

(19)
(12)(KR)
(A)(51) 。 Int. Cl. ⁷
G02F 1/1337(11)
(43)2003 - 0004458
2003 01 15(21) 10 - 2001 - 0039912
(22) 2001 07 05

(71)

3 416

(72)

4 5 201

988 - 2

717 1601

1 692

3 340 - 44 205

37101

6

609 2001

(74)

:

(54)

가 . ,
가 .가 가
- 4.0 - 5.5

10

,

1 1 ,

2 1 ,

3 1

,

4 3 - ' ,

5 V - T ,

6 V_{10} ,

7 2 ,

8 2 ,

9 2

,

10 9 X - X' .

,

.

(color filter)

가 ,

.

.

,

.

(fringe field)

(vertically aligned: VA)
 (twisted nematic: TN)
 AVdd()가 9V VA AVdd가 10V TN
 15V TN 10V IC 13V IC 15V IC 13V IC
 IC IC IC IC IC IC
 가

- 4.0V

1 1 1 1 1 1
 1 2 1 2 2 1
 1 2 1 2 1
 2 2 2 1
 가 가 1 2
 - 4.0 - 5.5
 - 4.5 - 5.5
 1 2
 가 2
 1 2
 2 2 2
 가

1 1 , 2 1
, 3 1
, 4 3 - ' .
, 1 4 1 .
(10) 가 (20)
(30) (20) (21)
(30) 1 4 (31, 32, 33, 34) (35, 36)가 가
1 (31) (30) , 2 (32) 3
(33) 1 (31) 가 . 4 (34) 2 3
(32, 33) (35, 36) 4 (34)
1 (31) . (20, 21) (30, 31, 32, 33, 34, 35, 36)
(40) , (21) (40)
(50) (50) (P) N
(61, 62) (61, 62) (71) (72)
, (71) (40) (70)
(70, 71, 72) (72) (81) 가 (80)
, (80) (81) (72) (90)
(90) ITO(indium tin oxide) IZO(indium zinc oxide)
, (90) 1 3 (91, 92, 93) (94, 95, 96)
. 1 (91) (20) (70)
가 (" " .)
81) (72) . 2 3 (92, 93)
가 . 2 (92) 1 (91) 1 2 (94, 9
6) , 3 (93) 2 (92) 3 (95)
1 (91) 2 (92) 2 (32) 2 (92) 3 (93)
3 (33) , 1 (31) 4 (34) (90) (70)
. 1 (91)
, 2 3 (92, 93) 1
4 (31, 34) 1 (91) 1 4 (31, 34)
(30) (20) 3 (93) , (30), (31, 32, 33, 34)
(35, 36) 가 가 가
, 가 가
가
, 2 4 , 1
(100) / (200)가

(300)가 , (300)
 (400) (100) (400) (510, 520, 530)
 (900) 1 3 (510, 520, 530) 1 (510) (510, 520, 530)
 2 (520) 3 (530) 3 (510, 520, 530)
 , (510, 520, 530)
 ,
 , 3 4 , 1
 1 2 , (900)
 , (11, 101) (10, 100)
 1 가
 (10, 100) (90) (91, 92, 93)
 (400) 1 3 (510, 520, 530)가
 , (90) (91, 92, 93)
 (70) (20) 45° (3)
 , (70) (20) (90) (91, 92, 93)
 (70) (20) (30) (31, 32, 33,
 34) , (91, 92, 93) (30, 31, 32, 33, 34)
 , (90) 3 μ m
 (70) (20) (91, 92, 93) (30, 31, 32, 33, 34) (70)
 (20) 가 , (70)
 (20) 가
 , (900) ($\Delta\epsilon$) - 4.0 - 5.5 가 (900)
 ($\Delta\epsilon$) - 4.5 - 5.5 가 V_{10} (10%) 2.2V
 ,
 5 6 (900) - 4.0 - 5.5 , 6
 . 5 V - T
 V_{10}
 5 , ($\Delta\epsilon$) V - T
 ($\Delta\epsilon$) (4) ($\Delta\epsilon$)
 - 3.8 LC4 , 5 , 5.5V (AVdd 11V)
 4.5V (AVdd 9V)

