

(19)
(12)(KR)
(A)(51) 。 Int. Cl. ⁷
G09G 3/20(11)
(43)2001 - 0098690
2001 11 08(21) 10 - 2001 - 0020674
(22) 2001 04 18(30) 2000 - 117045 2000 04 18 (JP)
2001 - 059511 2001 03 05 (JP)(71) 가 가
가 가 398(72) 가 가 398가 가
가 가 398가 가
가 가 398가 가
가 가 398가 가

(74)

:

(54)

EL
가 가 , 가 , EL
가 EL EL , EL

1

EL , , ,

1	.				
2	.				
3	.				
4	.				
5		(monitoring light emitting element)			
6	.				
7	.				
8	.				
9	.				
10	.				
11	.				
12	.				
13	.				
14	(latch) (A)	.			
15a	15b	.			
16	.				
17	.				
18a	18b	,	,	.	
19	.				
20	.				
21	.				
22	가	.			
23a	23d	.			

24

25

26a 26b

27a 27b

28a 28f

29a 29b

*

*

101 : 102 :

103 : 106 :

108 : 503 :

507 : Lov 520 :

901: 908 : TFT

panel) 가 IC (cover member) (display

TFT (active - matrix type)
(mobility) TFT 가

EL (Organic EL Display, OLED) 가 (Organic Light Emitt
ing Diode, OLED)

[illegible]

가

.

가 (inverter), 1 , 2

1

2

1

1

2

2

1

2

1

2

1

2

.

가 , 1 NAND, 2 NAND, NOR

1 NAND

2 NAND

가

1 NAND

2 NAN

D

NOR

NOR

.

,

,

.

, 1 , 2 ,

, ,

1

, 1

2

, 2

,

1

.

가 NAND

NAND

, NAND

,

.

가 1 , 2

,

1 ,

1

2

2

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1

1

2

2

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1

2

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2

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, 1 , 2 ,

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1

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1

1

, 1

2

, 2

,
1

.

NAND 가 NAND
 , NAND

,

가 1 , 2

1 1 2 2
 , 1 1 2
2 2 , 1 1 ,
 , 1 2 ,

2

.

, 1 , 2 ,

,

,

, 1 , 1

2 , 2

,

1

.

NAND 가 NAND
 , NAND

,

가 1 , 2

1 1 2 2
 , 1 1 2
2 2 , 1 1 ,
 , 1 2 ,

2

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, , , ,

, 1 , 2 , 1 2

, 1 , , 1

1 가 .

, , , , 가
 ,
 1 , 2 , 1 2
 , 1 , 1
 , 가 , 가
 , 가 , 가
 1 가 .

(1)

1 가 . 1 1

(101)

(102, 103)

(102 - 4) (102) 1 (102 - 1), (A)(102 - 2), (B)(102 - 3),
 . 가 ,

, (103)
 (103)가 가
 TFT , 가 TFT on .

(102 - 1) (102) , (CLK) (SP) (102 - 1)
 (CLK) (SP)

(102 - 1) ()
 . (102 - 1)
 (parasitic capacitance))가 , (edge) 가
 , 가 .

(102 - 1) (A)(102 - 2) . (A)(102 - 2) n -
 가 (A)(102 - 2) ,
 (102) n -

가 (A)(102 - 2) , (A)(102 - 2)
 가 (A)(102 - 2)
 가 4
 1/4

(A)(102 - 2)
 (A)(102 - 2) 가
 가
 (blank) 가

가 (B)(102 - 3) (A)(102 - 2)
 (B)(102 - 3) (B)(102 - 3)

(102) (102 - 1)
 가 (B)(102 - 3) (A)(102 - 2)

02 - 4) 2 (B)(102 - 3) (1
 (102 - 4) (B)(102 - 2)

" 0" " 1" " 0" Hi
 , " 1" 가 " 1" Lo , " 1" " 0" 가 "
 0"

(B)(102 - 2) 가
 (101) 가
 가 (101)
 가

가 ,

(102 - 4)

(103) (scanning line) (

(102) (103) (101)

(102, 103) IC FPC TAB

(101)

가 , (gradation)
가 , (101)
가 가 , (101)
가 가 가

가

가

가

1

가

(2)

2 가 2 2

2 , 1

(CLK) 가 (102 - 1) 가

(106)

[illegible]

3) 1. (B)(102 - 3) (102)가 (102 - 4) (B)(102 -

가

가 , 가 , . ,

가 .

, (106) (101) , IC

.

(3)

2 2 2 1 가 . 3

2 3 1

.

(102 - 1) , 가

(A)(102 - 2) 가 (107) .

, (107) (102 -

1) ()가 (A)(102 - 2) .

1 m (m 1 n (A)(102 - 2) 가 (A)(102 - 2) ,

(m+1) n (A)(102 - 2)

.

, 가 (A)(102 - 2)

.

, 가 ,

.

, 가 ,

, 가 ,

가 .

, (107) (101) , I

C .

(4)

2 2 3 2 1 가 . 4

2 4 1

.

(SP) , 가 (102 - 1) 가

(108) .

[illegible]

가 (503) 가
가 가 , 가
, (502), (503), (504)
IC , (503)
1 3 1 3 , 1 3
2 가 .
가 3
가 가 .
[1]
6 (S1 Sx), (V1 Vx), (301) (G1 Gy) (301)
(G1 Gy), (304) (S1 Sx), (V1 Vx),
(301) (304)
7 (304) 가 7 (305) TFT TFT(305)
G (G1 Gx) TFT(305)
S (S1 Sx), TFT(306) (306)
(308)
(308) TFT(305)가 (off) TFT(306) (308)가 ,
(308)
TFT(306) V (V1 Vx),
(307) V (308)
(307) , TFT(
306)
TFT(306)
(307) 가 V
IC
TFT(305) TFT(306) n- TFT p- TFT , TFT(3
(307) TFT(306)가 p- (30
TFT(306)가 n- TFT

TFT(305) TFT(306) ,

, 8 .

, ,

) TFT(305) ON G1 , G1 (, 1

, 1 (S1 Sx) .

TFT(305) TFT(306)

가 G1 , 가 G2 .

, G2 (, 2) TFT(305)가 ON ,

1 (S1 Sx) 2 .

, (G1 Gx) . (G1 Gx)

1 (Ta1) .

(Ta1)가 , (Tr1)가 , (Tr1) , 가

, 가 " 0" , TFT(306) OFF ,

(307) , " 0"

가 (307)

, 가 " 1" , TFT(306) ON ,

(307) , " 1" 가

(307)

, (Tr1) , (307)

1 가 (Tr) . 8 ,

1 (Tr1) 가

(Tr1)가 , (Ta2)가 ,

2 (Ta1) ,

가 (Ta2) . 2 가

(Ta2)가 , (Tr2)가 , 가

, ,

n 가 , (Ta)

(Tr)가 , (Tr1 Trn)가 , (F)가 , (Ta1) ,

가 60 , 1 60 . 1

Tr1:Tr2:Tr3:...

$$:Tr(n-1):Trn = 2^0:2^1:2^2:...:2^{(n-2)}:2^{(n-1)}$$

$$, 2^n$$
가

가 , n = 8
가 100% , 60% Tr3, Tr5, Tr8가 , 1% Tr1 Tr2

(Tr1 Trn)
Tr1 Tr3, Tr5, Tr2,...

