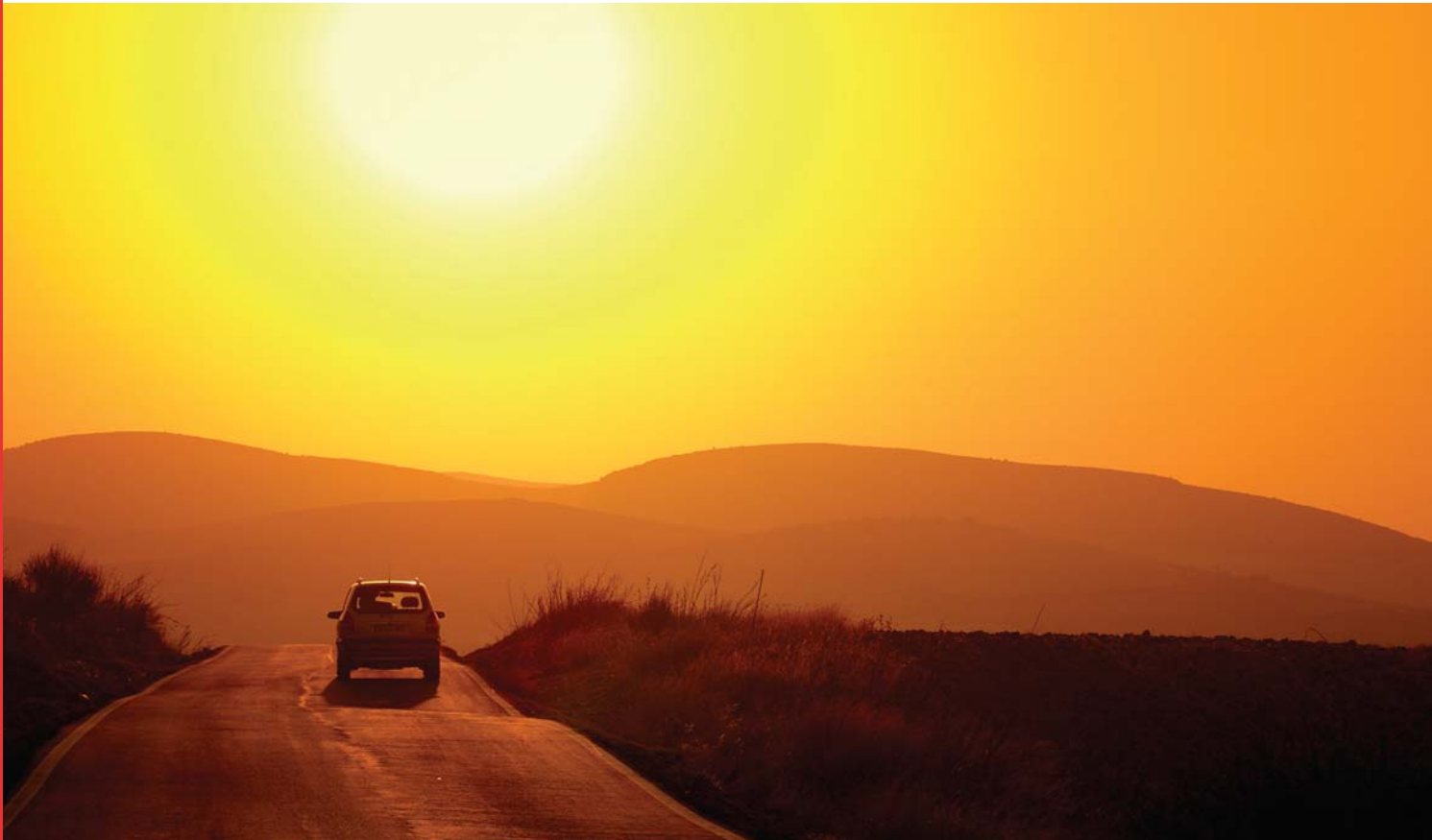


OV7710 product brief



available in
a lead-free
package

high-performance, all-digital automotive solution

The OV7710 image sensor is a high performance 1/4 inch, single-chip VGA digital video camera designed specifically for use in the automotive industry. The OV7710 excels in low light conditions and can operate within a wide temperature range from -40° C to +105° C.

The OV7710 meets all automotive market requirements in terms of performance, quality and reliability.

