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(54) **PHOTO SENSOR DEVICE**

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ABSTRACT

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Related U.S. Application Data

(63) Continuation of application No. 18/091,388, filed on Dec. 30, 2022, now Pat. No. 11,973,161, which is a continuation of application No. 17/527,192, filed on Nov. 16, 2021, now Pat. No. 11,575,062, which is a continuation of application No. 17/024,725, filed on Sep. 18, 2020, now Pat. No. 11,189,745, which is a continuation of application No. PCT/JP2019/009306, filed on Mar. 8, 2019.

A photo sensor circuit includes: a photo transistor; a first switching transistor; a second switching transistor; and a capacitance element. The photo transistor includes: a gate connected to a first wiring; a source connected to a second wiring; and a drain. The first switching transistor includes: a gate connected to a third wiring; a source connected to a fourth wiring; and a drain connected to the drain of the photo transistor. The capacitance element includes: a first terminal connected to the drain of the photo transistor; and a second terminal connected to the source of the first switching transistor. The second switching transistor includes: a gate connected to a gate line; a source connected to a signal line; and a drain connected to the first terminal of the capacitance element. The photo transistor, first switching transistor, and second transistor each include an oxide semiconductor layer as a channel layer.

(30) **Foreign Application Priority Data**

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