가 가

가

$$r(n-1):(Tan+Trn) = 2^0:2^1:2^2:...:2^{(n-2)}:2^{(n-1)}$$

$$(Ta1+Tr1):(Ta2+Tr2):(Ta3+Tr3):...:(Tr(n-1)+T$$
가

[2]

1

9 (901) , 9 (902), TFT
(1)(903a), (2) , 2
)(903b) 가

(902) 1 3

(902), (903a),
(903b) (901) , IC FPC, TAB
(901)

10 (901) 가 10 (S1 Sx), (V1 Vx),
(1) (Ga1 Gay), (2) (Ge1
Gey) (901)

(904) (S1 Sx) , (V1 Vx) , (Ga1
Gay) , (Ge1 Gey) 가 (901) ,
(904) .

11 (904) 가 11 , (907) TFT TFT(90
7) Ga(Ga1 Gay) . TFT(907)
S(S1 Sx) , TFT(908)
TFT(909) (912) .

(912) TFT(907)가 (off) TFT(908)
(912)가 , (91
2) .

TFT(908)
(910) (V) (912) V (V1 Vx) ,
TFT(907)
(V) TFT(909) (Ge) .

(910) , , - TFT
(908) , TFT(908) ,
(910) (911) 가 , (V)
가 IC 가

200 cd/m² , mA
/cm² 가 , IC
, IC
,

TFT(907), TFT(908), TFT(909) n- TFT p- TFT가 .
, TFT(908) (910) , T
FT(908)가 p- TFT
(910) , TFT(908) n- TFT .

TFT(907), TFT(908), TFT(909)
가 .

, 12 .

, (903a) (Ga1) ,
(Ga1) (, 1) TFT(907)가 ON .
, TFT가 ,
, (Ga1) .

, 1 (902) (S1 Sx)
 TFT(907) TFT(908)
 , 가 " 0" TFT(908) OFF
 (910) , " 0"
 가 (910)
 , 가 " 1" TFT(908) ON
 (910) , " 1" 가
 (910)
 , 가 1
 , 1 (Tr) , 1 가
 Tr1 12 1
 가가 (offset)
 Ga1 (Ga2) TFT(907) ON (Ga2) 1
 가 (S1 Sx) 2
 (Ga1 Gax) (Ga1 Gax)
 1 (Ta1)
 , 1 가 , (Ta1)가
 , 1 (903b)
 (Ge1)
 FT(909) ON (Ge1) (, 1) T
 TFT(908) (V1 Vx) 1
 가 TFT(908) OFF
 , 가 (910) , 1
 , 1 TFT 가
 (Ga1) TFT , 1
 (Tr1) 가 (Td) 1
 (Td1)가 (Ge1)
 12 1
 가

Ge1, (Ge2), (Ge2) TFT(909) ON, (V1, Vx) TFT(909) TFT(908) 가, TFT(908) OFF, (910), 2, 2, 1, (Ga1, Gax) (T, e1), 1, 1, 가, (Ga1), 1, 가, (Te, 1)가, 1, (Td1)가, (Tr2)가, 2, (Ta2), 2, 가, (Ta2)가, (Ge2), 2, 1, (Tr2)가, 1, (Td2)가, (Ga1, Gax) (Te2), 2, m, 가, (Tr), (Td)가, (Td1), (Te1), (Ta1), (Te1)가, (Tr2)가, (Tr1), (Td1), (Tr2, Tr3, ..., Tr(m-1)), (Td2, Td3, ..., Td(m-1)), (Ta1, Ta2, ..., Tam), (Te1, Te2, ..., Te(m-1)), m, 가, 1, (Ge1), m = n - 2, 가, (n - 2), 가, 1, 1, (Tr(n - 2)), (n - 2), (n - 1), 가, 1, (n - 2), (n - 1), 1, 가, (Tr(n - 1)), (n - 2),

$(Ta(n-2))$, $(Tr(n-1))$ 가 $(Ta(n-1))$ 가 (Ta) $(Tr(n-2))$ $(Tr(n-2))$

$Tr1:Tr2:Tr3: \dots$

$:Tr(n-1):Trn = 2^0:2^1:2^2: \dots :2^{(n-2)}:2^{(n-1)}$

$(Tr1 \quad Trn)$ 가 (F)

(F) 가 1 1

$(Tr1)$

$1 \quad 60$

$가 60$

$가$

$, n = 8$

$가 100\%$ $가 1\%$ $Tr1 \quad Tr2$ $, 60$

$\% \quad Tr3, Tr5, \quad Tr8$

m $가$ (Tam) (Trm) $1 \quad n$ $가$

$(Tr1 \quad Trn)$

$Tr1 \quad Tr4, Tr3, Tr2, \dots$ $가$

$(Te1 \quad Ten)$ 가

(Tr) (Ta)

$(duty \ ratio))$

$[\quad 3]$

1 $가$

13 13 1

$(102-1)$ (CLK) ,

$(CLKB), \quad (SP), \quad (SL/R)$ 가

$(102-2, 102-3)$ (A) (B) $(A)(102-2)$

$(B)(102-3)$ 4 $(A)(102-2)$ $(B)(102-3)$

$가$ $가$

(102 - 3) S_LAT, S_LAT (DV) S_LATb (A)(102 - 2) (B)

(A)(102 - 2) (A)(102 - 2) (801) (A)(102 - 2) (801) 2 2

14 (A)(102 - 2) (801) 가 (831a, 831b) (A)(102 - 2) (801) TFT (836) (832a, 832b) (A)(102 - 2) (801) TFT (837a, 837b) (837a, 837b) (832a, 832b)

(833a, 833b) (A)(102 - 2) (801) TFT (838a, 838b) (833a) (838b, 839) (833b)

(834a, 834b) (A)(102 - 2) (801) TF (839, 840) (834a) (840, 841) (834b)

(102 - 4) 15a 15b

(102 - 4) 15a (851), 1 (852), 2 (853) (SS), (SS) (SSB)

16 1 (852) 2 (853) 가 1 (852) 2 (853) n - TFT p - TFT (IN) (OUT) 2 (Vin) 2 (Vinb)

(B)(102 - 3) (851) (IN) 1 (852) (B)(102 - 3) (IN) 2 (853)

(SS), (SS) (SSB) 1 (Vin) 2 (Vinb) 1 (852) 2 (853) 1 (852) (SS) (OUT)

(102 - 4) (SS) (102 - 4)

가

(102 - 4) 15b (861), 1 NAND(862), 2 NAND(863), NOR(864) (SS), (SS) (SSB)

(B)(102 - 3) (861) (SS)

(SSB) 1 NAND(862)

(861) 1 NAND(862)

2 NAND(863) (SS) 2 NAND(863)

1 NAND(862) 2 NAND(863) NOR(864) NOR(864)

(102 - 4) (SS) (102 - 4)

가

15a 15b

가

1 2

[4]

2

17 17 1

가

(102 - 1) (CLK),

(CLKB), (SP), (SL/R)가

(102 - 2, 102 - 3) (A) (B) (A)(102 - 2)

(B)(102 - 3) 4 (A)(102 - 2) (B)(102 - 3)

가

가

(DV) (A)(102 - 2)

S_LAT, S_LAT S_LATb (B)

(102 - 3)

(A)(102 - 2) 14

(106) (CLK) () (102 -

1)

() (106)

(102 - 1) 1 m

(A)(102 - 2) (A)(102 - 2)

(m+1) n

(A)(102 - 2)

18a 18b (106) .

