**IMX487-AAMJ**

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

**Description**

The IMX487-AAMJ 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)

**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)

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* Pregius S is a registered trademark or trademark 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, while using the high picture quality global shutter pixel technology of Pregius.

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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

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultraviolet light sensitivity</td>
<td>Typ. 794 Digit</td>
<td></td>
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<tr>
<td>Saturation signal</td>
<td>Min. 4094 Digit</td>
<td></td>
</tr>
</tbody>
</table>

Basic Drive Mode

<table>
<thead>
<tr>
<th>Drive mode</th>
<th>Number of recording pixels</th>
<th>Max frame rate [frame/s]</th>
<th>Output interface</th>
<th>ADC [bit]</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-pixel</td>
<td>2840 (H) × 2840 (V) approx. 8.06 M pixels</td>
<td>87.0 70.7 59.9 194.0 193.6 127.2</td>
<td>SLVS 8 ch, 891 Mbps/ch SLVS – EC 8 Lane, 4.752 Gbps/Lane</td>
<td>8 10 12 8 10 12</td>
</tr>
<tr>
<td>Vertical / Horizontal 1/2 Subsampling</td>
<td>1420 (H) × 1420 (V) approx. 2.01 M pixels</td>
<td>277.7 230.8 198.1 653.0 618.1 450.2</td>
<td>SLVS 8 ch, 891 Mbps/ch SLVS – EC 8 Lane, 4.752 Gbps/Lane</td>
<td>8 10 12 8 10 12</td>
</tr>
<tr>
<td>2 × 2 FD binning mode</td>
<td>1420 (H) × 1420 (V) approx. 2.01 M pixels</td>
<td>277.7 230.8 198.1 653.0 618.1 450.2</td>
<td>SLVS 8 ch, 891 Mbps/ch SLVS – EC 8 Lane, 4.752 Gbps/Lane</td>
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Image Sensors for Industrial Applications: https://www.sony.net/cis-industry