6, 10%, (4) 1,) V_{10} (2.
 4~2.5V, AVdd 9V V_{10} LC4 V_{10} 0.5V
 V_{10} LC4 0.3V AVdd 9V
 가, V_{10} 2.2V 가 6, ($\Delta\varepsilon$)
 -4.5 가 V_{10} 2.2V 가
 ($\Delta\varepsilon$) -5.5 가 가
 , (Δn)
 , ($\Delta\varepsilon$) -5.5 -4.0

7 2, 8 2
 , 9 2
 , 10 9 X - X'
 , 8 10

(10) 가 (20) , (20) (3
 0) , (20) (21) , (30)
 가 , 가
 가 (20) 1 2 가 (33, 31) , 2 가
 (31) 가 3 가 (32)

(20) (30, 33, 31, 32) (40)

(40) (50) (

50) (21) .
 (50) n n+ (

) (21)

(70, 71, 72) (70) (40)
 (70)

가 가 가
 가 가 (70) 가 (

70) (70) (30) (20) , (70)
 (30)

(70) (80)

(80)		(20)		(70)		(90)		(90)
ITO(indium tin oxide)		IZO(indium zinc oxide)						.
(141)		(72)				(90)		
	가	,			1	(98)가	,	
가	2	2	(99)가	.	,	(90)	1	(98)
	,	2	(99)		3	. 3	가	
		2		.	, 1	(98)	(30)	1
가	(33)	, 2	(99)	3 가	(32)	.		
	, 8	10						.

가 (100) (300) (200)가 (200) (600) (300) (600) ITO IZO
가 (400) (400) 8
가 3 (410) 가
4 5 (420, 430)가 (410, 420, 430) 3 (410)
4 5 (420, 430)가 5 (430) 4 (420)
3 (410) 4 5 (420, 430) 4 5 (420, 430)

9 10 2 .

2 (10) (100)

(90) (400) 가 가 , 가 (10)

(100)

, (900) ($\Delta \varepsilon$) - 4.0 - 5.5 가 . (900)

($\Delta \varepsilon$) - 4.5 - 5.5 가 V_{10} (10%) 2.2V

(10) (100)

3 (410) (90) 5 (430) (90) 4 (420) (90)

(90) 1 (98) 3 (410) 2

(99) 4 5 (420, 430) 4

$20 \pm 5 \mu\text{m}$ 가 (B) (A)

가 (B) (A)

60% 90

% 가

(90) (98, 99, 410, 420, 430)
 48%
 가
 (410, 420, 430) (200) 가
 (420) (90) 3 (410) (90) 4
 (30) (200) 가 3 4 (410, 420)
 (A) (B)
 2

($\Delta\varepsilon$) -4.0 -5.5
 가 , ($\Delta\varepsilon$) -4.5 -5.5
 10%) 2.2V 가 V_{10} (IC 가

(57)

1.
 1 ,
 1 1 ,
 1 1 2 ,
 1 2 ,
 1 , 2 ,
 1 2 ,
 2 ,
 1 2
 , 가 가
 1 2 , -4.0
 -5.5

2.

1 ,

- 4.5 - 5.0 .

3.

1 ,

1 2 1 ,

1 2 2

, 1 2 .

4.

3 ,

1 가 , 2 2

5.

3 ,

1 2

6.

3 ,

1 2 ,

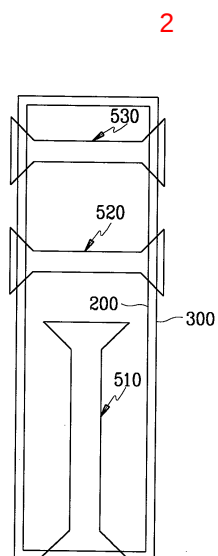
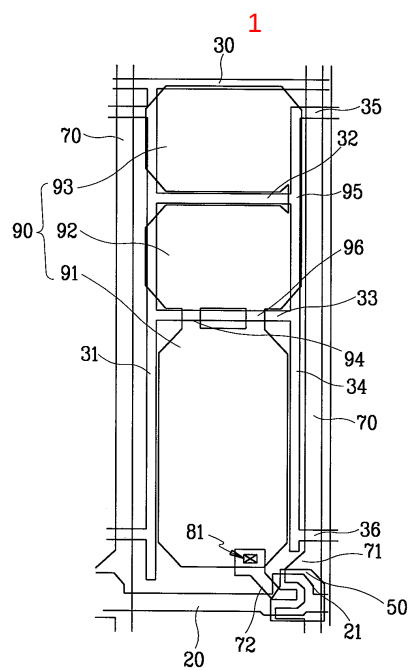
7.

