

[Product Information]

Ver.1.0

IMX461BQR

Diagonal 55 mm (Type 3.4) CMOS Image Sensor with Square Pixel for Color Cameras

Description

The IMX461BQR is a diagonal 55 mm (Type 3.4) CMOS active pixel type image sensor with a square pixel array and 102 M effective pixels. This IC incorporates maximum 36 dB PGA circuit and 16-bit A/D converter. 16-bit digital output makes it possible to readout the signals of 102 M effective pixels at high-speed of 2.7 frame/s in still picture mode.

In addition, vertical subsampling binning and 3-horizontal pixel weighted binning realize high-speed 12-bit digital output for shooting moving picture. This sensor 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 this 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.

Features

- ◆ Type 3.4 CMOS active pixel type dots
- ◆ Input clock frequency 72 MHz
- ◆ All-pixel readout mode
 - All-pixel readout mode / 2-parallel ADC readout
 - All-pixel readout mode / digital overlap drive
 - 1/3-vertical line subsampling, horizontal all pixel readout mode
 - 1/3-vertical line subsampling, 3-horizontal pixel weighted binning readout mode
 - 1/5-vertical line subsampling, horizontal all pixel readout mode
 - 1/5-vertical line subsampling, 3-horizontal pixel weighted binning readout mode
 - 1/7-vertical line subsampling, horizontal all pixel readout mode
 - 1/7-vertical line subsampling, 3-horizontal pixel weighted binning readout mode
 - 1/15-vertical line subsampling, horizontal all pixel readout mode
 - 1/15-vertical line subsampling, 3-horizontal pixel weighted binning readout mode
- ◆ Rolling shutter function moving picture mode
- ◆ H driver, V driver and serial communication circuit on chip
- ◆ +36 dB gain settable by Bayer color in CDS/PGA on chip
- ◆ Built-in 11-bit/12-bit/14-bit/16-bit A/D converter
- ◆ 8 Lane SLVS-EC output
- ◆ R, G, B primary color mosaic filters on chip
- ◆ Back-illuminated type
- ◆ Partially masked sensor pixels for Phase Detected Auto Focus (PDAF Pixel)

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Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony Semiconductor Solutions Corporation cannot assume responsibility for any problems arising out of the use of these circuits.

Device Structure

◆ Back-Illuminated CMOS image sensor	
◆ Image size	Diagonal 55 mm (Type 3.4)
◆ Total number of pixels	11760 (H) × 8896 (V) approx. 104 M pixels
◆ Number of effective pixels	11664 (H) × 8750 (V) approx. 102 M pixels
◆ Number of active pixels	11656 (H) × 8742 (V) approx. 101 M pixels
◆ Chip size	48.64 mm (H) × 40.38 mm (V)
◆ Unit cell size	3.76 μm (H) × 3.76 μm (V)
◆ Optical black	Horizontal (H) direction: Left 44 pixels, right 44 pixels Vertical (V) direction: Top 38 pixels, bottom 38 pixels
◆ Substrate material	Silicon