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2002 12 11

(71)

.

20

(72)

28

101 1108

(74)

:

(54)

Ω cm

1KHz

¹⁴
가

,

가

,

10^{-8}

2b

， ， ， ， ，

1

.

2a

.

2b

.

3a 3b

.

*

*

105,205,305 :

107,207,307 :

111 : 112 :

113 : 114 :

120,130,220,230,320,330 : 122,222,322 :

124,224,324 : 132,232,332 :

134,234,334 : 140,240,340 :

, (Mobile Phone), PDA(Personal Data Assistants), 가
(Flat Panel Display Device) 가
LCD(Liquid Crystal Display), PDP(Plasma Display Panel), FED(Field Emission Display), VFD(Vacuum Fluorescent Display)
(LCD)가

가 TN 가 가 TN
(refractive anisotropy) 가 가 가

(wide viewing angle characteristic)
(In Plane Switching Mode) 가
가 IPS

1 IPS 가 (1)
(3) (4) (n,m)
(1) (3) (4) N(>n) M(>m)
(10)가 (3) (4) 가 가
(11) (11) 가 가
(12) (12) (4) 가 가 (13)
(14) 가
(4) (5a 5c) (7a,7b)
(7a,7b) (5a 5c) (16) (16) (16)
(7a,7b) (18) (7a,7b) (5a 5c)
IPS (10)가 (5a 5c) (7a,7b) (5a 5c)
(7a,7b) (1) 가 가

가

IPS

2 IPS 2a 2b

2a 1 (120) (111) 1 (120)
 (122) (122) (112)
 (113) (114) 1 (120) (passivation layer; 124)

2b 1 (120) (105a 105c) (120)
 (105a 105c) (107a,107b) (107a,107b)
 (105a 105c) (107a,107b) (E1)가 (107a,107b)
 (105a 105c) (107a,107b) (E1) (107a,107b)

2 (130) (132) (134) (132) 가
 (134) R(Red), B(Blue), G(Green)
 (134) 2 (130) (134)
 (overcoat layer)

(132) (black resin) 가 IPS
 (132)가 (132)가

(132)가 (132)가

(132) $10^{-8} \Omega \text{cm}$ 1KHz 14

2b (132)가 (104) (132)
 (E2)가 (104) (132) (E2)
 (105a 105c) (107a,107b) (140) (E1)
 가 (E1 E2) (E2) (104) (E1)
 (140) (E1) (107a,107b) (E2)
 E2 (104) (107a,107b) (104) (E1) (E2)
 (104) (107a,107b) 가 (140) (E1)
 (104) (107a,107b) 가 (140) (E1)

(E2) (104) (107a,107b) (104) (132)
 (104) (105a,105c) (shielding effect) 2
 (104) (107a,107b) 가

(104) (132) (E2) (104) (107a,107b)
 (104) (134) (E2) 가

(105a,105c) (104) (104) (107a,107b)

(105a,105c) 가 , IPS

(105a,105c) (104) 가

(105a,105c) , IPS (104)

(132) 2 (130) R,G,B

(132)

(132) R,G,B () (132) R, G, B (132)

2 (130) (134)

IPS 2 (130) (132) (E2)

IPS (132) (132)가 IPS

2a 2b

3a 3b IPS 2a 2

b

4a (205) (207) IPS (224) (240)

(205a 205c) (207a,207b) (222) 1 (220)

가 (205a 205c) (207a,207b) (204) (205a,205c) 1

(220) 2 (230) (232)

(204)

3a IPS 3 (205a 205c) 2 (207a,207 4

b) IPS 4 IPS 2 (2

1) 6 (4 3) IPS

가

3b (305a 305c) (322) (307a,307b) 1 (320)

IPS (304) (305a,305c) 2 (330) (332)

() 1 (320) (304) IPS

(340) 가 가

ITO(Indium Tin

Oxide) IZO(Indium Zinc Oxide)

가

가

(57)

1. 1 2 ;
1 ;
1 ;
1 1 2 ;
2 , 10⁻⁸ Ωcm 14 ;
1 2 .
2. 1 1 .
3. 1 , .
4. 3 , ,
; ;
;
;
;
;
.
5. 4 , 1 1 2 .
6. 4 , 1 2 1 .
7. 4 , 1 2 .
8. 4 , 1 2 .

9.

4 , 1 2 1 .

10.

1 , 2 가 .

11.

1 2 ;

1 ;

1 ;

1 ;

2 ;

1 2 .

12.

11 , $10^{-8} \Omega \text{cm}$.

13.

11 , 1KHz 14 .

14.

1 2 ;

1 ;

1 ;

1 ;

2 ;

1 2 .

15.

