



(11) **EP 2 317 504 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
25.04.2012 Bulletin 2012/17

(51) Int Cl.:
G09G 3/36 (2006.01)

(43) Date of publication A2:
04.05.2011 Bulletin 2011/18

(21) Application number: **10003502.1**

(22) Date of filing: **31.03.2010**

(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 MK MT NL NO PL
PT RO SE SI SK SM TR**
Designated Extension States:
AL BA ME RS

(30) Priority: **13.08.2009 KR 20090074889**

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

(72) Inventors:
• **Kim, Sung-Woon**
Yeongtong-gu,
Suwon-si,
Gyeonggi-do (KR)
• **Kim, Hee-Seop**
Hwaseong-si,
Gyeonggi-do (KR)
• **Kim, Hyang-Yul**
Hwaseong-si,
Gyeonggi-do (KR)

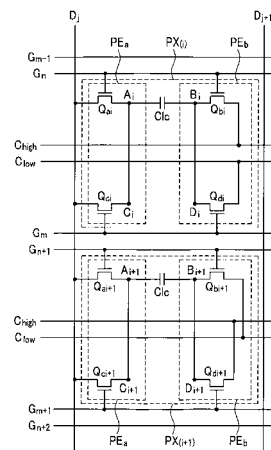
- **Jang, Joo-Nyung**
Bundang-gu,
Seongnam-si,
Gyeonggi-do (KR)
- **Rho, Soon-Joon**
Yeongtong-gu,
Suwon-si,
Gyeonggi-do (KR)
- **Woo, Hwa-Sung**
Asan-si,
Chungcheongnam-do (KR)
- **Shin, Cheol**
Hwaseong-si,
Gyeonggi-do (KR)
- **Shin, Dong-Chul**
Eunpyeong-gu,
Seoul (KR)

(74) Representative: **Weitzel, Wolfgang**
Dr. Weitzel & Partner
Patent- und Rechtsanwälte
Friedenstrasse 10
89522 Heidenheim (DE)

(54) **Liquid crystal display**

(57) A liquid crystal display according to an exemplary embodiment of the present invention includes a first and second substrate facing each other (100,200), a liquid crystal layer (3) interposed between the substrates, a plurality of gate lines (G_m) disposed on the first substrate, configured to transmit a gate signal, at least one data line (D_j) disposed on the first substrate, configured to transmit a data signal, a plurality of power supplying lines (C_{high}, C_{low}) disposed on the first substrate, a plurality of switching elements variously connected to the gate lines, data lines, and power supplying lines, a plurality of pixel electrodes (PE, PE_a, PE_b) connected to the switching elements, wherein corresponding pixel electrodes are separated from each other.

FIG. 5



EP 2 317 504 A3



EUROPEAN SEARCH REPORT

Application Number
EP 10 00 3502

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 2008/079679 A1 (OZAWA TOKURO [JP]) 3 April 2008 (2008-04-03)	15	INV. G09G3/36
A	* paragraph [0048] - paragraph [0051]; figure 1 * * paragraph [0088] - paragraph [0096]; figures 9-14 * -----	1-14, 16-19	
			TECHNICAL FIELDS SEARCHED (IPC)
			G09G
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 March 2012	Examiner Harke, Michael
CATEGORY OF CITED DOCUMENTS		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	
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			

 1
EPO FORM 1503 03 82 (P04C01)

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

EP 10 00 3502

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.

20-03-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008079679 A1	03-04-2008	CN 101122721 A	13-02-2008
		JP 2008065308 A	21-03-2008
		KR 20080013736 A	13-02-2008
		TW 200823855 A	01-06-2008
		US 2008079679 A1	03-04-2008

专利名称(译)	液晶显示器		
公开(公告)号	EP2317504A3	公开(公告)日	2012-04-25
申请号	EP2010003502	申请日	2010-03-31
[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	KIM SUNG WOON KIM HEE SEOP KIM HYANG YUL JANG JOO NYUNG RHO SOON JOON WOO HWA SUNG SHIN CHEOL SHIN DONG CHUL		
发明人	KIM, SUNG-WOON KIM, HEE-SEOP KIM, HYANG-YUL JANG, JOO-NYUNG RHO, SOON-JOON WOO, HWA-SUNG SHIN, CHEOL SHIN, DONG-CHUL		
IPC分类号	G09G3/36		
CPC分类号	G09G3/3614 G09G3/3659 G09G2300/0426 G09G2300/0434 G09G2300/0823		
代理机构(译)	韦策尔, WOLFGANG		
优先权	1020090074889 2009-08-13 KR		
其他公开文献	EP2317504A2		
外部链接	Espacenet		

摘要(译)

根据本发明示例性实施例的液晶显示器包括彼此面对的第一和第二基板（100,200），插入在基板之间的液晶层（3），设置在第一基板上的多条栅极线（Gm）基板，用于传输栅极信号，至少一条数据线（Dj），设置在第一基板上，用于传输数据信号；多条供电线路（Chigh, Clow），设置在第一基板上，多个各种连接到栅极线，数据线和电源线的开关元件，连接到开关元件的多个像素电极（PE, PEa, PEb），其中相应的像素电极彼此分开。

FIG. 5

