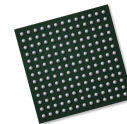




OV492

ASIC product brief



Industry-Leading ISP and Zoom for Automotive Rear View Imaging Systems

OMNIVISION's OV492 is a compact image signal processor (ISP) that enables a wide range of rear view camera architectures in automotive applications. The OV492 can output on a wide range of interfaces including DVP, MIPI, BT1120 or NTSC, performing zoom, crop and scale functionality. The OV492 also offers four independent overlays with a 32-color palette for each image, without requiring additional processing support.

The OV492 is ideally suited to work with OMNIVISION's portfolio of high-performance image sensors, including the OV9716 and OV10640 automotive image sensors. The OV492 can process image and video input of up to 1.4-megapixels at 60 frames per second (fps), with support for high dynamic range (HDR) up to 120 dB.

The OV492 comes in a compact 7 mm x 7 mm, 169-pin ball grid array (BGA) package.

Find out more at www.ovt.com.



- OV00492-B69G-1B-Z (lead-free)
169-pin BGA, packed in tray
- OV00492-B69G-TB-Z (lead-free)
169-pin BGA, packed in tape and reel

Applications

- rear view cameras (RVC)
- e-mirrors
- surround view systems (SVS)
- driver monitoring systems (DMS)

Technical Specifications

- power supply:**
 - core: 1.1V $\pm 5\%$
 - I/O: 1.8V $\pm 5\%$ or 3.3V $\pm 5\%$
- temperature range:**
 - operating: -40°C to $+125^{\circ}\text{C}$ junction temperature
- power requirements:**
 - 195 mW, measured at room temperature with 1392 x 976 @ 30 fps with MIPI in and MIPI out
- package dimensions:** 7 mm x 7 mm

Product Features

- advanced 110 Mp/s throughput ISP for high quality image capturing and video streaming
- local and global tone mapping support
- up-to three capture HDR combination
- supports rotation, zoom and scale
- supports four independent layers, line and global transparency control for each layer, 32 color/palette per image and sizes up to 1392 x 976 or 1280 x 1080 overlay
- embedded information including frame counter, temperature, and register data for each image to enable critical automotive safety applications
- automatic white balance (AWB)
- automatic exposure control (AEC) / automatic gain control (AGC)
- supports statistics data of up to four user programmable ROIs
- SCCB master/slave interface for sensor and ASIC configuration
- supports four-wire or two-wire serial interface to retrieve stored firmware from external memory devices
- on-chip PLL to generate internal clocks
- on-chip voltage regulator from 1.8V to 1.1V and one DCDC from 3.3V/1.8V to 1.1V
- brown-out detection circuit and output flag
- supports 1x4 lane MIPI RX/TX (RX data rate 1 Gbps/lane and TX data rate 1.2 Gbps/lane)
- supports 12-bit DVP input, shared with MIPI RX, speed up to 100 MHz
- supports 12-bit/24-bit DVP output, pad shared with BT1120, speed up to 150 MHz
- embedded 32-bit RISC processor for high performance and flexibility
- supports 1K bits of one-time programmable memory (OTP)
- JTAG boundary scan

Functional Block Diagram

