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(24) 2002 03 26

(21) 10 - 2000 - 0042942 (65) 2001 - 0049879
(22) 2000 07 26 (43) 2001 06 15

(30) 1999 - 210754 1999 07 26 (JP)

(73) 가 가
가
5 7 1

(72) 5 7 1 가 가
5 7 1 가 가

(74)
:

(54) L C D

3 LCD 3 (106)
(106)

11

LCD , , , ,

1			LCD		.
2	1	II - II			.
3			LCD	LCD	.
4	1	LCD	가		.
5			LCD		.
6	1	VI - VI			.
7	1	LCD	가		.
8	1	LCD			.
9a	9b		1	LCD	.
10	LCD		1		LCD
11	1	LCD	가		.
12	1	LCD			.
13	12	XIII - XIII			.
14		2	LCD		.
15		3	LCD		.
16	15	LCD	가		.
17		4	LCD		.
18	17	LCD			.

<

100 : TFT

102 : TFT

103 :

104 ;

106 :

107 : LC

1 II - II (200) 2 , (300) LCD TFT (100) TFT (100) TFT (102), (104)
 LC (107) . TFT (100) TFT (130) (104)
 (106A), (103) TFT (100)
 (103) (104) (103) TFT (100)
 (110) 1 (120) 1 (120)
 (120) LC (107) LC .

(200) (101), (101)
 (shield) (203), (101)
 (202) (202) 2 (202) (142), (142)
 (202) 1 (120) . 2

TFT (100) (200) LC (107) (302)가 , (302)
 TFT (100) (200) . 1 (145) TFT
 (102) (145) (120)
 2 (143) (101) (143) 1 (145)

3 1 LCD (; 300) LCD , LCD (300) (
 400) LCD (500) . LCD (500) ,
 LCD (300)

4 1 LCD 가 3
 LCD (500) G1 Gn, D1 Dn COM
 LCD 가 E_{COM}

G1 Gn 가 가 , TFT가 ,
 D1 Dn P1 (104) (106A) (106) (104)
 , (104) (106A) 가 ,
 100) (200) , LCD (107) LCD
 (107) 가

5 (104) (106A)
 가 , LC (107) LC
 C_{SC} C_{LC} C_{SC} C_{LC} (104) (106)
 A) 1

1

$$\int_0^D \int \vec{E} \cdot d\vec{D} dv = \frac{1}{2} (C_{LC} + C_{SC}) V^2$$

, "v" LCD (104) (106) 가 , E, D V ,

1 , , "a", "b", "c" "d" (101), (142), LC (107) T

FT (102) .

(142) (R), (G) (B) 3 3 ,

10 LCD 3 . 3 (anthraquinone)

5 "dc" (phthalocyanine) 가 , ,

3.3, 3.9 4.5 Csc가 , LC

(107) "dg" LC C_{LC} C_{LC} C_{SC} 가 0.2 0.5 μ m 가 ,

6 (200) , 1 VI - VI . TFT

LCD , Cgs (502) (104)

7 가 , (502) (104) -

Cgs (104) (106A) Csc가 .

(104) 가 8 , (502) 가 ,

가 TFT (103) "D" (502)

(104) Cgs (502) , ΔV

(feed - through) , 2 .

2

$$\Delta V = \frac{C_{GS}}{C_{GS} + C_{LC} + C_{SC}} (V_{gon} - V_{goff})$$

, Vgon Vgoff (502) "G" .

, LCD (106A) (104) 가

, LC (107) .

, ΔV ,

, (106) 가 (flicker) .

가 2 ΔV "G"가 , 9b , 9a

가 가 "G"가 , "G"가 TFT가 Vth

(104) 가 "G" 가

가 . "G" 가 t0 t1
Vth , ΔV .

3

$$\Delta V = \frac{C_{GS}}{C_{GS} + C_{LC} + C_{SC}} (V_{gon} - V_{goff}) - \int_{t_0}^{t_1} \frac{I(t)}{C_{GS} + C_{LC} + C_{SC}} dt$$

I(t) t0 t1 "t" .

