SONY

Ver.1.2

IMX433LQJ

Diagonal 9.2 mm (Type 1 / 1.7) CMOS solid-state Image Sensor with Square Pixel for Color Cameras

Description

The IMX433LQJ is a diagonal 9.2 mm (Type 1 / 1.7) CMOS active pixel type solid-state image sensor with a square pixel array and 0.51 M effective pixels. This chip features a global shutter with variable charge-integration time. This chip operates with analog 3.3 V, digital 1.2 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and low PLS characteristics are achieved.
(Applications: FA cameras, ITS cameras)

Features

- ◆CMOS active pixel type dots
- ◆Built-in timing adjustment circuit, H/V driver and serial communication circuit
- ◆Global shutter function
- ◆Input frequency
  37.125 MHz / 74.25 MHz / 54 MHz
- ◆Number of recommended recording pixels: 812 (H) × 620 (V) approx. 0.50 M pixels

  Readout mode
  All-pixel scan mode
  ROI mode
  Vertical / Horizontal - Normal / Inverted readout mode
- ◆Readout rate
  Maximum frame rate in

  All-pixel scan mode: 12 bit: 243.0 frame/s
- ◆12-bit A/D converter
- ◆CDS / PGA function
  0 dB to 24 dB: Analog Gain (0.1 dB step)
  24.1 dB to 48 dB: Analog Gain: 24 dB + Digital Gain: 0.1 dB to 24 dB (0.1 dB step)
- ◆I/O interface
  SLVS (2 ch) output (594 / 297 Mbps per ch)

  SLVS - EC (1 Lane) output (2.376 / 1.188 Gbps)
- ◆Recommended lens F number: 2.8 or more (Close side)
- ◆Recommended exit pupil distance: –100 mm to –∞

Pregius

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Device Structure

◆CMOS image sensor			
◆Image size	Diagonal 9.2 mm (Type 1 / 1.7)	Approx. 0.51 M pixels	All-pixel
◆Total number of pixels	816 (H) × 656 (V)	Approx. 0.54 M pixels	
◆Number of effective pixels	816 (H) × 624 (V)	Approx. 0.51 M pixels	
◆Number of active pixels	816 (H) × 624 (V)	Approx. 0.51 M pixels	
◆Number of recommended recording pixels	812 (H) × 620 (V)	Approx. 0.50 M pixels	All-pixel
◆Unit cell size	9.0 µm (H) × 9.0 µm (V)		
◆Optical black	Horizontal (H) direction: Front 0 pixel, rear 0 pixel		
	Vertical (V) direction: Front 32 pixels, rear 0 pixel		
◆Package	226 pin LGA		

Image Sensor Characteristics

(Tj = 60 °C)

Item		Value	Remarks
Sensitivity (F5.6)	Typ.	4910 mV	1/30 s accumulation
Saturation signal	Min.	1001 mV	

Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]	Output interface	ADC [bit]
All pixel	812 (H) × 620 (V) approx. 0.50 M pixels	166.5	SLVS 2 ch	12
		243.0	SLVS – EC 1 Lane	

Image Sensors for Industrial Applications:
https://www.sony.net/cis-industry