

[Product Information]

IMX419CLN

Ver.1.0

Diagonal 4.957 mm (Type 1/3.63) 1.03 Mega-Pixel CMOS Image Sensor with Square Pixel for B/W Cameras

Description

IMX419CLN is a diagonal 4.957 mm (Type 1/3.63) 1.03 Mega-pixel CMOS active pixel type image sensor with a square pixel array. It adopts Sony's CMOS Image Sensor to achieve high speed image capturing by column parallel A/D converter circuits. By introducing Global Shutter technology with low PLS (Parasitic Light Sensitivity), high sensitivity and low noise, motion blur is suppressed. It equips an electronic shutter with variable integration time. It operates with three power supply voltages: analog 2.8 V, digital 1.2 V and 1.8 V for input / output interface. It has high CRA characteristics for smaller lens optics design. Recommended lens F number is 2.0.
(Application: FA Cameras)

Features

- ◆ CSI-2 serial data output (DPHY ver1.2 compliant)
- ◆ 2-wire serial communication circuit
- ◆ 10-bit A/D converter
- ◆ CDS / PGA (digital 24 dB, analog 18 dB)
- ◆ Automatic optical black clamp circuit
- ◆ Independent flipping and mirroring
- ◆ Pixel binning readout function
- ◆ Dual sensor synchronization operation
- ◆ Trigger (Internal & External)
- ◆ Compact and Thin package
- ◆ High CRA-compatibility
- ◆ Recommended Lens F number : 2.0

Pregius

* Pregius is a trademark of Sony Corporation. The Pregius is global shutter pixel technology for active pixel-type CMOS image sensors that use Sony's low-noise CCD structure, and realizes high picture quality.

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Device Structure

◆ CMOS image sensor	
◆ Image size	Diagonal 4.957mm (Type 1/3.63)
◆ Total number of pixels	1024 (H) × 1044 (V) approx.1.06 M pixels
◆ Number of effective pixels	1024 (H) × 1024 (V) approx.1.04 M pixels
◆ Number of active pixels	1016 (H) × 1016 (V) approx.1.03 M pixels
◆ Number of recording pixels	1016 (H) × 1016 (V) approx.1.03 M pixels
◆ Unit cell size	3.45 μm (H) × 3.45 μm (V)
◆ Package	55 pin BGA

Image Sensor Characteristics

(T_j = 60 °C)

Item		Value	Remarks
Sensitivity (F2.8)	Min.	2097 LSB	1/120 s accumulation
Saturation signal	Min.	1023 LSB	

Basic Drive Mode

Drive mode	Recommended number of recording pixels	Maximum frame rate [frame/s]
Full Resolution	1016 (H) × 1016 (V) approx. 1.03 M pixels	120
V:2 Binning	1016 (H) × 508 (V) approx. 0.52 M pixels	240
V:2 Binning H:2 Binning	508 (H) × 508 (V) approx. 0.26 M pixels	240