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(22) 2001 11 10

(30) JP - P - 2000 - 00343562 2000 11 10 (JP)

(71) ()
가

5 - 7 - 1

(72) - 5 7 - 1 ()

(74)

:

(54)

(16) , (301 303) (V1 V3) D/A
(20) , (22A) ,
(24) ,
, VDD
(26) 1 , ((VSS
(301) (V1) (22A) , (301) ,
2 , (302) (V2) (22A) ,
2 (302) .

1

, , , ,

$$2 \quad 1 \quad .$$

3 11 - 145768 .

4 3 .

5 1 .

6 1 .

7 1 .

8 7 .

9 EL 가 .

10, 10A 12, 12A

14, 14A, 14B 16, 16A D/A

18 20

22 22A

24 26

28 TFT	301	30K
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40 50

()

， TFT - LCD()

EL

()

가

가

가

가

PDA,

(手持式 ;

)

가

TFT - LCD

, TFT - LCD

(靜消費)

, TFT - LCD

, TFT - LCD

TFT - LCD

, TFT - LCD

EL

가

(階調)

7 - 13528

7 - 104703

LCD

, LCD

가

가

가

7 - 173506

7 - 173506

2

가

11 - 119741

()

1

1

1

1

2

2

1

2

2

(, P 2)

가 ,

, 1
P

P

P

P

2

1

D/A

2
D/A

D/A

, P

P

1

1

2

1

1

1

1

2

2

1

가

D/A

D/A

1

2

가 2 D/A D/A 3 2 2

1 P P 1 1 1 1

2 P P 2 1 P

1 1 1

2 2 P

P 가

()

1 1

가 2 1 1/3 P

3 1 1/P

()

가 11 - 145768

가

1

2 1

가 가

가

「」, 「」(VDD) (VSS)가 , 「
「」, (VDD) 가 , 「」, (V (V
SS) 가 . , (VDD) (VSS)
가 ,

()

1. ,
 . 1 , TFT - LCD , (CLK)
 (10) , (10) ,
 (12) , (12) D/A (16) , D/A
 (16) (14) , (14) (18) .

, D/A (16) () (20) , (20)
 (22) , (22) , TFT - LCD TFT (22)
) (28) (30i) (i=1 K) () (24) , (30i)
 (VDD) (VSS) (26) .
 , (30i) (i=1 K) , 301, 302, 303, 304, . . . , 30K . , (302)
 , (301) (303) , (301) (303)

TFT - LCD TFT (28) , (32) (32) ,
(TFT) (34) (34) ,
(36) , (34) () (30i)
(36) , ()
(POL) (Vcom) 가 .

$$, \quad (20) \quad , \quad (22) \quad , \quad (24) \quad , 1 \quad (22A)$$

(16) , (20) , 3 , 3 , (301) , D/A
 (22) , 1 , (201) , $(22A)$, (302) , D/A , (16) , $(V2)$, (202) , $(22A)$
 (303) , D/A , (16) , $(V3)$, (203) , $(22A)$, $(30)(3j - 2)$, $(3$
 $0)(3j - 1)$, $(30)(3j)$, D/A , (16) , 3 , (20) , 1

, $j = 1$ $M($, $M = K/3$, $K/3$ 가 , $K/3$
 $)$, $K/3$ 가 가 , K , $(3j - 1) / (3j)$

(24) (22A) , (241) (301) , (242) (302) , (243) (303) , (30)(3j - 2), (30)(3j - 1) (30)(3j) D/A (16) 3 (20) 1 (24) , (30)(3j - 2), (30)(3j - 1) (30)(3j) .

, (20) (24) , (40) , (20)(3j - 2) (24)(3j - 2)((201) (241))가, (40) (S1) , 가 , 가 (20)(3j -) (24)(3j - 1)((202) (242))가, (40) (S2) 가 , 가 (20)(3j) (24)(3j)((203) (243))가, (40) (S3) , 가 , 가

(26) , (30i) (26i)($i = 1$ K) (VDD) (VSS) (26i) , (30i) (VDD) (30i) (VSS) (30i) (VDD) (VSS) 3 가 , (26i) , (40) (SO) , (POL) , (14) D/A (16) (D0i)($i = 1$ K) . (26i) , (SO)가 , (D0i) (POL) (26i) , (30i) (VDD) (VSS) (D0i) (POL) (26i) , (SO)가 , (VDD) (VSS) (D0i) (POL) , (30i) (VDD) (VSS) (D0i) (POL) , (26i) 가 (26i) (D0i) , (D0i) 가 .

