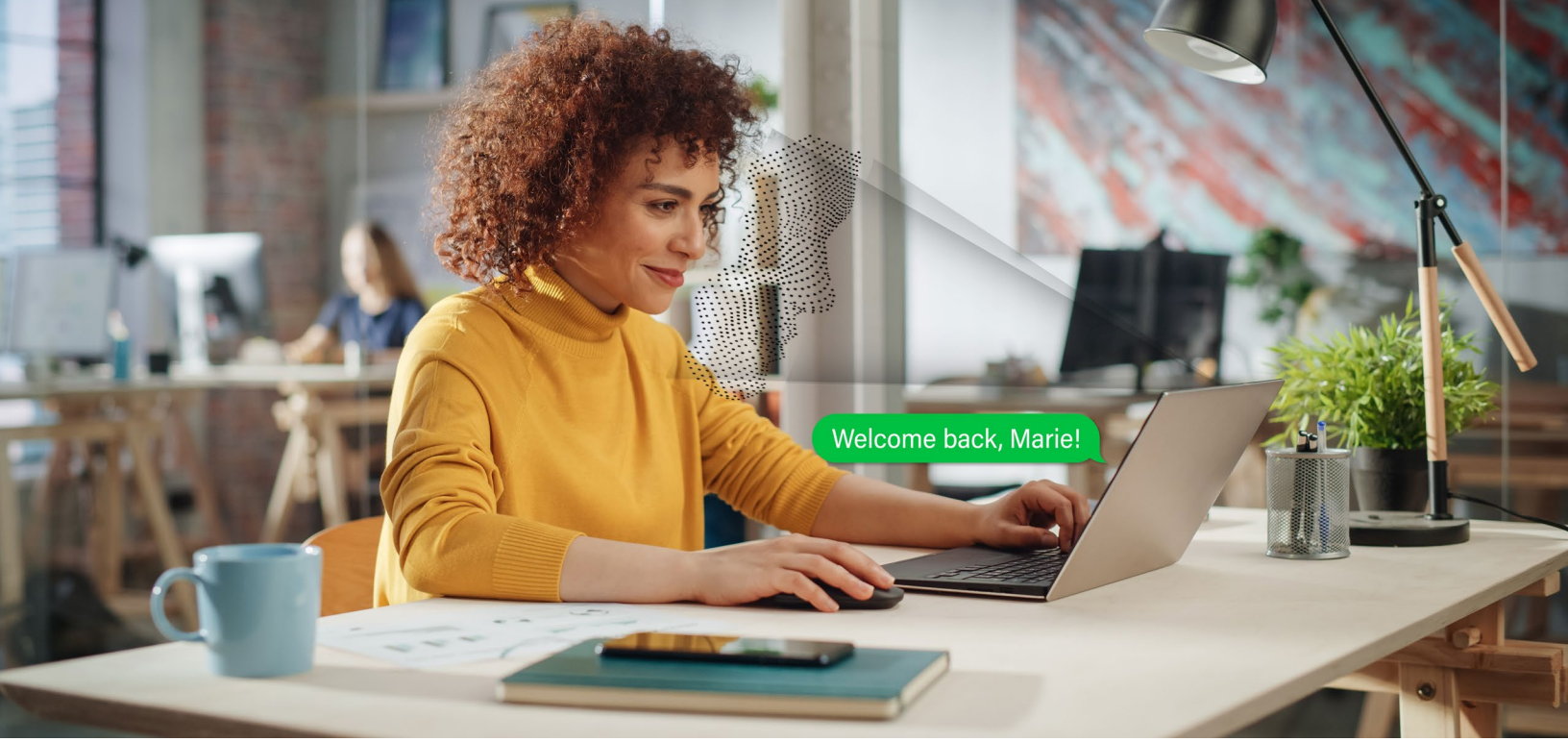


OV01D1R

1-Megapixel Product Brief



A Single Intelligent Sensor for Human Presence Detection, Facial Recognition and Always-On Applications

The OV01D1R intelligent CMOS image sensor is the first sensor for the computing industry to address human presence detection (HPD), infrared (IR) facial authentication and always-on (AON) technology with a single sensing camera – while retaining low power consumption and operating independently from the laptop's physical privacy shutter.

The OV01D1R features an innovative mono-IR color filter array combined with an HPD capability in a single sensing camera.

Based on PureCel® pixel technology, the OV01D1R is a RAW 1-megapixel (MP), low-power (4.7 mW @ 3 fps) CMOS image sensor in a 1/6.134-inch optical format that delivers 1280 x 720 resolution at 30 frames per second (fps).

Applications for the OV01D1R include cameras embedded into notebooks, tablets, monitors and webcams, as well as doorbell and home security cameras.

The OV01D1R is available for sampling now, and will be in mass production in Q4 2024.

Applications

- Smartphones
- PC multimedia
- Tablets

Features

- **Active array size:** 1280 x 720
- **Maximum image transfer rate:**
  - Full size (mono+IR): 30 fps
  - 2C1_binning (mono+IR): 1280 x 360 @ 30 fps
  - 2C1_binning (IR): 640 x 360 @ 30 fps
- **Power supply:**
  - Analog: 2.8V (2.7 ~ 3.0V)
  - I/O: 1.2V (1.14V ~ 1.32V) / 1.8V (1.62V ~ 1.98V)
  - Core: 1.2V (1.14V ~ 1.32V)
- **Output interfaces:** 1-lane MIPI TX (supports maximum speed up to 1 Gbps/lane)
- **Output formats:**
  - 10-bit RAW (normal mode)
  - 8-bit RAW (Always-On mode)
- **Lens size:** 1/6.134"
- **Pixel size:** 1.998 µm x 1.998 µm

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OMNIVISION®

4275 Burton Drive
Santa Clara, CA 95054
USA

Tel: + 1 408 567 3000
Fax: + 1 408 567 3001
www.ovt.com

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