(106) 18a NAND(1801) (1802) .

NAND(1801) NAND(1801) (IN) NAND(1801) (102 - 1)

(1802) (OUT) .

가 (102 - 1) 가, ()가

가 .

(106) 18b 1 (1811), 2

(1812), (1813) .

1 (1811) 2 (1812) 16 1

(1811) 2 (1812) n - TFT p - TFT .

(IN) 1 (Vin) 2 (Vinb)

, (OUT) .

1 (Vin) 1 (1811) 2 (1812)

(1811) 2 , (Vinb) 1

(1812) (IN) 1 (1811) 2 (181

2) (IN) () .

1 (1811) 2 (1812) (OUT)

(106) .

가 (102 - 1) ()가

.

18a 18b .

1 3 .

[5]

, (3) 가 .

19 . 19 , 1

.

(102 - 1) (CLK), (CLK

B), (SP), (SL/R) .

(102 - 2),(102 - 3) (A), (B) (A)(102 - 2)
 (B)(102 - 3) 4 (A)(102 - 2) (B)(102 - 3) 가

(DV) (A)(102 - 2)
 S - LAT S - LATb (

S - LAT
 B)(102 - 3)

(A)(102 - 2) 14

(107)
 (A)(102 - 2) ()

() (107)
 (102 - 2) (A)(102 - 2) 1 n
 (A)(102 - 2)
 , (m+1) n (A)(102 - 2)

(107) 18a;18b (1
 07) (4) (102 - 1)
 18a,18b (IN) 18a,18b
 (OUT) (A)(102 - 2) 가
 (A)(102 - 2) ()가

18a,18b

1 3

[6]

(4) k 가
 20 20 , 1

(102 - 1) (CLK), (CLKB),
 (SP), (SL/R)

(102 - 2),(102 - 3) (A), (B) (A)(102 - 2), (B)(10
 2 - 3) 4 (A)(102 - 2) (B)(102 - 3) 가

(DV) (A)(102 - 2)
 S - LAT, S - LATb (B)(10
 2 - 3)

(A)(102 - 2) 14

(108) , (SP) () (102 - 1)

, () (108)
 (102 - 2) , (A)(102 - 2) 1 m (102 - 1)
 , (m+1) n
 (A)(102 - 2)

(108) 18a, 18b
 (108) (4) ,
 18a, 18b (IN) 18a, 18b (OUT)
 (102 - 1) 가 (102 - 1)
 ()가

18a,18b

1 3

[7]

5 , 3 가 21
 5 가

21 , (501) (509) (502) , (503)
 (504) (505) 가 (503) (50
 3) (504) , (503) (503)
 가 , (503) 가
 (504) (503)

(502) 2 . 2
 (+) , (-) (503)
 (502)

(502) (504) (503)
 (501) , (502)
 (501) , 가 (505) (502)
 ,
 가 (502) 가 (505) 가
 가 (501)

22 가 가 (505) 1 (521), 2
 (522), 가 (525), (520) (520) 3
 (523), 4 (524), (526), (527) .
 1 (521) 가 (IN) 1 (521)
 2 (522) 2 (522) 가 (52
 5) . 1 (521), 2 (522) (520)
 (527) (+) .
 3 (523) (527) , 3 (523)
 (527) 3 (527)
 4 (524) 4 (524)
 (526) 3 (523) (527) 가 (
 505) (OUT) .

, (503) 가 ,
 가 가 가 가 가 가 ,
 (503) (504) , 가 (505) , (501) , (502)
 , (503), (504) , 가

가 (505) 22 1 6

[8]

8 , TFTs(n TFT p
 TFT)
 , 23a , ,
 (401) , Corning Corp. #7059
 #1737 (400) ,
 CVD $\text{SiH}_4, \text{NH}_3, \text{N}_2\text{O}$ 10 200nm(50 100nm)
 , $\text{SiH}_4, \text{N}_2\text{O}$ 50 200nm(100 150nm)
 (401) 8 2 , 2
 가 ,
 (402) (405) 가
 (402) (405) (25) (80)nm (
 30 60nm)
 (SiGe)

, YAG , YVO4

??

100 400mJ/cm² (200 300mJ/cm²) 300Hz , 2 YAG 가
 2 (350 500mJ/cm²) 30 300KHz , 300 600mJ/cm²
 100 1000 μ m 400
 50 98%

(406) (402) (405) (406) CVD
 40 150nm . 120nm
 8 (406) , 300 4
 00 CVD 0.5 0.8W/cm² , 40Pa , TEOS() O₂
 (13.56MHz) 0.8 0.8
 400 500

1 (407) 2 (408) (406) 1
 (407) 50 100nm 가 Ta() , 2 (408) 8 100
 300nm 가 W()

Ta , Ta At . Xe Kr
 Ar 가 , Ta (peeling) . α Ta 2
 0 μ Ωcm , β Ta 18.0 μ Ω . α
 Ta α Ta Ta
 10 50nm

W W (WF₆) CVD , W 2
 0 , W , W , W
 가 , 가 , 가 99.9999% 99.99% W
 , 9 20 μ Ωcm , 가

1 (407) Ta 가 2 (408) 8 W가 , ,
 Ta, W, Ti, Mo, Al, Cu 가
 , 8 , (TaN) 1
 , 1 W 2 , (TaN)
 1 , 1 Al 2 , (TaN)
 1 1 Cu(23b) 2

(409) (412) , 1 . IC
P() 8 . CF₄ CL₂ 가 가 ,
1Pa 500WRF (13.56MHZ) . 100WRF
(13.56MHZ) () , 가 . CF₄
CL₂가 W Ta .

23 , 1 2 .

15 45 . 1
0 20% 가 . W 2 4(3) ,
20 50nm 가 - , 23c ,
(406) 1 (414 417) , 20 50nm .

1 (414 417)(1 414a 417a 2 (414b 417b) 1
1 2 .

2 23d . ICP , CF₄, CL₂, O₂
가 , 500WRF (13.56MHZ) 1Pa
. 50WRF(13.56MHZ) () , 1
W , Ta(1) 2
(419 422)(1 419a 422a, 2 419b 422b)
, 23d , (406) 20
50nm 2 (419 422) .

CF₄ CL₂ 가 W Ta ,
가 . W Ta , W
CL₅, TaF₅, TaCL₅ . , W Ta CF₄, CL₅가 , W
, O₂가 가 , CF₄, O₂가 CO,F , F
F , Ta , 가 , Ta W , Ta
가 , Ta Ta 가 , Ta
O₂ 가 , W Ta 가 가 , Ta W
, W Ta 가 .

, (409a 412a)가 , 1 24 (a) , n
가 , 70 120KeV 가 1x10¹³ atoms/cm²
2 (419a 422)
가 2 (419a 422
a) 1 (425 428), 1 가 2
(429 432)가 . n 8 (409a 412a)
가 , . n 24
(a) 가 , (409a 412a)가 .

