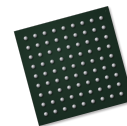




OV480

ASIC product brief



Powerful Electronic Distortion Correction for Automotive Vision Systems

OMNIVISION's OV480 is a low-cost companion processor designed to enhance camera performance in wide field-of-view (FOV) automotive vision systems. The OV480 works with OMNIVISION's high-performance AutoVision image sensors up to 1-megapixel resolution to deliver best-in-class electronic distortion correction and enhanced low-light performance. Due to the processor's ability to correct lens distortion up to 195-degrees, the OV480 allows a single camera to be used across multiple vehicle platforms.

The OV480's low-light performance enhancement and temporal noise filter significantly enhances nighttime user experience. The highly compact ASIC processor also provides top down and perspective views, which offers clear imaging for specific rear-view driving functions such as trailer ball hitching. Additionally, the OV480 has a cross traffic view feature, allowing drivers to see around side obstacles.

The compact yet powerful OV480 companion processor also supports user-defined hot pixel correction, rotation correction, and up to 4x zoom with smooth transition options.

Find out more at www.ovt.com.



- OV00480-BB1G-1C (lead-free)
81-pin BGA, packed in tray
- OV00480-BB1G-TC (lead-free)
81-pin BGA, packed in tape and reel

Applications

- rear view cameras for ultra wide field of view
- rear view cameras with trailer ball zoom
- smart cameras
- surround view cameras
- cross traffic cameras

Technical Specifications

- power supply:**
 - core: 1.2V ±10%
 - I/O: 3.3V ±10%
- temperature range:**
 - 40°C to +105°C ambient temperature (not to exceed +125°C junction temperature)
- power requirements:** 250 mA maximum at room temperature
- package dimensions:** 6.5 mm x 6.5 mm

Product Features

- AEC-Q100 grade 2 qualified
- interface up to a 1-megapixel OMNIVISION CMOS digital sensor (e.g., OV7955, OV7962, OV10635)
- user-defined hot-pixel location correction
- digital input (sensor) interface support 8-bit BT.601-like YUV 4:2:2 format
- digital output interface support 8-bit BT.656-like YUV 4:2:2 format
- digital output interface support 8-bit BT.601-like YUV 4:2:2 format
- support temporal de-noise filtering of digital input
- supports down to 15 fps sensor frame rate to enable better sensitivity in low-light scenarios (MCU auto-adjust)
- supports image distortion correction
- supports image perspective correction
- supports top-view output
- supports image rotation correction
- supports multi-view output
- supports up to 4x zoom with smooth transition
- supports crop and resize for NTSC display
- supports fade to black transition
- SCCB master interface for automatic sensor configuration at power-on
- SCCB slave interface for OV480 configuration by host
- supports 1x1 pixel OSD, up to 4 layers, 4 transparency levels, 8 colors per pixel, 2¹⁶ bit image index
- supports OSD position calibration (auto-overlay alignment)
- supports four-wire and two-wire serial interface to retrieve stored configuration and OSD bitmap images from external memory devices such as EEPROM
- on-chip PLL to generate stable internal clock frequency
- on-chip voltage regulator 3.3V to 1.2V
- brown-out detection circuit and output flag
- on-chip DAC for CVBS output
- supports NTSC analog video specifications
- on-chip MCU with 7 dedicated GPIO (interrupts) and 8+2 extended GPIO (polling)

Functional Block Diagram