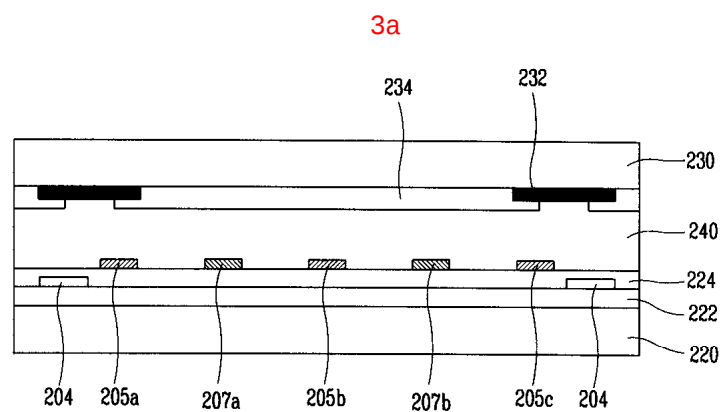
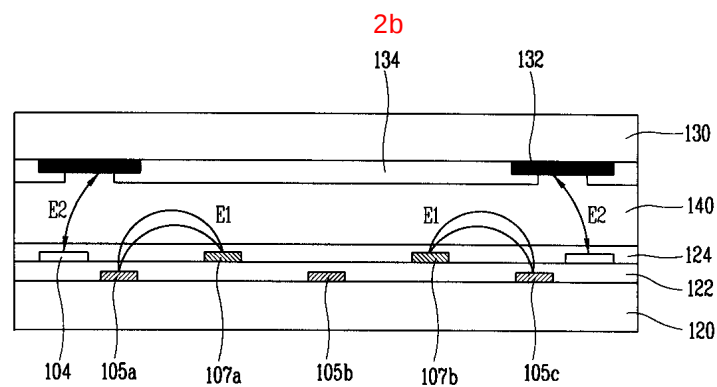
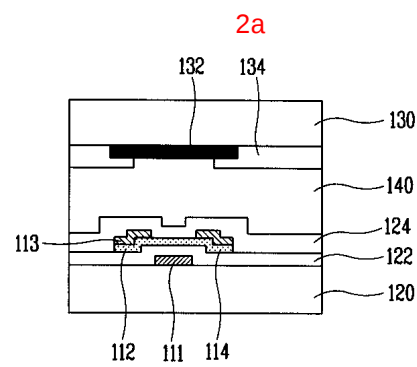
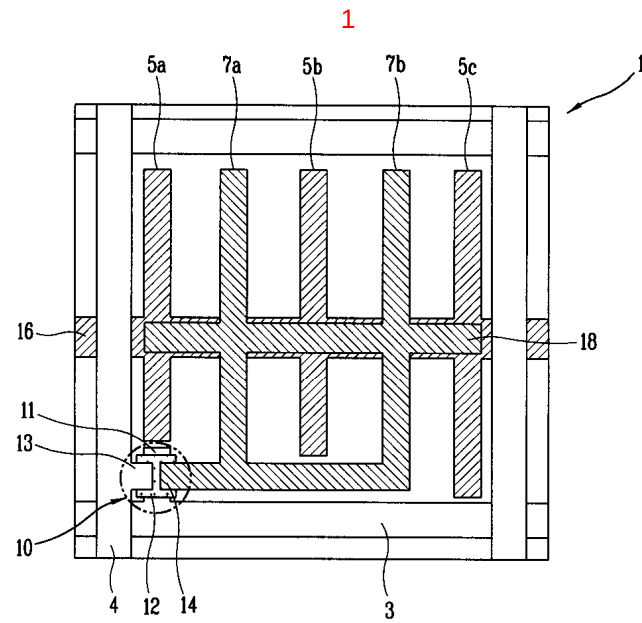
14 , .

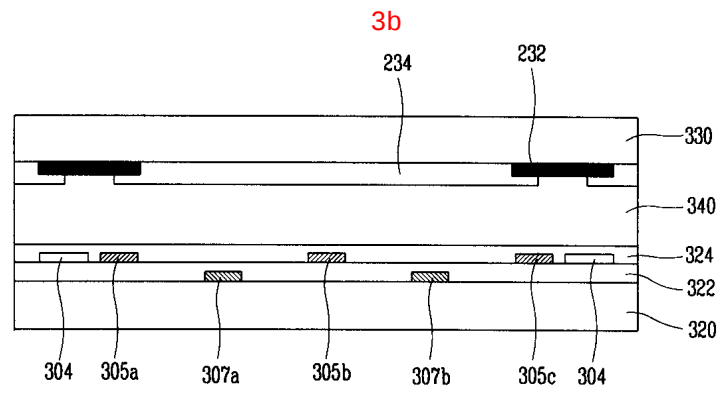
16.

15 , $10^{-8} \Omega \text{cm}$.

17.

15 , 1KHz 14 .





专利名称(译)	横向电场模式液晶显示元件		
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摘要(译)

本发明的横向电场模式液晶显示元件包括电介质黑矩阵。介电黑矩阵的介电常数为 $108\Omega\cdot\text{cm}$ 或更低，在1KHz的测量频率下介电常数为14或更高，以在数据线和液晶层之间形成电场，可以防止施加到压电元件的横向电场的变形。图2b 指数方面 横向电场模式，黑色矩阵，低电阻，高介电常数，电场，电介质

