



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
16.12.2015 Bulletin 2015/51

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

(43) Date of publication A2:
05.02.2014 Bulletin 2014/06

(21) Application number: **13179091.7**

(22) Date of filing: **02.08.2013**

(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

(72) Inventors:
• **Kim, Se-Ho**
Gyeonggi-Do (KR)
• **Park, Jin-Woo**
Gyeonggi-Do (KR)
• **Lee, Won-Se**
Gyeonggi-Do (KR)

(30) Priority: **02.08.2012 KR 20120084976**

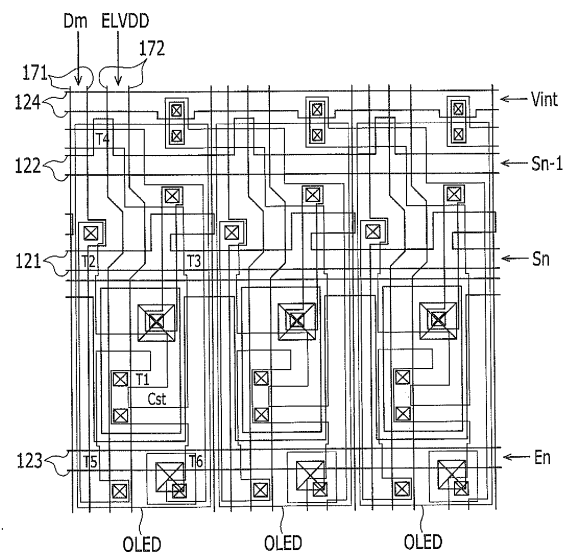
(74) Representative: **Mounteney, Simon James**
Marks & Clerk LLP
90 Long Acre
London
WC2E 9RA (GB)

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

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

(57) An organic light emitting diode display includes a substrate, a scan line (121 on the substrate for transferring a scan signal, a data line (171) crossing the scan line and for transferring a data signal, a driving voltage line (172) crossing the scan line and for transferring a driving voltage, a switching thin film transistor (T2) coupled to the scan line and the data line, a driving thin film transistor (T1) coupled to a switching drain electrode of the switching thin film transistor, and an organic light emitting diode (OLED) coupled to a driving drain electrode of the driving thin film transistor, wherein a driving semiconductor layer of the driving thin film transistor is bent and in a plane substantially parallel to the substrate.

FIG. 2





EUROPEAN SEARCH REPORT

 Application Number
 EP 13 17 9091

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	US 2003/222589 A1 (OSAME MITSUAKI [JP] ET AL) 4 December 2003 (2003-12-04)	1,2,4,5	INV. H01L27/32
Y	* paragraph [0002]; figures 4A, 18,20 * * paragraph [0012] * * paragraph [0114] * * paragraph [0136] * * paragraph [0032] - paragraph [0034] * -----	3,6-11, 16-22	
Y	EP 2 402 932 A1 (SAMSUNG MOBILE DISPLAY CO LTD [KR]) 4 January 2012 (2012-01-04) * paragraph [0044]; figure 2 * -----	6,9-11, 19-22	
Y	US 2004/155242 A1 (SEGAWA YASUO [JP] ET AL) 12 August 2004 (2004-08-12) * figure 5 * * paragraph [0025] * * paragraph [0010] * -----	7,8	
Y	CN 102 386 209 A (AU OPTRONICS) 21 March 2012 (2012-03-21) * figures 5,11,1 * & US 2012/313100 A1 (LIU CHUN-YEN [TW] ET AL) 13 December 2012 (2012-12-13) * paragraph [0047]; figures 5,11,1 * * paragraph [0034] * -----	3,16,18	
Y	US 2006/082524 A1 (KWON OH-KYONG [KR]) 20 April 2006 (2006-04-20) * paragraph [0093]; figure 20 * -----	17	
Y	US 2010/253710 A1 (RANKOV ALEKSANDRA [GB] ET AL) 7 October 2010 (2010-10-07) * paragraph [0043]; figure 3a * -----	22	TECHNICAL FIELDS SEARCHED (IPC) H01L
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 4 November 2015	Examiner Beierlein, Udo
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			

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

EP 13 17 9091

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.

