



US 20230231486A1

(19) **United States**(12) **Patent Application Publication**  
**Chen et al.**(10) **Pub. No.: US 2023/0231486 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **SWITCH CONTROL CIRCUIT AND POWER  
CONVERTER COMPRISING THE SAME**(52) **U.S. Cl.**CPC ..... *H02M 3/33592* (2013.01); *H02M 1/088*  
(2013.01)(71) Applicant: **Chengdu Monolithic Power Systems  
Co., Ltd., Chengdu (CN)**(72) Inventors: **Yuedong Chen, Chengdu (CN); Junlin  
Qian, Chengdu (CN)**(21) Appl. No.: **18/084,835**(22) Filed: **Dec. 20, 2022**(30) **Foreign Application Priority Data**

Jan. 14, 2022 (CN) ..... 202210040861.7

**Publication Classification**(51) **Int. Cl.***H02M 3/335* (2006.01)*H02M 1/088* (2006.01)

(57)

**ABSTRACT**

A power converter includes a switch control circuit for driving a high side switch of the power converter comprising the high side switch and a low side switch connected in series. The switch control circuit may have a first terminal for receiving an input signal, a second terminal used as a reference ground terminal of the switch control circuit, and a third terminal used as an output terminal to provide a driving signal, the switch control circuit can draw power from the input signal and may be configured to control a logic state of the driving signal based on a logic state of the input signal relative to a reference ground signal at the second terminal or based on a current flowing through the first terminal.

