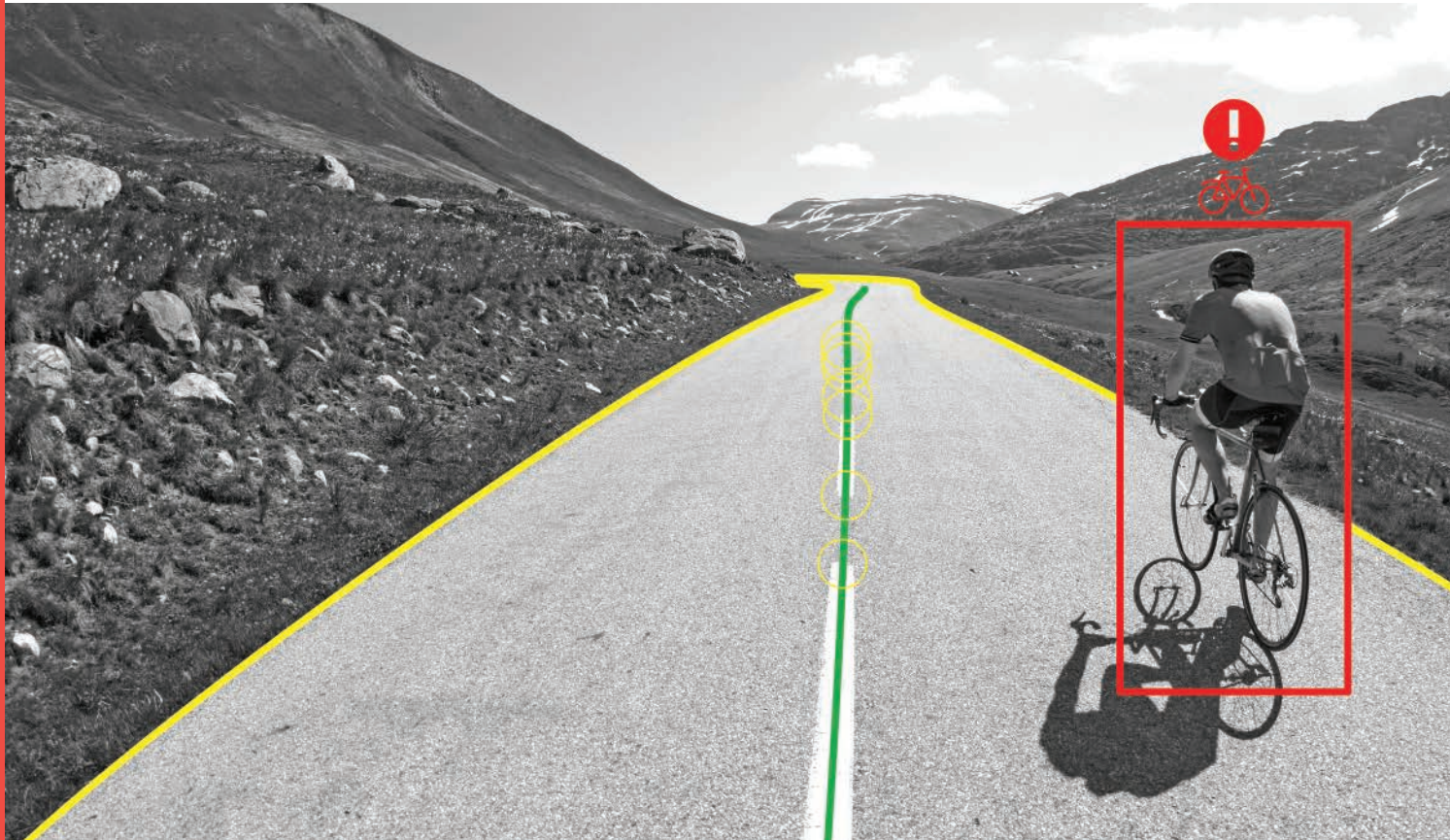


OV10652 HDR product brief



OmniBSI™ Split-Pixel Sensor with RCCC Color Filter for Advanced Driver Assistance Systems (ADAS) Solutions



available in
a lead-free
package

OmniVision's OV10652 is a 4.2 μm OmniBSI™ split-pixel image sensor with a RCCC color filter pattern that delivers high-quality images in a 2:1 aspect ratio. The sensor captures 1820 x 940 resolution video at 60 frames per second (fps) with up to 120 dB of dynamic range and best-in-class low-light sensitivity.

Using a RCCC color filter, the OV10652 is ideally suited for use in front-view advanced driver assistance systems (ADAS) including: pedestrian detection, lane departure warning, headlamp control, forward collision warning, and traffic sign detection.

