

Diagonal 64.84 mm (Type 4.1) CMOS Image Sensor with Square Pixel for Monochrome Cameras

Description

The IMX811-AAMR is a diagonal 64.84 mm (Type 4.1) CMOS active pixel type image sensor with a square pixel array and 247.04 M effective pixels. This sensor incorporates maximum 24 dB PGA circuit and 16-bit A/D converter. 16-bit digital output makes it possible to readout the signals of 247.04 M effective pixels at high-speed of 5.3 frame/s in All-pixel readout mode.

(Application: FA cameras)

Features

- ◆ Type 4.1 CMOS active pixel type dots
- ◆ Input clock frequency 72 MHz
- ◆ All-pixel readout mode
 - Various readout modes (*)
- ◆ Rolling shutter function
- ◆ H driver, V driver and serial communication circuit on chip
- ◆ +24 dB gain settable in CDS/PGA on chip
- ◆ Built-in 12-bit/14-bit/16-bit A/D converter
- ◆ Back-illuminated type
- ◆ Sensor Slave Mode only
- ◆ Seal glass: both sides are processed by AR coating
- ◆ SLVS-EC output

* Please refer to the datasheet for binning/subsampling details of readout modes.

Sony Semiconductor Solutions Corporation reserves the right to change products and specifications without prior notice.
"Sony", "SONY" logo are registered trademarks or trademarks of Sony Group Corporation or its affiliates

Device Structure

◆ Back-Illuminated CMOS image sensor	
◆ Image size	Diagonal 64.84 mm (Type 4.1)
◆ Total number of pixels	19680 (H) × 13308 (V) approx. 261.90 M pixels
◆ Number of effective pixels	19240 (H) × 12840 (V) approx. 247.04 M pixels
◆ Number of active pixels	19200 (H) × 12800 (V) approx. 245.76 M pixels
◆ Unit cell size	2.81 μm (H) × 2.81 μm (V)
◆ Optical black	Horizontal (H) direction: Left 188 pixels, right 188 pixels Vertical (V) direction: Top 56 pixels, bottom 56 pixels
◆ Package	786 pin LGA 75.0 mm (H) × 63.6 mm (V)

Image Sensor Characteristics

(T_j = 60 °C)

Item		Value	Remarks
Sensitivity	Typ.	21,280 LSB/lx/s	Zone S
Saturation signal	Min.	15,405 LSB 10,152 LSB	Left for 0.4 s, Zone 0 to II' Left for 30 s, Zone 0 to II'

Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]	Output interface	ADC [bit]
All-pixel readout mode	19200 (H) × 12800 (V) Approx. 245.76 M pixels	12.4	SLVS-EC	12
		10.5	SLVS-EC	14
		5.3	SLVS-EC	16