"G" 9b 9a ΔV 9a (502)

9b

1 , C_{LC} + C_{SC}
LCD (142) , (200)

(142) ΔV , 3 2 LCD DC
(burning) , LCD 가

V , 3 , t1 가 , LCD 가 Δ
가 . 가 LCD 가 LCD

JP - A - 5 - 224235

LCD

가

가 가 , TFT 가 (shield) 가

가 . TFT LCD , TFT (electric leads) 가

JP - A - 9 - 211411, JP - A - 62802, WO96/00408
가 .

LCD 가

가

가

, , LCD
 .
 1 , 2 LCD , 1 , 1 , 1
 - TFT, 1
 - ,
 TFT / , LCD
 TFT / LCD
 가 ,
 가 .
 ,
 가
 가 .
 ,
 .
 ,
 .
 ,
 .
 LCD
 LCD
 LCD
 1 LCD 7 ,
 1 LCD
 10 , 3 "R", "G", "B"
 , 3 .
 4 LCD 가 11 , C1, C2, C3 .
 . . 3
 C1, C2 C3, C4 C6, . . . 3
 , 3
 , LCD 가 ER, EG EB 가 CR, CG CB
 , 3 ,
 .
 2 , LCD (106) 1
 , 2 (106A) . 1 2 (106A) (106A) 1 (106A)
 (104) .

12 XIII - XIII , LCD , 2
가 , (103) (106) (130)
, (104) (106A) (130) (103,
104, 106, 106A) (110) , (107) .
(200) LCD .

11 가 , 1 (prototype) LCD , C1, C2, C3,
. . . (106) 3 가 ER, EG EB , 3
(106A) (104) DC .
, LC DC ,
가 .

(104) , (106) 가 . ,
(106A) $C_{LC} + C_{SC}$ (106)

14 , 2 LCD (106) (110)
1 12 LCD . 11
1 , 3 가 가 C1, C4, C7, . . . C2, C5, C8, . . .
C3, C6, C9, . . . ER, EG, EB
, (106A) (104) DC
1 , (106) (103)
가 ,

15 , 3 LCD (504) .
(504) LCD JP - A - 5 - 2242
35 .
가
(504) , "A" (106) 1
, "B" (106)

16 , C1, C2, C3, . . . , C2 1
1 "A" , 2 2 "A" , 1 3
"A" , 2 4 "A" , - "A"
가 - 2 "B"
C3 . 가 E_A E_B "A" "B"
, (104) (106A) DC 3
LCD ,
, DC LC ,

가 ,

가 , 3

(104) (106A)

17 , 4 LCD , "G"

17 , C1 Ck Ck Cn , , r_1 r_{k-1} r_k r_n

E1, E2 E3 가 , LCD 가 3 C1, Ck Cn 가

가 E1, E2 E3 (field - through) (106) 가 (106)

18 , C1, Ck Cn 가 E1, E2 E3(E1 < E2 < E3)가 ,

(106) E1 E3 ,

가

LCD LCD 4

2 가 가 ,

가 , LC

1 ,

"G"가 , 가

가 ,

가

(57)

1.

1 (100), 2 (200) LCD (107) , 1 (100) , 1

(102), 1 (102) - TFT(503),

1 (102) (104) (106A) - , TFT

(106A) (106),

(503) (502),

TFT(503) / (103) LCD ,

(502) (104) (106A)
가 LCD . , 가

2.

1 , LCD .

3.

2 , (106) 가 LCD .

4.

2 , (106) 가 LCD .
가

5.

1 , (106) (504)
, (106) (504)가
LCD .

6.

1 (100), 2 (200) LCD (107) , 1 (100) , 1
(102), 1 (102) - TFT(503),
1 (102) (104) (106A) - , TFT
(106A) (106),
(503) (502),
TFT(503) / (103) LCD ,