(433) 2 (421a, 421b) (404) (433)
 2 (431) (406) 2
 n 가 가 . n 가 (2
 4 (b)) 1
 1×10^{13} 5×10^{14} atoms/cm² 60 100KeV 가
 15 , (P) (As) n , (P)
 2 (419 422) n 가 ,
 (434 437), (438 441), LOV (422 445)
 Loff (446) (433) . n 1x10⁻²⁰ 1x10⁻²¹ atoms/cm³
 (434 437) (438 441) 가 .
 8 (433) Loff (446) 가
 , LDD Lov ,
 LDD Loff .
 n Loff 1x10⁻¹⁷ 1x10⁻¹⁹ atoms/cm³ , Lov 1
 1×10^{16} 1×10^{18} atoms/cm³ 가 .
 24 (b) , n , n
 가 (433)가 (404) 70 120KeV
 TFT Loff (446) n
 , TFT Lov (442,443) n
 가 TFT Loff (446) n
 TFT 가 n TF
 T Lov (443) n 가 .
 (453) , 가 (447,448),
 (449,450) Lov (451,452) 24 (c) , P TFT (402,405)
 2 . n TFT ,
 가 , (447,448), (449,450), Lov (453)
 2×10^{21} atoms/cm³ 가 (diborane)(B₂A H₆) , 2x10⁻²⁰
 (, , Lov , Loff) (402 405)
 2 (419 422)
 가
 1ppm , , 500 600 , 400 700 (RTA)가
 0.1ppm , 8 500 4 ,
 (419 422) 가)
 3 100% 300 450 1 12 .

)

1 (455) 100 200nm(25 (a)) 가
 2 (458) , 1 (455)

(406) , 1 (455) 2 (458), (459 4
 62) (447, 435, 436, 448) , (463
 465) (449, 439, 440, 450) (25 (b)).

(406), 1 (455), 2 (458) SiO₂ SiON CF₄ O₂
 (406), 1
 (455), 2 (458) , BHF(, HF+ NH₄F)
 5), 2 (458) , (406), 1 (45
 가

3 (467) , , BCB(
)가 , 3 (467)
 TFT 가 (8)
 1 5 μm 가 (2 4 μm)
 (465) 3 (467) , (468)
 (ITO) 8 110nm , (468)
 , 2 20% ZnO 가
 (468) (25 (c)).

1 (469) 2 (470) 1 (469) 2 (470)
 , 2 (470)가 1 (469)
 1 (469) 2 (470) 가 1 2 μm
 ,
 1 (469) 2 (470) , ,
 가 1 (469) 2 (470)
 1 (469) 2 (470)
 2 (470) () 1 (469)
 1 (469) 2 (470) 가 (26a).

(471) (MgAg)(472)
 (471) 80 200nm(200 250nm) ,
 8 , ,
 (471) (472) (4

70) , , ,

(471) (472)

(471)

(471) (472)

가

(471) 가 8 가

가 가 가 (471)

(472) MgAg 가 8

26b 가 가 1 (469), 2 (470)
() (472)

8 , (504), (505), Loff (506), Lov (507) (508)
TFT(501) . Loff (506) (406) (421)
. , Lov (507) (406) (421)

8 TFT(501) TFFT
가 . 2 TFFT 2 TFFT

TFFT(501) 8 n TFFT , p TFFT 가

TFFT(502) (510), (511), Lov (512), (513)
Lov (512) (406) (422) T
FT(502) 8 Loff 가 , Loff 가 가 .

TFFT(502) 8 P TFFT , n TFFT 가

8 TFFT 가

가 TFFT
CMOS n TFFT(502) . D/A
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8 CMOS n TFT(503) (521), (522), Lov (523),
(524) .

, CMOS P TFT(504) (531), (532), Lov (533),
(534) .

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, (가 , FPC)가 가 .

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, Loff , Lov 가 . Lo

v Loff 가 8 .

TFT가 가 . , TFT n

3 TFT 가 TFT 가 8 , ?? .
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(40) 가 TV 30

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DVD

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가 27,28

27a (2701) (2702) ((

2701) (2703) (2702) (2703) , (2701)

(2704) (2702) (2706) Q

(2701) (2704) , 27a

(2701) (2705) (27

05) (2704)

(2702) (2706), (2707), (2708), CCD (2709)

(2706) (2707) 27a (2707)

(2706)

(2707) , CCD (2709)

(2701) (2705) 27a (2708)

(2701) (2705) (2701) (2708)

(2705) (2705) (2705) (2708)

(2701) , (2705) (2708) (2702)

27a

가

27b (2601), (2602), (2603), (2604), (2605),

(2606) (2604) (2604)

가

28a (2001), (2002), (2003)

(2003) 가

가

28b (2101), (2102), (2103), (2104), (2105),

(2106) (2102)

28c (2201), (2202), (2203), (2204), (2205),

(2206) (-)

(2206)

28d (2301), (DVD) (2302), (2303), (a) (2304),

(b) (2305) (, DVD)

(2304) (a) (2305) (b)

(2304)(a), (2305)(b)

가

28e (2401), (2402), (2403) (2402) (

28f (2501), (2502), (2503), (2504)
(2503)

가

CATV()

가

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가

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가

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가

29a (702, 703,
704, 705)

29a TFT()가 " ON" TFT 가 (705)
(701)

, 29a , (705)

(704) , 가 , 가 V1,V2
(< V2 < V1) ,
, V2,V1

, V2,V1

(704) 29a

(704) (703)
(705) , (703)
(705) , (703)

29a , (703) .

(703) (704) 가 (703) , (703) (704) (703) 가 . (704) , (702) 2 가 , 2 (703) (+) , (-) . (702) .

(702) (701) , (704) (703) (701) , (702) (705) (703) (705) .

, (705) (703) 가 가 , 가가 .

29b 29a 가 (705) , () 3 .

29a , () , 가 , () , 가 , , 가가 .

29b 29a 가 (705) , () 3 .

29a , () , 가 , () , 가 , , 가가 .

