**[Product Information]**

**Ver.1.0**

**IMX482LQJ**

Diagonal 12.86 mm (Type 1/1.2) CMOS Solid-state Image Sensor with Square Pixel for Color Cameras

**Description**

The IMX482LQJ is a diagonal 12.8 mm (Type 1/1.2) CMOS active pixel type solid-state image sensor with a square pixel array and 2.10 M effective pixels. This chip operates with analog 2.9 V, digital 1.2 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and no smear. This chip features an electronic shutter with variable charge-integration time. (Applications: Surveillance cameras, FA cameras, Industrial cameras)

**Features**

- CMOS active pixel type dots
- Built-in timing adjustment circuit, H/V driver and serial communication circuit
- Input frequency: 6 to 27 MHz / 37.125 MHz / 74.25 MHz
- Number of recommended recording pixels: 1920 (H) × 1080 (V) approx. 2.07 M pixels
- Readout mode
  - 2 × 2 Adjacent Pixel Binning
  - Window cropping mode with 2 × 2 Adjacent Pixel Binning
  - Horizontal / Vertical direction - Normal / Inverted readout mode
- Readout rate
  - Maximum frame rate in
    - 2 × 2 Adjacent Pixel Binning: 10 bit: 90 frame/s
- High dynamic range (HDR) function
  - Multiple exposure HDR
  - Digital overlap HDR
- Synchronizing sensors function
- Variable-speed shutter function (resolution 2H units)
- 10-bit A/D converter
- CDS / PGA function
  - 0 dB to 72 dB (step pitch 0.3 dB)
- Supports I/O
  - CSI-2 serial data output (2 Lane / 4 Lane / 8 Lane / 4 Lane × 2 ch) RAW12 output
- Recommended exit pupil distance: –30 mm to –∞

* STARVIS is a trademark of Sony Corporation. The STARVIS is back-illuminated pixel technology used in CMOS image sensors for surveillance 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), and realizes 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 logo is a registered trademark of Sony Corporation.
Device Structure

◆ CMOS image sensor (Quad Bayer structure)
Quad Bayer structure is constructed of 4 same color pixels into which 1 pixel of bayer pixel array is divided as following figure.

```
[Quad Bayer Structure]
```

When normal operation, 4 same color pixels are added and made 1 pixel, and output as bayer pixel array. In addition, a group of divided 4 same color pixels is defined as 1 pixel unit in this product specification.

◆ Image size
Diagonal 12.86 mm (Type 1/1.2) approx. 2.10 M pixels

◆ Total number of pixels
1932 (H) × 1100 (V) approx. 2.12 M pixels

◆ Number of effective pixels
1932 (H) × 1090 (V) approx. 2.10 M pixels

◆ Number of active pixels
1932 (H) × 1088 (V) approx. 2.10 M pixels

◆ Number of recommended recording pixels
1920 (H) × 1080 (V) approx. 2.07 M pixels

◆ Unit cell size
5.8 µm (H) × 5.8 µm (V)

◆ Optical black
Horizontal (H) direction: Front 0 pixel, rear 0 pixel
Vertical (V) direction: Front 10 pixels, rear 0 pixel

◆ Dummy
Horizontal (H) direction: Front 0 pixel, rear 0 pixel
Vertical (V) direction: Front 0 pixel, rear 0 pixel

◆ Package
122 pin LGA

Image Sensor Characteristics

(Tj = 60 °C)

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity (F5.6)</td>
<td>Typ. 9733 Digit</td>
<td>1/30 s accumulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 bit converted value</td>
</tr>
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<td>Saturation signal</td>
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Basic Drive Mode

<table>
<thead>
<tr>
<th>Drive mode</th>
<th>Recommended number of recording pixels</th>
<th>Maximum frame rate [frame/s]</th>
<th>Output interface</th>
<th>ADC [bit]</th>
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<tr>
<td>2 × 2 Adjacent Pixel Binning</td>
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**[Product Information]**

**IMX482LQJ1**

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The IMX482LQJ1 is a diagonal 12.8 mm (Type 1/1.2) CMOS active pixel type solid-state image sensor with a square pixel array and 2.10 M effective pixels. This chip operates with analog 2.9 V, digital 1.2 V, and interface 1.8 V triple power supply, and has low power consumption. High sensitivity, low dark current and no smear. This chip features an electronic shutter with variable charge-integration time. (Applications: Surveillance cameras, FA cameras, Industrial cameras)

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