



(11)

EP 2 822 051 A3

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
25.03.2015 Bulletin 2015/13

(51) Int Cl.: **H01L 51/50** ^(2006.01) **H01L 27/32** ^(2006.01)

(43) Date of publication A2:
07.01.2015 Bulletin 2015/02

(21) Application number: **14162166.4**

(22) Date of filing: **28.03.2014**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR
 Designated Extension States:
BA ME

(30) Priority: 02.07.2013 KR 20130077372

(71) Applicant: **Samsung Display Co., Ltd.**
Gyeonggi-Do (KR)

(72) Inventors:

- Oh, Il-Soo
SEOUL (KR)
- Lee, Chang-Ho
Suwon-si, Gyeonggi-do (KR)
- Yoon, Ji Hwan
Yongin-si, Gyeonggi-do (KR)
- Shin, Dae-Yup
Suwon-si, Gyeonggi-do (KR)
- Ko, Hee-Joo
Suwon-si, Gyeonggi-do (KR)

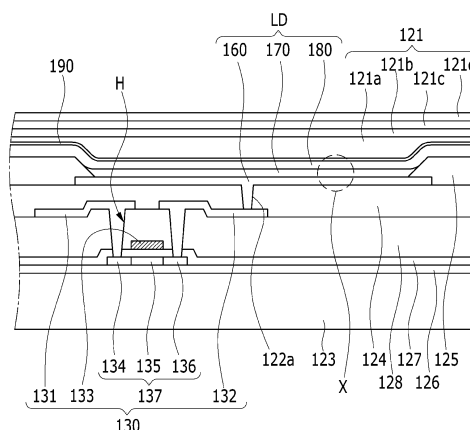
- **Cho, Se-Jin**
Seoul (KR)
- **Yun, Jin-Young**
Hwaseong-si, Gyeonggi-do (KR)
- **Lee, Bora**
Hwaseong-si, Gyeonggi-do (KR)
- **Lee, Yeon-Wo**
Jincheon-gun, Chungcheongbuk-do (KR)
- **Kim, Beom-Joon**
Mapo-Gu, Seoul (KR)
- **Jeon, Pyung-Eun**
Seoul (KR)
- **Choi, Hyun-Ju**
Seoul (KR)
- **Sim, Joong-Won**
SEOUL (KR)
- **Lee, In-Jae**
Busan (KR)

(74) Representative: **Gulde & Partner**
Patent- und Rechtsanwaltskanzlei mbB
Wallstraße 58/59
10179 Berlin (DE)

(54) **Organic light emitting diode display**

(57) An organic light emitting diode (OLED) display includes a substrate (123), a thin film transistor (130) formed on the substrate, a first electrode (160) formed on the thin film transistor and electrically connected to the thin film transistor, a hole injection layer (HIL) (171) formed on the first electrode, a hole transport layer (HTL) (172) formed on the hole injection layer (HIL), an emission layer (173) formed on the HTL, an electron transport layer (ETL) (174) formed on the emission layer, a first buffer layer (175) located on the ETL, and a second electrode (180) formed on the first buffer layer.

FIG. 1





EUROPEAN SEARCH REPORT

Application Number
EP 14 16 2166

5

10

15

20

25

30

35

40

45

50

55

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 179 862 A2 (EASTMAN KODAK CO [US]) 13 February 2002 (2002-02-13)	1,2,4,5, 7-10,12	INV. H01L51/50
Y	* paragraphs [0012], [0016], [0018], [0027], [0028], [0039], [0040]; figure 1; examples 20,22,24 *	1-12	H01L27/32
X	US 2006/220534 A1 (SHIBANUMA TETSUO [JP] ET AL) 5 October 2006 (2006-10-05) * paragraphs [0029], [0038] - [0045], [0047], [0077] - [0081] *	1-3,5,6, 10,11	
X	US 2006/035015 A1 (RAYCHAUDHURI PRANAB K [US] ET AL) 16 February 2006 (2006-02-16) * paragraphs [0026], [0027], [0029], [0051], [0052]; figure 3; tables 5,6 *	1,2,4,5, 10	
X	EP 1 369 938 A2 (EASTMAN KODAK CO [US]) 10 December 2003 (2003-12-10)	1,4	
Y	* paragraphs [0019], [0021], [0030], [0031]; figure 1; table 5 *	2,3,5,6, 10-12	
Y	US 2004/174116 A1 (LU MIN-HAO MICHAEL [US] ET AL) 9 September 2004 (2004-09-09) * paragraphs [0025] - [0031], [0037], [0058], [0072], [0073]; figures 1,3,6, *	1-12	TECHNICAL FIELDS SEARCHED (IPC) H01L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 17 February 2015	Examiner Faou, Marylène
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 16 2166

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-02-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1179862 A2	13-02-2002	CN 1338784 A	06-03-2002
		EP 1179862 A2	13-02-2002
		JP 2002075658 A	15-03-2002
		TW 497283 B	01-08-2002
		US 6579629 B1	17-06-2003

US 2006220534 A1	05-10-2006	NONE	

US 2006035015 A1	16-02-2006	NONE	

EP 1369938 A2	10-12-2003	CN 1467864 A	14-01-2004
		EP 1369938 A2	10-12-2003
		JP 2004014511 A	15-01-2004
		KR 20030094094 A	11-12-2003
		TW 200403953 A	01-03-2004
		US 2003224203 A1	04-12-2003

US 2004174116 A1	09-09-2004	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	有机发光二极管显示器		
公开(公告)号	EP2822051A3	公开(公告)日	2015-03-25
申请号	EP2014162166	申请日	2014-03-28
[标]申请(专利权)人(译)	三星显示有限公司		
申请(专利权)人(译)	三星DISPLAY CO. , LTD.		
当前申请(专利权)人(译)	三星DISPLAY CO. , LTD.		
[标]发明人	OH IL SOO LEE CHANG HO YOON JI HWAN SHIN DAE YUP KO HEE JOO CHO SE JIN YUN JIN YOUNG LEE BORA LEE YEON WO KIM BEOM JOON JEON PYUNG EUN CHOI HYUN JU SIM JOONG WON LEE IN JAE		
发明人	OH, IL-SOO LEE, CHANG-HO YOON, JI HWAN SHIN, DAE-YUP KO, HEE-JOO CHO, SE-JIN YUN, JIN-YOUNG LEE, BORA LEE, YEON-WO KIM, BEOM-JOON JEON, PYUNG-EUN CHOI, HYUN-JU SIM, JOONG-WON LEE, IN-JAE		
IPC分类号	H01L51/50 H01L27/32		
CPC分类号	H01L27/3244 H01L51/5092 H01L2251/558		
优先权	1020130077372 2013-07-02 KR		
其他公开文献	EP2822051A2		
外部链接	Espacenet		
摘要(译)			

FIG. 1

