Two new variants with compact package

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Global provider of custom imaging solutions and components FRAMOS, announces the availability of new 5.1 megapixel global shutter CMOS sensors from Sony. Both the IMX548 and IMX568 are based on Pregius STM technology. Both sensors (1/1.8 type) feature a small pixel size of 2.74 µm and are available as monochrome or color (RGB) variants in an identical 132-pin LGA ceramic package (15 mm x 12.5 mm). Sony Semiconductor Solutions thus continues the current trend of offering sensors with better performance in a smaller package.

High sensitivity for superior image results

The sensors achieve good image quality due to their high sensitivity and low dark current. The sensors offer excellent opportunities to realize a simpler camera design in, for example, factory automation, ITS (Intelligent Transport Systems) applications and embedded vision.

The IMX548 with SLVS interface enables the sensor to achieve a frame rate of up to 114 fps at 8 bits in allpixel scan mode for demanding vision applications in factory automation.

The IMX568 supports the MIPI CSI-2 interface and achieves 96 fps at 8 bits. This sensor is recommended for embedded vision applications.

Both sensors support multiple readout modes: All-Pixel Scan Mode, vertical/horizontal 1/2 subsampling, 2x2 FD binning, and various ROI settings. The low-power sensors use a 3.3 V and 2.9 V analog, 1.1 V digital, and 1.8 V quad connector. Thanks to a backside illumination (BSI) pixel architecture and high sensitivity, Sony has also been able to reduce the pixel size of these sensors to 2.74 µm.

Stacked pixels in the BSI structure

The main difference of the new stacked pixel technology is the placement of the memory elements and the electrical wiring of the pixels. In this architecture, the electrical wiring of the pixels is placed under the photodiodes, and the pixel size can be reduced to 2.74 µm while maintaining sensitivity and saturation quality and achieving higher resolution.

CMOS sensors with Pregius STM technology offer both distortion-free and high-resolution images, as well as small packaging for applications in manufacturing, inspection and logistics - in addition, they achieve higher precision and processing speed for the smart factory and advanced automation.

"With Pregius STM technology, higher performance can be achieved with smaller packaging. The architecture also enables advanced sensing functionalities on the chip."

- Sibel Yorulmaz-Cokugur, sensor expert