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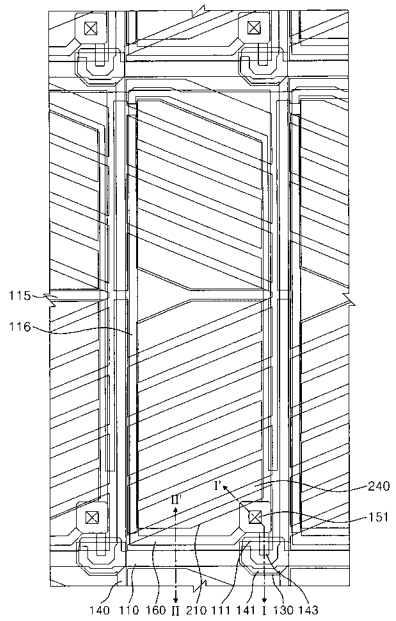
(54) Liquid crystal display panel

(57) An LCD panel is provided for improving a contrast ratio by suppressing light leakage around gate lines of an assembly that is structured to support a liquid crystal alignment mode that enhanced side view visibility of the LCD image. The LCD panel includes a first base substrate (101), a plurality of gate lines (110) and a plurality of data lines (140) disposed on the first base substrate and crossing each other, a pixel electrode (160) comprising a first oblique line and a second oblique line disposed on the first base substrate and inclined in a different direction from each other with respect to the gate lines, a second base substrate (201), a common electrode (240) disposed on the second base substrate and alternately positioned with the pixel electrode, wherein a portion of the common electrode overlaps the gate line segment, and a liquid crystal layer disposed between the first and second base substrates.

FIG. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 08 00 1779

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 2005/078263 A1 (KIM HEE-SEOP [KR] ET AL) 14 April 2005 (2005-04-14) * paragraph [0005] * * paragraph [0040] - paragraph [0045] * * paragraph [0059] - paragraph [0073] * * figures 3, 4 * -----	1-11	INV. G02F1/1362 G02F1/1343
X	US 2006/023134 A1 (UM YOON-SUNG [KR] ET AL) 2 February 2006 (2006-02-02) * paragraph [0044] * * paragraph [0053] - paragraph [0060] * * figure 10 * -----	1,3	
A	KR 2005 0023085 A (BOE HYDIS TECHNOLOGY CO LTD) 9 March 2005 (2005-03-09) * figures 4-5 * -----	2,4	
			TECHNICAL FIELDS SEARCHED (IPC) G02F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	16 April 2010	Boubal, François

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005078263 A1	14-04-2005	CN 1605921 A	13-04-2005
		JP 2005062872 A	10-03-2005
		KR 20050018100 A	23-02-2005
		US 2009128750 A1	21-05-2009
		US 2010014039 A1	21-01-2010
US 2006023134 A1	02-02-2006	JP 2006023744 A	26-01-2006
		JP 2009151343 A	09-07-2009
KR 20050023085 A	09-03-2005	NONE	

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

专利名称(译)	液晶显示面板		
公开(公告)号	EP1953589A3	公开(公告)日	2010-06-02
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[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)	三星DISPLAY CO.，LTD.		
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IPC分类号	G02F1/1362 G02F1/1343		
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其他公开文献	EP1953589A2 EP1953589B1		
外部链接	Espacenet		

摘要(译)

提供一种LCD面板，用于通过抑制组件的栅极线周围的漏光来提高对比度，该组件被构造成支持液晶对准模式，该模式增强了LCD图像的侧视可见性。LCD面板包括第一基础基板（101），多条栅极线（110）和设置在第一基础基板上并且彼此交叉的多条数据线（140），包括第一倾斜的像素电极（160）线和第二斜线设置在第一基础基板上并且相对于栅极线在彼此不同的方向上倾斜，第二基础基板（201），公共电极（240）设置在第二基础基板上并且交替地与像素电极一起定位，其中公共电极的一部分与栅极线段重叠，以及设置在第一和第二基板之间的液晶层。

FIG. 1