CMOS CAMERA MODULES

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KLT-K5MF-OV12895 V1.0

OmniVision OV12895 MIPI Interface Fixed Focus 12MP M12 Camera Module

Camera Module No.	KLT-K5MF-OV12895 V1.0
Image Sensor	OV12895
EFL	3.3 mm
F.NO	2.8
Pixel	4096 x 3072
View Angle	150°(D) 110°(H) 80°(V)
Lens Type	1/2.3 inch
Lens Dimensions	14.70 x 14.70 x 19.92 mm
Module Size	40.00 x 23.00 mm
Module Type	Fixed Focus
Interface	MIPI

Mating Connector Part No. AXE540124

Mating Connector On Main Board. Sold Separately.

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OV12895 12MP product brief

12-Megapixel PureCel®Plus-S Sensor for High-End Consumer Drones and Action Cameras

available in a lead-free package

OmniVision's OV12895 is a high-speed PureCel®Plus-S image sensor that brings 4K2K video and 12-megapixel images to consumer-grade drones, surveillance systems, and 360-degree action cameras. Leveraging a 1.55-micron pixel, the OV12895 captures stunning still images using 10-bit or optional 12-bit readout architecture that provides high-bit depth snapshots.

The OV12895 is built on OmniVision's PureCel Plus-S stacked-die architecture, featuring backside illumination for ultra-high resolution and crisp, vibrant images across all light levels. The stacked-die structure allows for additional sensor functionality while enabling smaller die sizes compared to non-stacked sensors.

The OV12895 captures ultra-high-resolution 4K2K video at 60 frames per second (fps) and full high-definition (FHD) 1080p videos at 240 fps with full field of view, enabling high-quality slow-motion video capture.

Available in the widely used 1/2.3-inch optical format, the OV12895's low chief ray angle of 5 degrees is suitable for mature lens ecosystems. The sensor currently is available in both RW and CLGA package formats.

Find out more at www.ovt.com.

OV12895

Applications

- Consumer-grade Drones
- Surveillance Systems
- 360-degree Action Cameras

Product Features

- 1.55 µm x 1.55 µm pixel
- optical size of 1/2.3"
- 5° CRA
- enhanced dual camera support
- high-speed architecture for fast frames per second (fps)
- programmable controls for:
  - frame rate
  - mirror and flip
  - cropping
  - windowing
  - gain
  - exposure
- support for image sizes:
  - 12MP (4096x3072)
  - 4K2K (3840x2160)
  - 1080p (1920x1080), and more
- two-wire serial bus control (SCCB)
- strobe output to control flash
- embedded 13.5kbits of one-time programmable (OTP) memory
- two on-chip phase lock loops (PLLs)
- image quality controls for:
  - defect pixel correction
  - automatic black level calibration
  - lens shading correction
- built-in temperature sensor

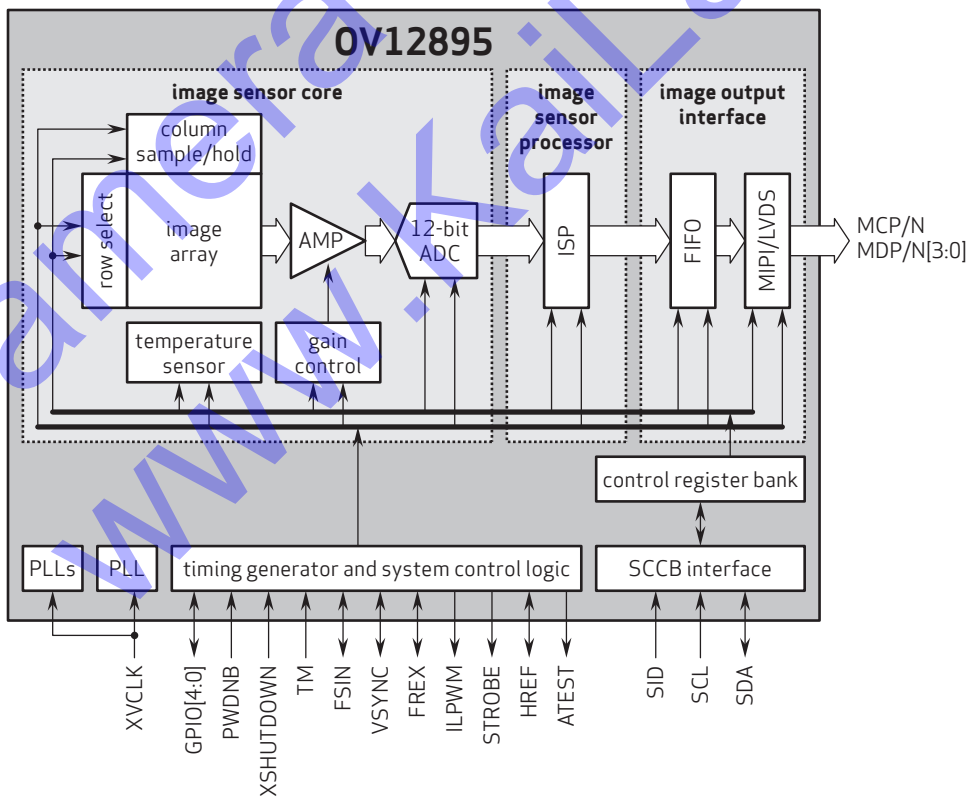
Ordering Information

- **OV12895-GA5A-Z**
  (color, chip probing, 150 µm backgrinding, reconstructed wafer with good die)
- **OV12895-C61A-Z**
  (color, lead-free, 161-pin CLGA)

Product Specifications

- **active array size:** 4096 x 3072
- **power supply:**
  - **core:** 1.2V
  - **analog:** 2.8V
  - **I/O:** 1.8V
- **power requirements:**
  - **active:** 300 mW @ full-res, 30 fps, 12-bit
  - **XSHUTDOWN:** <10 µW
- **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, DPCM 10-8 compression
- **lens size:** 1/2.3"
- **lens chief ray angle:** 5° linear
- **input clock frequency:** 6 - 27 MHz
- **maximum image transfer rate:**
  - **12MP (12-bit) (4:3):** 30 fps
  - **12MP (10-bit) (4:3):** 45 fps
  - **4K2K (16:9):** 60 fps
  - **1080p HD (crop+bin):** 240 fps
- **scan mode:** progressive
- **pixel size:** 1.55 µm x 1.55 µm
- **image area:** 6398.4 µm x 4811.2 µm
- **dimensions:**
  - **COB:** 7200 µm x 5750 µm
  - **RW:** 7250 µm x 5800 µm
  - **CLGA:** 12.8 mm x 11.8 mm

Functional Block Diagram



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