

OV08A10

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Color CMOS 8-Megapixel (3264x2448) Image Sensor with PureCel®Plus-S Technology

Overview

OmniVision's OV08A10 is an ultra-compact 8-megapixel image sensor built on OmniVision's second-generation, 1.0-micron PureCel®Plus-S stacked die pixel technology. Designed specifically for dual or triple-camera applications, the OV08A10 achieves a z-height of less than 6.8 mm, meeting the compact space requirements of next-generation smartphones.

A customized chief ray angle (CRA) enables the OV08A10 to be used as a tele-sensor in a 3x optical zoom configuration, which offers DSLR-like image quality and user experience. The OV08A10 is also optimized for dual or triple-camera zoom solutions, with features such as context switching and frame synchronizing to simplify camera system architecture.

The OV08A10 brings a host of advanced imaging capabilities to smartphones, including zigzag high dynamic range (zHDR) and phase-detection autofocus (PDAF), which extends the sensor's dynamic range capabilities and enables snap-quick autofocus, respectively. The sensor supports multiple resolution and frame-rate configurations, including full-resolution 8-megapixel images and video at 30 frames per second (fps) with zHDR, and 1080p video at 60 fps.

Features

Supports phase detection auto focus (PDAF) pixels with bypass PD pixels
Supports dynamic defect pixel correction (DPC)
Automatic black level calibration (ABLC)
Total embedded one-time programmable (OTP) memory: 1024 bytes
Supports typical images sizes: <ul style="list-style-type: none">- 3264 x 2448- 3264 x 1836- 1920 x 1080
Supports horizontal and vertical subsampling
Programmable I/O drive capability
Supports ZigZag HDR timing
Programmable controls for: <ul style="list-style-type: none">- Frame rate- Mirror and flip- Cropping- Windowing
Up to 4-lane MIPI TX interface with speed up to 1.2 Gbps/lane
Standard serial SCCB interface with speed up to 1 MHz (when clock input is >10 MHz)
Supports output formats: <ul style="list-style-type: none">- 10-bit RAW RGB- DPCM 10-8 compression
Long exposure time of up to 30 seconds
Two on-chip phase lock loops (PLLs)
Built-in temperature sensor
Typical module size: 8.5 x 8.5 x less than 6.8 mm

Part Specification

Spec	OV08A10-GA5A
Package	COB RW
Technology	PureCel®Plus-S HDR
Interface	MIPI
Shutter Type	Rolling Shutter
Resolution	8MP

CFA (Chroma)	RGB Bayer
Output Format	RAW DPCM 10-8 compression
Operating Temperature	-30°C to +85°C
Optical Format	1/4.4"
Frame Rate	Full @ 30 fps
Pixel Size	1.01 µm
Product Guide	n/a

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