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WAKASHIMA et al.(10) **Pub. No.: US 2023/0230990 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **IMAGE SENSOR AND IMAGE CAPTURING APPARATUS**(52) **U.S. Cl.**
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H01L 27/144 (2006.01)(57) **ABSTRACT**

An image sensor comprises a plurality of pixels, and signals are read out in units of rows. The plurality of pixels comprise a plurality of microlenses, and for each microlense, a pair of first semiconductor regions formed at a first depth; a pair of second semiconductor regions formed at a second depth deeper than the first depth; and a plurality of connecting regions that connect the first semiconductor regions and the second semiconductor regions, respectively. Pixels having a first arrangement have the first and second semiconductor regions arranged in a row direction, pixels having a second arrangement have the first semiconductor regions arranged in a column direction and the second semiconductor regions arranged in the row direction. A crosstalk ratio between the first semiconductor regions in the second arrangement is made smaller than that in the first arrangement.

