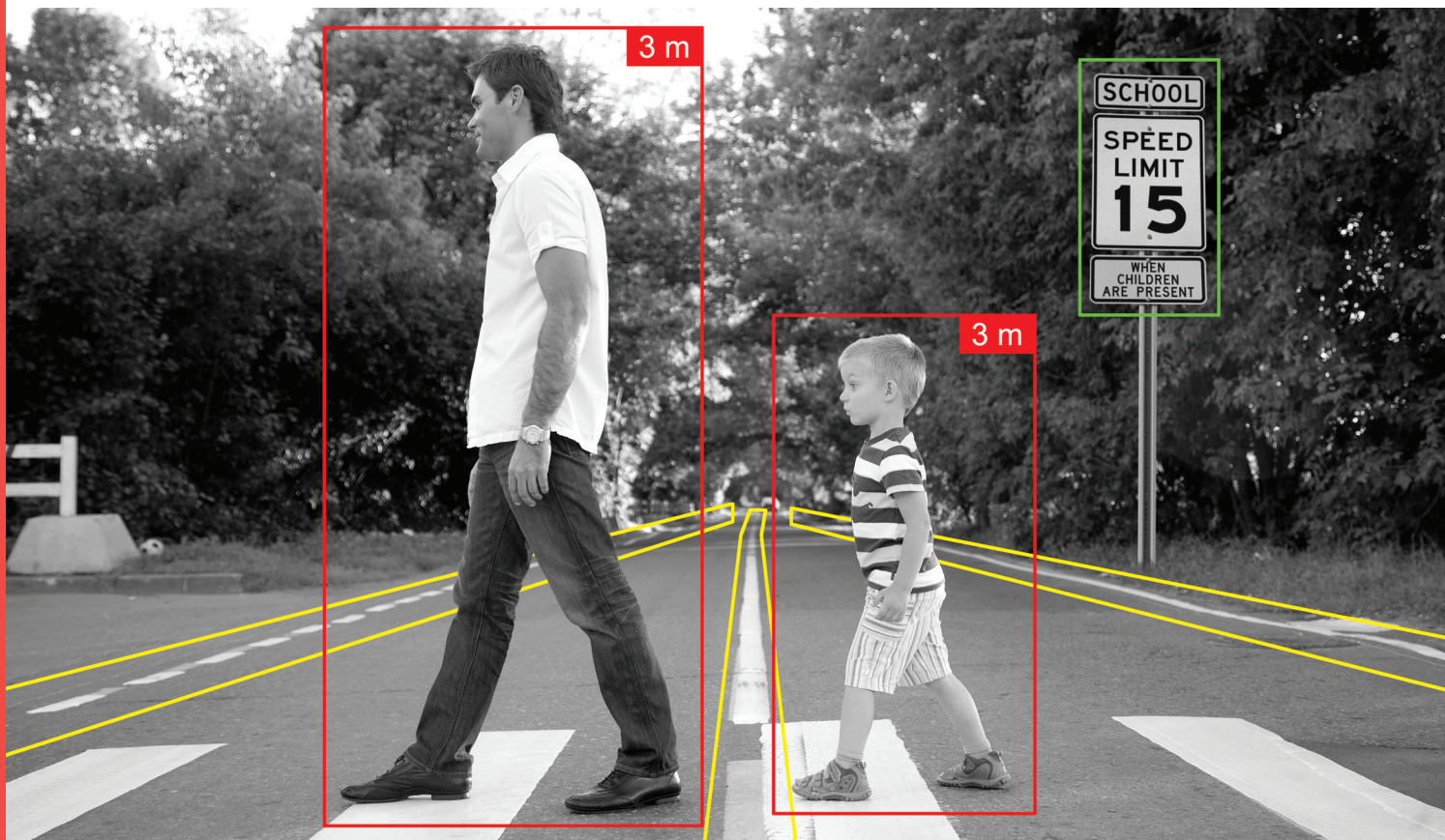


OV10642 HDR product brief



Best-In-Class Sensitivity and High Dynamic Range for Advanced Driver Assistance Systems



available in a lead-free package

OmniVision's OV10642 is a high performance 1.3-megapixel OmniHDR image sensor that delivers the highest sensitivity and the best high dynamic range (HDR) in its class.

