

Ver.1.1

Diagonal 8.8 mm (Type 1/1.8) CMOS solid-state Image Sensor with Square Pixel for Color Cameras

Description

The IMX548-AAQJ is a diagonal 8.8 mm (Type 1/1.8) CMOS active pixel type solid-state image sensor with a square pixel array and 5.10 M effective pixels. This chip features a global shutter with variable charge-integration time. This chip operates with analog 3.3 V, 2.9 V, digital 1.1 V, and interface 1.8 V quadruple power supply. High sensitivity and low dark current 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: 2448 (H) × 2048 (V) approx. 5.01 M pixels
- ◆ Readout mode
 - All-pixel scan mode
 - Vertical / Horizontal 1/2 Subsampling mode
 - ROI mode
 - Vertical / Horizontal - Normal / Inverted readout mode
- ◆ Readout rate
 - Maximum frame rate in
 - All-pixel scan mode: 8 bit 114.8 frame/s, 10 bit 93.4 frame/s, 12 bit 84.0 frame/s
- ◆ Pulse Output Function
 - The monitor output for Exposure period
 - Programmable pulse output
- ◆ 8-bit / 10-bit / 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 / 4 ch / 8 ch switching) output (594 / 297 / 891 / 445.5 Mbps per ch)
- ◆ Recommended lens F number: 2.8 or more (Close side)

Pregius S

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Device Structure

◆ CMOS image sensor			
◆ Image size	Diagonal 8.8 mm (Type 1/1.8)	Approx. 5.10 M pixels	All-pixel
◆ Total number of pixels	2472 (H) × 2128 (V)	Approx. 5.26 M pixels	
◆ Number of effective pixels	2472 (H) × 2064 (V)	Approx. 5.10 M pixels	
◆ Number of active pixels	2472 (H) × 2064 (V)	Approx. 5.10 M pixels	
◆ Number of recommended recording pixels	2448 (H) × 2048 (V)	Approx. 5.01 M pixels	All-pixel
◆ Unit cell size	2.74 μm (H) × 2.74 μm (V)		
◆ Optical black	Horizontal (H) direction: Front 0 pixel, rear 0 pixel Vertical (V) direction: Front 64 pixels, rear 0 pixel		
◆ Package	132 pin LGA	15.0 mm (H) × 12.5 mm (V)	

Image Sensor Characteristics

(Tj = 60 °C)

Item		Value	Remarks
Sensitivity	Typ.	8620 Digit/lx/s	
Saturation signal	Min.	4094 Digit	

Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]	Output interface	ADC [bit]
All pixel	2448 (H) × 2048 (V) approx. 5.01 M pixels	114	SLVS 8 ch	8
		93	SLVS 8 ch	10
		84	SLVS 8 ch	12
Vertical / Horizontal 1/2 subsampling	1224 (H) × 1024 (V) approx. 1.25 M pixels	220	SLVS 8 ch	8
		180	SLVS 8 ch	10
		162	SLVS 8 ch	12

