Increase Driver Awareness with a Crystal-Clear Second Set of Eyes

Aptina's Image Sensor for Automotive Displays

Our MT9V111 automotive image sensor helps increase drivers' awareness of what occurs in and around their vehicles. That's because our unique low-noise, stable-temperature design enables it to capture extraordinarily clear images. Needing less than the amount of light from a single candle, the MT9V111 outputs crisp images for automotive display applications that are just as effective on the darkest nights as on the brightest days:

- Rear video
- Blind spot assistance
- Side view
- Mirror replacement
- Parking assistance
- Passenger viewing
- Accident reconstruction

Use Automotive Sensors for Automotive Imaging

The performance requirements of automotive image sensors differ from those of PC cameras and digital cameras. We designed the MT9V111 for the extreme automotive environment. It boasts an operating temperature range of –40°C to +85°C. It comes in a 52-pin iBGA package that stands up to automotive environmental standards. And it outputs full-color video at VGA resolution, so drivers can clearly identify scenes on automotive displays.

All-Inclusive Camera System Reduces Parts and Costs

The MT9V111 is a complete camera system-on-a-chip (SOC). Its programmable on-chip processor performs extensive camera functions including color recovery and correction; gamma correction; sharpening; auto black level offset correction; auto exposure, lens shading, flicker detection and avoidance, white balance; and on-the-fly defect identification and correction. With all the necessary functionality built in, this all-in-one solution reduces the bills of materials and the costs of driver awareness systems.

How to Buy

Production and sample quantities of Aptina products may be ordered through qualified distributors. See our Web site for details. You may also request access to NDA data sheets and other technical documentation by visiting our Web site.

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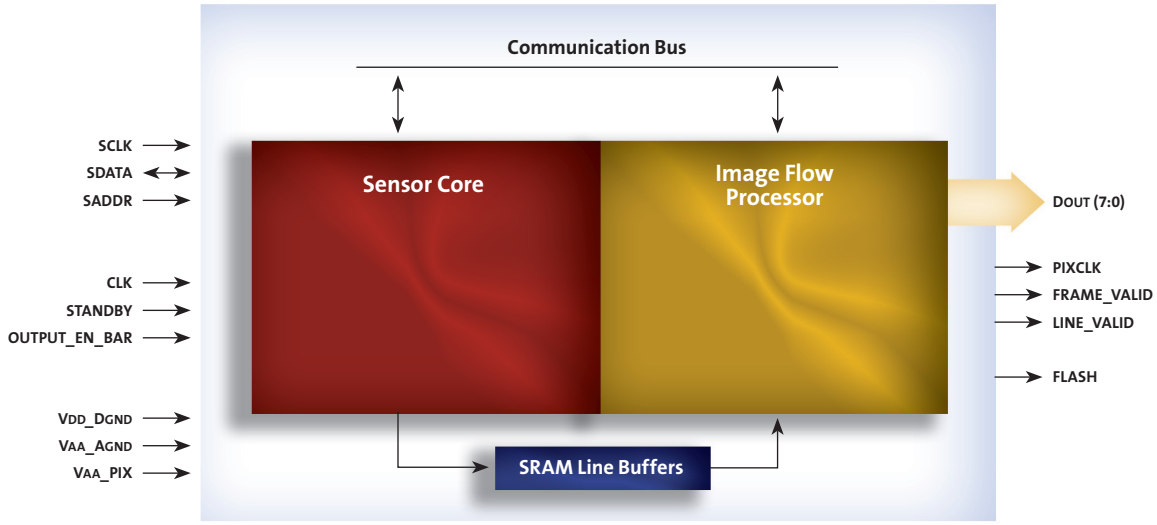
Specifications

- Pixel Size: 5.6µm x 5.6µm
- Array Format (Active): 640H x 480V
- Imaging Area: 3.584mm x 2.688mm
- Color Filter Array: RGB Bayer color filters
- Optical Format: 1/4 inch (4:3)
- Frame Rates: 30 fps @ 640H x 480V
- Scan Mode: Progressive
- Shutter: Electronic rolling shutter (ERS)
- Window Size: Programmable to VGA, QVGA, CIF, and QCIF
- Automotive Functions: Exposure, white balance, black level offset correction, flicker avoidance, color saturation, defect identification and correction, frame rate, and back light compensation
- Programmable Controls: Gain, frame rate, ADC reference, left-right and top-bottom image reversal
- ADC: 10-bit, on-chip
- Data Rate: 12–13.5 megapixels per second (master clock, 24–27 MHz)
- Responsivity: 1.9 V/lux-sec (550nm)
- Data Output Formats: ITU_R BT.656 (YCbCr), YUV 4:2:2 (progressive), 656RGB, 555RGB, and 444RGB
- Dynamic Range: 60dB
- Maximum Analog Gain: 16
- Supply Voltage: 2.8V ±0.25V
- Power Consumption: <120mW (@ 30 fps)
- Operating Temp. Range: –40°C to +85°C
- Storage Temp. Range: –40°C to +125°C
- Package: 52-ball iBGA, die in reconstructed wafer form, automotive-qualified

Block Diagram



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