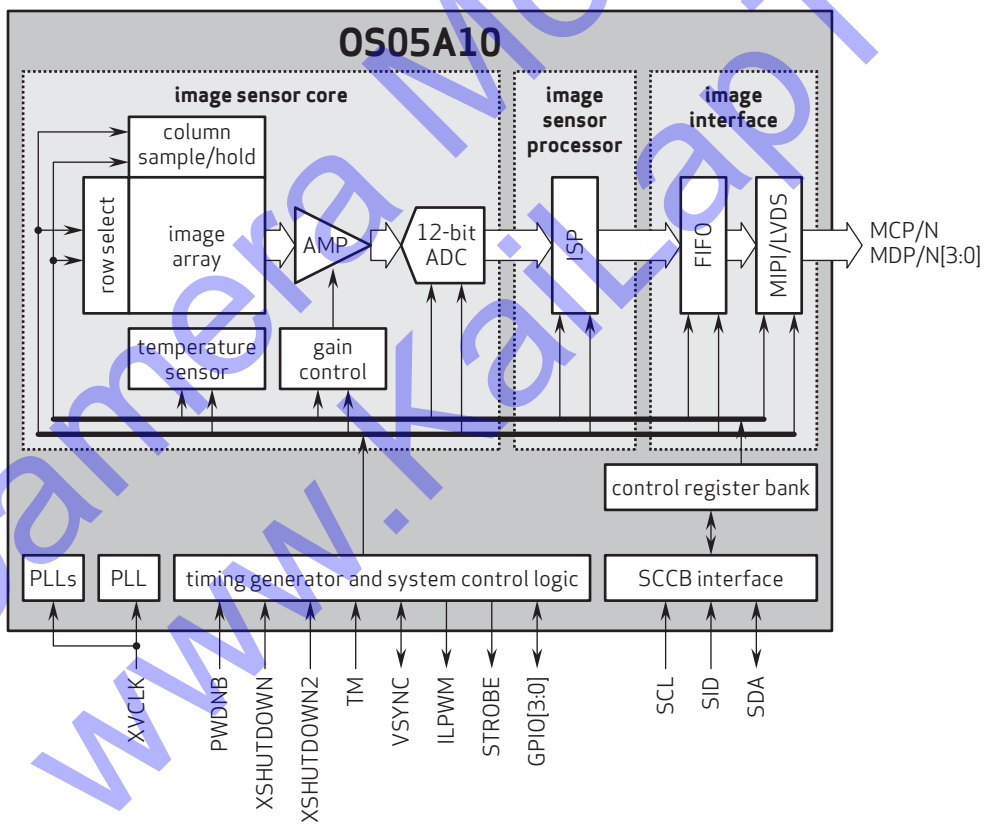
Ordering Information

- **OS05A10-H79A-Z**
  (color, lead-free, 79-pin CSP)

Product Specifications

- **active array size:** 2688 x 1944
- **power supply:**
  - **core:** 1.2V
  - **analog:** 2.8V
  - **I/O:** 1.8V
- **power requirements:**
  - **active:** 221 mW
  - **standby:** 210 µA
  - **XSHUTDOWN:** 0.6 µA
- **temperature range:**
  - **operating:** -30°C to +85°C junction temperature
  - **stable image:** 0°C to +60°C junction temperature
- **output formats:** 10/12-bit RGB RAW
- **lens size:** 1/2.7"
- **lens chief ray angle:** 11° linear
- **input clock frequency:** 6 - 27 MHz
- **scan mode:** progressive
- **maximum image transfer rate:**
  - **2688x1944:** 60 fps
  - **2688x1520:** 60 fps
- **maximum exposure interval:** VTS - 8
- **minimum exposure interval:** 2 t_{ROW}
- **pixel size:** 2.0 µm x 2.0 µm
- **image area:** 5434.56 µm x 3948.05 µm
- **package dimensions:**
  - **CSP:** 6638.8 µm x 5935 µm

Functional Block Diagram



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