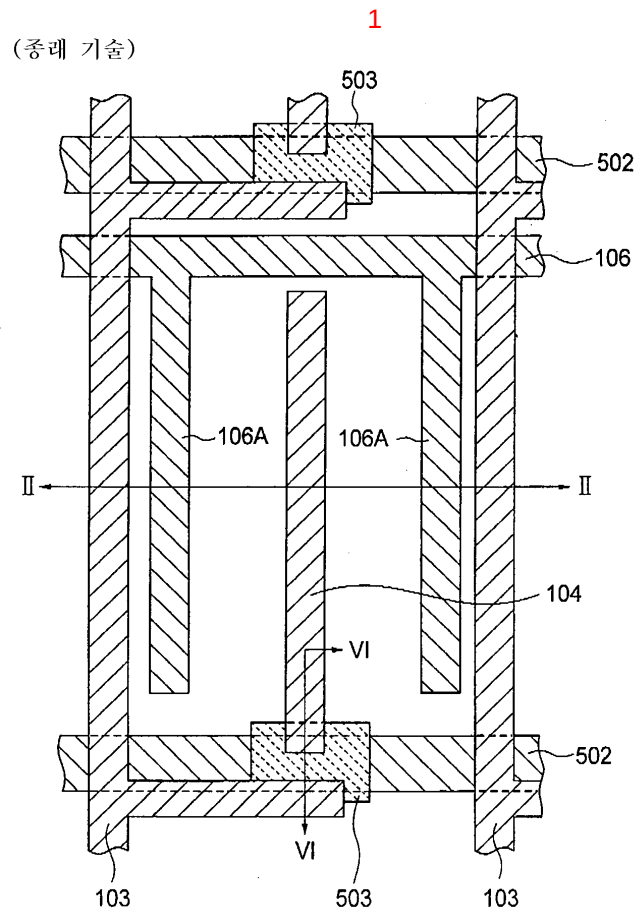
(r_1 r_n) (106) 2 , (r
1 r_n) (106) 가 LCD

7.

6 , (r_1 r_n) (502)
(106) (502) (106)
가 LCD .

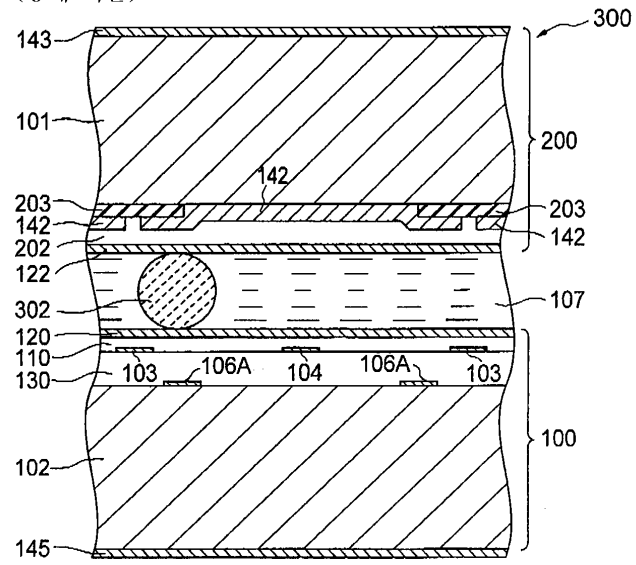
8.

6 , (106) LCD
가 LCD .



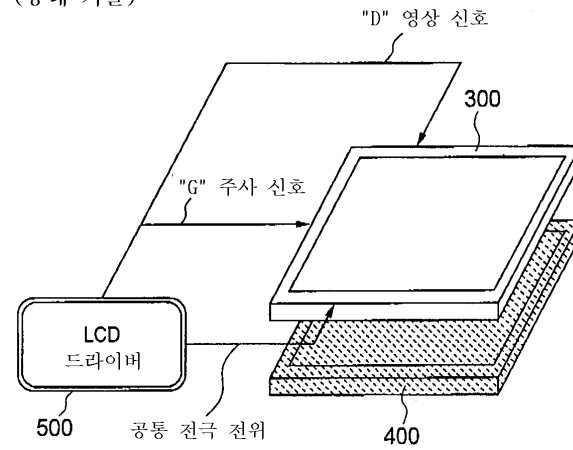
2

(종래 기술)