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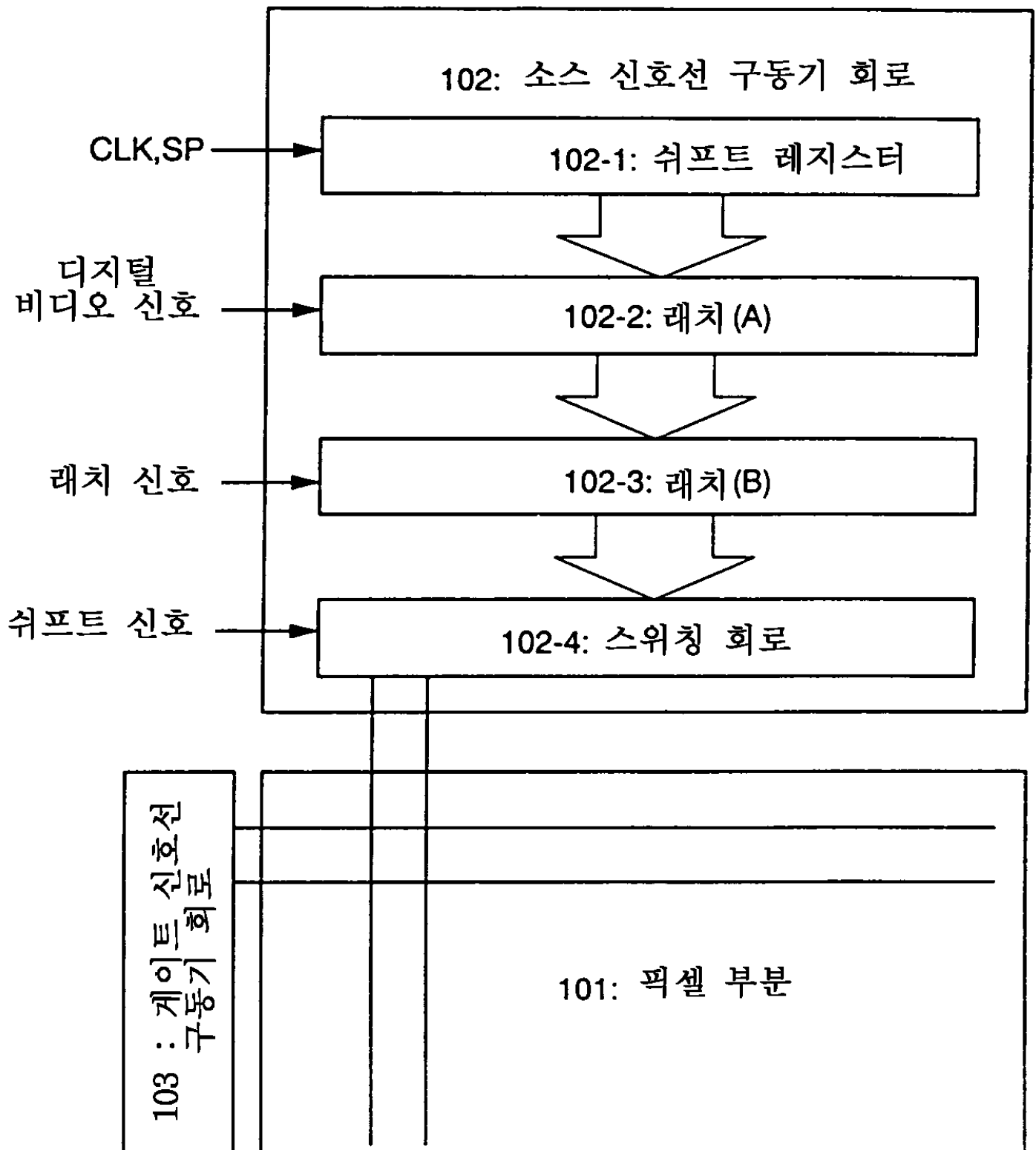
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