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2002 - 0061889  
2002 07 25

(21) 10 - 2001 - 0002969  
(22) 2001 01 18

(71) . 20

(72) 2 930 - 43

(74)  
:

(54)

가

5

IPS,

1

2a 2b

가

3 4

5

6 5 -

7a 7e

8 2

9 8 -

10a 10e 2

1 2

가

(Active Matrix LCD : AM - LCD)가

가

가

가

, IPS(in - plane switching)

IPS

1 (3)가 (1) (2) (1, 2)  
 (4, 5) 가 (4) (5) (2) ,  
 (6) (4, 5) (6)가 (3)

2a 2b IPS 가

2a (4) (5) 가 (3)  
 가 (3) (4, 5) 가  
 (3)

5) 2b (4) (5) 가 (3) (4,  
 (6)

3

3

(21) , 가 (21) (31)  
 (21) (31) (21) (31)  
 (41)가 가 (51)  
 (51) (52) 가 (62) 가  
 (41) (61) (62) (62)  
 (21) (storage capacitor) (61)

IPS  
 가

IPS (color - shift) 가  
 (threshold voltage) 가  
 nd(retardation)

가 5,745,207 , 4

(52) (62) 가  
 (domain)(A, B) . 4 (A, B)

(52, 62) 가 (52, 62) ( )  
 (A, B) (71, 72) (A) (71)  
 (B) (72) (A, B)  
 (71, 72)가

(31) 가 (52) (62)  
 (31) (52)

, (31) 가 가

, , 4 (resin) , 가  
, 4 (idea) .

2 , 2 가 , 가 1  
가 , 1

, - - - ,  
1 1 ,  
, 2 .

2 가 , 1 1  
, 2 가 ,  
, 2 가 ,

1

2 가 , 가 2

가 가

가 ,

5 , 6 5 -

5 6 (110) 가 (121) (121) (122) (123) (zigzag) (

121) (123), (123) (124, 125, 126) (SiN<sub>x</sub>) (Si

O<sub>2</sub>) (121) (123) (130) (124, 125, 126) (141)

(122) (130) (151, 152)

(151, 152) (130) (121) (161), (161) (162), (122)

(162) (163)

(161) 가 , 1 (124)

(161) (162) (163) (121) 가

(161) (162) (163) (170) (170) (170) , (170) 가

(163) (171) 가 , (170) (130) 가

(170) 1 3 (183, 184, 185) , 1 3

(183, 184, 185) 가 , (124, 125,

126) 1 3 (183, 184, 185)

1 2 (181, 182) , 1 (181) (123)

(storage capacitor) , 2 (182) (171)

(163)

7a 7e

7a (121) (122), (123), (110) 1 3 (124, 125, 126)

(121) (123) 가 , (124, 125, 126) (123) 가 (124, 125, 126)

(121) (123) (124, 125, 126) (Cr), (Al), (Mo), (Ta), (W), (Sb)

7b (130), (141) (153) (121) (123) (124, 125, 126) (130)

7c 162, 163 (162, 163) (161) (121) (161) (161) (122)

(161) 가 , 1 (124)

7d (163) (171) (170)

7e - - (indium - tin - oxide ; ITO) - - (indium - zinc - oxide ; IZO) 1 2 (181, 182) , 1 3 (183, 184, 185) 1 2 (183, 184, 185) 가 , (124, 125, 126) (183, 184, 185) (124, 125, 126) 가

(181, 182) (183, 184, 185) ITO IZO

IPS 1 (124) , 1 (124) (161) (161)

가 , (161)

(124, 125, 126) (130)

(183, 184, 185)

가 (polyimide), (polyamide),

2 8 9

8 2 1 9 8 -  
 8 9 (122) (110) 가 (121) (121)

(121) (122) (130)  
 (acrylate), (polyimide) (benzocyclobutene ; BCB ),

(122) (130) (141)  
 (151, 152)

(151, 152) (130) (121)  
 (161), (161) (162), (122)  
 가 (162) (163) (161)

(161) (162) (163) (170) (170)  
 (163) (171) 가

(170) (130) 가  
 가 BCB,

(170) 1 3 (183, 184, 185) (182), 1 3  
 (124, 125, 126) (123) 1 3 (183, 184, 185)  
 1 3 (124, 125, 126) 가  
 1 (124) (161)

(163) (182) 1 3 (183, 184, 185) (171)  
 1 (124) (123) 2 3 (125, 126)

1 (123), (124) 1 3 (183, 184, 185) , 2 3 (182) ITO IZO (125, 126)

2

2 10a 10e

10a (121) (122) (110)

10b (121) (122) (130), (141) (153)

10c (162, 163) (161) 가 (161) (121) (162, 163) (122)

10d (163) 가 (171) (170) BCB, (170) 1 (124) (161) (161) 1

10e ITO IZO (183, 184, 185) (182), 2 3 (125, 126), 1 3 (123) (123) 1 (124)

(122) ITO IZO 1 3 (183, 184, 185) 1 3 (124, 125, 126) (125, 126)

1 (124) 1 3 (183, 184, 185) 2 3 (125, 126) 1 (124) 1 (124)

(183, 184, 185)

가

(polysiloxane cinnamate),  
(cellulose cinnamate)

1

(polyvinyl cinnamate)

가

(pretilt angle)

가

가

(57)

1.

