

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213930 A1 JANG et al.

Jun. 27, 2024 (43) **Pub. Date:**

(54) OVERCURRENT PROTECTION CIRCUIT AND POWER AMPLIFIER INCLUDING OVERCURRENT PROTECTION CIRCUIT

(71) Applicant: Samsung Electro-Mechanics Co., Ltd., Suwon-si (KR)

(72) Inventors: Youngwong JANG, Suwon-si (KR); Jeonghoon KIM, Suwon-si (KR); Shinichi IIZUKA. Suwon-si (KR): Jongok HA, Suwon-si (KR); Hvejin LEE, Suwon-si (KR)

Assignee: Samsung Electro-Mechanics Co., Ltd., Suwon-si (KR)

Appl. No.: 18/216,574

(22)Filed: Jun. 29, 2023

Foreign Application Priority Data (30)

Dec. 16, 2022 (KR) 10-2022-0177478

Publication Classification

(51) Int. Cl. H03F 1/52 H02H 7/00 (2006.01)(2006.01)H03F 3/21 (2006.01)

(52)U.S. Cl. H03F 1/523 (2013.01); H02H 7/008 CPC (2013.01); H03F 3/21 (2013.01); H03F 2200/451 (2013.01); H03F 2203/21127 (2013.01)

(57)**ABSTRACT**

An overcurrent protection circuit includes a variable voltage source configured to generate a first voltage which that in response to a variable current; an amplifier comprising a first input terminal to which the first voltage is applied; and a limit current source connected to a second input terminal of the amplifier and configured to generate a limit current corresponding to the first voltage.

