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(43) **Pub. Date: Nov. 3, 2022****LEE et al.**(54) **ELECTRONIC DEVICE**(52) **U.S. Cl.**(71) Applicant: **SK hynix Inc.**, Icheon (KR)CPC **H02H 9/046** (2013.01); **H03K 19/018521**
(2013.01)(72) Inventors: **Seung Ho LEE**, Icheon (KR); **Gyu Nam KIM**, Icheon (KR)(57) **ABSTRACT**(21) Appl. No.: **17/732,337**(22) Filed: **Apr. 28, 2022****Related U.S. Application Data**

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An electronic device uses, as power, a first voltage and a second voltage lower than the first voltage. The electronic device includes: an internal circuit configured to be driven by the second voltage, and output an output signal having a level corresponding to the second voltage; and an interface circuit configured to receive the output signal, the first voltage, and the second voltage, shift the output signal to a level corresponding to the first voltage, and provide the shifted output signal to a pad. The interface circuit includes an ESD (electrostatic discharge) block connected to the pad. The interface circuit further includes a plurality of transistors, and all of the transistors of the interface circuit are driven at the second voltage and broken at the first voltage.

