SONY

Ver.1.0

IMX487-AAMJ-C/IMX487-AAMJ1-RG

Diagonal 11.1 mm (Type 2/3) UV Image Sensor with Square Pixel

Description

The IMX487-AAMJ-C/IMX487-AAMJ1-RG is a diagonal 11.1 mm (Type 2/3) CMOS active pixel type solid-state image sensor with a square pixel array and 8.13 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. Regarding a waveband (200 nm to 400 nm), high sensitivity and low dark current characteristics are achieved. (Applications: FA cameras)

The IMX487-AAMJ1-RG is a removable seal glass model of the IMX487-AAMJ-C.

Features

- ◆CMOS active pixel type dots
- ◆UV (UltraViolet) waveband sensor (200 nm to 400 nm)
- ◆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: 2840 (H) × 2840 (V) approx. 8.06 M pixels
- ◆Readout mode
  Various subsampling and readout mode (*)
  * Please refer to the datasheet for binning/subsampling details of readout modes.
- ◆Readout rate
  Maximum frame rate in All-pixel scan mode: 8 bit 194.0 frame/s, 10 bit 193.6 frame/s, 12 bit 127.2 frame/s
  (*) At high frame rates, control so as not to exceed Tj = +100 °C
- ◆Variable-speed shutter function (resolution 1 H units)
- ◆Pulse Output Function
  The monitor output for Exposure period (TOUT0)
  Programmable pulse output (TOUT1 and TOUT2)
- ◆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 (4 ch / 8 ch switching) output (891 / 445.5 / 594 / 297 Mbps per ch)
  SLVS – EC (1 Lane / 2 Lane / 4 Lane / 8 lane switching) output (4.752 / 2.376 / 1.188 Gbps per Lane)
- ◆Seal glass: double-sided AR glass
- ◆Recommended lens F number: 2.8 or more (Close side)

Pregius S

* Pregius S and its logo are registered trademarks or trademarks of Sony Group Corporation or its affiliates. Pregius S is a global shutter sensor technology for active pixel-type CMOS image sensors. By stacking the signal processing on the back illuminated type CMOS Image Sensor it realizes small chip size and high sensitivity, whilst using the high picture quality global shutter pixel technology of Pregius.

Device Structure

◆UV image sensor		
◆Image size	Diagonal 11.1 mm (Type 2/3)	Approx. 8.13 M pixels
◆Total number of pixels	2856 (H) × 2912 (V)	Approx. 8.31 M pixels
◆Number of effective pixels	2856 (H) × 2848 (V)	Approx. 8.13 M pixels
◆Number of active pixels	2856 (H) × 2848 (V)	Approx. 8.13 M pixels
◆Number of recommended recording pixels	2840 (H) × 2840 (V)	Approx. 8.06 M pixels
◆Unit cell size	2.74 µm (H) × 2.74 µm (V)	
◆Optical black	Horizontal (H) direction: Front 0 pixels, rear 0 pixels	
	Vertical (V) direction: Front 64 pixels, rear 0 pixels	
◆Package	230 pin LGA	20.0 mm (H) × 16.8 mm (V)

Image Sensor Characteristics

(Tj = 60 °C)

Item		Value	Remarks
Ultraviolet light sensitivity	Typ.	794 Digit	
Saturation signal	Min.	4094 Digit	

Basic Drive Mode

Drive mode	Number of recording pixels	Max frame rate [frame/s]	Output interface	ADC [bit]
All-pixel	2840 (H) × 2840 (V) approx. 8.06 M pixels	87.0	SLVS 8 ch, 891 Mbps/ch	8
		70.7		10
		59.9		12
		194.0	SLVS – EC 8 Lane, 4.752 Gbps/Lane	8
		193.6		10
		127.2		12
Vertical / Horizontal 1/2 Subsampling	1420 (H) ×1420 (V) approx. 2.01 M pixels	277.7	SLVS 8 ch, 891 Mbps/ch	8
		230.8		10
		198.1		12
		653.0	SLVS – EC 8 Lane, 4.752 Gbps/Lane	8
		618.1		10
		450.2		12
2 × 2 FD binning mode	1420 (H) ×1420 (V) approx. 2.01 M pixels	277.7	SLVS 8 ch, 891 Mbps/ch	8
		230.8		10
		198.1		12
		653.0	SLVS – EC 8 Lane, 4.752 Gbps/Lane	8
		618.1		10
		450.2		12

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