

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2023/0230964 A1 JEON et al.

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

(54) **DISPLAY DEVICE**

(71) Applicant: Samsung Display Co., LTD., Yongin-si

(72) Inventors: **Sang Jin JEON**, Hwaseong-si (KR); Hyun Joon KIM, Hwaseong-si (KR); Kye Uk LEE, Seoul (KR); Jung Hwan **HWANG**, Seongnam-si (KR)

(21) Appl. No.: 18/076,148 Filed: (22)Dec. 6, 2022

(30)Foreign Application Priority Data

Jan. 17, 2022 (KR) 10-2022-0006667 Mar. 18, 2022 (KR) 10-2022-0033789

Publication Classification

(51) Int. Cl. H01L 25/075 (2006.01)H01L 33/62 (2006.01)H01L 27/12 (2006.01)

(52) U.S. Cl.

CPC H01L 25/0753 (2013.01); H01L 33/62 (2013.01); H01L 27/124 (2013.01); H01L 27/1255 (2013.01)

(57)ABSTRACT

A display device includes a first data line configured to receive a first data voltage, a second data line configured to receive a second data voltage, a low driving voltage line configured to receive a low driving voltage, and a first sub-pixel connected to the first data line, the second data line, and the low driving voltage line. The first sub-pixel includes a cathode pad electrode connected to the low driving voltage line, a first transistor configured to generate a control current according to the first data voltage of the first data line and having a first gate electrode, an eighth transistor configured to generate a driving current applied to a light emitting element according to the second data voltage of the second data line, and a first capacitor including a first capacitor electrode connected to the first gate electrode, and a second capacitor electrode on the first capacitor electrode.