, (POL) , (18) , (Vcom) (POL)

, 1 , 2 , 1 (POL)가 「1」 () (POL)가 「0」 () (POL)가 「1」 () (POL)가 「1」 () (Vcom) (VSS) , (POL)가 「0」 () (Vcom)

(VDD)

1 () 가, (12) (14)
 , 1 K 가, (18) D
 /A (16) , K (Vi)(i=1 K) (POL)가 「1」 ()
 , (18) , 가 (VS
 S) , 가 (VDD) D/A (16)
 , 2 가 「1」 , D01=1 ,
 (V1) , (Vm) 가 「0」 ,
 D02=0 D03=0 , (V2 V3) , (Vm)
 (Vm)

, () , N 가 , N (36)
 , N (36) 가 N (34)가
 (34)가

1 , 1 가, 3 1 , 1
 , 2 , 1 3 ,
 , (301) (303) (304)
 , (301) (303)

2 , 1 , (40) ,
 (SO) , (S1, S2, S3)
 (26) , D/A (16) (D0i) (PO
 L) , (30i) (VDD) (VSS) (3
 0i)

(POL)가 , (301)
 (D01)가 「1」 , , D/A ()
 V1) , (VDD) (VSS) (Vm) (26)
 (261) (VDD) , (301) (VDD) ,
 (302) (D02)가 「0」 , , D/A
 , (V2) , (VDD) (VSS) (Vm) (VSS)
 , (26) (262) (VSS) (302) (D03)가 「0」 ,
 , (26) (263) (VSS) (303) (VSS)
 , (301) (30K) ,
 (Vi) 가 (VDD) (VSS)

3 , 2 (40) , (S
 O) , (S1, S2, S3)

, (30i), (VDD), (VSS), D/A
 (40), (S1), (S2, S3),
 (20), (201), (24), (241)가, (202, 203)
 (242, 243), (301), D/A (16)가
 (V1), (22A), (22A), (24
 1) (301), (301), (V1).

, (301), (VDD), (301)
 D/A (V1), (VDD), (VSS)
 (Vm), (22A), (VDD), (301)
 (301), (V1).

2, (40), (S1), (S2)
 (S3), (201), (241)가
 (202), (242)가, (203), (243),
 (302), D/A (16)가, (V2), (302), (30
 22A), (22A), (242), (302), (30
 2) (V2).

, (302), (VSS), (302)
 D/A (V2), (VDD), (VSS)
 (Vm), (22A), (VSS), (302)
 (302), (V2).

3, (40), (S1),
 (S2), (S3), (201), (241)
 (202), (242)가, (203), (243)가, (303), (22A)
 303), D/A (16)가, (V3), (303), (303)
 (22A), (243), (303), (303)
 (V3).

, (303), (VSS), (303)
 D/A (V3), (VDD), (VSS)
 (Vm), (22A), (VSS)
 (303), (303), (V3).

2, 1, () , N
 가, {N+1} 가, {N+1} (36)
 1, (40), (SO), (S1, S2, S3)가

, (POL)가 「1」 (),
 (POL)가 「0」 (), (Vc

om') , (VDD) , (18) ,
가 (VDD) , 가 (VSS) , D/
A (16) , 2 , 가 「1」 ,
D01=1 , (V1') , (Vm') , 가
「0」 , D02=0 D03=0 , (V2' V3') , (Vm')
, (301) (D01)가 「1」
, D/A (V1') , (VDD) (V
SS) (Vm') , (26) (261) (VSS)
, (301) (VSS) , (302)
, (D02)가 「0」 , D/A (V2') ,
(VDD) (VSS) (Vm') (26)
(262) (VDD) , (302) (VDD) ,
(303) (D03)가 「0」 , (26)
(263) (VDD) , (303) (VDD) ,
, (POL)가 「0」 () , (POL)
가 「1」 () , .

, () , , 1
, 240 , 240 가 , 1
, 240 가 , 3 1
, 80 .

1 , 3 1
, , 2 , 1 , 240
, 120 . 4 1 , 240
, 60 .

, 1 , ,
. , , .

, , 3 , 3 1
, , 1 ,
, 1 , ,
, , , , ,

, 가 , ,
, (VDD) (VSS) , ,

(D01 D0K) , (POL) 3 1
 , 3
 가
 (VDD) (VSS)
 (VDD)
 가
 1
 , 1
 (VDD) (VSS) (VDD) (VSS)
 (Vm) 가 (VDD) (VSS) (VDD)
 (VDD) (VSS) (Vm) 가 (VSS)
 가 11-145768
 3 , 11-145768
 3 , 1 (22A) (261, 262, 263) (100) (200)
 (26) (26i) , (30i) (T2)
 (T2) (VSS)((VSS)) (112) , (T
 2) (VDD)((VDD)) (212) (200)
 (112)가, (100) , (212)가, (200)

(100) , NMOS (101, 102) , VDD
 (101, 102) (111)가 (101) (103)
 VDD (20)
 (T1) (101) (101)
 (121)가 (T1) (VSS) (104) (1
 22)가 (102) (22A) (T3) , VDD
 (102) (102) (123)가
 (T3) (VSS) (105) (124)가
 (103 104) I(11), (105) I(13)

(200) , PMOS (251, 252) , VSS
 (251, 252) (211)가 (251) (253)
 VSS (251) (T1)
 (221)가 (T
 1) (VDD) (254) (222)가 (252) ,
 (22A) (T3) , VSS (252) (25
 2) (223)가 (T3) VDD ,
 (255) (224)가 (253 254) I(21),
 (255) I(23)

3 (112, 212) (100, 200) , (SO) (SO1, SO2, SO
 D0i) , (POL) , (40)
 3, S1, S2, S3)

(26i) , (SO) (112, 212)
 가 , (POL) (D0i) , (POL)
 (D0i) , OR (D0i) OR (112, 212)
 가가 (POL) (D01)가, 2 OR (50
 1) OR (501) , (261) (112, 212)
 가가 (POL) (D02)가, OR (502) , OR
 (502) (262) (112, 212) 가가 (POL)
 (D03)가, OR (503) , OR (503) , (2
 63) (112, 212) 가가