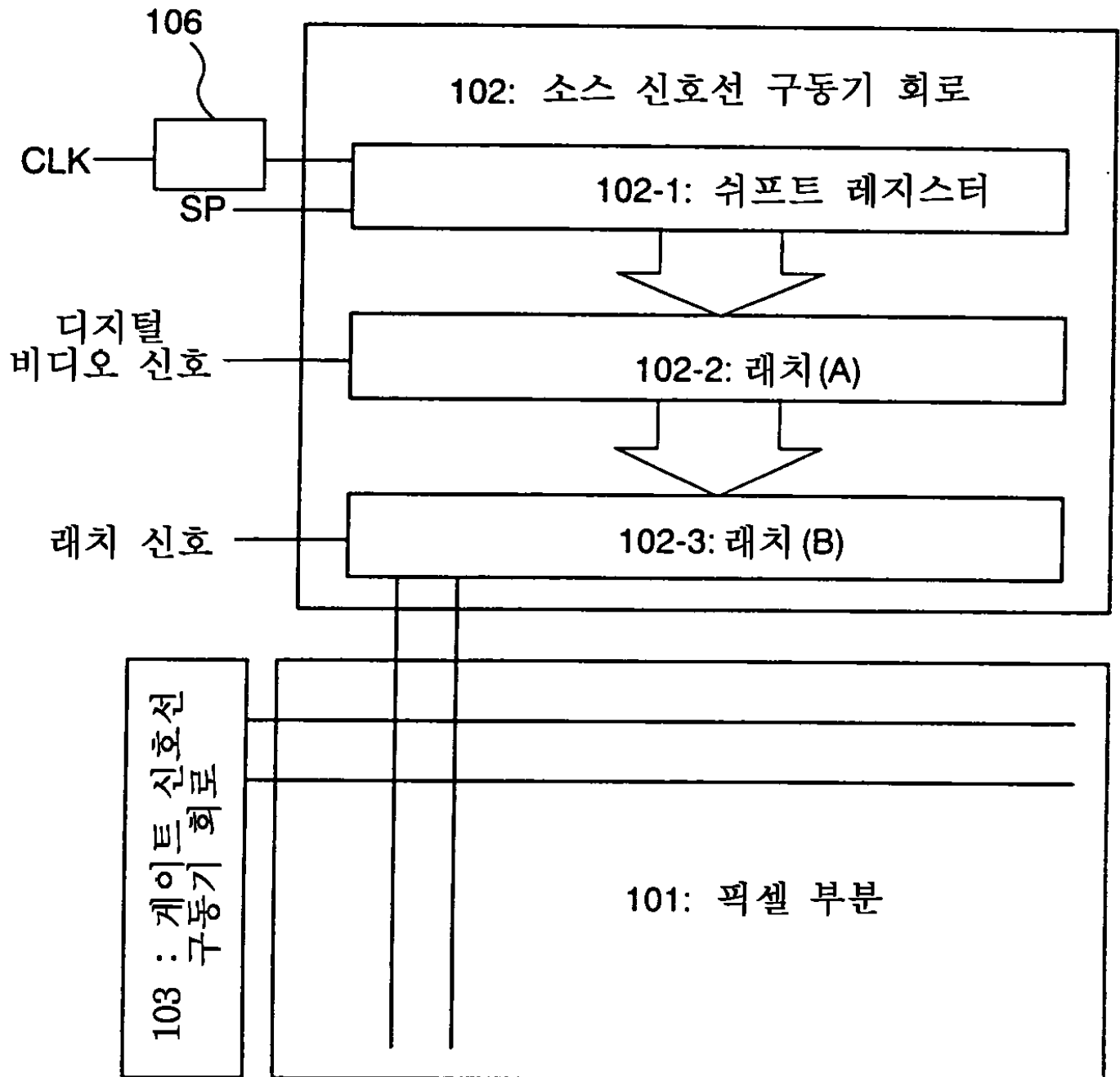
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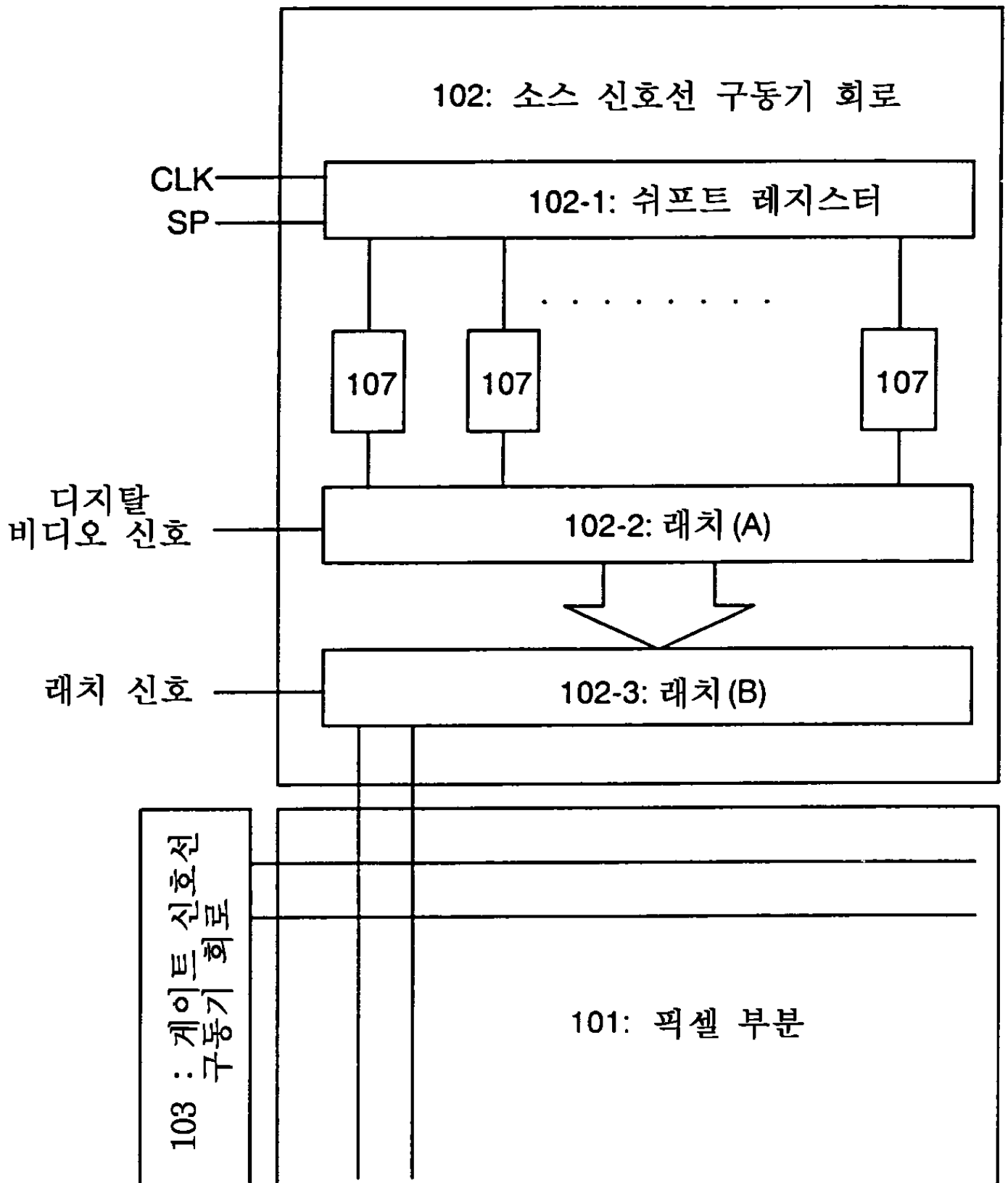
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