

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2023/0231024 A1 SHIN et al.

Jul. 20, 2023 (43) **Pub. Date:**

(54) SEMICONDUCTOR DEVICE AND METHOD

FOR FABRICATING THE SAME

(71) Applicant: Samsung Electronics Co., Ltd.,

Suwon-si (KR)

(72) Inventors: Hong Sik SHIN, Seoul (KR); Jeong

Yeon SEO, Seoul (KR); Sung Woo KANG, Suwon-si (KR); Dong Kwon

KIM, Suwon-si (KR)

(73) Assignee: Samsung Electronics Co., Ltd.,

Suwon-si (KR)

Appl. No.: 17/982,634 (21)

(22)Filed: Nov. 8, 2022

(30)Foreign Application Priority Data

(KR) 10-2022-0007928 Jan. 19, 2022

Publication Classification

(51) Int. Cl.

H01L 29/417 (2006.01)H01L 29/78 (2006.01)

U.S. Cl.

CPC H01L 29/41791 (2013.01); H01L 29/7851

(2013.01)

(57)**ABSTRACT**

The semiconductor device including an active pattern on a substrate and extending in a first direction, a gate structure on the active pattern, including a gate electrode extending in a second direction different from the first direction, a source/ drain pattern on at least one side of the gate structure, and a source/drain contact on the source/drain pattern and connected to the source/drain pattern, wherein with respect to an upper surface of the active pattern, a height of an upper surface of the gate electrode is same as a height of an upper surface of the source/drain contact, and the source/drain contact comprises a lower source/drain contact and an upper source/drain contact on the lower source/drain contact, may be provided.

