

## [Product Information]

Ver.1.0

# IMX271AQR

Diagonal 28.4 mm (Type 1.8) CMOS Image Sensor with Square Pixel for Color Cameras

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### Description

The IMX271AQR is a diagonal 28.4 mm (Type 1.8) CMOS active pixel type image sensor with a square pixel array and 24.32 M effective pixels. This sensor incorporates maximum 30 dB PGA circuit and 14-bit A/D converter. 14-bit digital output makes it possible to readout the signals of 24.32 M effective pixels at high-speed of 19.31 frame/s (SLVS) / 19.76 frame/s (SLVS-EC) in still picture mode.

In addition, this product is designed for use in consumer use digital still camera. When using this for another application, Sony Semiconductor Solutions Corporation does not guarantee the quality and reliability of product. Therefore, don't use this for applications other than consumer use digital still camera.

In addition, individual specification change cannot be supported because this is a standard product.

Consult your Sony Semiconductor Solutions Corporation sales representative if you have any questions.

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### Features

- ◆ APS size CMOS active pixel type pixels
- ◆ 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
- ◆ +30 dB gain in CDS/PGA on chip
- ◆ Built-in 12-bit/14-bit A/D converter
- ◆ R, G, B primary color mosaic filter on chip

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

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**Device Structure**

- ◆ CMOS image sensor
- ◆ Image size Diagonal 28.4 mm (Type 1.8)
- ◆ Total number of pixels 6088 (H) × 4100 (V) approx. 24.96 M pixels
- ◆ Number of effective pixels 6032 (H) × 4032 (V) approx. 24.32 M pixels
- ◆ Number of active pixels 6024 (H) × 4024 (V) approx. 24.24 M pixels
- ◆ Chip size 27.30 mm (H) × 21.80 mm (V)
- ◆ Unit cell size 3.91 μm (H) × 3.91 μm (V)
- ◆ Optical black Horizontal (H) direction: Front 48 pixels, Rear 0 pixel  
Vertical (V) direction: Front 22 pixels, Rear 0 pixel
- ◆ Package 184 pin LGA

**Image Sensor Characteristics**

(Tj = 60 °C)

Item		Value	Remarks
Sensitivity (F5.6)	Typ.	6762 LSB	1/30 s integration
Saturation signal	Min.	16382 LSB	left for 1 s

**Basic Drive Mode**

Drive mode	Number of active pixels	Max frame rate [frame/s]		Word length [bit]
		SLVS	SLVS-EC	
Readout mode 0	6024 (H) × 4024 (V) approx. 24.24 M pixels	19.31	19.76	14
Readout mode 1	6024 (H) × 4024 (V) approx. 24.24 M pixels	22.55	33.07	12
Readout mode 2	6024 (H) × 2012 (V) approx. 12.12 M pixels	44.51	65.31	12
Readout mode 3	2006 (H) × 1340 (V) approx. 2.69 M pixels	109.11	109.27	12
Readout mode 4	2006 (H) × 798 (V) approx. 1.60 M pixels	178.54	178.96	12
Readout mode 5	2006 (H) × 804 (V) approx. 1.61 M pixels	177.30	177.72	12
Readout mode 6	2006 (H) × 160 (V) approx. 0.32 M pixels	715.85	722.60	12
Readout mode 7	3012 (H) × 2012 (V) approx. 6.06 M pixels	36.86	36.86	12
Readout mode 8	2006 (H) × 1336 (V) approx. 2.68 M pixels	109.58	109.74	12
Readout mode 9	2006 (H) × 574 (V) approx. 1.15 M pixels	241.63	242.39	12