

## [Product Brief]

Ver.1.0

# IMX408

Diagonal 4.983 mm (Type 1/3.61) 2Mega-Pixel CMOS Image Sensor with Square Pixel for Color Cameras

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### General description and application

IMX408 is a diagonal 4.983 mm (Type 1/3.61) 2 Mega-pixel CMOS active pixel type stacked image sensor with a square pixel array. It adopts Exmor RST<sup>™</sup> technology to achieve high speed image capturing by column parallel A/D converter circuits and high sensitivity and low noise image (comparing with conventional CMOS image sensor) through the backside illuminated imaging pixel structure. R, G, and B pigment primary color mosaic filter is employed. It operates with three power supply voltages: analog 2.7 V, digital 1.2 V and 1.8 V for input/output interface and achieves low power consumption.

In addition, this product is designed for use in cellular phone, tablet pc and pc camera. When using this for another application, Sony does not guarantee the quality and reliability of product. Therefore, don't use this for applications other than cellular phone, tablet pc and pc camera. Consult your Sony sales representative if you have any questions.

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### Functions and Features

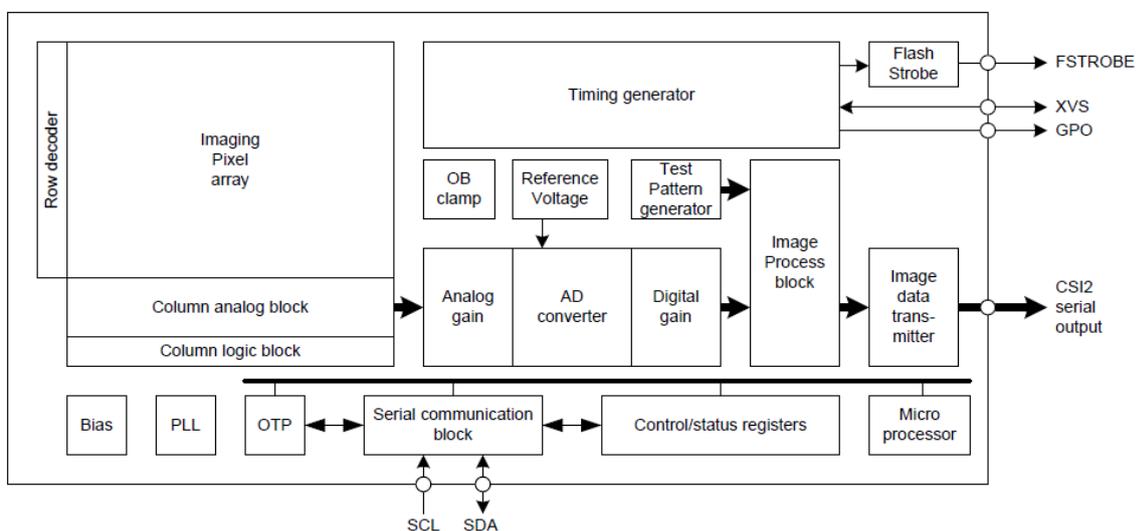
- ◆ Back-illuminated and stacked CMOS image sensor Exmor RS
- ◆ High signal to noise ratio (SNR).
- ◆ 1080p @100 frame/s (Normal)
- ◆ Output video format of RAW10/8.
- ◆ Independent flipping and mirroring.
- ◆ CSI-2 serial data output (MIPI 2lane/4lane, Max. 1.5 Gbps/lane, D-PHY spec. ver. 1.1 compliant)
- ◆ 2-wire serial communication.
- ◆ Fast mode transition. (on the fly)
- ◆ Dual sensor synchronization operation.
- ◆ 2.5 K bit of OTP ROM for users.
- ◆ Built-in temperature sensor
- ◆ Ambient Light Sensor (ALS)

**Device Structure**

- ◆ CMOS image sensor
- ◆ Image size : Diagonal 4.983 mm (Type 1/3.61)
- ◆ Total number of pixels : 1944 (H) × 1132 (V) approx. 2.20M pixels
- ◆ Number of effective pixels : 1944 (H) × 1104 (V) approx. 2.15M pixels
- ◆ Number of active pixels : 1936 (H) × 1096 (V) approx. 2.12M pixels
- ◆ Chip size : 4.868 mm (H) × 3.678 mm (V)
- ◆ Unit cell size : 2.24 μm (H) × 2.24μm (V)
- ◆ Substrate material : Silicon

**Functional Description**

**Block Diagram**



**Exmor RS**

\* Exmor RS is a trademark of Sony Corporation. The Exmor RS is a Sony's CMOS image sensor with high-resolution, high-performance and compact size by replacing a supporting substrate in Exmor R™ which changed fundamental structure of Exmor™ pixel adopted column parallel A/D converter to back-illuminated type, with layered chips formed signal processing circuits.