SONY

Ver.1.0

IMX662-AAMR

Diagonal 6.45 mm (Type 1/2.8) CMOS Solid-state Image Sensor with Square Pixel for Monochrome Cameras

Description

The IMX662-AAMR is a diagonal 6.45 mm (Type 1/2.8) CMOS active pixel type solid-state image sensor with a square pixel array and 2.12 M effective pixels. This chip operates with analog 3.3 V, digital 1.1 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and no smear are achieved. This chip features an electronic shutter with variable charge-integration time.
(Application: Security cameras)

Features

- ◆ CMOS active pixel type dots
- ◆ Built-in timing adjustment circuit, H/V driver and serial communication circuit
- ◆ Input frequency: 24 MHz / 27 MHz / 37.125 MHz / 72 MHz / 74.25 MHz
- ◆ Number of recommended recording pixels: 1920 (H) × 1080 (V) approx. 2.07M pixel
- ◆ Readout mode
  - All-pixel scan mode
  - 2×2 adjacent pixel binning mode
  - Window cropping mode
  - Horizontal / Vertical direction - Normal / Inverted readout mode
- ◆ Readout rate — Maximum frame rate in All-pixel scan mode: 12 bit: 60 frame/s, 10 bit: 90 frame/s
- ◆ High dynamic range (HDR) function
  - Digital overlap HDR
  - Clear HDR
- ◆ Synchronizing sensors function
- ◆ Variable-speed shutter function (resolution 1H unit)
- ◆ 10-bit / 12-bit A/D converter
- ◆ CDS / PGA function
  - 0 dB to 30 dB: Analog Gain 30 dB (step pitch 0.3 dB)
  - 30.3 dB to 72 dB: Analog Gain 30 dB + Digital Gain 0.3 dB to 42 dB (step pitch 0.3 dB)
- ◆ Supports I/O
  - CSI-2 serial data output (2 Lane / 4 Lane)
  - RAW10 / RAW12 output

STARVIS 2

* STARVIS 2 and its logo are registered trademarks or trademarks of Sony Group Corporation or its affiliates.The STARVIS 2 is back-illuminated pixel technology used in CMOS image sensors for security camera applications. It features a sensitivity of 2000 mV or more per 1 µm2 (color product, when imaging with a 706 cd/m2 light source, F5.6 in 1 s accumulation equivalent). It also has a wide dynamic range (AD 12 bit) of more than 8 dB compared to STARVIS for the same pixel size in a single exposure, and achieves high picture quality in the visible-light and near infrared light regions.

Sony reserves the right to change products and specifications without prior notice.
"Sony", "SONY" logo are registered trademarks or trademarks of Sony Group Corporation or its affiliates.

Device Structure

◆CMOS image sensor	
◆Image size	Diagonal 6.45 mm (Type 1/2.8) approx. 2.12 M pixels, All pixels
◆Total number of pixels	1936 (H) × 1120 (V) approx. 2.16 M pixels
◆Number of effective pixels	1936 (H) × 1100 (V) approx. 2.12 M pixels
◆Number of active pixels	1936 (H) × 1096 (V) approx. 2.12 M pixels
◆Number of recommended recording pixels	1920 (H) × 1080 (V) approx. 2.07 M pixels
◆Unit cell size	2.9 µm (H) × 2.9 µm (V)
◆Optical black	Horizontal (H) direction: Front 0 pixels, rear 0 pixels
	Vertical (V) direction: Front 20 pixels, rear 0 pixels
◆ Dummy	Horizontal (H) direction: Front 0 pixels, rear 0 pixels
	Vertical (V) direction: Front 0 pixels, rear 0 pixels
◆Package	114 pin LGA

Image Sensor Characteristics

(Tj = 60 °C)

Item		Value	Remarks
Sensitivity	Typ.	29300 Digit/lx/s	12 bit converted value
Saturation signal	Min.	3895 Dight	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	1920 (H) × 1080 (V) approx. 2.07 M pixels	90	CSI-2	10
2×2 adjacent pixel binning mode	960 (H) × 540 (V) approx. 0.51 M pixels	90	CSI-2	10

Image Sensors for Security Cameras:
https://www.sony.net/cis-security/