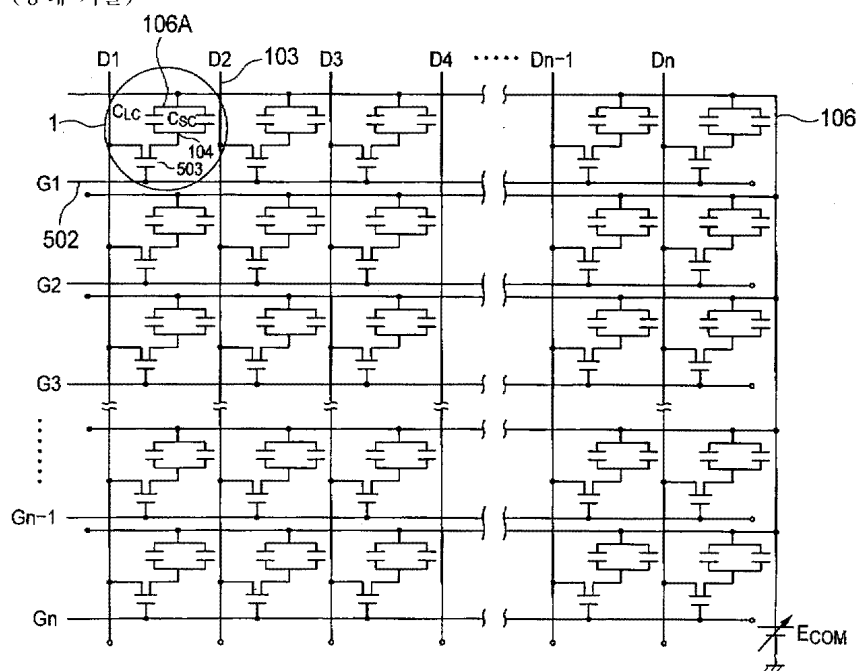
3

(종래 기술)



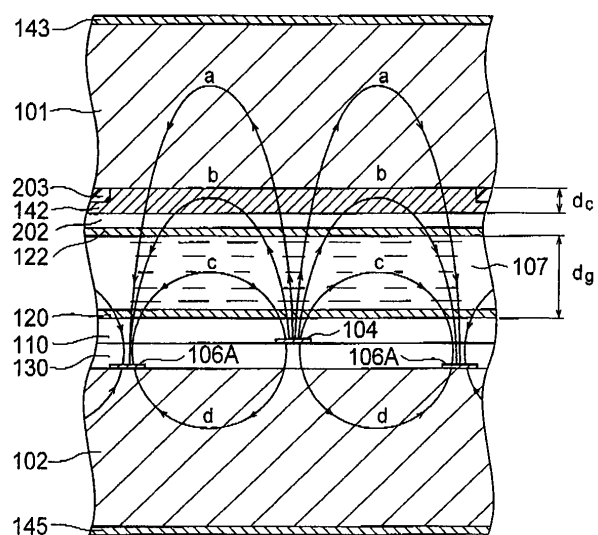
4

(종래 기술)

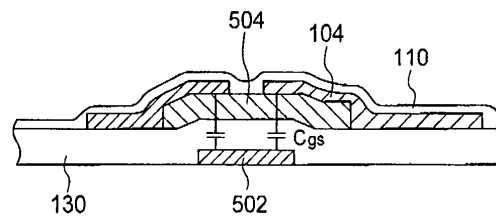


5

(종래 기술)

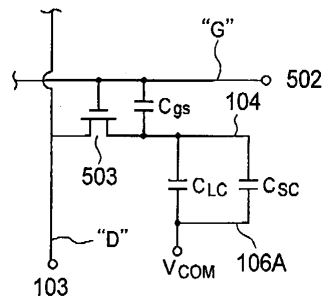


6



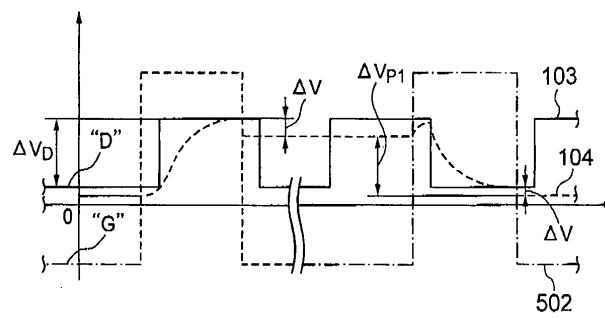
7

(종래 기술)



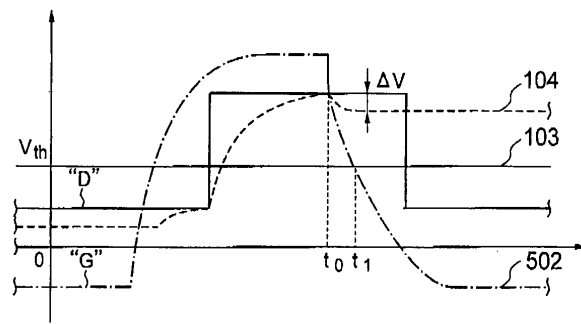
8

(종래 기술)



