



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
24.06.2009 Bulletin 2009/26

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

(43) Date of publication A2:
04.03.2009 Bulletin 2009/10

(21) Application number: **08252906.6**

(22) Date of filing: **01.09.2008**

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

(30) Priority: **03.09.2007 KR 20070089067**

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

(72) Inventors:
• **Jo, Gyoo-Chul**
3th Floor, Koryo Building
Seoul (KR)
• **Kim, Kwang-Nam**
Suwon-si
Gyeonggi-do (KR)

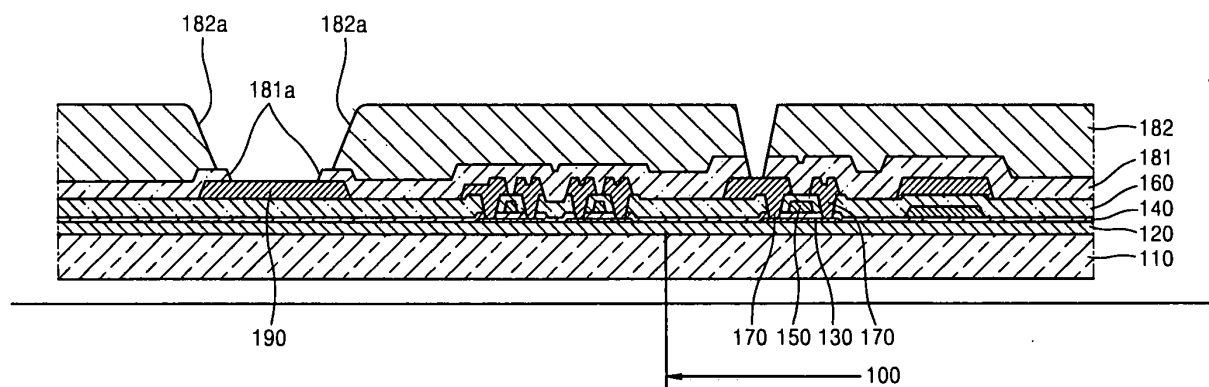
(74) Representative: **Mouteney, Simon James**
Marks & Clerk LLP
90 Long Acre
London
WC2E 9RA (GB)

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

(57) An organic light emitting display apparatus including: a substrate having a display area; a thin film transistor (TFT) disposed in the display area of the substrate; an electrode power supply line disposed outside the display area of the substrate; a first insulating layer covering the TFT and having a first open portion through

which a portion or a whole top surface of the electrode power supply line is exposed; and a second insulating layer disposed on the first insulating layer and having a second open portion through which the first open portion of the first insulating layer is exposed, so that the second insulating layer does not contact the electrode power supply line.

FIG. 1





EUROPEAN SEARCH REPORT

Application Number
EP 08 25 2906

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 2006/060850 A1 (KWAK WON-KYU [KR] ET AL) 23 March 2006 (2006-03-23) * paragraph [0028] - paragraph [0064] *	1-3,9-12	INV. H01L27/32
Y	* figures 1,2E,3B,5 * -----	7,8	
X	US 2003/146693 A1 (ISHIHARA SHINGO [JP] ET AL) 7 August 2003 (2003-08-07) * paragraph [0097] - paragraph [0124] *	1-3,11,12	
Y	* figures 1,2 * -----	7,8	
X	US 2004/256620 A1 (YAMAZAKI SHUNPEI [JP] ET AL) 23 December 2004 (2004-12-23) * paragraphs [0058], [0059], [0063] *	1,3,4,11	
A	EP 1 701 387 A (SAMSUNG ELECTRONICS CO LTD [KR]) 13 September 2006 (2006-09-13) * paragraph [0022] - paragraph [0056] *	1	
X	US 2007/021025 A1 (KIM MU-HYUN [KR] ET AL) 25 January 2007 (2007-01-25) * paragraph [0037] - paragraph [0086]; figures 5-65 *	14-22	TECHNICAL FIELDS SEARCHED (IPC) H01L
Y	US 2006/113900 A1 (OH SANG-HUN [KR]) 1 June 2006 (2006-06-01) * paragraphs [0033] - [0060], [0076] - [0090]; figures 2,7,8 *	14-22	
Y	US 2005/110023 A1 (LEE KWAN-HEE [KR] ET AL) 26 May 2005 (2005-05-26) * paragraphs [0077] - [0093]; figures 9C,10,11 *	14-22	
Y	US 2003/151358 A1 (IGA DAISUKE [JP]) 14 August 2003 (2003-08-14) * figure 13 * -----	7,8	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 13 May 2009	Examiner Bernabé Prieto, A
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			

