

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0237439 A1

Jul. 11, 2024 (43) **Pub. Date:**

(54) DISPLAY DEVICE AND METHOD OF MANUFACTURING THE SAME

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

Inventor: JONGHYUN CHOI, Yongin-si (KR) (72)

Appl. No.: 18/452,399 (21)

Filed: (22)Aug. 18, 2023

(30)Foreign Application Priority Data

Jan. 11, 2023 (KR) 10-2023-0003886

Publication Classification

(51) Int. Cl.

H10K 59/131 (2006.01)H10K 59/12 (2006.01)H10K 71/20 (2006.01) (52) U.S. Cl.

CPC H10K 59/131 (2023.02); H10K 59/1201 (2023.02); H10K 71/231 (2023.02)

(57)**ABSTRACT**

A display device includes: a substrate having a transmission area, a display area, and an intermediate area between the transmission and display areas; a first active layer including a first active pattern; a first conductive layer on the first active layer and including a gate electrode overlapping the first active pattern; a second active layer on the first conductive layer and including a second active pattern; a second conductive layer between the first conductive layer and the second active layer; a third conductive layer on the second conductive layer and including a bridge electrode electrically connecting the gate electrode and the second active pattern; a first sub-layer in the intermediate area and on a same layer as the second conductive layer; and a second sub-layer covering an outer surface of the first sub-layer. The first and second sub-layers have connected first and second sub-openings, respectively.

