Ultra-Compact 13-Megapixel PureCel® Plus-S Image Sensor Brings "Super Selfies" to Next-Generation Smartphones

The OV13A1Q is an ultra-compact 13-megapixel image sensor built on OmniVision’s second-generation, 1.0-micron PureCel® Plus-S stacked die pixel technology that is designed to meet the compact form factor requirements of next-generation smartphones with edgeless displays.

The OV13A1Q supports 4-cell mode with in-pixel binning, which significantly boosts signal to deliver clear, high-quality images even in challenging lighting environments. The OV13A1Q also pairs with an advanced recovery software library for industry-leading mobile platforms that enables full-resolution mode for high-quality 13-megapixel image capture, making it an ideal solution for "super selfie" cameras in mainstream smartphone applications.

The OV13A1Q can capture full-resolution (non-Bayer pattern) 13-megapixel, 1-micron images and video at 30 frames per second (fps) or 3-megapixel (standard Bayer pattern), 2-micron images and video at 60 fps while maintaining full field-of-view.

Find out more at www.ovt.com.
**Product Features**

- 13MP @ 30 fps, 4K2K @ 30 fps
- supports dynamic defect pixel correction (DPC) in Bayer output mode
- automatic black level calibration (ABLC)
- total embedded one-time programmable (OTP) memory: 1536 bytes
- supports typical images sizes: - 4224 x 3136 - 2112 x 1568 - 1408 x 792
- supports horizontal and vertical subsampling
- programmable I/O drive capability
- two on-chip phase lock loops (PLLs)
- programmable controls for: - 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: - 10-bit RAW RGB - DPCM 10-8 compression
- long exposure time of up to 30 seconds
- built-in temperature sensor
- typical module size: 7.5 x 7.5 x <4.5 mm

**Product Specifications**

- active array size: 4224 x 3136
- power supply: - core: 1.2V - analog: 2.8V - I/O: 1.8V
- temperature range: - operating: -30°C to +85°C junction temperature - stable image: 0°C to +60°C junction temperature
- pixel size: 1.008 µm x 1.008 µm
- lens size: 1/3.4" non-linear
- maximum image transfer rate: - 4224 x 3136: 30 fps - 2112 x 1568: 60 fps
- input clock frequency: 6 - 64 MHz
- scan mode: progressive
- image area: 4290.05 µm x 3193.34 µm
- die dimensions: - COB: 5364 µm x 3627 µm - RW: 5414 µm x 3677 µm
- MDP/N[3:0]
- MCP/N

**Ordering Information**

- OV13A1Q-GASAZ (color, chip probing, 150 µm backgrinding, reconstructed wafer with good die)

**Applications**

- Smartphones
- PC Multimedia
- Video Conferencing