(22A) , (100) (200) 가 , (POL)
 (D0i) (22A) ,
 (D01) , (S1) (401) , 2 OR (400)
 (D02) , (S2) (402)
 , 2 OR (400) (D03) , (S3)
 (403) , 2 OR (400) , 2
 OR (400) (POL)가 , 2 OR (400)
 (100) (200) 가가

, (100) Vin (200)가
 , (100)가 OFF (100)
 200) Vin (100)가 OFF (200) (100)가
 (100) (200) (SO1, SO2, SO3) (111, 211)
 , (SO1) (121, 122, 221, 222) , (SO2)
 , (123, 124, 223, 224) , (SO3)
 4 , 3 (t0 - t1), 1 (t1 - t4), 2 (t4 - t7), 3 (t7 - t0) (P)(
 (POL) 1 , 1 (POL)가 , 4
 (SO)가 , (SO1, SO2, SO3, S1, S2, S3)
 , (100, 200)
 , (301) (D01)가 「1」 ,
 (302) (D02)가 「0」 , (303) (D01)가
 「1」 , (D03)가 「0」 가 , (261) (VDD) (VSS)
 (Vm) (301) (VDD)
 (212) (112) (262) (D02)가 「0」
 , D/A (VDD) (VSS)
 (Vm) (302) (VSS) (112)
 , (212) 가 , (263) (D03)가 「0」
 , D/A (VDD) (VSS)
 (Vm) (303) (VSS) (1
 12) (212)
 3 (t1 - t0) , (SO)가
 , 3 (t1 - t0) ,
 , (112, 212)
 1 (t1 - t4) , 2 (S1)
 (S2 S3) , (201, 241)가 , (401)가
 (301) (D01)가, (100, 200)
 OR (400) (301)
 (D01)가 「1」 , (200)가 (t1 - t4)
 (211, 221, 222, 223, 224) 4 , (111, 112, 121, 122, 123,
 124)

(t1) , (SO1) (211)가 , (251, 252)
 (V20) (VSS) . (t2) , (SO1) (211)가 ,
 (V20) (t2) , (SO2) (221, 222)가 ,
 (V20) , (Vin) (251) Vgs251(I21)
 , V20=Vin+Vgs251(I21) , Vgs251(I11) 가 I21 .

(t3) , (SO3) (223, 224)가 , (241)
 (252) , (t0 - t1) (VDD) (301)
 (Vout) , (V20) (252) Vgs252(I23)
 , Vout=V20 - Vgs252(I23) , Vgs252(I23) 가 I23

, Vgs251(I21) Vgs252(I23) , (I21, I23) , 2
 , (Vout) (Vin) , , VSS - Vgs252(I23) ≤ (Vout) ≤
 VDD가 .

1 (t4), (SO2 SO3) (221, 222, 223, 224)

2 (t4 - t7) , 2 , (S2) ,
 (S1 S3) , , (202, 242)가 , (402)가 ,
 (302) (D02)가, (100, 200)
 OR (400) , (302)
 (D02)가 「0」 , (100)가 , (t4 - t7) ,
 (111, 112, 121, 122, 123, 124) 4 , (211, 221, 222, 223,
 224)

(t4) , (SO1) (111)가 , (101, 102)
 (V10) (VDD) . (t5) , (SO1) (111)가 ,
 (V10) (t5) , (SO2) (121, 122)가 ,
 (V10) (Vin) (101) Vgs101(I11)
 , V10=Vin+Vgs101(I11) , Vgs101(I11) 가 I11 .

(t6) , (SO3) (123, 124)가 , (242) (10
 2) , (t0 - t1) (VSS) (302) ,
 (V10) (102) Vgs102(I13) , Vout=V10
 - Vgs102(I13) , Vgs102(I13) 가 I13 .

, Vgs101(I11) Vgs102(I13) , (I11, I13) , 2
 , (Vout) (Vin) , , VSS ≤ Vout ≤ VDD - Vgs102(I1
 3)가 .

2 (t7), (SO2 SO3) (121, 122, 123, 124)

3 (S1 S2) , (t7 - t0) , 2 (S3) , (203, 243)가 (403)가 (303) (D03)가, (100, 200) OR (400) (303) (D03)가 「0」 (100)가 (t7 - t10) (111, 112, 121, 122, 123, 124) 4 (211, 221, 222, 223, 224)

(t7) , (SO1) (111)가 , (101, 102) (V10) (VDD) (t8) , (SO1) 가 , (V10) (t8) , (SO2) (121, 122)가 , (V10) (Vin) (101) Vgs101(I11) , V10 = Vin + Vgs101(I11)

(t9) , (SO3) (123, 124)가 , (243) (102) (t0 - t1) (VSS) (303) , (V10) (102) Vgs102(I13) , Vout = V10 - Vgs102(I13) , Vgs101(I11) Vgs102(I13) (111, I13)가 , (Vout) (Vin)

3 (t10) , (SO2 SO3) (121, 122, 123, 124) (t10) , 1 (t0 t11) , { VDD - Vgs102(I13) } { VSS - Vgs252(I23) } (100, 200) , (100, 200) (V10, V20) 가 , 가 (22) (100, 200) , (253, 254 103, 104) (211, 111) , 3 5 , 1 1 5 , 1 가 (10) (12) , (50)가 (18) , 가