04-11-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003222589 A1	04-12-2003	CN 1432984 A	30-07-2003
		CN 101673508 A	17-03-2010
		JP 5106506 B2	26-12-2012
		JP 5337860 B2	06-11-2013
		JP 5789649 B2	07-10-2015
		JP 2010002938 A	07-01-2010
		JP 2012083771 A	26-04-2012
		JP 2012150483 A	09-08-2012
		JP 2013080233 A	02-05-2013
		JP 2014067046 A	17-04-2014
		JP 2015072485 A	16-04-2015
		JP 2015165328 A	17-09-2015
		KR 20030063196 A	28-07-2003
		KR 20090074005 A	03-07-2009
		TW 1280532 B	01-05-2007
		US 2003222589 A1	04-12-2003
		US 2005231122 A1	20-10-2005
EP 2402932 A1	04-01-2012	US 2008170005 A1	17-07-2008
		US 2013248892 A1	26-09-2013
		CN 102314829 A	11-01-2012
		EP 2402932 A1	04-01-2012
		JP 5612988 B2	22-10-2014
		JP 2012014136 A	19-01-2012
US 2004155242 A1	12-08-2004	KR 20120002070 A	05-01-2012
		TW 201201180 A	01-01-2012
		US 2012001893 A1	05-01-2012
		CN 1499642 A	26-05-2004
		JP 2004165241 A	10-06-2004
		KR 20040041516 A	17-05-2004
CN 102386209 A	21-03-2012	KR 20060066682 A	16-06-2006
		TW 1229942 B	21-03-2005
		US 2004155242 A1	12-08-2004
		CN 102386209 A	21-03-2012
		TW 201250802 A	16-12-2012
		US 2012313100 A1	13-12-2012
US 2006082524 A1	20-04-2006	US 2013256674 A1	03-10-2013
		CN 1361510 A	31-07-2002
		DE 60125316 T2	27-09-2007
		EP 1220191 A2	03-07-2002
		JP 4549594 B2	22-09-2010
		JP 2002215096 A	31-07-2002
		KR 20020056353 A	10-07-2002

EPO FORM P0459

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

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

EP 13 17 9091

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.

04-11-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		US 2002118150 A1	29-08-2002
		US 2006082524 A1	20-04-2006

US 2010253710 A1	07-10-2010	CN 101903936 A	01-12-2010
		DE 112008002931 T5	02-12-2010
		GB 2466749 A	07-07-2010
		JP 5444238 B2	19-03-2014
		JP 2011507005 A	03-03-2011
		KR 20100077003 A	06-07-2010
		TW 200926112 A	16-06-2009
		US 2010253710 A1	07-10-2010
		WO 2009056877 A1	07-05-2009

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	EP2693482A3	公开(公告)日	2015-12-16
申请号	EP2013179091	申请日	2013-08-02
[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	KIM SE HO PARK JIN WOO LEE WON SE		
发明人	KIM, SE-HO PARK, JIN-WOO LEE, WON-SE		
IPC分类号	H01L27/32		
CPC分类号	G09G3/3225 H01L27/124 H01L27/1255 H01L27/3248 H01L27/3258 H01L27/3262 H01L27/3265 H01L27/3276 H01L27/3297 G09G3/3655 G09G2300/0847 G09G2300/0809		
优先权	1020120084976 2012-08-02 KR		
其他公开文献	EP2693482A2		
外部链接	Espacenet		

摘要(译)

有机发光二极管显示器包括基板，扫描线（用于传输扫描信号的基板上的121，与扫描线交叉并用于传输数据信号的数据线（171），与之交叉的驱动电压线（172）扫描线和用于传输驱动电压，耦合到扫描线和数据线的开关薄膜晶体管（T2），耦合到开关薄膜晶体管的开关漏电极的驱动薄膜晶体管（T1），以及有机发光二极管（OLED）耦合到驱动薄膜晶体管的驱动漏极，其中驱动薄膜晶体管的驱动半导体层弯曲并且在基本平行于衬底的平面中。

FIG. 2

