OV2736 1080p product brief

Low-Power, Compact RGB-Ir Image Sensor for Consumer Applications

lead free

available in a lead-free package

The OV2736 is a 1/4-inch PureCel® image sensor that uses OmniVision's industry-leading RGB-Ir technology to enable high-end image quality, low power consumption and advanced functionality. These capabilities make the OV2736 suitable for a wide range of battery-powered camera applications, including home security and monitoring, high-end video conferencing, and action or lifestyle cameras.

Using a 4x4 RGB-Ir pixel pattern, the OV2736 eliminates the need for two-camera solutions for devices that require both RGB and infrared imaging.

Using this technology, the sensor delivers unprecedented performance in near-total darkness, capturing high-quality 1080p full high definition (HD) video at 60 frames per second (fps) with high dynamic range (HDR), or 720p HD video at 90 fps.

Rather than a traditional mechanical infrared filter, the OV2736 utilizes dual-band color filters to deliver superior image quality in near-total darkness. The sensor's small optical format and minimal 110 mW power consumption ensure that it is easily integrated into mainstream industrial designs.

Find out more at www.ovt.com.

OmniVision

OV2736

Applications

- Internet of Things (IoT)
- High-end Video Conferencing
- Security
- Lifestyle Camera
- Home Monitoring

Ordering Information

- **OV02736-H46A-1B**
  (RGB-Ir, lead-free) 46-pin CSP

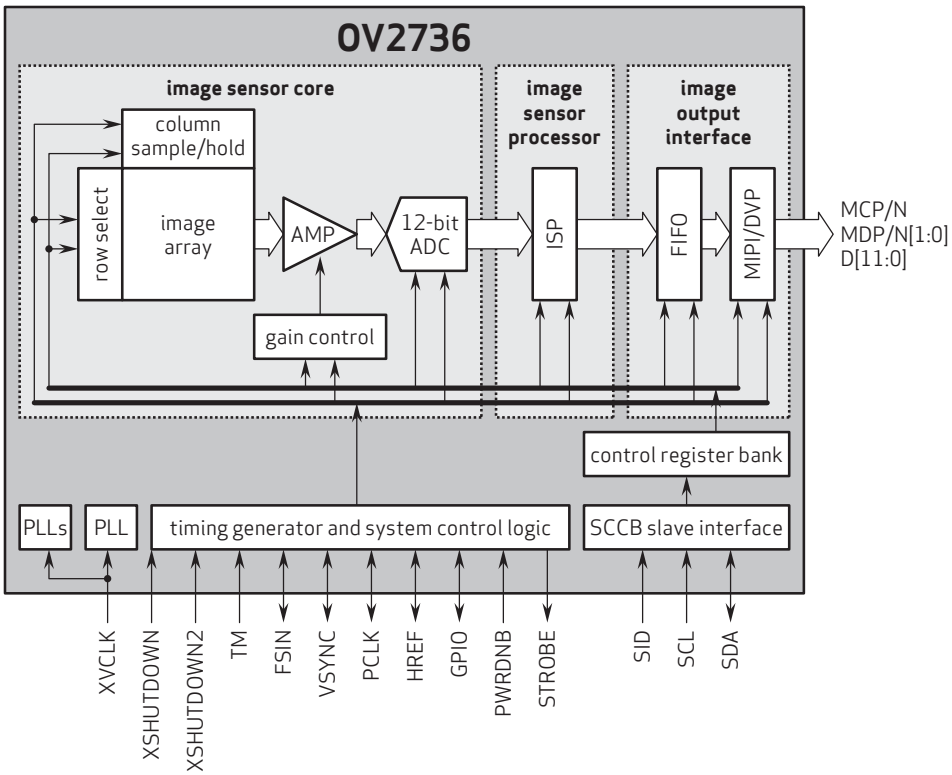
Product Features

- 4x4 RGB-Ir pattern
- programmable controls:
  - gain
  - exposure
  - frame rate
  - image size
  - horizontal mirror
  - vertical flip
  - cropping
  - windowing
- automatic image control functions:
  - black level calibration (BLC)
- serial camera control bus (SCCB)
- digital video port (DVP) parallel output interface
- support for two lane MIPI interface (up to 800 Mbps)
- support for image sizes:
  - 1080p @ 60 fps
  - 720p @ 90 fps
- support for light sensing mode (LSM)
- support for staggered 2 frame HDR
- support for black sun cancellation
- on-chip phase lock loop (PLL)

Product Specifications

- **active array size:** 1920 x 1080
- **power supply:**
  - **core:** 1.2V
  - **analog:** 2.8V
  - **I/O:** 1.8V
- **power requirements:**
  - **active:** 110 mW
- **temperature range:**
  - **operating:** -40°C to +85°C junction temperature
  - **stable image:** 0°C to +60°C junction temperature
- **output interfaces:** two-lane MIPI / DVP parallel
- **output formats:** 10/12-bit RAW RGB-Ir
- **lens size:** 1/4"
- **lens chief ray angle:** 12° linear
- **input clock frequency:** 6 - 27 MHz
- **scan mode:** progressive
- **maximum image transfer rate:**
  - **1080p:** 60 fps
  - **720p:** 90 fps
- **sensitivity:** 12.5 Ke-/Lux-sec
- **shutter:** rolling shutter
- **max S/N ratio:** 38.2 dB
- **dynamic range:** 74.5 dB @ 16x gain
- **maximum exposure interval:** 1184 x t_{ROW}
- **pixel size:** 2 µm x 2 µm
- **image area:** 3868 µm x 2190 µm
- **package dimensions:** 5134 µm x 3640 µm

Functional Block Diagram



4275 Burton Drive
Santa Clara, CA 95054
USA

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

Version 1.3, April, 2018