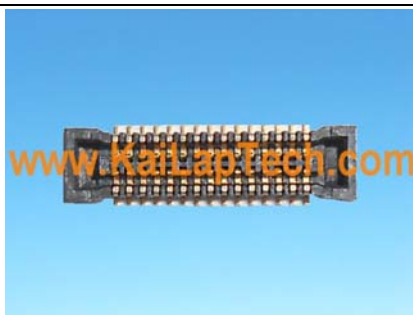# JAL-IMX135-A178B

SONY IMX135 MIPI Интерфейс Автофокус 13MP Модуль камеры

№ модуля камеры	JAL-IMX135-A178B
Датчик изображений	IMX135
EFL	3.47 mm
F.NO	2.2
Пиксель	3136 x 4224
Угол обзора	79.8°
Тип линзы	1/3.06 дюйм
Размеры линз	8.5 x 8.5 x 5.25 mm
Размер модуля	17.77 x 10 mm
Тип модуля	Автофокус
Интерфейс	MIPI

Ответный соединитель Деталь No. 24-5804-030-000-829

Ответный разъем на основной плате. Продано отдельно.

SONY

[Product Brief]

Ver.1.0

IMX135

Diagonal 5.867 mm (Type 1/3.06) 13M Pixel CMOS Image Sensor with Square Pixel for Color Cameras

Description

IMX135 is a diagonal 5.867 mm (Type 1/3.06) 13M pixel CMOS active pixel type stacked image sensor with a square pixel array. It adopts Exmor RS™ 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. High sensitivity, low dark current and smear-free features are achieved. It equips an electronic shutter with variable integration time. It operates with three power supply voltages: analog 2.7 V, digital 1.05 V and 1.8 V for input/output interface and achieves low power consumption (comparing with CCD sensors).

In addition, this product is designed for use in cellular phone and Tablet PCs. 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 and Tablet PCs. Consult your Sony sales representative if you have any questions.

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Functions and Features

◆ Back-illuminated and stacked type CMOS image sensor Exmor RS

◆ 2-wire serial communication circuit on chip

◆ CSI-2 serial data output (2Lane/4Lane selectable) on chip

◆ Timing generator, horizontal (H) and vertical (V) driver circuits on chip

◆ CDS/PGA on chip

◆ 10-bit A/D converter on chip

◆ Automatic optical black (OB) clamp circuit on chip

◆ High sensitivity, low dark current, no smear, excellent anti-blooming characteristics

◆ Variable-speed shutter function (Minimum unit: One horizontal sync signal period)

◆ R, G, B primary color pigment mosaic filters on chip

◆ Supports external mechanical shutter

◆ Flash control pulse generation function

◆ Max. 24 frame/s in all-pixel scan mode

◆ Pixel rate: 360 MHz (all pixels, 4Lane, 24 frame/s)

◆ Supports 720/60 p, 1080/30 p, 1080/60 p drive *NOTE

◆ Up/down and/or right/left inversed readout function

◆ Pixel binning readout function

◆ Image cutout function

◆ OTP ROM (One Time Programmable Read Only Memory) 8 K-bit for user, 10 K-bit as a whole

◆ Power-on reset function

◆ Image compensation processing functions (defect correction, noise reduction)

◆ High Dynamic Range (HDR) and tone reproduction in movie mode

NOTE) Please ask about the details of a required register.

Device Structure

- ◆ CMOS image sensor
- ◆ Image size : Diagonal 5.867 mm (Type 1/3.06)
- ◆ Total number of pixels : 4224 (H) × 3176 (V) approx. 13.42 M pixels
- ◆ Number of effective pixels : 4224 (H) × 3136 (V) approx. 13.25 M pixels
- ◆ Number of active pixels : 4208 (H) × 3120 (V) approx. 13.13 M pixels
- ◆ Chip size : 5.940 mm (H) × 4.280 mm (V)
- ◆ Unit cell size : 1.12 μm (H) × 1.12 μm (V)
- ◆ Substrate material : Silicon

Functional Description

System Outline

IMX135 is a CMOS active pixel type image sensor which adopts the Exmor RS[TM] technology to achieve high sensitivity, low noise, and high speed image capturing. It is embedded with backside illuminated imaging pixel, low noise analog amplifier, column parallel A/D converters which enables high speed capturing, digital amplifier, image binning circuit, timing control circuit for imaging size and frame rate, CSI2 image data high speed serial interface, PLL oscillator, and serial communication interface to control these functions.

Several additional image processing functions and peripheral circuits are also included for easy system optimization by the users.

A onetime programmable memory is embedded in the chip for storing the user data. It has 8 K-bit for users, 10 K-bit as a whole.

Overview of functional block diagram
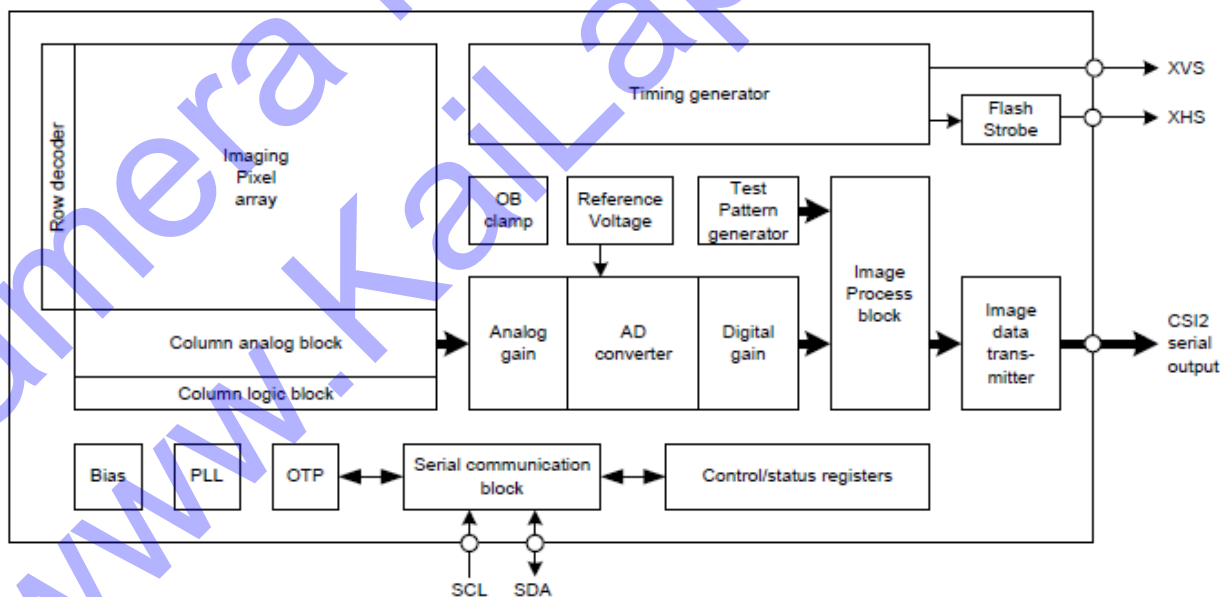
Exmor RS

* 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[TM] which changed fundamental structure of Exmor[TM] pixel adopted column parallel A/D converter to back-illuminated type, with layered chips formed signal processing circuits.