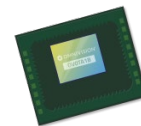




OV0TA1B

160 Kpixel product brief



Small-Footprint Sensor for Presence Detection, Facial Recognition and Always-On

The OV0TA1B monochrome (mono)/infrared (IR) CMOS image sensor, the first and only solution that fits in 3 mm module Y dimension for smaller notebook computers, webcams and IoT devices. The OV0TA1B is a low-power device that is ideal for artificial intelligence (AI)-based human presence detection (HPD), facial authentication and Always-On (AON) technology.

The OV0TA1B comes in either IR or mono, depending on customers' design needs. The IR or mono options are excellent design choices for cases where the system has a

separate stand-alone RGB camera. The OV0TA1B features a 2-micron (μm) pixel based on the PureCel® pixel technology for high-performance sensitivity and MTF (modulation transfer function), allowing it to support HPD and facial authentication.

The OV0TA1B delivers 440 x 360 resolution at 30 frames per second (fps). It is a low power 220 x 180 (2.58 mW @ 3 fps) image sensor in a 1/15.8-inch optical format.

Find out more at www.ovt.com.



OV0TA1B

Ordering Information

- OV0TA1B-A15A-001A-Z (mono, lead-free)
15-pin CSP
- OV0TA1B-GA5A-001A-Z (mono, chip probing,
150 µm backgrinding, reconstructed wafer with good die)

Applications

- cellular phones
- tablets
- PC multimedia

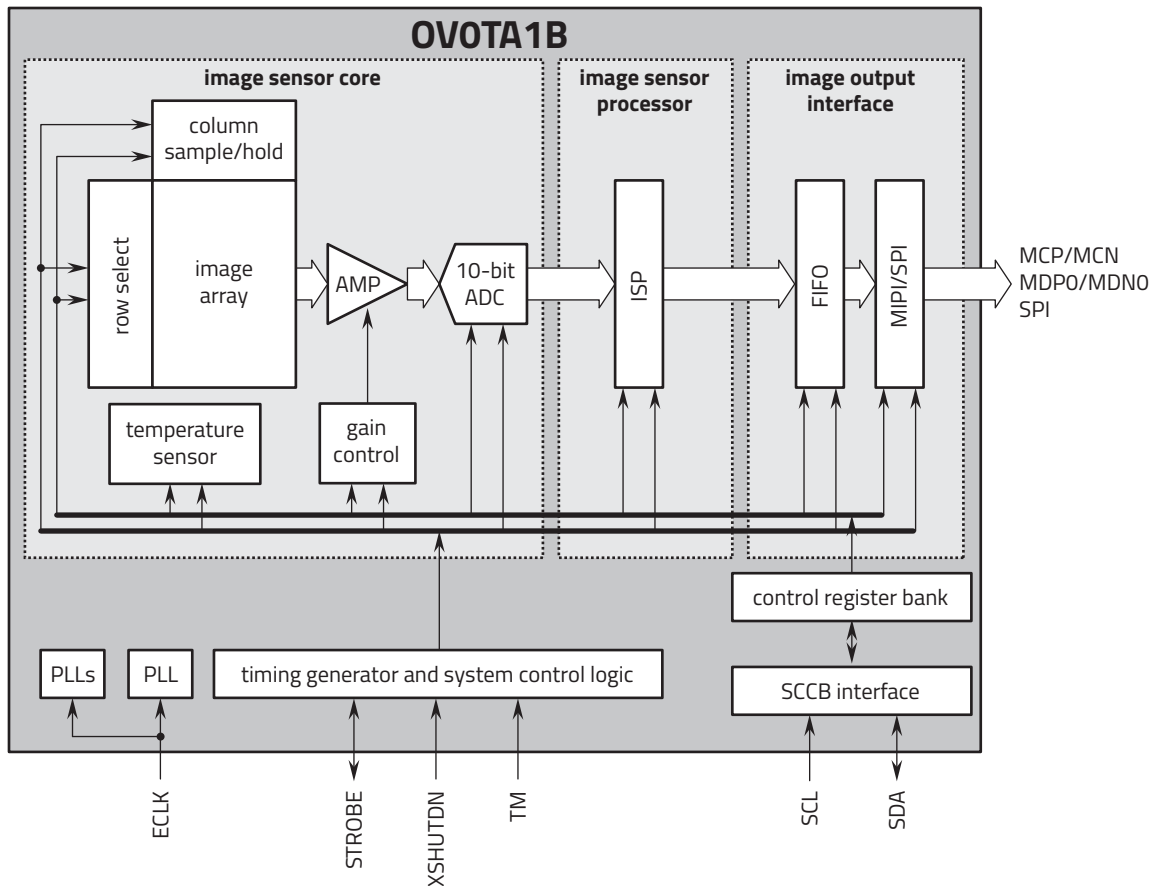
Technical Specifications

- active array size:** 448 x 368
- maximum image transfer rate:**
- 440 x 360: 30fps
- power supply:**
- analog: 2.7V ~ 3.0V (2.8V nominal)
- I/O: 1.14V ~ 1.32V (1.2V nominal) /
1.62V ~ 1.98V (1.8V nominal)
- core: 1.14V ~ 1.32V (1.2V nominal)
- temperature range:**
- operating: -30°C to +85°C
junction temperature
- stable image: 0°C to +60°C
junction temperature
- output interfaces:** 1-lane MIPI TX
(supports maximum speed
up to 1 Gbps/lane)
- output formats:**
- 10-bit RAW for normal mode
- 8-bit RAW for Always-On mode
- lens size:** 1/15.83"
- lens chief ray angle:** 21.79° non-linear
- pixel size:** 1.998 µm x 1.998 µm
- image area:** 895.104 µm x 735.264 µm

Product Features

- supports image sizes:
160 Kpixel (440 x 360)
- programmable controls for:
- frame rate
- mirror and flip
- cropping
- windowing
- supports output formats:
- 10-bit RAW for normal mode
- 8-bit RAW for Always-On mode
- two on-chip phase lock loops (PLLs)
- 2k bits of embedded one-time
programmable (OTP) memory
- image quality control:
- static defect pixel correction
- automatic black level calibration
- two-wire serial bus control (SCCB)
- supports multi-camera
synchronization function
- supports Xenon and LED flash sync
- slave SCCB interface for sensor
setting with max 1 MHz speed
(ECLK min 12 MHz)

Functional Block Diagram



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