3 ,

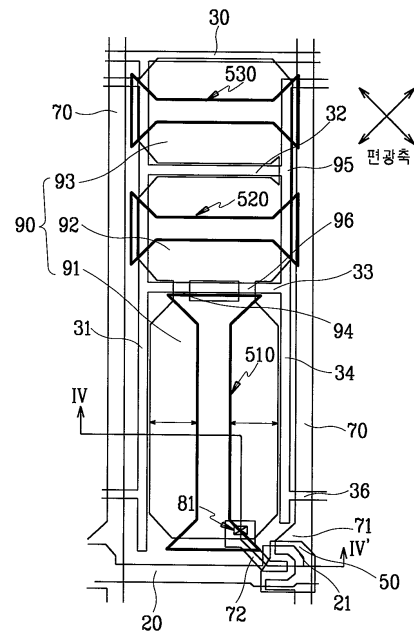
2 2 ,

2 2

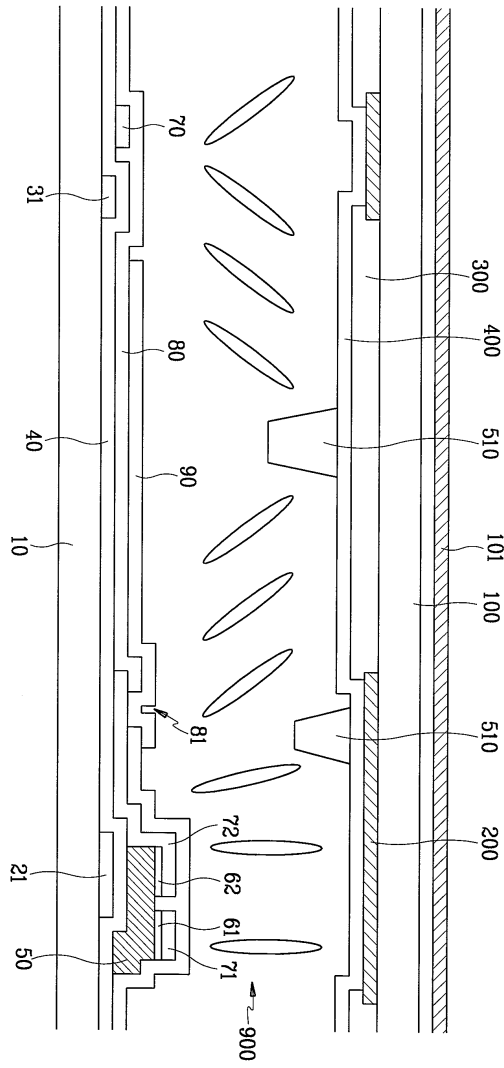
가 .