가 (50) (14) , 5 , 1
 , 3 (100, 200) , (22)

6 , 1 , 1 (301) (803)
 , (304) , (301) (303)

6 , (14) , (S1 S3) , D/A
 , 3 , D/A

(26) (14) (D0i) ,
 D/A (26i)가 , 1 (20)가, (14)
 ((16A) , (20i) ,
 (14) 가 6 , D0i D5i) D/A (16A)
 , (20) (20i) , 6 , 1

, (301) (D01 D51) (201) , (302)
 (D02 D52) (202) , (303) (D03
 D 53) (203) , D/A (16A) D/A (16B)
 , D/A (16A) , 1 D/A (16) 1/3
 6 D/A ,
 1

D/A (16A) D/A (16B) , (22A)
 (D0i) , (14) (26)

, 1 6 , 2

1 () 가, (12) (14)
 , 1 3 1 , (20)
 , D/A (16A) , D/A (16A) (Vi)(
 i=1 K)

, N () , N 가 , N (36)
 , N (36) 가 N (34)가
 (34)가 6 , 1
 가, 3 1 , 1

3 (301) (303)
(304) (301) (303)

2 (40) ,
(SO) , (S1, S2, S3)
(26) , (14) (D0i)
(30i) (VDD) (VSS) (30i)
(POL)가 가 (301)
(D01)가 「1」 (26) (261) (301) (VDD)
(26) (262) (302) (D02)가 「0」 (303)
(302) (VSS) (302) (VSS) (26) (263) (301)
(30K) , 가 (VDD)
(VSS)

3 (40) , (SO)
(S1, S2, S3) (VDD) (VSS)
(301) (30K) , 가
D/A

(40) , (S1)
(S2, S3) (20) (201) (24)
(241)가 , (202, 203) (242, 243) (301)
D/A (D01 D51)가, (14) (201) D/A (16A)
(16B) (301) D/A (16B)가
(V1) (22A) , (22A) (241)
(301) (301) (V1)

(301) (VDD) (301)
D/A (V1) , (VDD) (VSS)
(Vm) (22A) , (VDD)
(301) (301) (V1)

2 (40) , (S1) (S2)
(S3) (201) (241)가 ,
(202) (242)가 , (203) (243) (3)
02) (D02 D52)가, (14) (202) D/A (16A)
D/A (16B) (302) D/A (16B)가
(V2) (22A) , (22A)
(242) (302) (302) (V2)

, (302) (VSS) , (302)
 D/A (Vm) , (22A) , (VDD) (VSS)
 (302) , (302) (V2) .

3 , (40) , (S1) , (S2)
 , (S3) , (201) (241)
 , (202) (242)가 , (203) (243)가 , (303)
 (D03 D53)가, (14) (203) D/A (16A)
 D/A (16B) (303) D/A (16B)가
 (V3) (22A) , (22A) , (24
 3) (303) , (303) (V3) .

, (303) (VSS) , (303)
 D/A (Vm) , (V3) , (VDD) (VSS)
 (303) (22A) , (VSS) (V3) .

2 , 1 () , N
 가 , {N+1} 가 , {N+1} (36)
 , (40) , (SO) (S1, S2, S3)가 .
 , 6 , (22) , 3 (100, 200)
 , .

7 , 1 . 1 6
 , (301) (301) (303) (303)
 . (304) , .

7 , , 1 (7
 , 3 , 1
 , 2 , 가, 1 , ,
 가, .

, 1 3 , (301) 3
 , (12A) , 1 (D01 D51)가, (14A)
 (30)(3j - 2)(j=1 K/3) (12A) , 1
 , 2 (302) 3 (3j - 1) (D02
 D52)가, (14A) , 1 3 (303) 3 (3
 (12A) , 1

j) (D03 D53)가, (14A) .

, 1 (14A) , 1
 1 (301) 3 (3j12) (D01 D51
)가, (14B) , 1 2 (14A)
 , 1 2 (302) 3 (3j - 1)
 (D02 D52)가, (14B) , 2 3
 (14A) , 1 3 (303) 3
 (3j) (D03 D53)가, (14B) .
 , (40) .

, (14A) (14B) , { 1 } / { + 1 }
 . , 7 (10A)
 (12A) , 1 (12) 1/3 ,
 (14A) (14B) , 1 (14) 1/3
 , (14A, 14B) , 1 (14) 2/3
 . , 7 , D/A
 , , 6 .

(14B) , D/A (16A) D/A (16B)

(26) (26i) , (14A) (D0i)
 , (POL) , (SO) , (S1 S2) . (301)
 (261) , (SO)
 (D01) (POL) VDD VSS 가가 .
 (302) (262) , (S1) ,
 (D02) (POL) , VDD VSS 가가
 (302) (263) , (S2) ,
 (D03) (POL) , VDD VSS
 가가 .

, 1 7 , 8 .

7 , 1 가, 3 1 , 1
 () , 8 , 4 . 1
 , 4 , 3
 , (301) (303)
 . (304) , (301) (303)

1 () () , N 가 , N
 (36) , N (36) 가 N
 (34)가 . (34)가 .