 4
EPO FORM 1503 03.82 (P04C01)



Application Number

EP 08 25 2906

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 08 25 2906

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-13

AMOLED display having first and second ILDs on an electrode power supply line, the second ILD being on the first ILD layer, the first ILD layer having a first opening through which the electrode power supply line is exposed and the second ILD having a second opening (larger than the first) and through which the first ILD and the electrode power supply line are exposed, so that the second ILD does not contact the electrode power supply line.

2. claims: 14-22

AMOLED display having first and second (also called third) ILDs on an electrode power supply line, the first ILD layer having at least a first opening through which the electrode power supply line is exposed, the second ILD covers a portion of the electrode power supply line (and the first ILD) and has a second opening through which a portion of the electrode power supply line is exposed and an auxiliary conductor is between the second ILD and the electrode power supply line so that the second ILD does not contact the electrode power supply line.

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

EP 08 25 2906

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.

13-05-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006060850 A1	23-03-2006	CN 1735290 A	15-02-2006
		JP 4049330 B2	20-02-2008
		JP 2005338789 A	08-12-2005
		KR 20050113517 A	02-12-2005
US 2003146693 A1	07-08-2003	CN 1437177 A	20-08-2003
		JP 2003303687 A	24-10-2003
		TW 228686 B	01-03-2005
		US 2008299861 A1	04-12-2008
US 2004256620 A1	23-12-2004	CN 1573846 A	02-02-2005
		US 2008164474 A1	10-07-2008
		US 2007222380 A1	27-09-2007
EP 1701387 A	13-09-2006	CN 1832191 A	13-09-2006
		JP 2006253674 A	21-09-2006
		KR 20060098982 A	19-09-2006
		US 2006202199 A1	14-09-2006
US 2007021025 A1	25-01-2007	CN 1744771 A	08-03-2006
		JP 4149991 B2	17-09-2008
		JP 2006072296 A	16-03-2006
		KR 20060021214 A	07-03-2006
US 2006113900 A1	01-06-2006	CN 1825614 A	30-08-2006
		JP 2006156374 A	15-06-2006
		KR 20060059722 A	02-06-2006
US 2005110023 A1	26-05-2005	CN 1622715 A	01-06-2005
		CN 101299895 A	05-11-2008
		KR 20050049999 A	27-05-2005
US 2003151358 A1	14-08-2003	JP 4094863 B2	04-06-2008
		JP 2003233332 A	22-08-2003

专利名称(译)	有机发光显示装置		
公开(公告)号	EP2031658A3	公开(公告)日	2009-06-24
申请号	EP2008252906	申请日	2008-09-01
[标]申请(专利权)人(译)	三星显示有限公司		
申请(专利权)人(译)	三星移动显示器有限公司.		
当前申请(专利权)人(译)	三星DISPLAY CO. , LTD.		
[标]发明人	JO GYOO CHUL 3TH FLOOR KORYO BUILDING KIM KWANG NAM		
发明人	JO, GYOO-CHUL 3TH FLOOR, KORYO BUILDING KIM, KWANG-NAM		
IPC分类号	H01L27/32		
CPC分类号	H01L27/3276 H01L27/3246 H01L27/3279		
优先权	1020070089067 2007-09-03 KR		
其他公开文献	EP2031658A2 EP2031658B1		
外部链接	Espacenet		

摘要(译)

一种有机发光显示装置，包括：具有显示区域的基板；薄膜晶体管（TFT）设置在基板的显示区域中；电极电源线，设置在基板的显示区域外；第一绝缘层，覆盖TFT并具有第一开口部分，电极电源线的一部分或整个顶表面通过该第一开口部分露出；第二绝缘层设置在第一绝缘层上并具有第二开口部分，第一绝缘层的第一开口部分通过该第二开口部分露出，使得第二绝缘层不接触电极电源线。

FIG. 1

