AR0233AT

Hayabusa CMOS Image Sensor, 2.6 MP, 1/2.5”, HDR + LFM

Product Overview

For complete documentation, see the data sheet.

The AR0233AT image sensor delivers exceptional sensitivity for a wide variety of automotive applications. Built on a 3 mm Back Side Illuminated (BSI) pixel, the sensor provides greater than 140 dB of dynamic range and excels in low light conditions. It features an active array size of 2048 x 1280 with 1080p output at 60 frames per second. The new pixel technology includes LED Flicker Mitigation (LFM) while maintaining high dynamic range output, limiting the appearance of flicker from LED lighting and AC sources particularly important for camera monitor system (CMS) applications as well as machine vision algorithms.

The AR0233AT is available in multiple automotive-qualified package options including iBGA and bare die. It is ASIL-B safety design compliant per ISO26262 and supports ASIL-B or higher safety ratings for camera systems. The sensor is compatible with image signal processor (ISP) companion chips from **onsemi** as well as third-party ISPs.

With new requirements being added to the New Car Assessment Program (NCAP), Advanced Driver Assistance Systems (ADAS) require sensors with higher functionality to meet the evolving standards for car safety. Automotive camera systems are performing more complex algorithms at higher vehicle speeds and in new, challenging lighting conditions. OEMs also want to offer more features for their customers by leveraging cameras for both viewing and sensing applications.

Features

- 3.0 µm Dual Conversion Gain BSI Pixel Technology
- MultiExposure Mode for >140d B High Dynamic Range
- Full Resolution LED Flicker Mitigation with 120 dB High Dynamic Range
- >95 dB dynamic range from one exposure
- ASILB safety design, ISO26262 compliant
- Lownoise, lowpower analog architecture
- Generation3 Motion Compensation
- Adaptive Noise Reduction Filter
- Advanced Context Switching
- 4lane MIPI CSI2 Interface

  For more features, see the data sheet

Applications

- Automotive Viewing
- Automotive ADAS
- ADAS + Viewing Fusion

End Products

- Front View Camera (ADAS)
- High−end Surround View and Rear View Camera
- Camera Monitor Systems for Mirror Replacement

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Part Electrical Specifications

Product	Status	Compilance	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Family	Package Type	Case Outline	MSL Type	MSL Temp (°C)	Container Type	Container Qty.
AR0233ATSC17XUEA1-DPBR	Active		CMOS	2.6	60	1/2.5 inch	Electronic Rolling	3.0 x 3.0	MIPI	RGB	Hayabusa	IBGA-80	503BT.PDF	3	260	JTRAY	2100
AR0233ATSC17XUEA1-DRBR	Active		CMOS	2.6	60	1/2.5 inch	Electronic Rolling	3.0 x 3.0	MIPI	RGB	Hayabusa	IBGA-80	503BT.PDF	3	260	JTRAY	2100
AR0233ATSC17XUEA1-TPBR	Active		CMOS	2.6	60	1/2.5 inch	Electronic Rolling	3.0 x 3.0	MIPI	RGB	Hayabusa	IBGA-80	503BT.PDF	3	260	REEL	2000
AR0233ATSC17XUEA1-TRBR	Lifetime		CMOS	2.6	60	1/2.5 inch	Electronic Rolling	3.0 x 3.0	MIPI	RGB	Hayabusa	IBGA-80	503BT.PDF	3	260	REEL	2000

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