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(54) **IMAGE SENSOR**

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ABSTRACT

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An image sensor is provided. The image sensor includes: a pixel array including a plurality of pixel groups arranged in a Bayer pattern; a row driver connected to a row of the pixel array; and a readout circuit configured to sample a pixel signal from the pixel array, to compare the sampled pixel signal with a ramp signal, and to generate a digital image signal based on a comparison of the pixel signal and the ramp signal. A pixel group of the plurality of pixel groups includes sixteen sub-pixels arranged in a 4×4 array, the 4×4 array includes a plurality of readout areas, and the plurality of readout areas are activated alternately with each other. In each of the plurality of readout areas in the pixel group, micro lenses are arranged asymmetrically with each other.

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