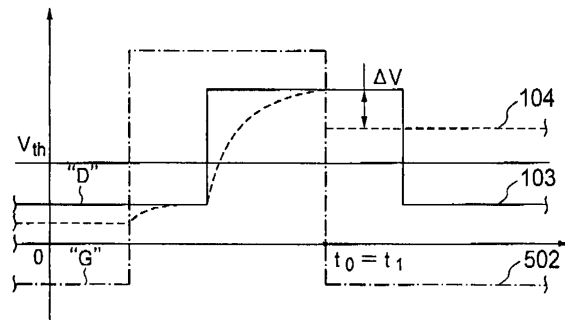
9a

(종래 기술)



9b

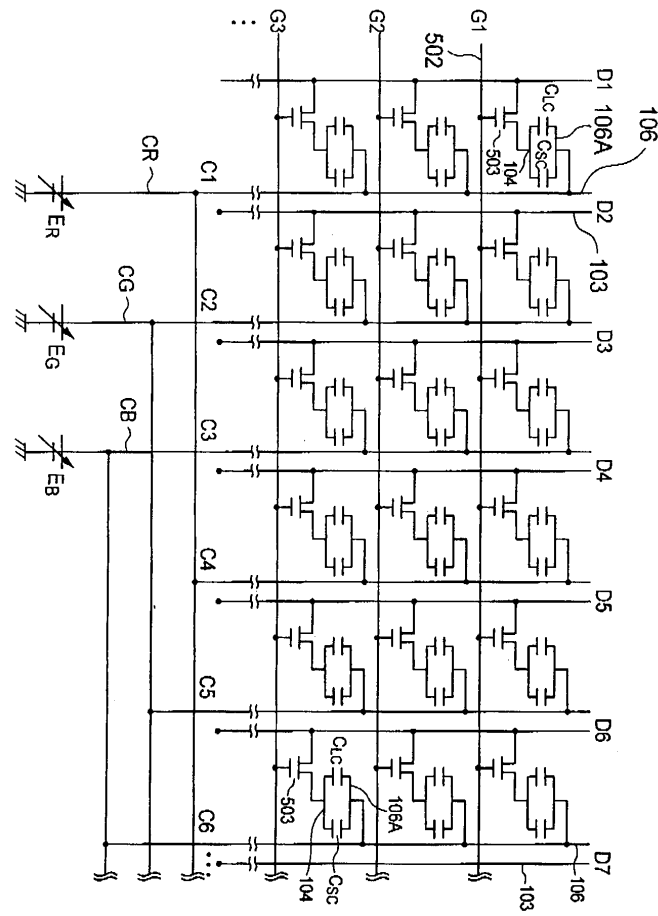
(종래 기술)



