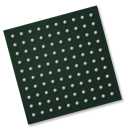


OV490

ASIC product brief



High-Quality Image and Video Processing for the Next Generation of Advanced Driver Assistance Systems

The OV490 is a new powerful companion chip that brings improved high dynamic range (HDR) functionality as well as high-quality image and video processing to next-generation advanced driver assistance systems (ADAS). Working in conjunction with other high-performance image sensors, the OV490 enables extremely flexible system partitioning to support a number of advanced automotive features.

OMNIVISION's OV490 enables simultaneous output of fully processed YUV or RGB for display-based applications and RAW data for machine vision downstream processing. It also incorporates unique architecture that is capable of processing two video pipelines, resulting in reduced bill-of-materials.

The OV490 contains a well-defined feature set to fulfill Automotive Safety Integrity Level (ASIL) according to ISO 26262. The companion chip fits into a BGA package, and has completed AEC-Q100 Grade 2 qualifications.

Find out more at www.ovt.com.

OMNIVISION®

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OV490

Ordering Information

- **OV00490-B00G-1B** (lead-free)
  100-pin BGA, packed in tray
- **OV00490-B00G-TB** (lead-free)
  100-pin BGA, packed in tape and reel

Applications

- rear view cameras
- surround view systems
- camera monitoring systems

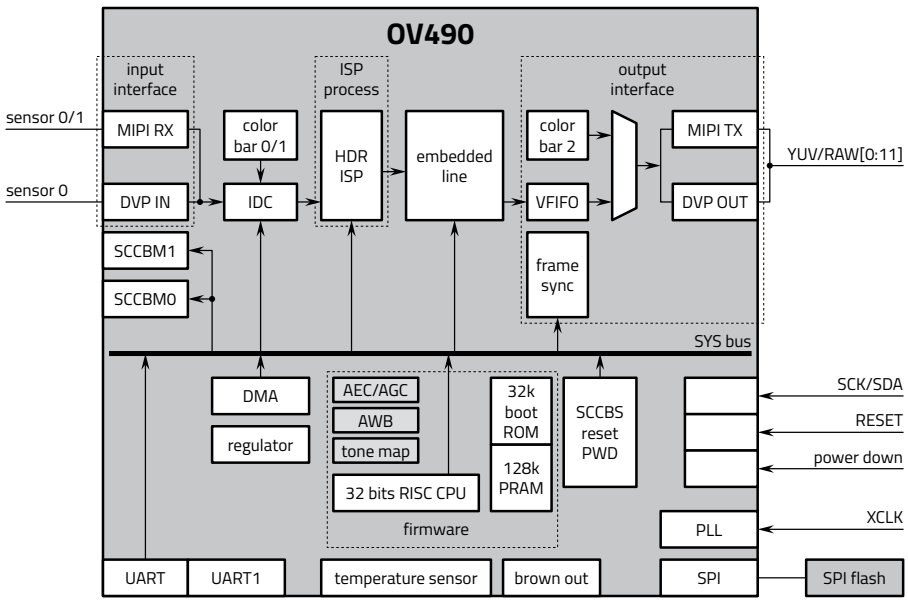
Technical Specifications

- **power supply:**
  - core: 1.2V ±10%
  - I/O: 1.8V ±10% or 3.3V ±10%
- **power requirements:** 250 mA
- **temperature range:**
  - operating: -40°C to +105°C ambient temperature and -40°C to +125°C junction temperature
- **package dimensions:** 7 mm x 7 mm

Product Features

- AEC-Q100 grade 2 qualified
- feature set optimized for next generation surround view applications
- simultaneous output of fully processed YUV for display based applications and RAW only to enable machine vision downstream processing
- parallel processing of two input streams
- industry leading HDR technology, third generation HDR technology allows capturing of more details in bright and dark environments
- JTAG boundary scan
- high speed serial data transfer with MIPI CSI-2
- embedded information including: frame counter, temperature and register data in each image to enable critical automotive safety applications
- industry's first features to improve image harmonization and synchronization for surround view applications
- SCCB master interface for automatic sensor configuration at power-on
- SCCB slave interface for OV490 configuration by host
- on-chip PLL to generate stable internal clock frequency
- on-chip voltage regulator 3.3V/1.8V to 1.2V
- brown-out detection circuit and output flag
- embedded 32-bit RISC processor for high performance and great flexibility
- supports 1K bits of one time programmable memory (OTP)
- advanced ISP for high quality image capturing and video streaming
- advanced auto white balance (AWB)
- AEC/AGC with statistical data from hardware engine and algorithm running on RISC
- support of four user-defined ROI windows for statistics
- DNS (RAW de-noise) and CIP (de-mosaic)
- supports power cut mode designed for power saving during system quiescence

Functional Block Diagram



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