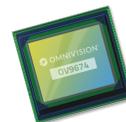




OV9674

1.3-megapixel product brief



OV9674 CameraChip™ Sensor Delivers 1.3-Megapixel High Definition Imaging to Advanced Consumer Video Applications

OMNIVISION's OV9674 is a high definition (HD) OmniBSI™ image sensor designed for advanced consumer video imaging applications such as dashboard camera recorders and DIY vehicle camera systems. The OV9674 captures clear 1.3-megapixel HD images and video at 30 frames per second (fps) in a wide range of lighting conditions. The OV9674 enables advanced imaging functionality such as high dynamic range (HDR), lens shading correction, and de-noise.

Built on a 4.2-micron OmniBSI™ pixel, the OV9674 supports high quality output in a variety of RAW formats and enables high speed serial data transfer with MIPI CSI-2, parallel 12-bit DVP output. Featuring a 1/2.56-inch optical format, the OV9674 fits into a 7.43 mm x 7.19 mm chip scale package (CSP) and operates at commercial temperature grade from -30°C to +85°C.

Find out more at www.ovt.com.



- OV9674-N78A (color, lead-free)
- 78-pin mCSP, rev 1D, packed in tray without protective film

Applications

- automotive
 - 360° surround view system
 - rear view camera
 - lane departure warning / lane keep assist
 - blind spot detection
 - night vision
- pedestrian detection
- traffic sign recognition
- occupant sensor
- camera monitoring system
- autonomous driving

Product Features

- AEC-Q100 grade 2 qualified
- support for image size:
 - 1280 x 1080
 - VGA
 - QVGA, and any cropped size
- OmniHDR-S™ technology
- high sensitivity
- supported output formats: RAW
- horizontal and vertical sub-sampling
- low power consumption
- image sensor processor functions:
 - automatic exposure / gain control
 - lens correction
 - defective pixel cancellation
 - HDR combination and tone mapping
 - automatic black level correction
- serial camera control bus (SCCB) for register programming
- high speed serial data transfer with MIPI CSI-2, parallel 12-bit DVP output
- external frame synchronization capability

Technical Specifications

- active array size:** 1280 x 1080
- maximum image transfer rate:** 30 fps full resolution
- power supply:**
 - analog: 3.14V ~ 3.47V
 - digital: 1.425V ~ 1.575V
 - DOVDD: 1.7V ~ 1.9V
 - AVDD: 1.7V ~ 1.9V
- power requirements:**
 - active: 250 mW
 - standby: 100 µW
- temperature range:**
 - operating: -40°C to +105°C
 - sensor ambient temperature and -40°C to +125°C junction temperature
- output formats:**
 - 20-bit combined RAW
 - 12-bit compressed combined RAW
 - separated 12-bit RAW
 - 2x12-bit compressed RAW
 - 16-bit log domain combined RAW
 - 3x12-bit uncompressed RAW
- output interfaces:** 12-bit DVP, MIPI/LVDS CSI-2
- lens size:** 1/2.56"
- lens chief ray angle:** 9°
- scan mode:** progressive
- pixel size:** 4.2 µm x 4.2 µm
- image area:** 5410 µm x 4570 µm

Functional Block Diagram