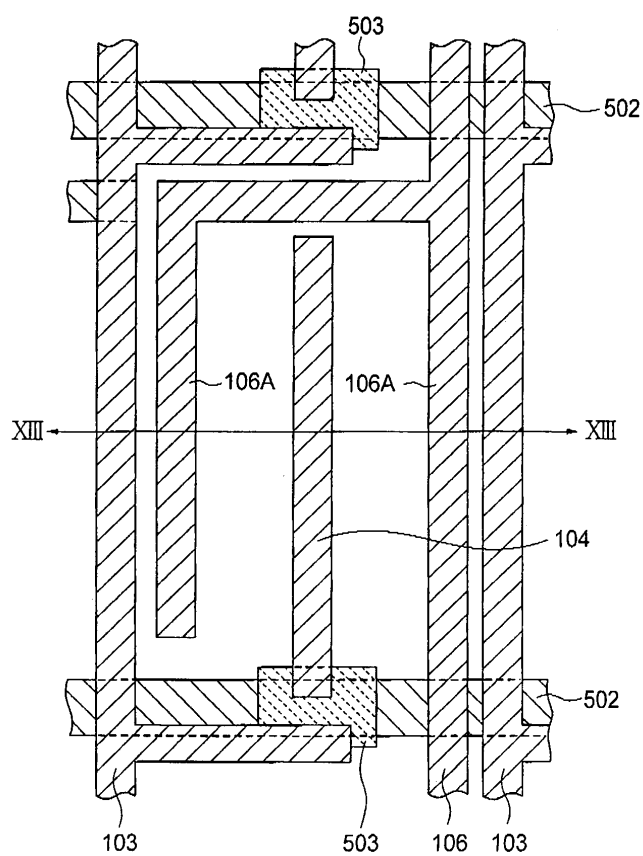
10

R	G	B	R	G	B
R	G	B	R	G	B
R	G	B	R	G	B

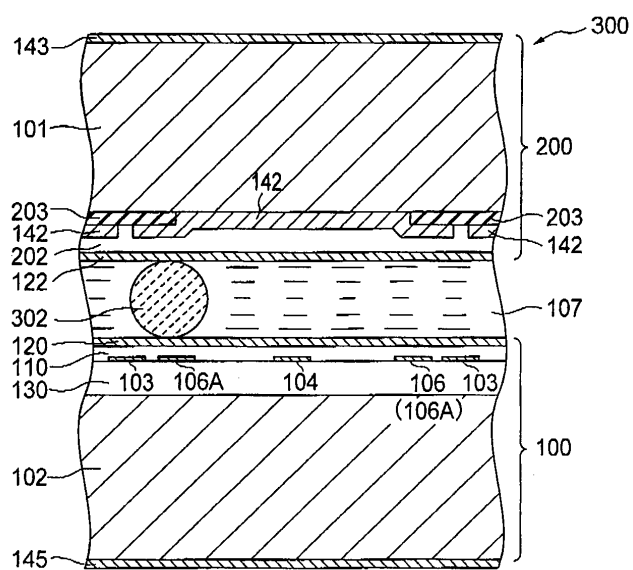
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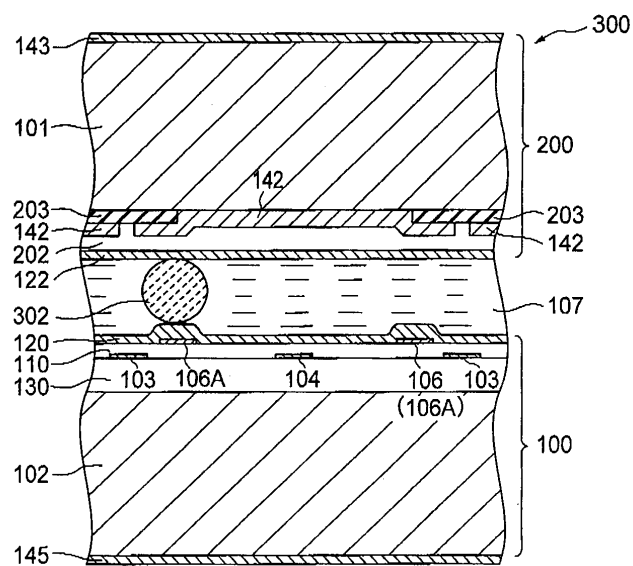
12



