Product Overview

AR0220AT: CMOS Image Sensor, Digital, 1.7 MP, 1/1.8-Inch, 4.2 µm BSI pixel

For complete documentation, see the data sheet.

ON Semiconductor AR0220AT is a 1/1.8-inch CMOS digital image sensor with an 1828 H x 948 V active-pixel array. This advanced automotive sensor captures images in either linear or high dynamic range, with rolling-shutter readout. AR0220AT is optimized for both low light and challenging high dynamic range scene performance, with a 4.2 µm BSI pixel and on-sensor 120 dB HDR capture capability. The sensor includes flexible functions such as in-pixel binning, windowing, and both video and single frame modes. The sophisticated sensor fault detection features and embedded data on AR0220AT are designed to enable camera ASIL B compliance. The device is programmable through a simple two-wire serial interface, and supports MIPI output interface.µ

Features

- High Performance 4.2 m Automotive Grade Backside Illuminated (BSI) Pixel with DR-Pix technology
- Advanced On-Sensor HDR Reconstruct with Flexible Exposure Ratio Control
- Fast 60 FPS Video Capture at 1820 x 940 and 4-exposure HDR
- Sensor Fault Detection for ASIL-B Compliance Support
- 2x2 In-pixel Binning Mode and Color Binning Mode
- Data Interfaces: 4-lane MIPI CSI-2
- Selectable Automatic or User Controlled Black Level Control
- Frame to Frame Switching Among up to 4 Contexts to Enable Multi-function Systems
- Spread-spectrum Input Clock Support
- Multi-Camera Synchronization Support
  For more features, see the data sheet

Applications

- 1.7 MP, High Performance ADAS (Automotive Driver Assistant System)
- Automotive Rear View or Backup
- Automotive Surround View

Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
AR0220AT3B00XUD20	AEC Qualified / PPAP Capable / Pb-free / Halide free	Active									
AR0220AT3B00XUEA0-DPBR	AEC Qualified / PPAP Capable / Pb-free / Halide free	Active									IBGA-87
AR0220AT3B00XUEA0-DPBR-E	Pb-free / Halide free	Active	CMOS	1.7	60 fps	1/2 inch	Electronic Rolling	4.2 x 4.2	MIPI	RGB	IBGA-87
AR0220AT3B00XUEA0-DRBR	AEC Qualified / PPAP Capable / Pb-free / Halide free	Active									IBGA-87
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AR0220AT3C00XUD20-E	Pb-free / Halide free	Active	CMOS	1.7	60 fps	1/2 inch	Electronic Rolling	4.2 x 4.2	MIPI	RGB	
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AR0220AT3R00XUD20-E	Pb-free / Halide free	Active	CMOS	1.7	60 fps	1/2 inch	Electronic Rolling	4.2 x 4.2	MIPI	RGB	
AR0220AT3R00XUEA0-DPBR	AEC Qualified / PPAP Capable / Pb-free / Halide free	Active									IBGA-87
AR0220AT3R00XUEA0-DPBR-E	Pb-free / Halide free	Active	CMOS	1.7	60 fps	1/2 inch	Electronic Rolling	4.2 x 4.2	MIPI	RGB	IBGA-87
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AR0220AT3R00XUEA0-DRBR-E	Pb-free / Halide free	Active	CMOS	1.7	60 fps	1/2 inch	Electronic Rolling	4.2 x 4.2	MIPI	RGB	IBGA-87

AR0220ATSC00XUD20-E	Pb-free Halide free	Active	CMOS	1.7	60 fps	1/2 inch	Electronic Rolling	4.2 x 4.2	MIPI	RGB

For more information please contact your local sales support at www.onsemi.com.

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