



OX01J10

1.3-megapixel product brief



High-Performance Image Sensor for Surround- and Rear-View Cameras

The OX01J10 is a 1.3-megapixel (MP) image sensor for automotive 360-degree surround-view systems (SVS) and rear-view cameras (RVC). The OX01J10 is a raw image sensor with top-of-the-line LED flicker mitigation (LFM) and 140 db high dynamic range (HDR). The OX01J10 provides automotive OEMs with the flexibility to purchase just the image sensor if they already have their own backend image signal processor (ISP) architecture.

The OX01J10 provides the industry's best imaging performance in its class, for SVS and RVC across a range of challenging lighting conditions, along with the most compact

form factor and lowest power consumption. It features a 3-micron (μm) pixel in a 1/3.55-inch optical format with class leading low-light performance and ultra-low power. It comes in an a-CSP™ package for the smallest possible solution and is built on OMNIVISION's PureCel®Plus architecture, which is renowned for its low-light sensitivity and the industry's leading signal-to-noise ratio performance. The OX01J10 is ASIL-B safety compliant.

Find out more at www.ovt.com.



- OX01J10-E76Y-001A-Z (RGGB, lead-free)
76-pin a-CSP™, rev 1A, packed in tray without protective film

Applications

- automotive
 - surround view system
 - rear view camera

Technical Specifications

- active array size:** 1344 x 1020
- temperature range:**
 - operating: -40°C to +105°C
 - sensor ambient temperature and -40°C to +125°C junction temperature
- maximum image transfer rate:**
 - 30 fps @ 1344 x 1020 in 24-bit
- power supply:**
 - analog: 3.3V
 - digital: 1.1V
 - I/O pins: 1.8V or 3.3V
- power requirements:**
 - active: 223.3 mW (estimated) (full frame @ 30 fps HDR combined)
- output interfaces:** up to 2-lane MIPI CSI-2 D-PHY, 12-bit DVP
- lens size:** 1/3.55"
- output formats:** uncompressed 24-bit, 20/16/14/12-bit (PWL) combined HDR (4 captures)
- lens chief ray angle:** 21.13°
- scan mode:** progressive
- pixel size:** 3.0 μm x 3.0 μm
- image area:** 4080 μm x 3108 μm

Product Features

- support for image size: 1344 x 1020 and any cropped size
- up to 4 captures and on-chip combination HDR output
- support for LED flicker mitigation (LFM)
- 4-capture HDR scheme optimized for LFM and motion artifact reduction
- SCCB for register programming
- dedicated safety features for supporting ASIL-B applications
- image sensor processor functions:
 - lens shading correction
 - defective pixel cancellation
 - HDR combination
 - automatic black level correction
 - PWL compression, etc.
- high speed serial data transfer with MIPI CSI-2 (2-lane D-PHY)
- parallel 12-bit DVP output
- external frame synchronization capability
- embedded temperature sensor
- one time programmable (OTP) memory

Functional Block Diagram