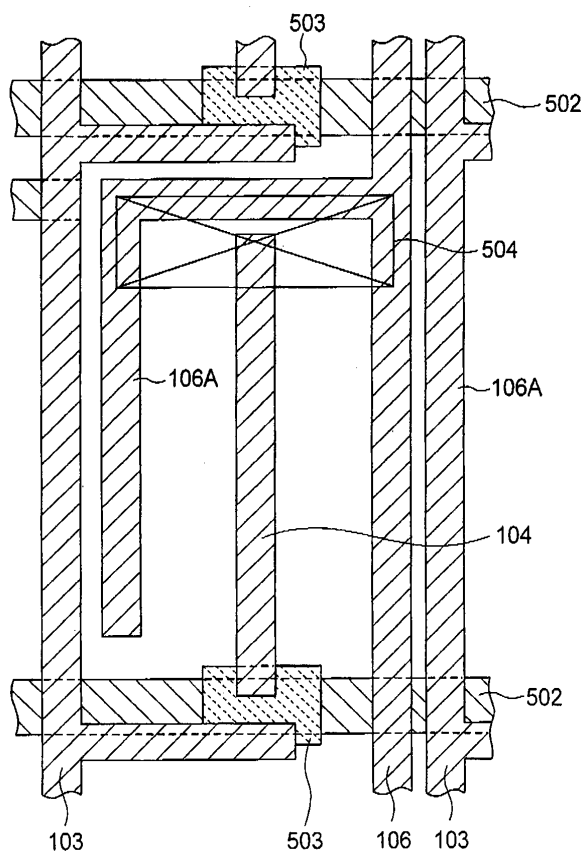
13



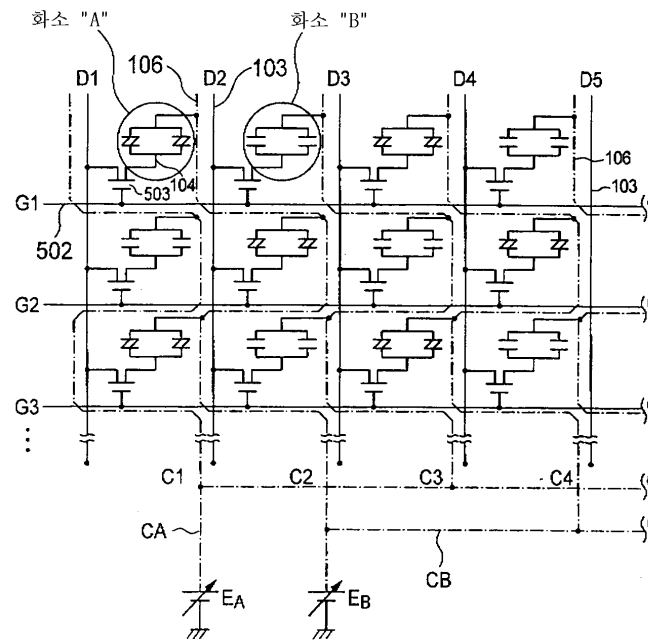
14



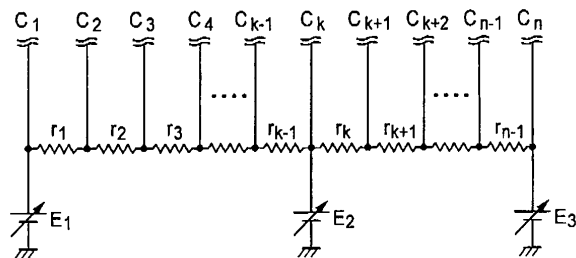
15



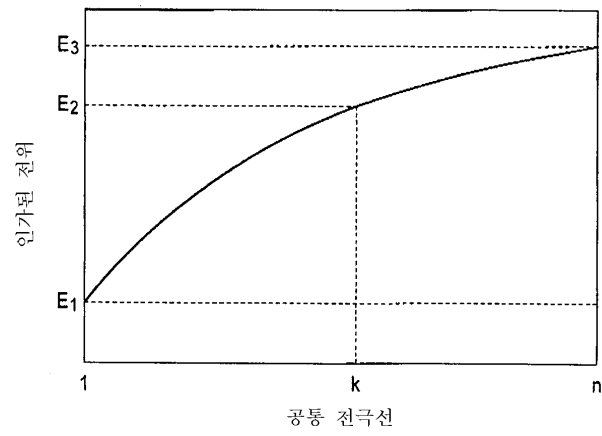
16



17



18



专利名称(译)	有源矩阵红外开关模式LCD面板		
公开(公告)号	KR100331913B1	公开(公告)日	2002-04-10
申请号	KR1020000042942	申请日	2000-07-26
申请(专利权)人(译)	日本电气有限公司sikki		
当前申请(专利权)人(译)	日本电气有限公司sikki		
[标]发明人	WATANABE MAKOTO 와타나베마코토 WATANABE TAKAHIKO 와타나베다카히코		
发明人	와타나베마코토 와타나베다카히코		
IPC分类号	G02F1/1343		
代理人(译)	CHANG, SOO KIL		
优先权	1999210754 1999-07-26 JP		
其他公开文献	KR1020010049879A		

摘要(译)

内折开关模式LCD面板具有三组公共电极线106，其对应于由像素中的颜色层限定的三种颜色。通过补偿像素之间的馈通电压的差异，独立地调整公共电极线106的组的电位，使得相应像素的闪烁水平具有最小值。

11 指数方面 有源矩阵LCD面板，公共电极线，闪烁，显示面板，像素