;

1

;

2

,

가

;

2

가

,

;

1

;

가

2.

1

,

3.

1

,

4.

1 ,

- - - -

5.

4 ,

6.

1 ,

1

7.

6 ,

1

8.

7 ,

2

9.

1 ,

가

10.

1 1

2

가

1

,

;

;

;

, 2 가 , ;

;

2 가 ,

.

11.

1 ;

;

;

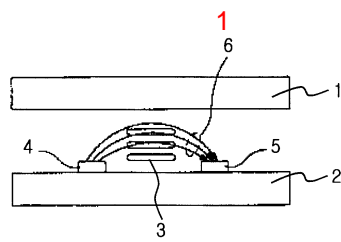
2 가 ,

;

;

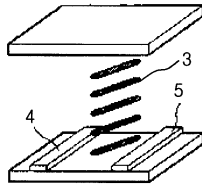
가 2 가 , 가

.



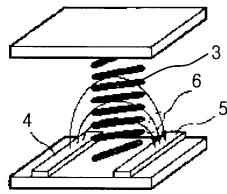
2a

off 상태

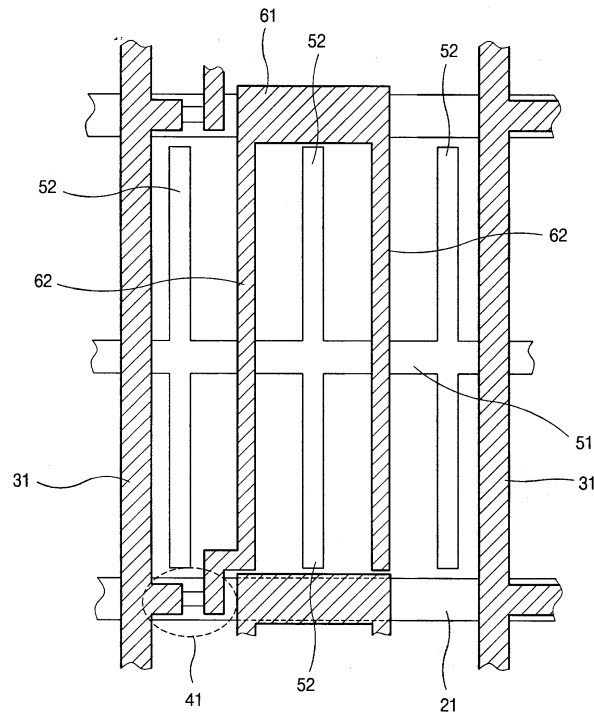


2b

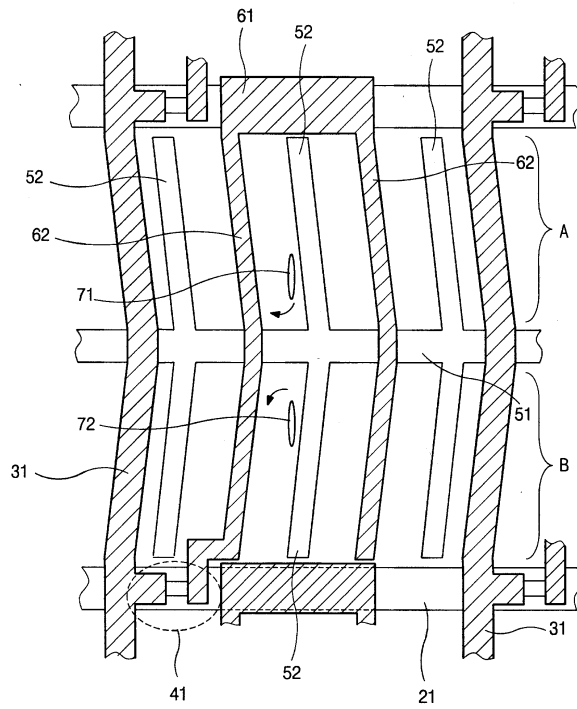
on 상태



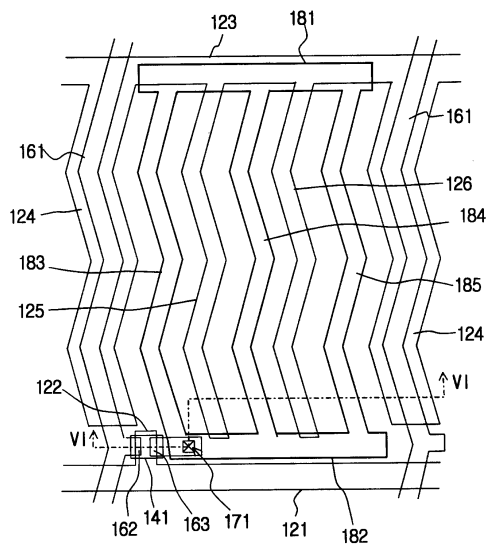
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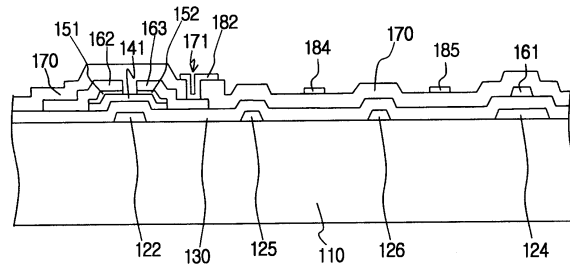
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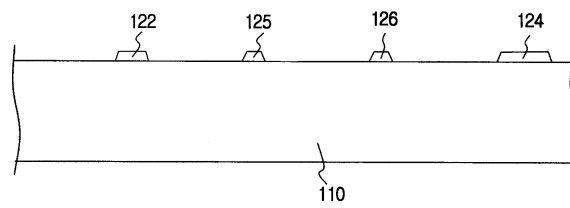
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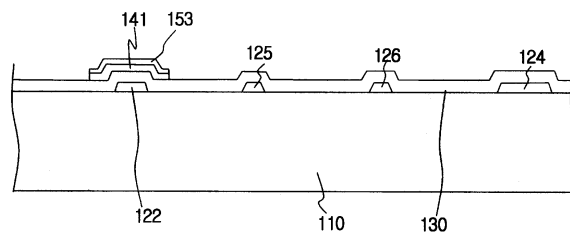
6



