

OV492 companion HDR image processor for automotive applications product brief



package

Industry-Leading ISP and Zoom for Automotive Rearview Imaging Systems

OmniVision's OV492 is a compact image signal processor (ISP) that enables a wide range of rearview 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 4 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.





Applications

- Rear View Camera
- Surround View System
- E-Mirror
- Camera Monitoring System (CMS)

0V492



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 functionality
- 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

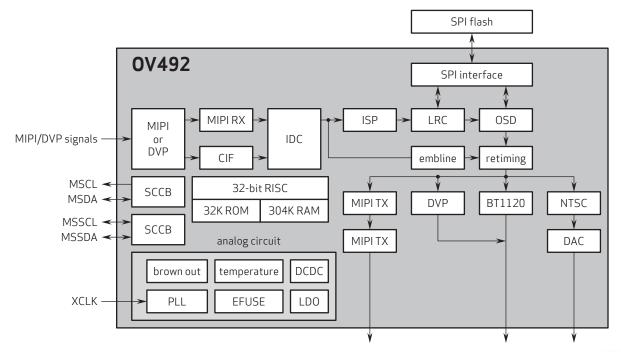
Ordering Information

- OV00492-B69G-1B-Z (lead-free) 169-pin BGA, packed in tray
- **0V00492-B69G-TB-Z** (lead-free) 169-pin BGA, packed in tape and reel

Product Specifications

- power supply:core: 1.1V ±5%I/O: 1.8V ±5% or 3.3V ±5%
- power requirements: - 195 mW measured at room temperature with 1392 x 976 @ 30 fps with MIPI in and MIPI out
 - 175 mW measured at room temperature with 1280 x 720 @ 30 fps with MIPI in and DVP out (12-bit, 1.8V I/O)
- temperature range:
 operating: -40°C to +125°C
 junction temperature
- package dimensions: 7 mm x 7 mm

Functional Block Diagram



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