Product Overview

AR0138AT: CMOS Image Sensor, Digital, 1.2 MP, 1/2.6-Inch, 4.2 µm BSI pixel

For complete documentation, see the data sheet.

ON Semiconductor AR0138AT is a 1/2.6-inch CMOS digital image sensor with a 1288 H x 968 V active-pixel array. This advanced automotive sensor captures images in either linear, or high dynamic range, with rolling-shutter readout. AR0138AT is optimized for both low light and challenging high dynamic range scene performance, with a 4.2 m 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 AR0138AT are designed to enable camera ASIL B compliance. The device is programmable through a simple two-wire serial interface, and supports multiple output interface options, including MIPI and Parallel. The AR0138AT sensor is also supported by ON Semiconductor automotive co-processor products, delivering a total HDR video solution for the latest automotive viewing applications (RVC, Surround View, and CMS applications).

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 69 FPS Video Capture at 1280 x 960 and 3-exposure HDR
- Sensor Fault Detection for ASIL-B Compliance Support
- 2x2 In-pixel Binning Mode
- Data Interfaces: 4-lane MIPI CSI-2, or Parallel
- 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

- 1.2 MP, High Performance ADAS (Automotive Driver Assistant System)
- 960p, 720p Automotive Rear View or Backup
- 960p, 720p Automotive Surround View

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
AR0138AT3C00XUEA0-DPBR-E		Pb-free / Halide free / non AEC-Q and PPAP	Active	CMOS	1.2		-	Electronic Rolling	4.2 x 4.2	MIPI / Parallel	Other	IBGA-109
AR0138AT3C00XUEA0-DRBR-E		Pb-free / Halide free / non AEC-Q and PPAP	Active	CMOS	1.2		-	Electronic Rolling	4.2 x 4.2	MIPI / Parallel	Other	IBGA-109
AR0138AT3R00XUEA0-DPBR-E		Pb-free / Halide free / non AEC-Q and PPAP	Active	CMOS	1.2		-	Electronic Rolling	4.2 x 4.2	MIPI / Parallel	Other	IBGA-109

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

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