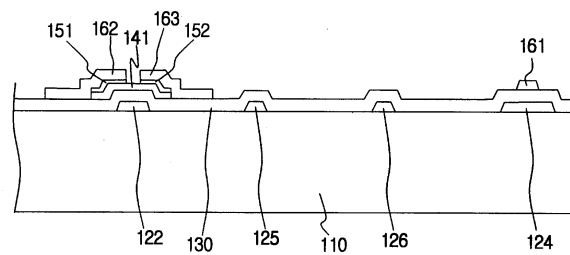
7a



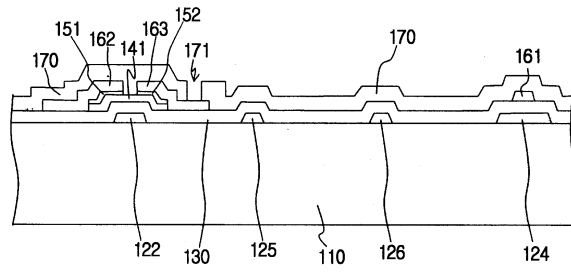
7b



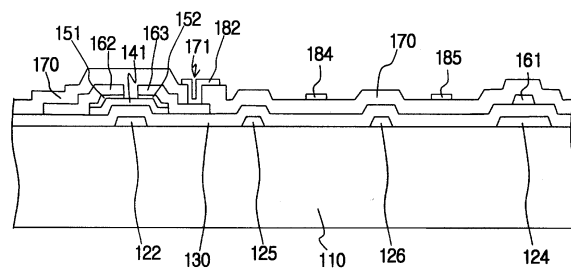
7c



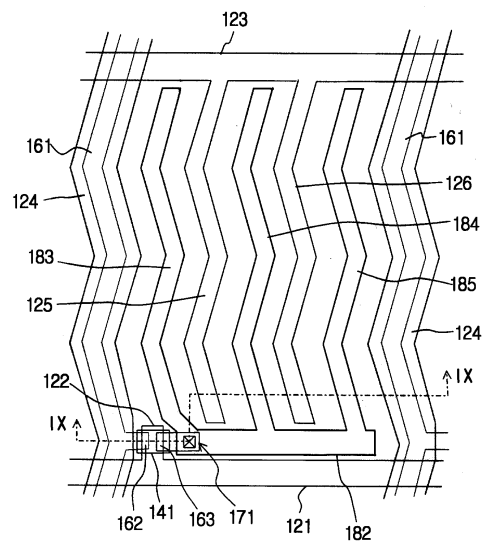
7d



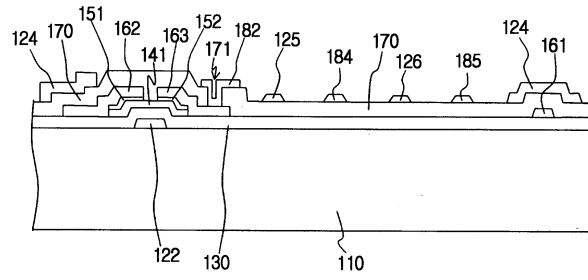
7e



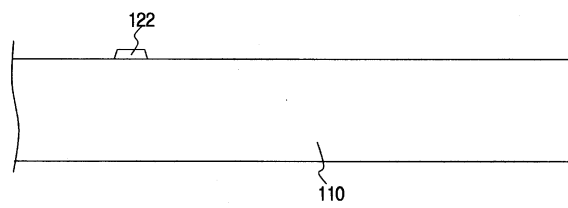
8



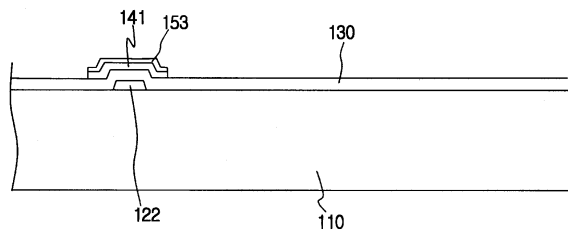
9



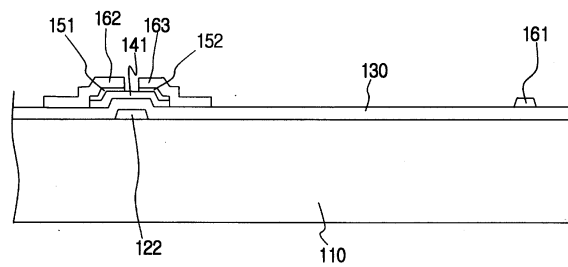
10a



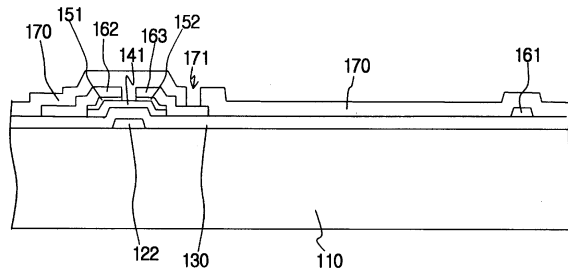
10b



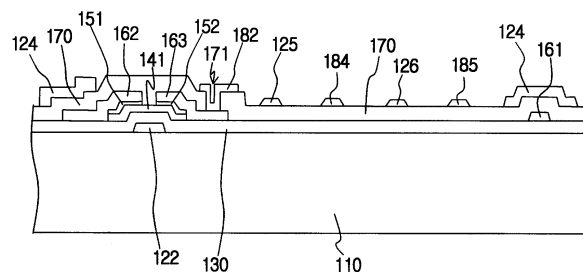
10c



10d



10e



专利名称(译)	用于水平场驱动液晶显示装置的阵列基板及其制造方法		
公开(公告)号	<a href="#">KR1020020061889A</a>	公开(公告)日	2002-07-25
申请号	KR1020010002969	申请日	2001-01-18