3 , 1 () (301) D01 D51)가,
 (30)(3j - 2) (301) 8
 (12A) (14A) (SO) (S1, S2, S3)
 (40) , (26) , (14A) (301)
 (D01) (POL) (301) (VDD) ()
 VSS) (301) (POL)가 가
 (26) (261) (301) (VDD) (D01)가 「1」 ,
 (301)

1 , 1 () (302) 3 (30)(3j - 1) (302)
 D02 D52)가, (12A) (14A) , 1 ()
 () (301) D01 D51)가, 3 (30)(3i - 2)
 (14B)

8 , 1 (40) , (S1) ,
 (SO) (S2, S3) (26) ,
 (14A) (302) (D02) (POL)
 (302) (VDD) (VSS) (302)
 1 (POL)가
 (302) (D02)가 「0」 , (26)
 (262) (302) (VSS)

301 , (VDD) (VSS) ,
 D/A 가 .

(40)가, (S1) (S2, S3)
 (24) (241)가 , (242, 243)
 (301) (D01 D51)가, (14B) D/A (16A) D/A
 (16B) , (301) D/A (16B)가
 (V1) (22A) , (241)
 (301) (301) (V1)

(301) (VDD) (301)
 D/A (V1) , (VDD) (VSS)
 (Vm) , (22A) , (VDD)
 (301) (301) (V1)

1, 2, 1 ()
 (303) (30)(3j) (303)
 D03 D53)가, (12A) (14A) , 1
 () (302) 3 (30)(3j - 1)
 (302) D02 D52)가, (14A) (14B)

8, 2, (40), (S2)
 (SO) (S1, S3) (26),
 (14A) (303) (D03) (PO
 L) (303) (VDD) (VSS) (3
 03) 1 (POL)가
 (26), (263) (303) (D02)가 「0」,
 (26) (303) (VSS)

1, (302), (VDD) (VSS),
 D/A 가

(40)가, (S2) (S1, S3)
 (24) (242)가, (241, 243)
 (302) (D02 D52)가, (14B) D/A (16A) D/A
 (16B) (302) D/A (16B)가
 (V2) (22A) (22A) (242)
 (302) (302) (V1)

(302) (VSS) (302)
 D/A (V2), (VDD) (VSS)
 (Vm) (22A), (VSS)
 (302) (302) (V2)

2, 3, 1 ()
 (303) (30)(3j) (303)
 D03 D53)가, (14A) (14B)
 (12A) (14A)

8, 3, (40), (S3)
 (SO) (S1, S2) (241)
 (242)가, (243)가, (303)
 (D03 D53)가, (14B) D/A (16A) D/A (16B)
 (303) D/A (16B)가 (V3)
 (22A) (22A) (243) (303)
 (303) (V3)

(303) (VSS) (303) (VSS)
D/A (Vm) (22A) (V3) (VDD) (VSS)
(303) (303) (V3) .
8 1 () , N
가 , {N+1} 가 , {N+1} (36)
(40) (SO) (S1, S2, S3)가 .
1, 5, 6 ,
(VSS) 가 (VDD)
7 , 1 3 P (, P 2),
. , 1 , 3 P 가 , 1 P
3 1 , 1 P 1 2 , 1 2 P
, 1 P , P 2
1 , 1 P 1 P , P 2
, 2 P , .
, 1 (14A) , P , 1 (14
B) , P , (22) , P
1 , 1 (26) , , 8 , 4 ,
, 4 가 ,
3 .
, 7 (22) , 3 (100, 200)
, .
5, 6 7 , 1 , 3 1 , 1
. , 3 1 , 1
가 가 ,
가 .
1 5, 6 7 , .
, 1 5, 6 7 (VDD)(
(VDD)) (VSS)((VSS)) 2 , 2
, 3 , 3 가 ,
, 3 4 , 1 2 (位)
가 . , .

[illegible][illegible]

9 , EL 가 . 9 , (MP1) (MP2) 가 , (MP2) (OLED) , (MP2) EL , EL , SID 98 DI

GEST 11 14, R. M. A. Dawson
ctive - Matrix Organic LED Display 1

4.2 Design of an Improved Pixel for a Polysilicon a

가 11 - 145768

가

(57)

1.

1

1

1

2

2

2.

1

1

D/A

D/A

D/A

1

3.

1

1

D/A

D/A

, ,
D/A , D/A ,
D/A ,

.

4.

,

1 P (, P 2), 가 , P
, , 1 , P ,
2 , 2 D/A ,
D/A , D/A ,
P , P
1 ,
, 1 2 ,
, , 1 , 1
1 , 1
, 2 1 가 D/A D/A
1 , 1 ,
1 2 ,
, 2 ,
D/A 3 , 2 2 가 D/A
D/A , 2

.

5.

4 ,
1 P , 1 1 1
P , 2 1
P , P 1 P , 2 1
P 1 P , 2 2

6.

1 5 ,
1 2

가 , 2 , 2 가 , 1 .

7.

