



US 20220399885A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0399885 A1**  
Yamato (43) **Pub. Date: Dec. 15, 2022**(54) **SWITCH DEVICE**(71) Applicant: **Rohm Co., Ltd.**, Kyoto (JP)(72) Inventor: **Tetsuo Yamato**, Kyoto (JP)(21) Appl. No.: **17/829,596**(22) Filed: **Jun. 1, 2022**(30) **Foreign Application Priority Data**

Jun. 9, 2021 (JP) ..... 2021096451

**Publication Classification**(51) **Int. Cl.****H03K 17/081** (2006.01)**H03K 17/687** (2006.01)**H03K 17/14** (2006.01)(52) **U.S. Cl.**CPC ... **H03K 17/08104** (2013.01); **H03K 17/6871**  
(2013.01); **H03K 17/145** (2013.01); **H03K**  
**2017/0806** (2013.01)

(57)

**ABSTRACT**

A switch device includes an output transistor, an overcurrent protection circuit configured to be capable of performing an overcurrent protection operation in which magnitude of target current flowing in the output transistor is limited to a predetermined upper limit current value or less, and a control circuit configured to be capable of controlling a state of the output transistor and capable of changing the upper limit current value among a plurality of current values including a predetermined first current value and a predetermined second current value less than the first current value. The control circuit can limit the magnitude of the target current to the first current value or less in response to the magnitude of the target current reaching the first current value, and then change the upper limit current value to the second current value.