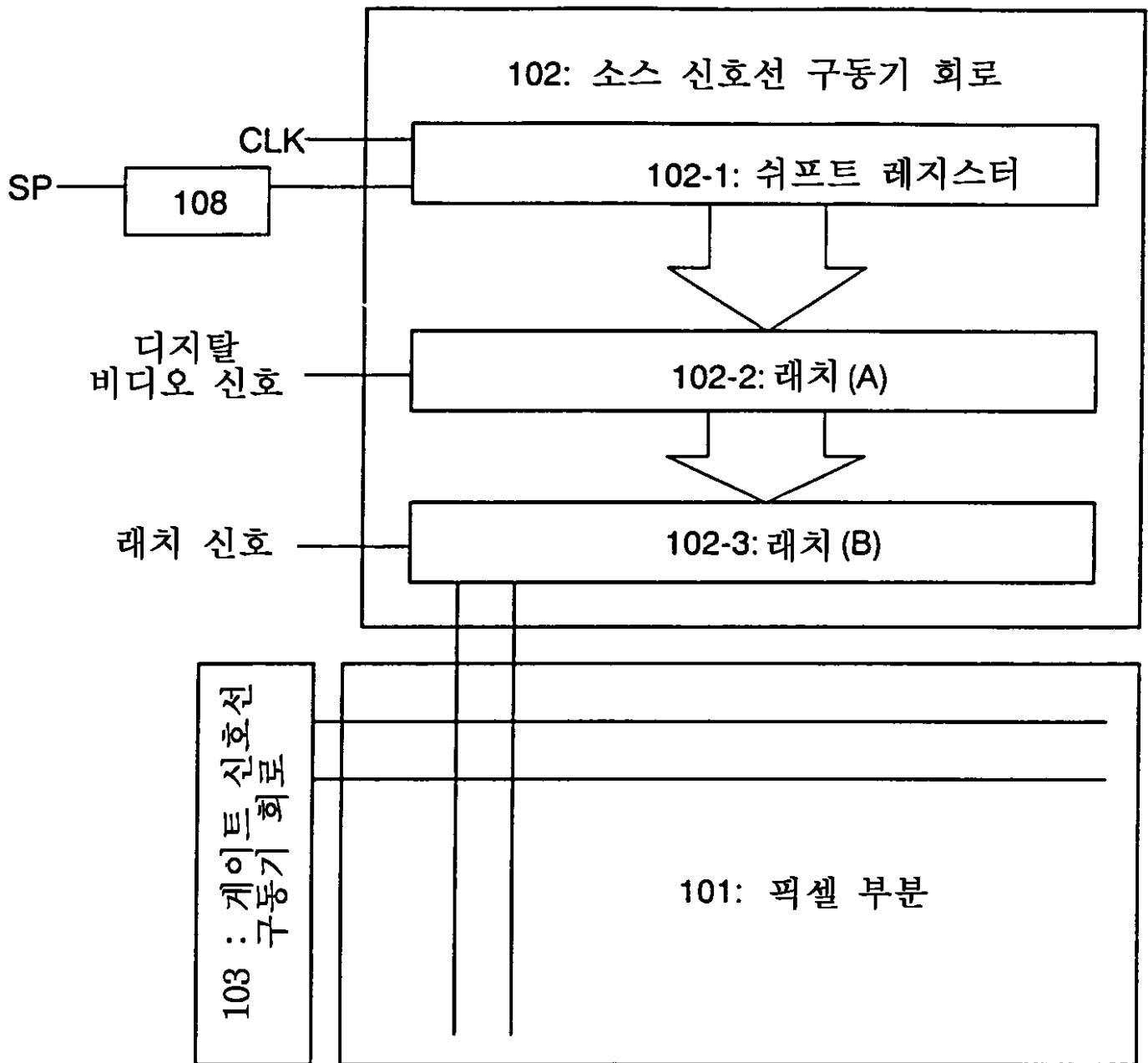
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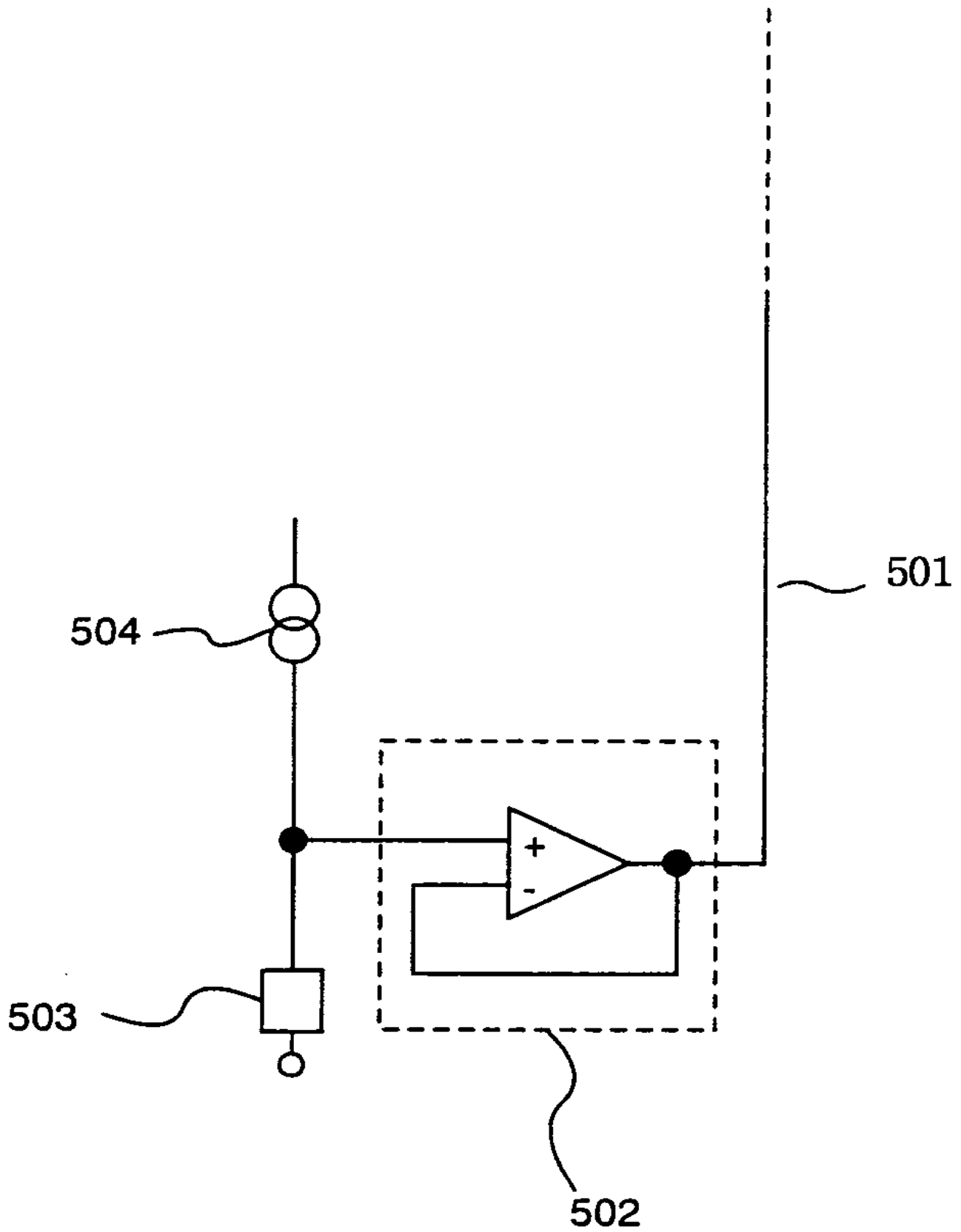




