

OV2744 1080p product brief



Second-Generation RGB-Ir PureCel® Sensor Brings Biometric Functionality to Notebooks and Mobile Devices



available in
a lead-free
package

The OV2744 is a 1.4-micron PureCel® image sensor that utilizes OmniVision's second-generation, industry-leading RGB-Ir technology to bring biometric capabilities such as facial recognition to the next generation of notebooks, tablets, and front-facing cameras in smartphones.

Using OmniVision's groundbreaking RGB-Ir technology, the OV2744 delivers high quality IR output without compromising its premium RGB images. This solution eliminates the need to have two-camera solutions for devices that require both IR and RGB imaging.

Compared to other RGB-IR sensors in the market right now, the OV2744's best-in-class color reproduction shows less color aliasing, and requires the lowest power consumption of any 1080p sensor currently available.

The 1/6-inch OV2744 captures full resolution 1080p high definition (HD) video at 60 frames per second (fps) with support for full frame staggered high dynamic range (HDR). The sensor also features ultra-low power mode (ULPM), which reduces the resolution and frame rates to conserve additional power. The sensor fits into a 5 x 5 x 3 mm module.

Find out more at www.ovt.com.



Applications

- Smartphones
- Ultrabooks and Notebooks
- Tablets
- Digital Still Cameras (DSC)
- Digital Video Camcorders (DVC)
- PC Multimedia

Product Features

- 1.4 μm x 1.4 μm pixel
- optical size of 1/6"
- programmable controls for:
 - frame rate
 - mirror and flip
 - cropping
 - windowing
- supports output formats:
 - 10-bit RAW RGB-Ir
- supports image sizes:
 - 1080p (1920x1080)
 - 720p (1280x720)
- standard serial SCCB interface
- up to 2-lane MIPI serial output interface (supports maximum speed up to 1000 Mbps/lane)
- embedded 2 kilobits of one-time programmable (OTP) memory for customer use
- programmable I/O drive capability
- light sensing mode (LSM)
- RGB-Ir in a 4x4 pattern

OV2744



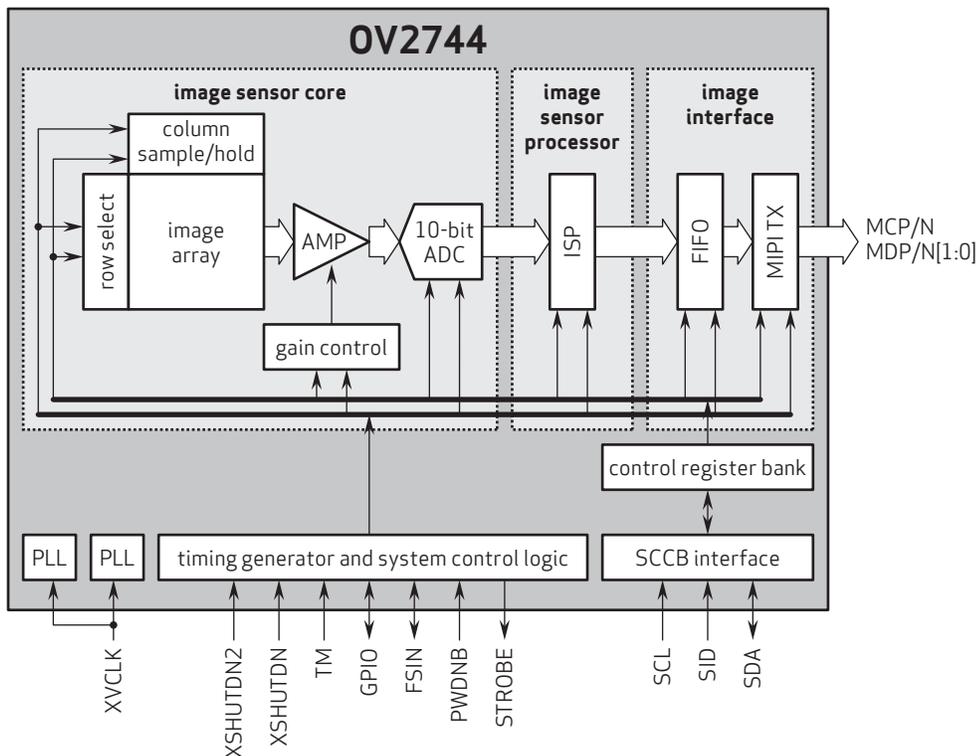
Ordering Information

- OV02744-GA5A**
(RGB-Ir, chip probing, 150 μm backgrinding, reconstructed wafer with good die)

Product Specifications

- active array size:** 1920 x 1080
- power supply:**
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V
- power requirements:**
 - active: 90 mW
 - standby: 210 μA
 - XSHUTDN: 0.6 μA
- temperature range:**
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- output format:** 10-bit RAW RGB-Ir
- lens size:** 1/6"
- input clock frequency:** 6 - 27 MHz
- lens chief ray angle:** 33° non-linear
- max S/N ratio:** 38.3 dB
- dynamic range:** 73.3 dB @ 15.5x gain
- maximum image transfer rate:**
 - 1080p: 60 fps
 - 720p: 90 fps
- sensitivity:** 553 mV/Lux-sec (6750 e⁻/Lux.sec)
- scan mode:** progressive
- maximum exposure interval:** 1112 x t_{ROW}
- pixel size:** 1.4 μm x 1.4 μm
- image area:** 2728.8 μm x 1549.8 μm
- package dimensions:**
 - COB: 3825 μm x 2889 μm

Functional Block Diagram



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