

[Product Brief]

Ver.1.0

IMX388

Diagonal 2.799 mm (Type 1/6.4) 0.32Mega-Pixel(VGA) CMOS Image Sensor with Square Pixel for B/W Cameras

General description and application

IMX388 is a diagonal 2.799 mm (Type1/6.4) 0.32 Mega-pixel CMOS active pixel type image sensor with a square pixel array. It adopts Exmor™ technology 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 1.8V for input / output interface and achieves low power consumption. In addition, this product is designed for use in pc camera, tablet pc, and cellular phone. When using this for another application, Sony Semiconductor Solutions Corporation does not guarantee the quality and reliability of product. Therefore, don't use this for applications other than pc camera, tablet pc, and cellular phone. Consult your Sony Semiconductor Solutions Corporation sales representative if you have any questions.

Functions and Features

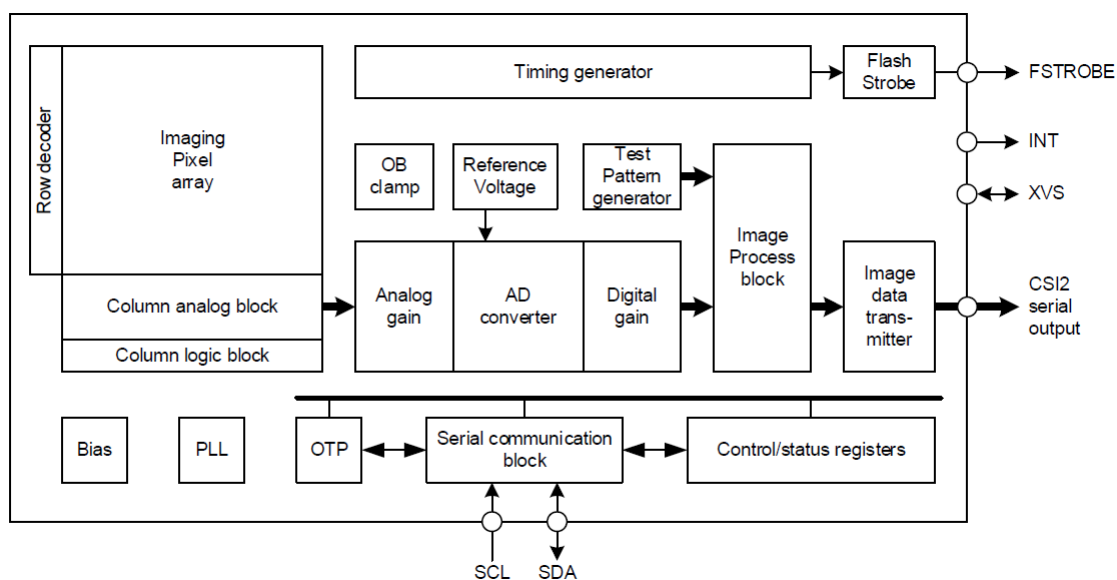
- ◆ CSI-2 serial data output (DPHY ver1.1 compliant)
- ◆ 2-wire serial communication circuit
- ◆ 128 bit of OTP ROM for users
- ◆ 10-bit A/D converter
- ◆ CDS / PGA (digital 24dB, analog 18dB)
- ◆ Automatic optical black clamp circuit
- ◆ Variable-speed electronic shutter (1H units)
- ◆ Independent flipping and mirroring
- ◆ Pixel binning readout and H / V sub-sampling function
- ◆ Dual sensor synchronization operation
- ◆ Trigger (Internal & External)
- ◆ Ambient Light Sensor

Device Structure

- ◆ CMOS image sensor
- ◆ Image size : Diagonal 2.799mm (Type 1/6.4)
- ◆ Total number of pixels : 656 (H) × 524 (V) approx.0.34 M pixels
- ◆ Number of effective pixels : 656 (H) × 496 (V) approx.0.33 M pixels
- ◆ Number of active pixels : 648 (H) × 488 (V) approx.0.32 M pixels
- ◆ Number of recording pixels : 640 (H) × 480 (V) approx.0.31 M pixels
- ◆ Chip size : 4.680 mm (H) × 3.717 mm (V)
- ◆ Unit cell size : 3.45 μm (H) × 3.45 μm (V)
- ◆ Substrate material : Silicon

Functional Description

Block Diagram



Exmor

* Exmor is a trademark of Sony Corporation. The Exmor is a version of Sony's high performance CMOS image sensor with high-speed processing, low noise and low power dissipation by using column-parallel A/D conversion.