



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## Product Overview

### AR0143AT: CMOS Image Sensor, 1.3 MP, 1/4", Rolling Shutter

For complete documentation, see the data sheet.

ON Semiconductor's AR0143AT is a 1/4-inch CMOS digital image sensor with a 1344Hx968V active-pixel array. It captures images in either linear, high dynamic range, or LFM modes, with a rolling-shutter readout. The LFM mode eliminates high frequency LED flicker in the image allowing Traffic Sign Reading (TSR) algorithms to operate in all lighting conditions. It includes sophisticated camera functions such as in-pixel binning, windowing and both video and single frame modes. It is designed for both low light and high dynamic range scene performance, with sensor fault detection features that can enable ASIL B compliance for the camera system. It is programmable through a simple two-wire serial interface. The AR0143AT produces extraordinarily clear, sharp digital pictures, and its ability to capture both continuous video and single frames makes it the perfect choice for a wide range of applications, including automotive ADAS, automotive scene viewing, and 720p HDR video.

### Features

- Latest 3.0um Back Side Illuminated (BSI) pixel Technology
- Advanced HDR with flexible exposure ratio control
- Up to 4-exposure HDR at 1344 x 968 30fps
- 4-lane MIPI CSI-2, Parallel, or 4-lane high speed pixel interface (HiSPi) serial interface
- 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
- AEC-Q100 Grade 2 Qualified
- Sensor Fault Detection for ASIL-B Compliance

For more features, see the data sheet

### Applications

- Automotive ADAS
- Surround View Camera
- Rear View Camera
- Driving Video Recorder

## Part Electrical Specifications

| Product                | Compliance  | Status | Type | Megapixels | Frame Rate (fps) | Optical Format | Shutter Type | Pixel Size (µm) | Output Interface | Color | Package Type |
|------------------------|---|--------|------|------------|------------------|----------------|--------------|-----------------|------------------|-------|--------------|
| AR0143ATSC00XUEA0-DPBR | AEC Qualified<br>PPAP Capable<br>Pb-free<br>Halide free | Active | CMOS | 1.3        | 30               | 1/4 inch       | Rolling      | 3.0 x 3.0       | MIPI<br>Parallel | RGB   | IBGA-80      |
| AR0143ATSC00XUEA0-DRBR | AEC Qualified<br>PPAP Capable<br>Pb-free<br>Halide free | Active | CMOS | 1.3        | 30               | 1/4 inch       | Rolling      | 3.0 x 3.0       | MIPI<br>Parallel | RGB   | IBGA-80      |
| AR0143ATSC00XUEA0-TPBR | AEC Qualified<br>PPAP Capable<br>Pb-free<br>Halide free | Active | CMOS | 1.3        | 30               | 1/4 inch       | Rolling      | 3.0 x 3.0       | Parallel<br>MIPI | RGB   | IBGA-80      |
| AR0143ATSC00XUEA0-TRBR | AEC Qualified<br>PPAP Capable<br>Pb-free<br>Halide free | Active | CMOS | 1.3        | 30               | 1/4 inch       | Rolling      | 3.0 x 3.0       | Parallel<br>MIPI | RGB   | IBGA-80      |

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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