The sensor's benefits enable a host of advanced features, including: pedestrian detection, lane-departure warning, traffic sign detection, lane keeping assist systems, and high beam assist, among others.

The OV10642 image sensor utilizes OmniBSI™ technology to deliver industry leading sensitivity and extended dynamic range up to 120 dB in a simple, low-power and cost-effective system. The 1/2.56-inch sensor supports an active array of 1280 x 1080 pixels and supports RAW image output up to 60 frames per second. The OV10642 fits into a compact 7.4 x 7.2 mm package.

Find out more at www.ovt.com.



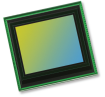
Applications

- Automotive
 - high beam assist
 - stereo sensing
 - traffic light recognition
 - rear view camera
 - lane departure warning/ lane keep assist
 - pedestrian detection
 - traffic sign recognition
 - autonomous driving

Product Features

- support for image size:
 - 1280x1080
 - VGA
 - QVGA, and any cropped size
- high dynamic range
- high sensitivity
- safety features
- low power consumption
- image sensor processor functions:
 - automatic exposure/gain control
 - lens correction
 - defective pixel cancelation
 - 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
- external frame synchronization capability
- parallel 12-bit DVP output
- embedded temperature sensor
- one time programmable (OTP) memory

OV10642



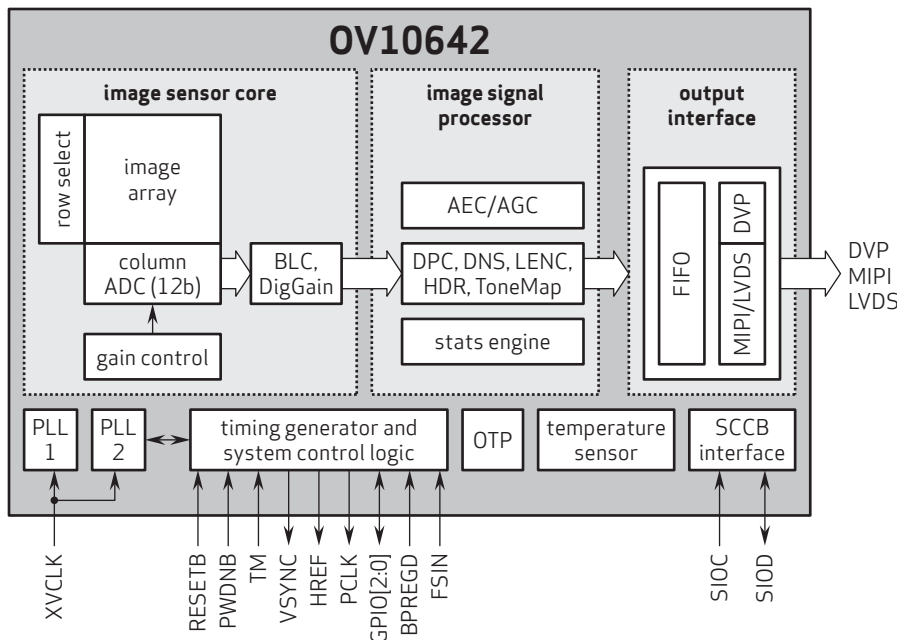
Ordering Information

- OV10642-N79Y-1D-Z**
(color, lead-free, 78-pin aCSP™, rev 1D, in tray)

Product Specifications

- active array size:** 1280 x 1080
- 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: TBD
 - standby: TBD
- temperature range:**
 - operating: -40°C to +105°C sensor ambient temperature and -40°C to +125°C junction temperature
- output interfaces:** 12-bit DVP, MIPI CSI-2/LVDS
- 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:** 1/2.56"
- lens chief ray angle:** 9°
- input clock frequency:** 6 - 27 MHz
- maximum image transfer rate:**
 - full resolution: 60 fps
- scan mode:** progressive
- shutter:** rolling shutter
- sensitivity:** TBD
- max S/N ratio:** TBD
- dynamic range:** 120 dB
- pixel size:** 4.2 μm x 4.2 μm
- image area:** 5410 μm x 4570 μm
- package dimensions:**
 - aCSP: 7430 μm x 7190 μm

Functional Block Diagram



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