

OV10620 HDR product brief



high dynamic range, high-quality, single-chip video/imaging automotive camera



The OV10620 is a high-performance color CMOS CameraChip™ image sensor with High Dynamic Range (HDR) designed specifically for automotive applications. The single-chip OV10620 uses a 768 x 506 (WVGA) or 640 x 480 (VGA) image array which is capable of operating at up to 30 frames per second (fps), while at 320 x 240 (QVGA), the image array is capable of operating at up to 60 fps.

The device is targeted to perform at a high dynamic range of up to 110 dB and meets all the automotive industry's performance, quality, reliability and cost requirements.

OmniVision's proprietary HDR technology enables the OV10620 to handle extreme variations of bright and dark within the same scene, allowing it to function like the human eye under quickly changing lighting conditions.

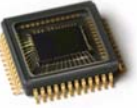
OmniVision's proprietary technology utilizes patented algorithms to cancel fixed pattern noise, eliminate smearing and drastically reduce blooming. All required camera functions such as exposure control, gain, white balance, windowing, and more, are programmable through the Serial Camera Control Bus (SCCB) interface.



applications

- automotive
 - airbag deployment
 - rear view
 - lane departure
 - blind spot view
- night vision
- sign recognition
- traffic light monitoring

OV10620



ordering information

- OV10620-Q00V (color, QFP-48)
- OV10121-Q00V (b&w, QFP-48)

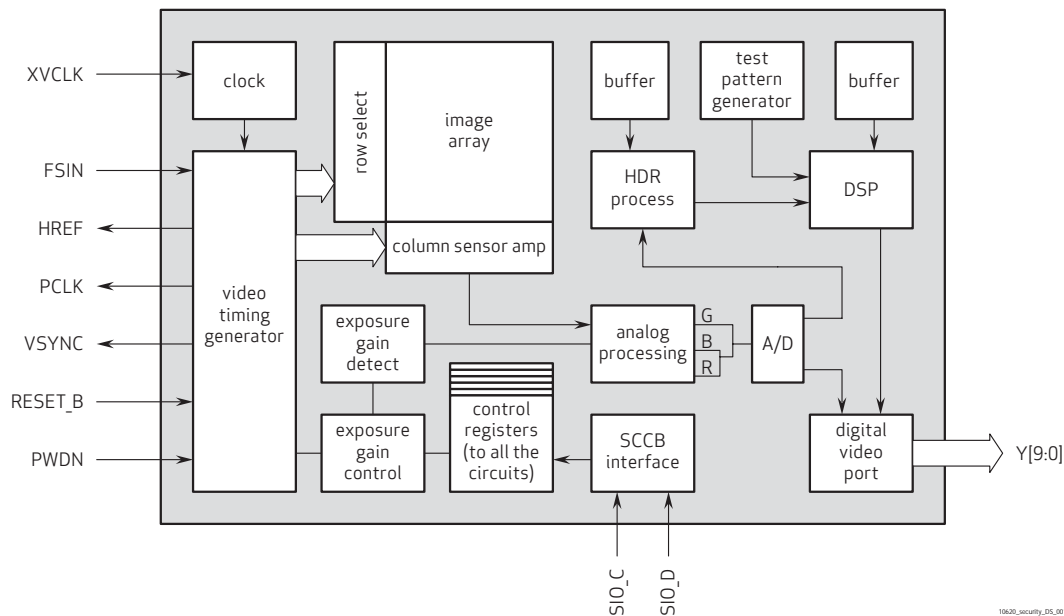
product features

- single chip, 1/3", WVGA sensor
- high dynamic range (up to 110 dB)
- high sensitivity for low-light operation
- master/slave compatible serial camera control bus (SCCB)
- SCCB control interface for register programming
- low fixed pattern noise, anti-blooming.
- progressive scan
- horizontal mirroring and vertical flipping
- white balance, exposure time, gain control, etc.
- automotive temperature range: -40°C to +85°C
- qualified in accordance with AEC-Q100
- low power consumption
- external frame sync capability (Genlock)
- supports parallel output

product specifications

- **array size:**
768 x 506
- **lens size:**
VGA: 1/4"
WVGA: 1/3.3"
- **power supply:**
digital core: 1.8 VDC ± 10%
analog: 3.3 VDC ± 5%
I/O: 3.3 VDC ± 10%
- **maximum image transfer rate:**
VGA (HDR mode): 30 fps
QVGA (non-HDR mode): 60 fps
- **pixel size:**
6.0 μm x 6.0 μm
- **image area:**
4.752 mm x 3.036 mm
- **dark current:**
20 mV/sec @ 60°C
- **package dimensions:**
14.22 mm x 14.22 mm

functional block diagram



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