



US 20240251593A1

(19) **United States**

(12) **Patent Application Publication**
LEE

(10) **Pub. No.: US 2024/0251593 A1**

(43) **Pub. Date: Jul. 25, 2024**

(54) **DISPLAY DEVICE**

(71) Applicant: **SAMSUNG DISPLAY CO., LTD.,**
YONGIN-SI (KR)

(72) Inventor: **Hyeonbum LEE, Hwaseong-si (KR)**

(21) Appl. No.: **18/438,859**

(22) Filed: **Feb. 12, 2024**

Related U.S. Application Data

(63) Continuation of application No. 17/014,534, filed on
Sep. 8, 2020, now Pat. No. 11,943,965.

Foreign Application Priority Data

Oct. 15, 2019 (KR) 10-2019-0127895

Publication Classification

(51) **Int. Cl.**
H10K 50/86 (2006.01)
H10K 50/813 (2006.01)
H10K 50/818 (2006.01)

H10K 59/123 (2006.01)

H10K 59/35 (2006.01)

(52) **U.S. Cl.**

CPC **H10K 50/86** (2023.02); **H10K 50/813**
(2023.02); **H10K 50/818** (2023.02); **H10K**
59/123 (2023.02); **H10K 59/35** (2023.02)

(57)

ABSTRACT

A display device, includes: a substrate; a first thin film transistor and a second thin film transistor disposed on the substrate; a via insulating layer disposed on the substrate, wherein the via insulating layer includes a first contact hole and a second contact hole, wherein the first contact hole exposes a portion of the first thin film transistor, and the second contact hole exposes a portion of the second thin film transistor; a first pixel structure disposed on the via insulating layer, wherein the first pixel structure overlaps the first thin film transistor, and includes a first lower electrode; and a second pixel structure spaced apart from the first pixel structure, wherein the second pixel structure overlaps the second thin film transistor, and includes a second lower electrode having a shape different from a shape of the first lower electrode.