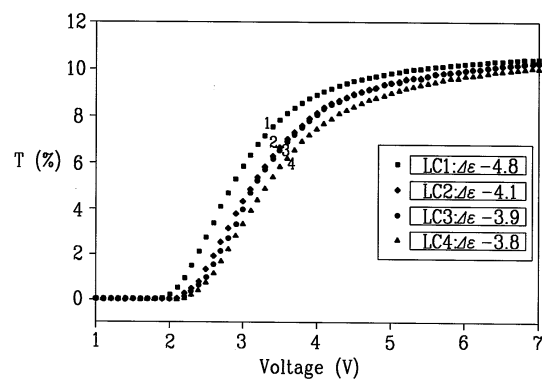
3



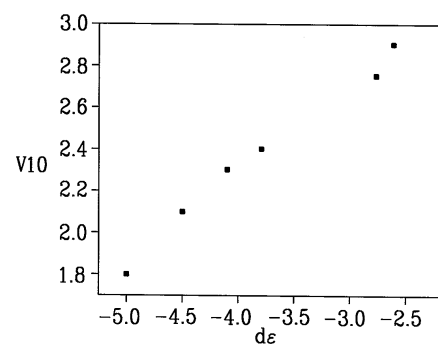
4



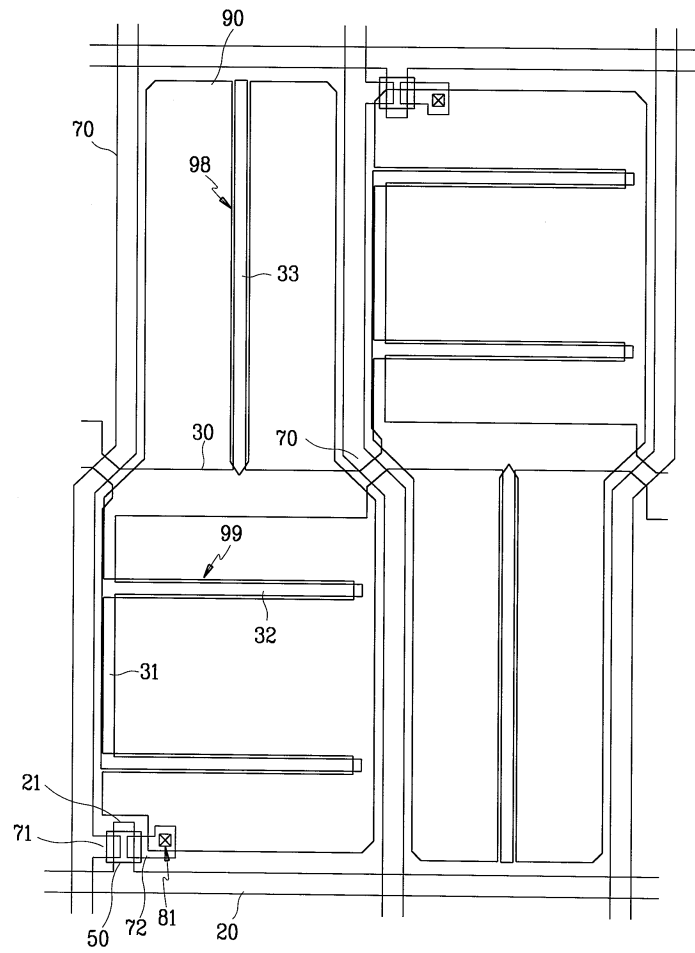
5



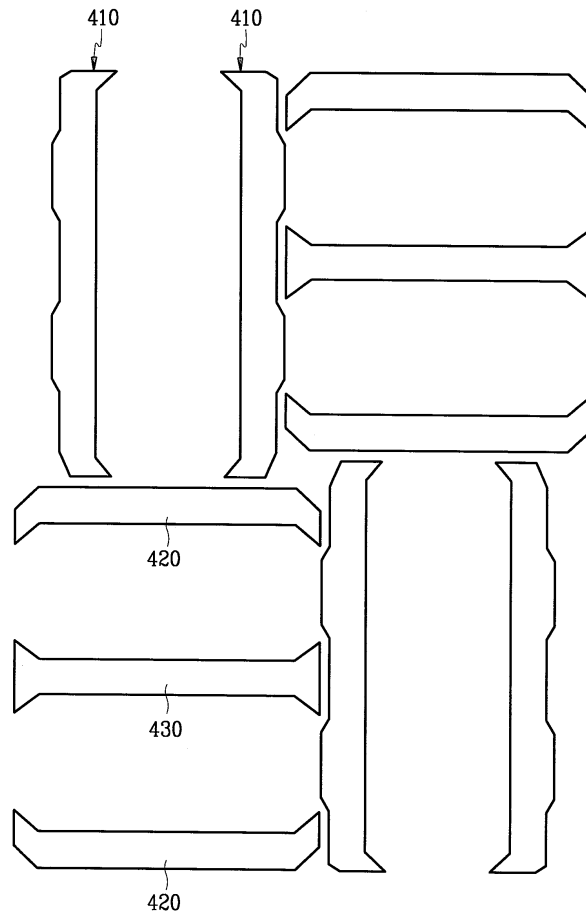
6



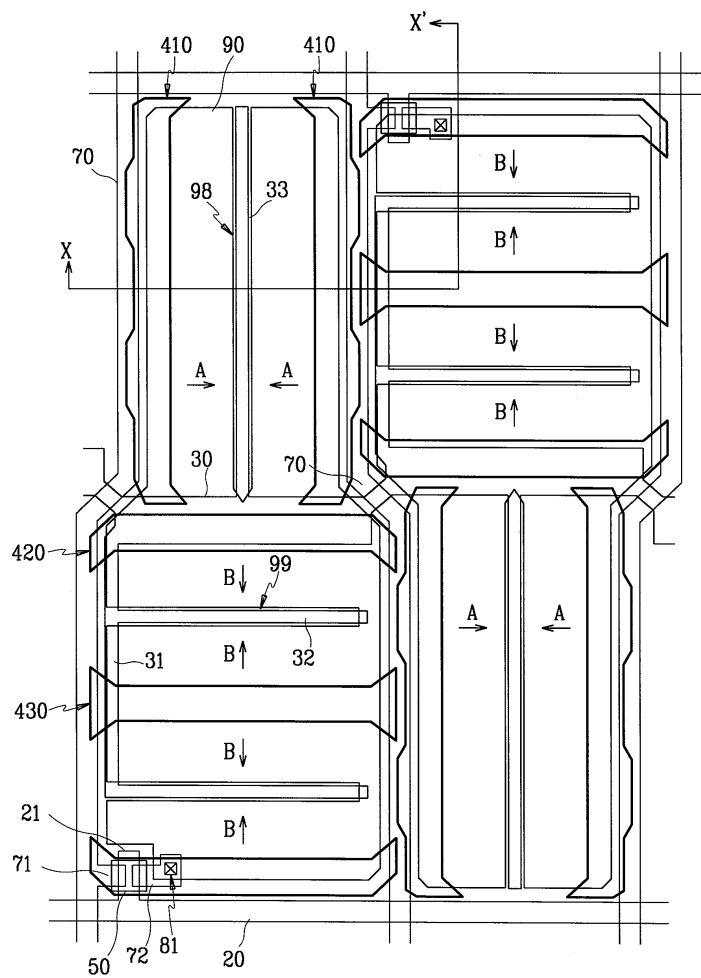
7



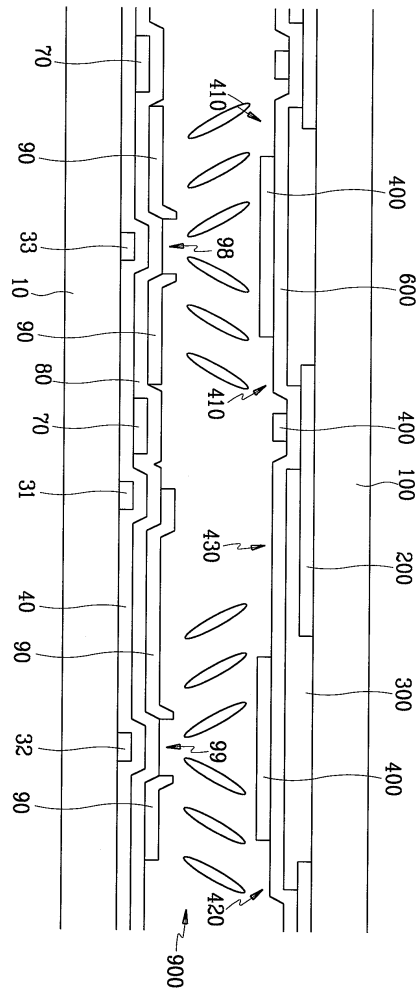
8



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专利名称(译)	垂直对准型液晶显示器		
公开(公告)号	KR1020030004458A	公开(公告)日	2003-01-15
申请号	KR1020010039912	申请日	2001-07-05
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
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发明人	송장근 김경현 유재진 한은희 박승범		
IPC分类号	G02F1/1368 G02F1/139 G02F1/1337 G02F1/1333 G02F1/137 G02F1/1343		
CPC分类号	G02F2001/13712 G02F1/133707 G02F2202/42 G02F1/1393		
外部链接	Espacenet		

摘要(译)

液晶材料注入上板，其中栅极布线和数据线，包括信号传输线，薄膜晶体管，连接到这些布线的下板和滤色器，其中像素电极连接到形成薄膜晶体管，形成黑矩阵和公共电极等。此时，像素电极和公共电极具有将像素电极分成多个胰岛电源的开口部分。并且包含在液晶材料中的液晶分子的导向器具有-5.5英寸-4.0的值，它在垂直于上部和下部板的对面，在像素电极处对齐以及在公共电极之间没有施加电场的状态。液晶显示器，域，暖心率各向异性，驱动电压。

