

OV7957 NTSC product brief



available in
a lead-free
package

Driving Down the Cost of Rear-View Cameras

The OV7957 is a low-cost, high-performance analog and digital image sensor designed specifically for mainstream automotive applications. The AEC-Q100 Grade 2 qualified OV7957 offers superior low-light sensitivity in an ultra-compact module size, making it an ideal camera solution for rear-view, surround-view and blind spot detection systems.

Additionally, the OV7957 offers features new to the automotive industry, including built-in memory for initialization, which reduces a camera's overall bill of materials and size. A crop and resize feature allows a standard camera module to be designed into virtually any vehicle platform without requiring mechanical adjustments by cropping the active array while the sensor scales it back up to NTSC format.

Utilizing OmniVision's proprietary high-sensitivity OmniPixel®3-HS pixel architecture, the sensor offers industry-leading low-light sensitivity of 16 V/lux-sec and excellent signal-to-noise-ratio (SNR).

The OV7957 features the industry's smallest AEC-Q100 qualified automotive package (a-CSP™), measuring only 5.7 x 5.4 mm, and offers an operating temperature range of -40°C and +105°C.

Find out more at www.ovt.com.



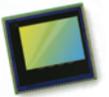
Applications

- Rear View Camera
- Surround View
- Smart Automotive Camera
- Drive Recorder
- Lane Departure Warning
- Blind Spot Detection
- Night Vision with Active Illumination

Product Features

- VGA DV output
- NTSC TV output
- high sensitivity
- automatic exposure/gain with 16 zone control
- auto white balance control
- aperture/gamma correction
- slave compatible serial camera control bus (SCCB) control interface for register programming
- crop and re-size
- low power consumption
- low dark current
- overlay with two layers, eight colors, and four transparencies
- 1280 bits of one time programmable memory (OTP)
- SPI master for overlay images and loading setting
- dynamic overlay controls
- defective pixel correction

OV7957



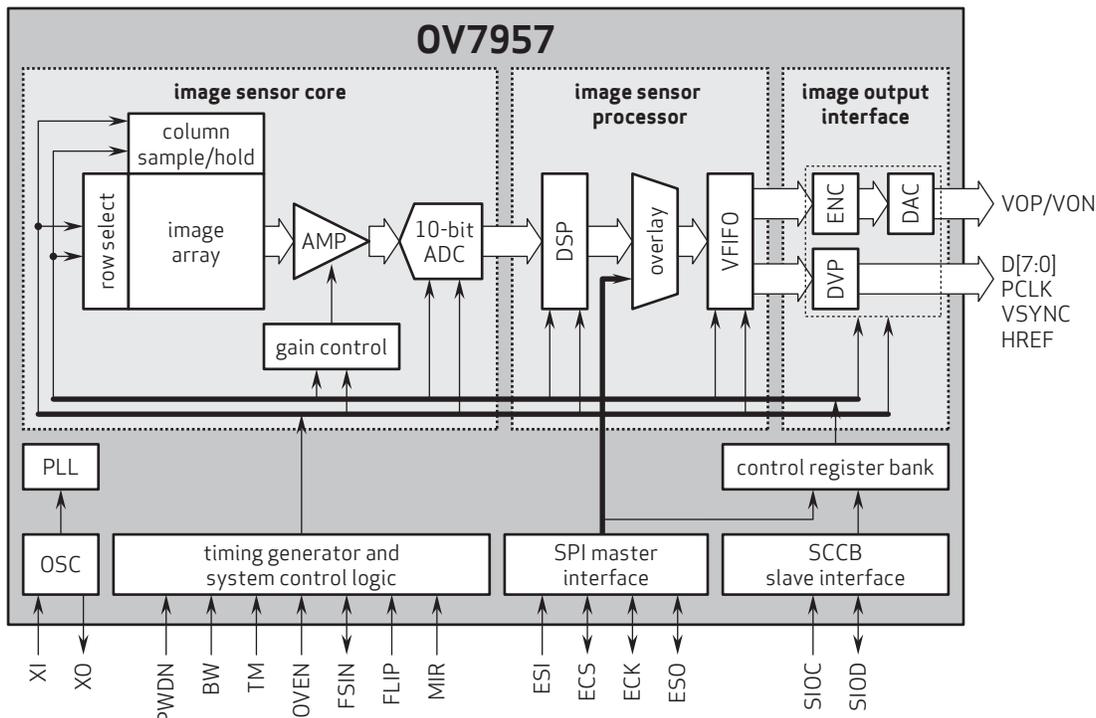
Ordering Information

- **OV07957-N53V-PA** (color, NTSC, lead-free)
53-pin a-CSP™, rev 1A, 50°C, packed in tray with protective film
- **OV07957-N53V-RA** (color, NTSC, lead-free)
53-pin a-CSP™, rev 1A, 50°C, packed in tape & reel with protective film

Product Specifications

- **active array size:** 672 x 492
- **power supply:**
 - core: 1.5V
 - analog: 3.14 - 3.47V
 - I/O: 1.7 - 3.47V
- **power requirements:**
 - active: 200 mW
 - standby: 20 µA
- **temperature range:**
 - operating: -40°C to +105°C sensor ambient temp and -40°C to +115°C junction temperature (operating sensor ambient temperatures above +60°C may result in degraded image quality)
- **output formats:** NTSC (TV port), VGA (DV port)
- **optical size:** 1/3.7" (NTSC)
- **lens chief ray angle:** supports up to 25°
- **maximum image transfer rate:**
 - VGA: 60 frames per second (DVP)
 - NTSC: 60 fields per second (TV)
- **minimum exposure time:** 31.75 µs
- **sensitivity:** 16 V/Lux-sec
- **shutter:** rolling shutter
- **max S/N ratio:** 38 dB
- **dynamic range:** 71 dB @ 8x gain
- **scan mode:** progressive
- **pixel size:** 6.0 µm x 6.0 µm
- **image area:** 4032 µm x 2952 µm
- **package dimensions:** 5660 µm x 5360 µm

Functional Block Diagram



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