

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0251609 A1 BANG et al.

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

(54) **DISPLAY DEVICE**

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

(72) Inventors: **Ki Ho BANG**, Hwaseong-si (KR); Seong Ryong LEE, Hwaseong-si (KR); Sang Hyun JUN, Suwon-si (KR)

(21) Appl. No.: 18/429,358

(22) Filed: Jan. 31, 2024

Related U.S. Application Data

Continuation of application No. 18/110,893, filed on Feb. 17, 2023, now Pat. No. 11,917,871, which is a continuation of application No. 17/135,828, filed on Dec. 28, 2020, now Pat. No. 11,605,691, which is a continuation of application No. 16/360,543, filed on Mar. 21, 2019, now Pat. No. 10,879,319.

(30)Foreign Application Priority Data

Sep. 17, 2018 (KR) 10-2018-0110886

Publication Classification

(51)	Int. Cl.	
, ,	H10K 59/126	(2006.01)
	G06F 3/041	(2006.01)
	G06F 3/044	(2006.01)
	H10K 50/80	(2006.01)
	H10K 50/82	(2006.01)
	H10K 50/844	(2006.01)
	H10K 59/121	(2006.01)

H10K 59/123	(2006.01)
H10K 59/124	(2006.01)
H10K 59/131	(2006.01)
H10K 59/40	(2006.01)
H10K 59/50	(2006.01)

(52) U.S. Cl.

CPC H10K 59/126 (2023.02); G06F 3/0412 (2013.01); G06F 3/04164 (2019.05); G06F 3/0443 (2019.05); G06F 3/0446 (2019.05); H10K 50/80 (2023.02); H10K 50/82 (2023.02); H10K 59/121 (2023.02); H10K 59/123 (2023.02); H10K 59/131 (2023.02); H10K 59/40 (2023.02); G06F 2203/04111 (2013.01); H10K 50/844 (2023.02); H10K 59/124 (2023.02); H10K 59/50 (2023.02)

ABSTRACT (57)

A display device includes: a base layer including a display area (DA) and a non-DA; a circuit element layer on the base layer and including: a power supply electrode (PSE) overlapping the non-DA, circuit elements, and a shielding electrode connected to the PSE and overlapping some of the circuit elements; a display element layer on the circuit element layer and including: a light emitting element including a first electrode, a light emitting unit, and a second electrode, and a connection electrode connecting the second electrode to the PSE and including first through-holes; a thin film encapsulation layer (TFEL) on the display element layer and including an organic layer overlapping the DA; and an input sensing layer on the TFEL and including sensing electrodes and sensing signal lines connected to the sensing electrodes. The sensing signal lines overlap the connection electrode. Some of the first through-holes overlap the shielding electrode.