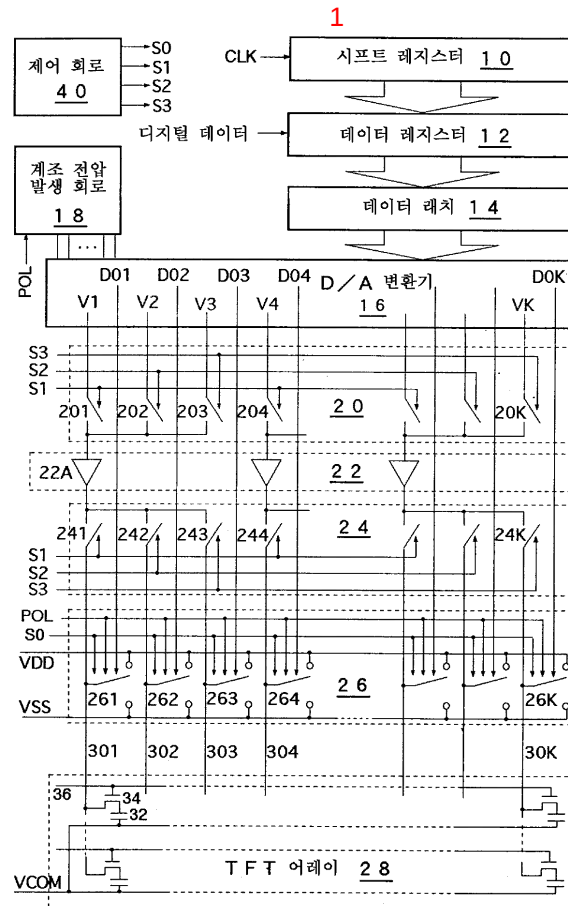
6 ,

1 가 , 가 1 PMOS , 1 PMOS
 1 2 PMOS , 1 , 1
 PMOS 1 PMOS 2 ,
 4 3 , 2 PMOS 2
 5 , 2 PMOS 1 가 , 1 5 2 가
 , , 1 가 , 1 2 PMOS 2 3
 , , 4 5 , 1 5 가

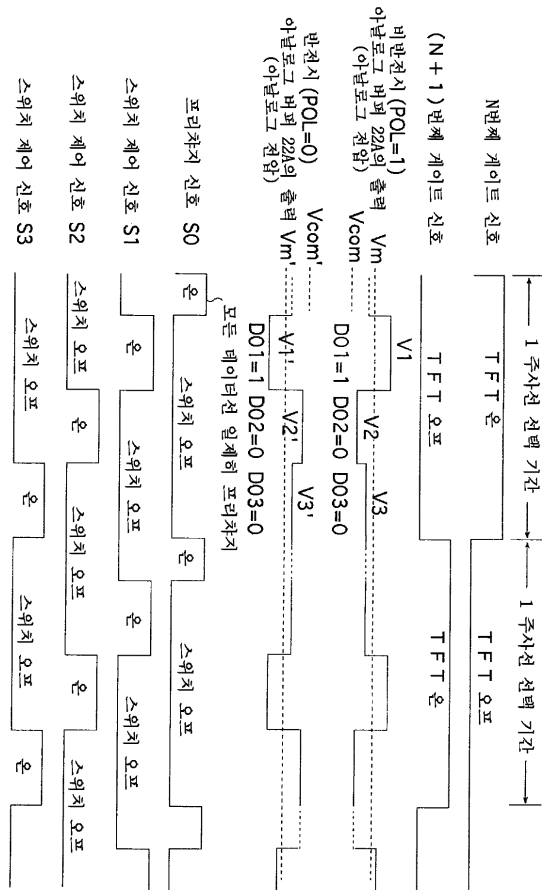
8.

7 ,

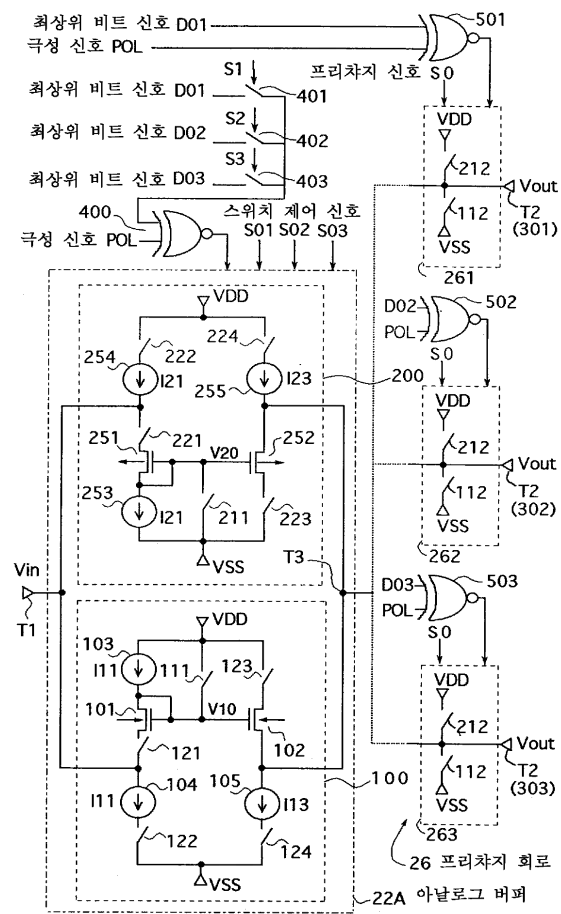
2 가 , 가 1 NMOS , 1 NMOS
 1 2 NMOS , 2 NMOS 6 , 1
 NMOS 1 NMOS 7 , 3
 9 8 , 2 NMOS 4
 10 , 2 NMOS 가 , 6 10 가
 , , 6 가 , 1 2 NMOS 7 8
 , , 9 10 , 6 10 가



