

## Product Overview

### AS0142AT: CMOS Image Sensor and Signal Processor Stack Chip, 1.0 MP, 1/4-Inch, Color

For complete documentation, see the data sheet.

The ON Semiconductor AS0142AT is a 1.0 MP CMOS digital image sensor and signal processor for automotive viewing applications. The device includes full auto-functions support (AWB and AE) and ALTM (Adaptive Local Tone Mapping) to enhance HDR image/video. The AS0142AT implements a high-sensitivity 3.0  $\mu\text{m}$  pixel with DR-Pix technology and advanced noise reduction, to enable excellent low-light performance. It can be operated in either linear or high dynamic range modes. The AS0142AT may be operated in video (master) mode or in single frame trigger mode, providing flexibility for multi-camera systems.

### Features

- Latest 3.0  $\mu\text{m}$  pixel with ON Semiconductor DR-Pix™ technology
- Superior Low-light Performance
- 45 fps at 1.0 MP, 60 fps at 720p
- Linear or High Dynamic Range Video
- Color Processing Optimized for HDR Video Operation
- Color and Gamma Correction
- Auto Exposure, Auto White Balance, 50/60 Hz Auto Flicker Detection and Avoidance
- Adaptive Local Tone Mapping (ALTM)
- Programmable Spatial Transform Engine (STE)
- Pre-rendered Graphical Overlay

For more features, see the data sheet

### Applications

- Automotive ADAS
- Automotive surround and rear-view
- ADAS + Viewing Fusion
- Mirror Replacement (CMS)

## 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
AS0142ATSC00XESM0-DRBR-E		Pb-free	Active	CMOS	1	45	1/4 inch	Electronic Rolling	3.0 x 3.0	Parallel	RGB	IBGA-63
		Halide free				60					YUV	
AS0142ATSC00XPSM0-DPBR-E		Pb-free	Active	CMOS	1	60	1/4 inch	Electronic Rolling	3.0 x 3.0	Parallel	YUV	IBGA-143
		Halide free				45					RGB	
AS0142ATSC00XUSM0-DPBR		AEC Qualified	ProductP review									IBGA-143
		PPAP Capable										
		Pb-free										
		Halide free										
AS0142ATSC00XUSM0-DPBR-E		Pb-free	Active	CMOS	1	60	1/4 inch	Electronic Rolling	3.0 x 3.0	Parallel	YUV	IBGA-143
		Halide free				45					RGB	
AS0142ATSC00XUSM0-DRBR		AEC Qualified	ProductP review									IBGA-143
		PPAP Capable										
		Pb-free										
		Halide free										
AS0142ATSC00XUSM0-DRBR-E		Pb-free	Active	CMOS	1	45	1/4 inch	Electronic Rolling	3.0 x 3.0	Parallel	YUV	IBGA-143
		Halide free				60					RGB	
AS0142ATSC00XUSM0-TPBR		AEC Qualified	ProductP review									IBGA-143
		PPAP Capable										
		Pb-free										
		Halide free										
AS0142ATSC00XUSM0-TRBR		AEC Qualified	ProductP review									IBGA-143
		PPAP Capable										
		Pb-free										
		Halide free										

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

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