The sensor is available in an AEC-Q100 Grade 2 qualified chip-scale package (a-CSP™), and contains advanced ASIL safety mechanisms.

Find out more at www.ovt.com.



Applications

- Automotive
 - Lane Departure Warning/ Lane Keep Assist
 - Blind Spot Detection
 - Pedestrian Detection
 - Traffic Sign Recognition
 - Autonomous Driving

Product Features

- support for image size:
 - 1824 x 940
 - VGA
 - QVGA, and any cropped size
- OmniHDR[®]-S technology
- high sensitivity
- safety features
- low power consumption
- image sensor processor functions:
 - lens correction
 - defective pixel cancellation
 - HDR combination and PWL mapping
 - automatic black level correction
- supported output formats: RAW
- horizontal and vertical sub-sampling
- serial camera control bus (SCCB) for register programming
- high speed serial data transfer with MIPI CSI-2, parallel 12-bit DVP output
- external frame synchronization capability
- embedded temperature sensor
- one time programmable (OTP) memory

OV10652



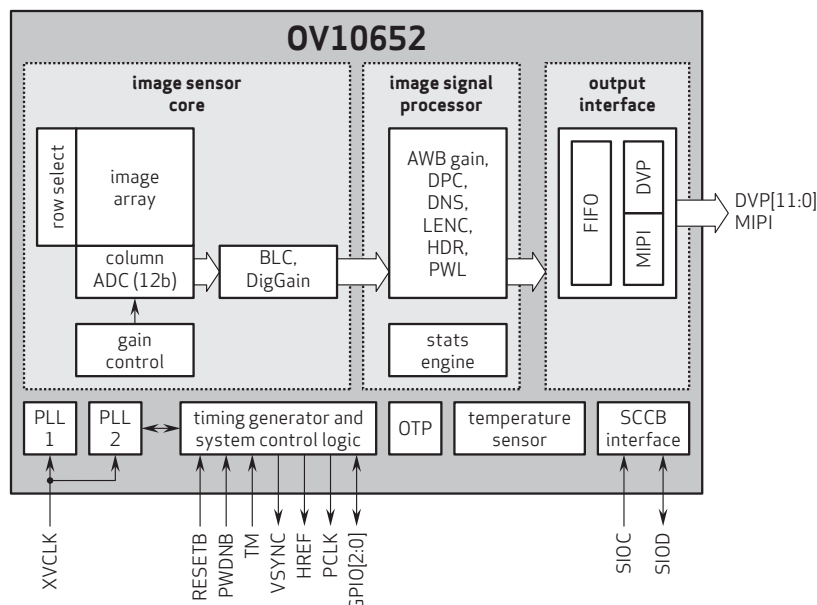
Ordering Information

- OV10652-E85Y-1D** (lead-free) 85-pin a-CSP[™], with DAR coating, rev 1D, packed in tray
- OV10652-E85Y-LD** (lead-free) 85-pin a-CSP[™], with DAR coating, rev 1D, packed in tray with protective film (tab top left)
- OV10652-E85Y-OD** (lead-free) 85-pin a-CSP[™], with DAR coating, rev 1D, packed in tape&reel with protective film (tab top left)
- OV10652-E85Y-MD** (lead-free) 85-pin a-CSP[™], with DAR coating, rev 1D, packed in tray with protective film (tab top right)
- OV10652-E85Y-ND** (lead-free) 85-pin a-CSP[™], with DAR coating, rev 1D, packed in tape&reel with protective film (tab top right)

Technical Specifications

- active array size:** 1824 x 940
- maximum image transfer rate:**
 - full resolution: 60 fps
- power supply:**
 - analog: 3.14 - 3.47V
 - digital: 1.425 - 1.575V
 - D0VDD: 1.7 - 1.9V
 - AVDD: 1.7 - 1.9V
- power requirements:**
 - active: 450 mW
 - standby: 100 μW
- temperature range:**
 - operating: -40°C to +105°C sensor ambient temperature and -40°C to +125°C junction temperature
- output formats:**
 - 20-bit combined RAW
 - 12-bit compressed combined RAW
 - separated 12-bit RAW
 - 2x12-bit compressed RAW
 - 16-bit log domain combined RAW
 - 3x12-bit uncompressed RAW
- lens size:** 1/2.09"
- lens chief ray angle:** 19°
- scan mode:** progressive
- shutter:** rolling shutter
- pixel size:** 4.2 μm x 4.2 μm
- image area:** 7711.2 μm x 3998.4 μm
- output interfaces:** 12-bit DVP, MIPI CSI-2

Functional Block Diagram



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