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG显示器有限公司		
当前申请(专利权)人(译)	LG显示器有限公司		
[标]发明人	KIM GI HONG 김기홍		
发明人	김기홍		
IPC分类号	G02F1/1343 G02F1/1362 G02F1/1368		
CPC分类号	G02F1/13439 G02F1/134363 G02F1/136286 G02F1/1368 G02F1/134309		
其他公开文献	KR100783357B1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

本发明涉及用于水平电场驱动型液晶显示装置的阵列基板及其制造方法。在用于水平电场驱动型液晶显示装置的阵列基板中，上基板的黑矩阵由树脂形成，当公共电极和像素电极形成为锯齿形时，树脂黑矩阵不能形成为锯齿形，因此数据配线也为锯齿形。由于不能形成为形状，因此在数据配线的附近产生降低开口率的部分。在根据本发明的用于水平电场驱动型液晶显示装置的阵列基板中，公共电极，像素电极和数据布线以之字形形成，并且公共电极之一是诸如金属的不透明导电材料，并且具有比数据布线更宽的宽度。确保配线重叠。因此，由于公共电极用作黑矩阵，所以可以提高开口率。另外，公共电极和像素电极可以形成在同一层上，并且公共电极和像素电极，除了与数据布线重叠的公共电极之外，可以由透明导电材料形成，以进一步提高开口率。图5 索引词 IPS，开口率，锯齿形，水平电场

