AR0823AT

Hyperlux, 2.1 µm, 8.3 MP, 1/1.8-inch CMOS Digital Image Sensor

Product Overview

For complete documentation, see the data sheet.

The onsemi AR0823AT is a 1/1.8-inch CMOS digital image sensor with a 3840 H x 2160 V activepixel array. This advanced automotive sensor captures images in high dynamic range (HDR) with LED flicker mitigation (LFM). The AR0823AT is able to capture both low light and extremely bright illumination in every frame with a 2.1 µm super-exposure pixel. This pixel enables up to 150 dB of dynamic range without the need for auto exposure adjustment. This significantly reduces latency in scene dependent critical automotive systems, enabling faster and safer data gathering and decision-making. A dual output data path can be used to send both 8 MP and scaled or windowed images simultaneously for both ADAS systems and viewing applications, removing the need for two cameras. The sensor includes flexible functions such as smart ROI, binning, windowing, and can achieve 60 frames per second in full resolution. The sensor is designed following ASIL D design processes, and the sophisticated real time safety mechanisms and fault detection features on the AR0823AT exceed ASIL B hardware metrics.

Features

- Support for Fullresolution 150 dB HDR+LFM
- HighPerformance 2.1 µm BSI Pixel with SuperExposure HDR+LFM Mode
- 3840 x 2160 at up to 60 fps in SE mode
- Dual Output Datapath to Enable Multifunction Systems
- Real-time Functional Safety Mechanisms and End of Frame Fault Reporting
- AECQ100 Grade 2
- Designed following ASILD Process

Applications

- Automotive Front Camera (ADAS)
- Mirror Replacement (CMS)
- ADAS + Viewing Fusion
- HDR Imaging
- Surround View + Sensing

End Products

- Automated Guided Vehicle (AGV)
- Automotive Grade 4K Dash Cam
- Robotaxi / Robot Delivery

Part Electrical Specifications

Product	Status	Compilance	Type	Meg apixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type	Case Outline	MSL Type	MSL Temp (°C)	Container Type	Container Qty.
AR0823AT2C18 XUEA0-DPBR-E	Active	A P	CMOS	8.3	60	1/1.8 inch	Electronic Rolling	2.1 x 2.1	MIPI	RGB	IBGA149 11x8		3	260	JTRAY	1
AR0823AT2B18 XUEA0-DPBR-E	Active	H A	CMOS	8.3	60	1/1.8 inch	Electronic Rolling	2.1 x 2.1	MIPI	RGB	IBGA149 11x8		3	260	JTRAY	1