The OV7710 incorporates a 656 x 492 image array capable of operating at up to 30 frames per second (fps). The sensor technology also utilizes algorithms to cancel Fixed Pattern Noise (FPN), eliminate smearing, and drastically reduce blooming. The OV7710 possesses all required camera functions including exposure control, gain, white balance, windowing and more, which are programmable through the Serial Camera Control Bus (SCCB) interface. Other key features of the OV7710 image sensor are its low power consumption, progressive scanning, external frame sync (Genlock) capability and support for both 10-bit raw data or 8-bit YUV/RGB outputs.

The OV7710 has been submitted for full AEC-Q100 certification for automotive applications.

applications

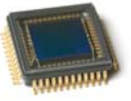
- **automotive**
 - airbag deployment
 - rear view
 - lane departure warning
 - blind spot view
 - night vision
 - adaptive cruise control



ordering info

- OV7710-Q00V (color - QFP-48)
- OV7211-Q00V (b&w with microlens - QFP-48)

OV7710



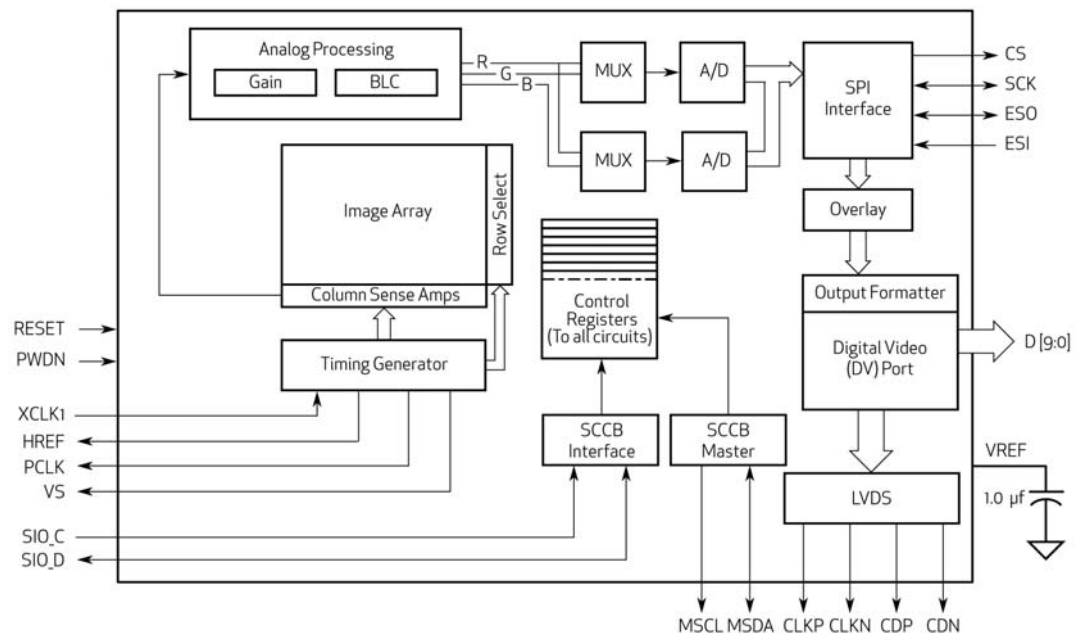
product features

- OmniPixel2™ technology
- single chip 1/4", VGA sensor
- high sensitivity for low-light operation
- master/slave compatible Serial Camera Control Bus (SCCB) control interface for register programming
- low fixed pattern noise, anti-blooming, zero smearing
- progressive scan
- horizontal mirroring and vertical flipping
- white balance, exposure time, gain control, etc.
- low power consumption
- external frame sync capability (Genlock)
- SPI for overlay control
- supports two sets of dynamic overlay control
- QFP parts submitted for AEC-Q100 standard

product specifications

- **array size:** 656 x 492
- **power supply**
analog: 3.3VDC ± 10%
- **power requirements**
active: 140 mW typical (30 fps VGA, YUV)
standby: TBD
- **output format**
10-bit raw data
8-bit YUV/RGB
- **max image transfer rate**
VGA: 30 fps
QVGA: 60 fps
- **minimum illumination (3000K):** 0.04 Lux @ f/1.2
- **S/N ratio:** 50 dB
- **dynamic range:** 53 dB
- **scan mode:** progressive
- **electronic exposure:** up to 521:1 (for selected fps)
- **pixel size:** 6.0µm x 6.0µm
- **fixed pattern noise:** < 0.03% of V_{PEAK-TO-PEAK}
- **image area:** 4.080 mm x 3.102 mm
- **package dimensions:** 14.22 mm x 14.22 mm
- **temperature range:** -40/+105 °C in QFP

block diagram



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