

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.

Features

- High Performance 4.2 μm 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	
AR0220AT3C00XUEA0-DPBR	AEC Qualified PPAP Capable Pb-free Halide free	Active									IBGA-87
AR0220AT3C00XUEA0-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
AR0220AT3C00XUEA0-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
AR0220AT3R00XUD20	AEC Qualified PPAP Capable Pb-free Halide free	Active									
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
AR0220AT3R00XUEA0-DRBR	AEC Qualified PPAP Capable Pb-free Halide free	Active									IBGA-87
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

AR0220ATSC00XUD2 0-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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