

(19)



(11)

**EP 1 883 061 A3**

(12)

**EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**22.04.2009 Bulletin 2009/17**

(51) Int Cl.:  
**G09G 3/36<sup>(2006.01)</sup>**

(43) Date of publication A2:  
**30.01.2008 Bulletin 2008/05**

(21) Application number: **07014311.0**

(22) Date of filing: **20.07.2007**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR**  
Designated Extension States:  
**AL BA HR MK RS**

(72) Inventor: **Moon, Seung-Hwan**  
**Sanghyeon-dong**  
**Yongin-si**  
**Gyeonggi-do (KR)**

(30) Priority: **25.07.2006 KR 20060069647**

(74) Representative: **Weitzel, Wolfgang**  
**Dr. Weitzel & Partner**  
**Patentanwalte**  
**Friedenstrasse 10**  
**89522 Heidenheim (DE)**

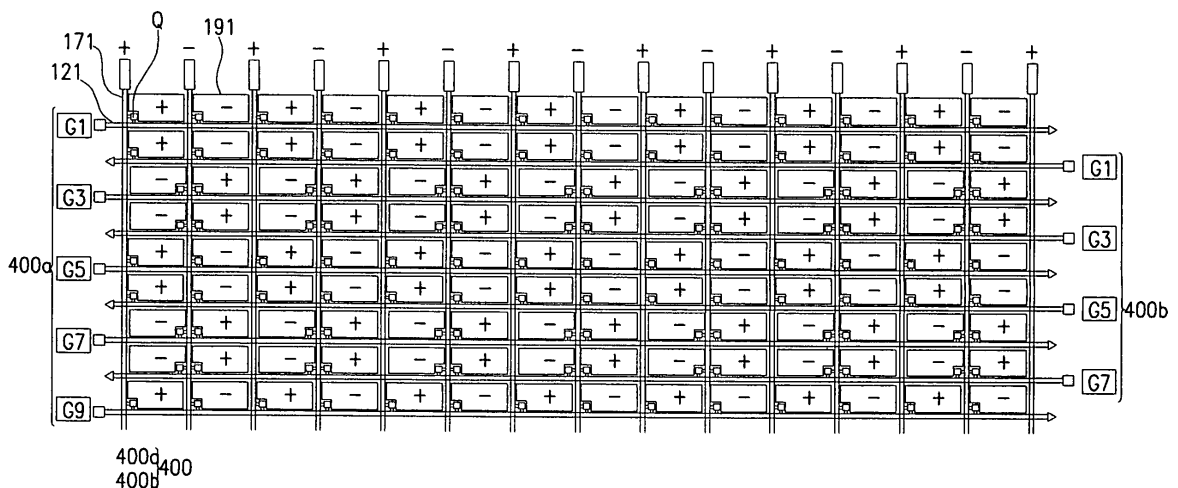
(71) Applicant: **Samsung Electronics Co., Ltd.**  
**Suwon-si,**  
**Gyeonggi-do 442-742 (KR)**

(54) **Liquid crystal display**

(57) A liquid crystal display includes a plurality of pixels arranged in a matrix, a substrate, and a plurality of gate lines, data lines, thin film transistors, pixel electrodes, and storage electrode lines. The gate lines are formed on the substrate. The data lines run crosswise relative to the gate lines above or below the gate lines, and the thin film transistors are connected to the gate

lines and the data lines. The pixel electrodes are connected to the thin film transistors, and have a first side formed in parallel with the gate lines and a second side shorter than the first side and adjacent to the first side. The storage electrode lines overlap with the pixel electrodes. Storage electrode signals applied to the storage electrode lines are periodic alternating signals.

FIG.3



**EP 1 883 061 A3**



EUROPEAN SEARCH REPORT

Application Number  
EP 07 01 4311

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 6 337 731 B1 (TAKEMURA YASUHIKO [JP]) 8 January 2002 (2002-01-08)	1,3,5,6, 10,11, 15-20	INV. G09G3/36
X	* column 4, line 54 - column 5, line 6; figure 1A *	1	
X	* column 1, line 55 - column 1, line 65 *	3	
X	* figure 1A *	5	
X	* figure 1A *	6	
X	* column 7, line 53 - column 8, line 3; figure 1B *	10	
X	* column 6, line 54 - column 7, line 6 *	16	
Y	* the whole document *	2,4,7-9, 12-14	
Y	----- US 6 177 965 B1 (TAKAHARA HIROSHI [JP] ET AL) 23 January 2001 (2001-01-23) * column 13, line 66 - column 14, line 5; figure 16 * * column 16, line 14 - column 17, line 13; figures 12,19 *	2	
Y	----- US 2001/007362 A1 (HA YONG-MIN [KR] ET AL) 12 July 2001 (2001-07-12) * paragraph [0060]; figure 6 *	4	TECHNICAL FIELDS SEARCHED (IPC)
Y	----- US 2005/140578 A1 (YAMAZAKI SHUNPEI [JP] ET AL) 30 June 2005 (2005-06-30) * paragraphs [0010], [0011], [0014], [0020], [0030]; figure 9 *	7-9	G09G G02F
Y	----- US 2003/201438 A1 (PARK WOON-YONG [KR]) 30 October 2003 (2003-10-30) * paragraphs [0041], [0087]; figure 6 *	12-14	
A	----- US 2006/109227 A1 (PARK HYUN-SANG [KR]) 25 May 2006 (2006-05-25) * the whole document *		
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 6 March 2009	Examiner Aichmayr, Günther
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	

3  
EPO FORM 1503 03 82 (P04C01)

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

EP 07 01 4311

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.

06-03-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6337731	B1	08-01-2002	NONE	
US 6177965	B1	23-01-2001	NONE	
US 2001007362	A1	12-07-2001	NONE	
US 2005140578	A1	30-06-2005	NONE	
US 2003201438	A1	30-10-2003	NONE	
US 2006109227	A1	25-05-2006	KR 20060057860 A	29-05-2006

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)	液晶显示器		
公开(公告)号	<a href="#">EP1883061A3</a>	公开(公告)日	2009-04-22
申请号	EP2007014311	申请日	2007-07-20
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	SAMSUNG ELECTRONICS CO. , LTD.		
当前申请(专利权)人(译)	SAMSUNG ELECTRONICS CO. , LTD.		
[标]发明人	MOON SEUNG HWAN		
发明人	MOON, SEUNG-HWAN		
IPC分类号	G09G3/36		
CPC分类号	G09G3/3688 G09G3/3655 G09G3/3677 G09G2300/0408 G09G2300/0426 G09G2300/0439 G09G2330/021		
代理机构(译)	韦策尔, WOLFGANG		
优先权	1020060069647 2006-07-25 KR		
其他公开文献	EP1883061A2		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

液晶显示器包括以矩阵排列的多个像素，基板和多条栅极线，数据线，薄膜晶体管，像素电极和存储电极线。栅极线形成在基板上。数据线相对于栅极线上方或下方的栅极线交叉延伸，并且薄膜晶体管连接到栅极线和数据线。像素电极连接到薄膜晶体管，并且具有与栅极线平行形成的第一侧和比第一侧短并且与第一侧相邻的第二侧。存储电极线与像素电极重叠。施加到存储电极线的存储电极信号是周期性交变信号。

FIG.3