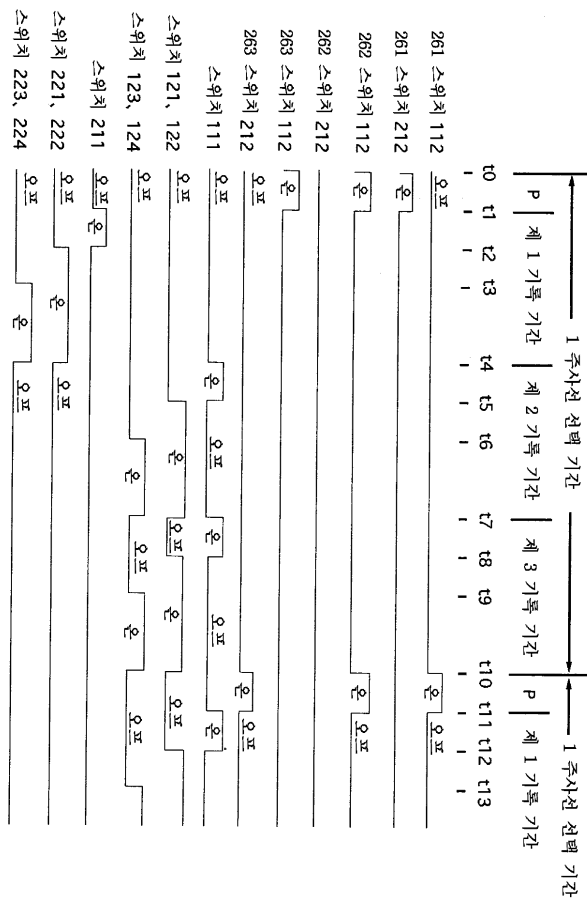
2



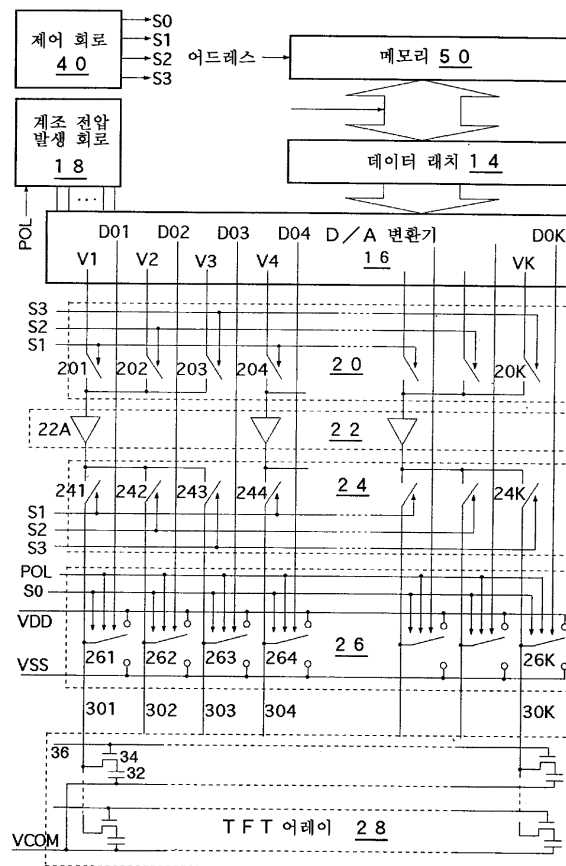
3



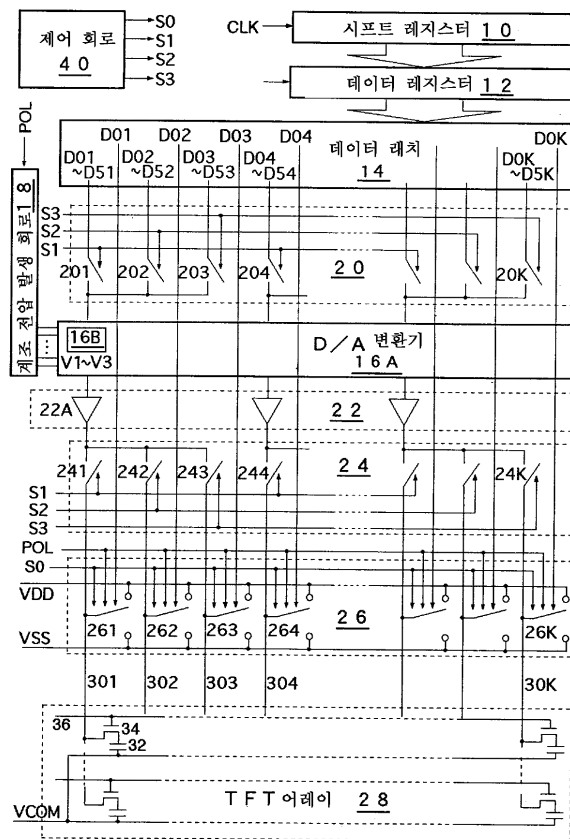
4



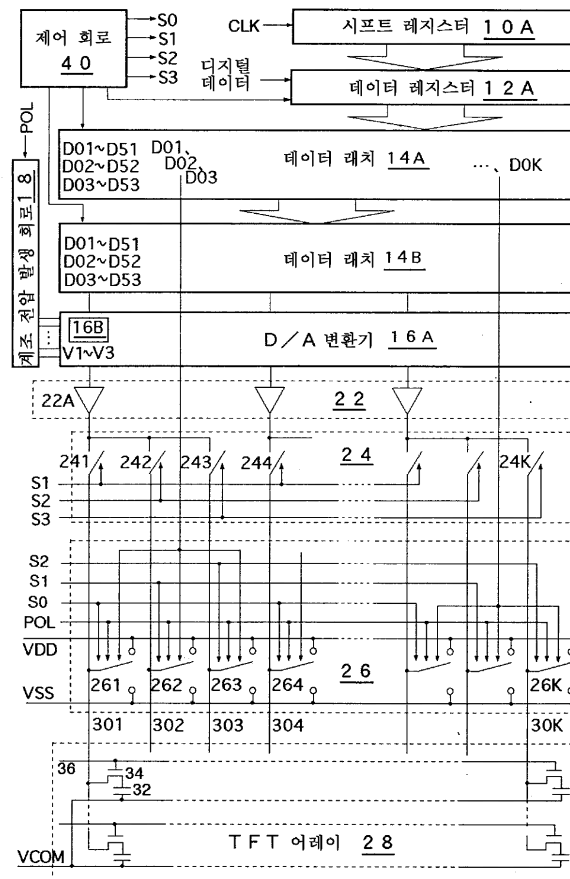
5



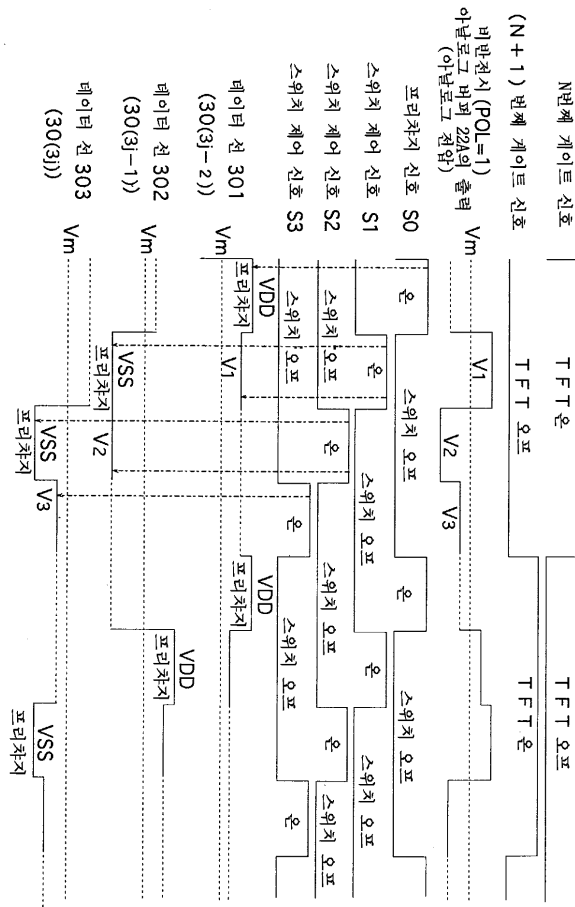
6



7

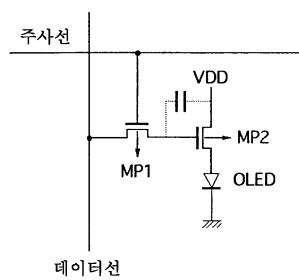


8



9

액티브 매트릭스형 유기 EL 디스플레이의
가장 단순한 화소 구성



专利名称(译)	面板显示装置的数据线驱动电路		
公开(公告)号	KR1020020059222A	公开(公告)日	2002-07-12
申请号	KR1020010069957	申请日	2001-11-10
申请(专利权)人(译)	日本地方可否让来.)		
当前申请(专利权)人(译)	日本地方可否让来.)		
[标]发明人	TSUCHI HIROSHI		
发明人	TSUCHI,HIROSHI		
IPC分类号	G09G3/30 G09G3/36 G09G3/20 H04N5/66 G02F1/133 G09G3/32		
CPC分类号	G09G2300/0842 G09G3/20 G09G2310/027 G09G3/3233 G09G3/3614 G09G3/3688 G09G2310/0248		
代理人(译)	李, 何炳		
优先权	2000343562 2000-11-10 JP		
其他公开文献	KR100413137B1		
外部链接	Espacenet		

摘要(译)

用途：降低液晶显示装置等平板显示装置的数据线驱动电路中输出缓冲器的静态功耗。组成：液晶显示设备的数据线驱动电路设有一个选择电路20，用于从DA转换器16接收对应于数据线301-303的多个电压V1-V3，并交替地输出它们，模拟缓冲器22A连接选择电路的输出，用于接收模拟缓冲器的输出并且可选地将它们分配到一个相应的数据线的分配电路24，以及用于根据VDD或VSS对每个数据线预充电的预充电电路26。至少每个扫描选择周期的第一个预充电周期中最重要的数字数据位。

