



# OV2744

## 1080p product brief



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

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](http://www.ovt.com).



- OV2744-GA5A (RGB-Ir, chip probing, 150  $\mu\text{m}$  backgrinding, reconstructed wafer with good die)

## Applications

- smartphones
- Ultrabooks and notebooks
- tablets
- digital still cameras (DSC)
- digital video camcorders (DVC)
- PC multimedia

## Product Features

- 1.4  $\mu\text{m}$  x 1.4  $\mu\text{m}$  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 images sizes:
  - 1080p (1920 x 1080)
  - 720p (1280 x 720)
- 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

## Technical Specifications

- active array size:** 1920 x 1080
- maximum image transfer rate:**
  - 1080p: 60 fps
  - 720p: 90 fps
- power supply:**
  - core: 1.2V
  - analog: 2.8V
  - I/O: 1.8V
- power requirements:**
  - active: 90 mW
  - standby: 210  $\mu\text{A}$
  - XSHUTDN: 0.6  $\mu\text{A}$
- temperature range:**
  - operating:  $-30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  junction temperature
  - stable image:  $0^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  junction temperature
- output format:** 10-bit RGB-Ir RAW
- lens size:** 1/6"
- lens chief ray angle:**  $33^{\circ}$  non-linear
- scan mode:** progressive
- pixel size:** 1.4  $\mu\text{m}$  x 1.4  $\mu\text{m}$
- image area:** 2728.8  $\mu\text{m}$  x 1549.8  $\mu\text{m}$

## Functional Block Diagram

