[Product Information]  

IMX464LQR  

Diagonal 9.04 mm (Type 1/1.8) CMOS Solid-state Image Sensor with Square Pixel for Color Cameras  

Description  

The IMX464LQR is a diagonal 9.04 mm (Type 1/1.8) CMOS active pixel type solid-state image sensor with a square pixel array and 4.17 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 are achieved through the adoption of R, G and B primary color mosaic filters. 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: 2688 (H) × 1520 (V) approx. 4.09 M pixels  
◆ Readout mode  
  All-pixel scan mode  
  Window cropping mode  
  Vertical / Horizontal direction-normal / inverted readout mode  
◆ Readout rate  
  Maximum frame rate in All-pixel scan mode 2688 (H) × 1520 (V) A/D 10-bit : 90 frame/s  
◆ High dynamic range (HDR) function  
  Multiple exposure HDR  
  Digital overlap HDR  
◆ Variable-speed shutter function (resolution 1H units)  
◆ 10-bit / 12-bit A/D converter  
◆ CDS / PGA function  
  0 dB to 29.4 dB : Analog Gain 29.4 dB (step pitch 0.3 dB)  
  29.7 dB to 71.4 dB : Analog Gain 29.4 dB + Digital Gain 0.3 to 42 dB (step pitch 0.3 dB)  
◆ Supports I/O  
  CSI-2 serial data output ( 2 Lane / 4 Lane, RAW10 / 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  

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Device Structure

- CMOS image sensor
- Image size: Type 1/1.8
- Total number of pixels: 2781 (H) × 1632 (V) approx. 4.53 M pixels
- Number of effective pixels: 2712 (H) × 1538 (V) approx. 4.17 M pixels
- Number of active pixels: 2712 (H) × 1536 (V) approx. 4.17 M pixels
- Number of recommended recording pixels: 2688 (H) × 1520 (V) approx. 4.09 M pixels
- Unit cell size: 2.9 µm (H) × 2.9 µm (V)
- Optical black: Horizontal (H) direction: Front 0 pixel, rear 0 pixel, Vertical (V) direction: Front 13 pixels, rear 0 pixel
- Dummy: Horizontal (H) direction: Front 0 pixel, rear 0 pixel, Vertical (V) direction: Front 0 pixel, rear 0 pixel
- Package: 132 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. 10352 Digit</td>
<td>1/30 s accumulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 bit converted value</td>
</tr>
<tr>
<td>Saturation signal</td>
<td>Min. 3895 Digit</td>
<td>12 bit converted value</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>
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<th>ADC [bit]</th>
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<td>All pixel</td>
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IMX464LQR1  
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Sony logo is a registered trademark of Sony Corporation.
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