SONY

IMX464LQR/LQR1

Diagonal 9.04 mm (Type 1/1.8) CMOS Solid-state Image Sensor with Square Pixel for Color Cameras

Description

Ver.1.0

The IMX464LQR/LQR1 is a diagonal 9.04 mm (Type 1/1.8) CMOS active pixel type solid-state image sensor with a square pixel array and 4.17 M effective pixels. This chip operates with analog 2.9 V, digital 1.2 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and no smear are achieved through the adoption of R, G and B primary color mosaic filters. This chip features an electronic shutter with variable charge-integration time.

(Applications: Surveillance cameras, FA cameras, Industrial cameras)

Features

- CMOS active pixel type dots
- Built-in timing adjustment circuit, H/V driver and serial communication circuit
- Input frequency: 6 to 27 MHz / 37.125 MHz / 74.25 MHz
- ♦ Number of recommended recording pixels: 2688 (H) × 1520 (V) approx. 4.09 M pixels
- Readout mode
 - All-pixel scan mode
 - Window cropping mode
 - Vertical / Horizontal direction-normal / inverted readout mode
- Readout rate

Maximum frame rate in All-pixel scan mode 2688 (H) × 1520 (V) A/D 10-bit : 90 frame/s

- High dynamic range (HDR) function Multiple exposure HDR
- Digital overlap HDR
- Variable-speed shutter function (resolution 1H units)
- ◆ 10-bit / 12-bit A/D converter
- ♦ CDS / PGA function 0 dB to 29.4 dB : Analog Gain 29.4 dB (step pitch 0.3 dB)
- 29.7 dB to 71.4 dB : Analog Gain 29.4 dB + Digital Gain 0.3 to 42 dB (step pitch 0.3 dB)
- ◆ Supports I/O CSI-2 serial data output (2 Lane / 4 Lane, RAW10 / RAW12 output)
- \blacklozenge Recommended exit pupil distance: -30 mm to --
- Anti-reflective coating glass on both sides (IMX464LQR1), Non anti-reflective coating glass (IMX464LQR)

STARVIS

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Device Structure

♦ CMOS image sensor	
♦ Image size	Туре 1/1.8
♦ Total number of pixels	2781 (H) × 1632 (V) approx. 4.53 M pixels
Number of effective pixels	2712 (H) × 1538 (V) approx. 4.17 M pixels
♦ Number of active pixels	2712 (H) × 1536 (V) approx. 4.17 M pixels
\blacklozenge Number of recommended recording pixels	2688 (H) × 1520 (V) approx. 4.09 M pixels
♦ Unit cell size	2.9 μm (H) × 2.9 μm (V)
♦ Optical black	Horizontal (H) direction: Front 0 pixel, rear 0 pixel
	Vertical (V) direction: Front 13 pixels, rear 0 pixel
◆ Dummy	Horizontal (H) direction: Front 0 pixel, rear 0 pixel
	Vertical (V) direction: Front 0 pixel, rear 0 pixel
♦ Package	132 pin LGA

Image Sensor Characteristics

(Tj = 60 °C)

Item		Value	Remarks
Sensitivity (F5.6)	Тур.	10352 Digit (IMX464LQR) 10973 Digit (IMX464LQR1)	1/30 s accumulation 12 bit converted value
Saturation signal	Min.	3895 Digit	12 bit converted value

Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]	Output interface	ADC [bit]
All pixel	2688 (H) × 1520 (V) approx. 4.09 M pixels	90	CSI-2	10