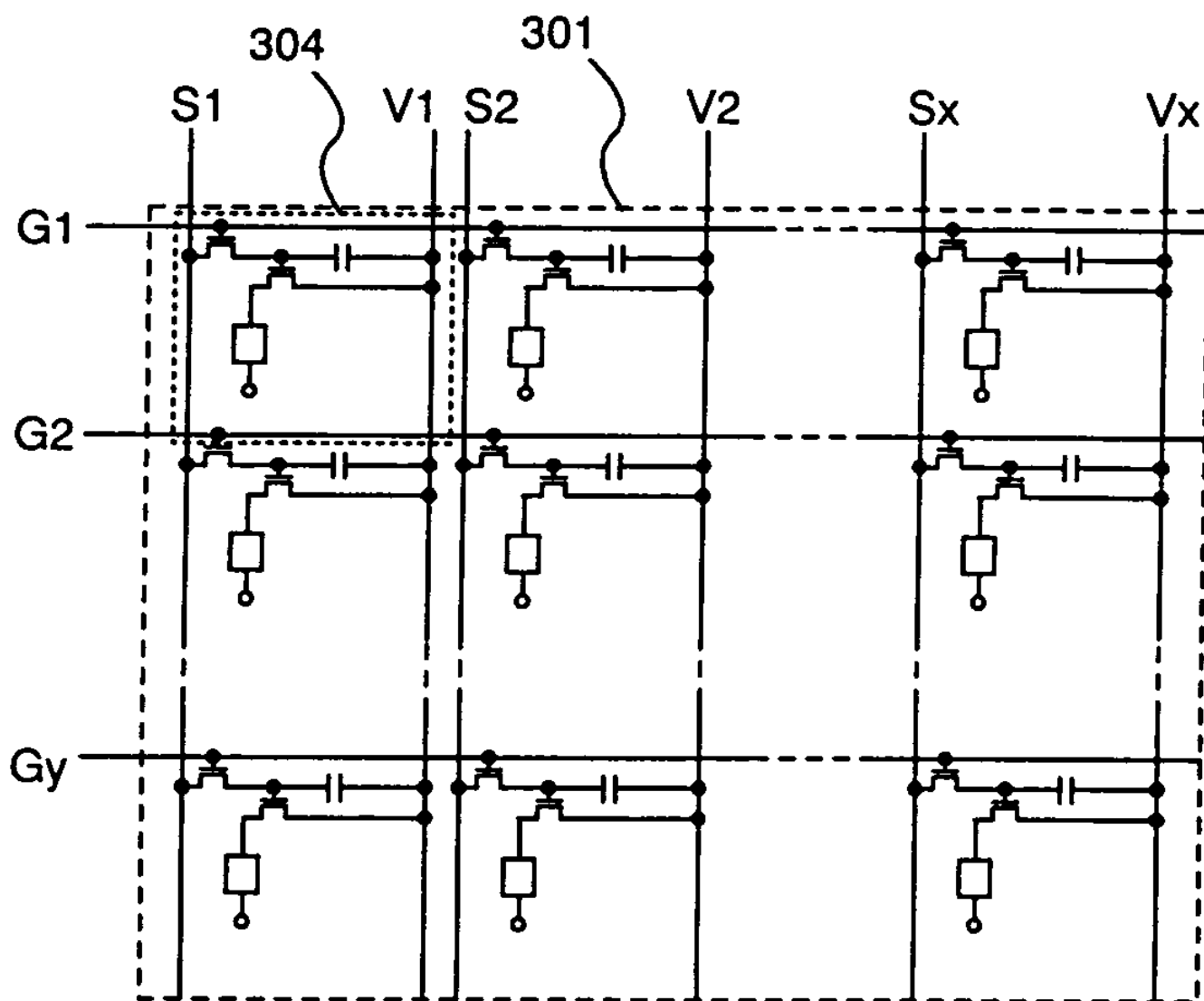


5

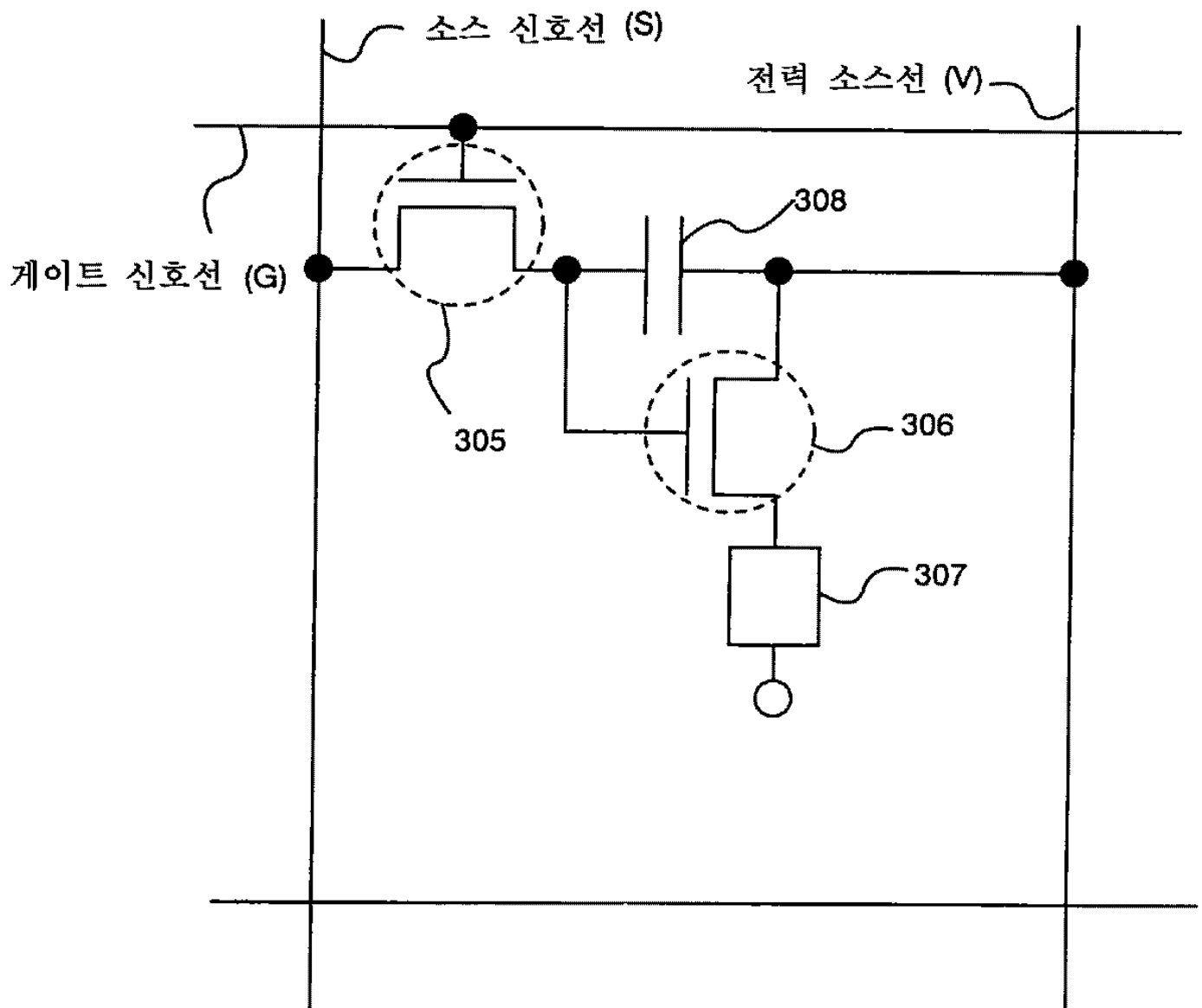
픽셀 부분에서 픽셀 전극으로

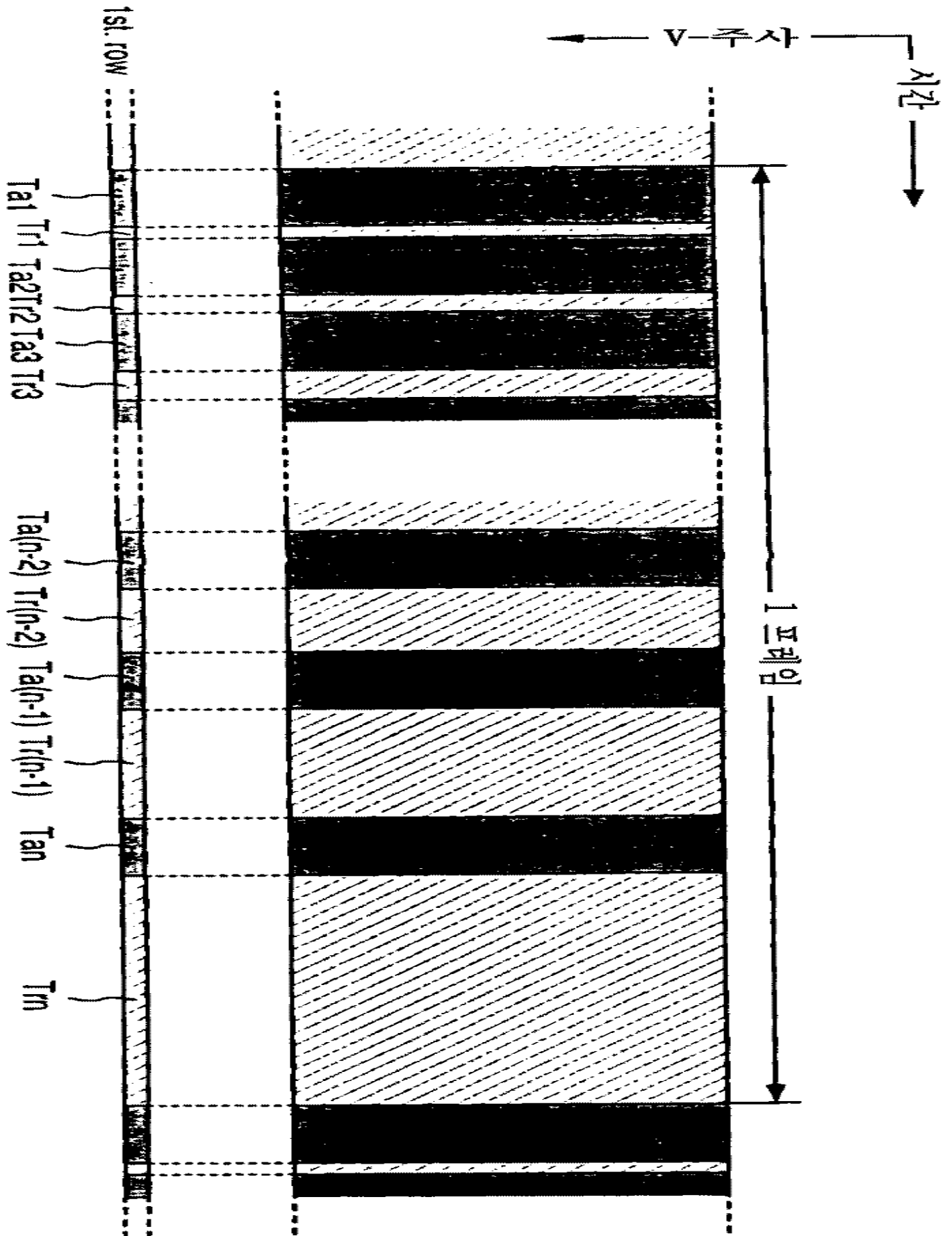


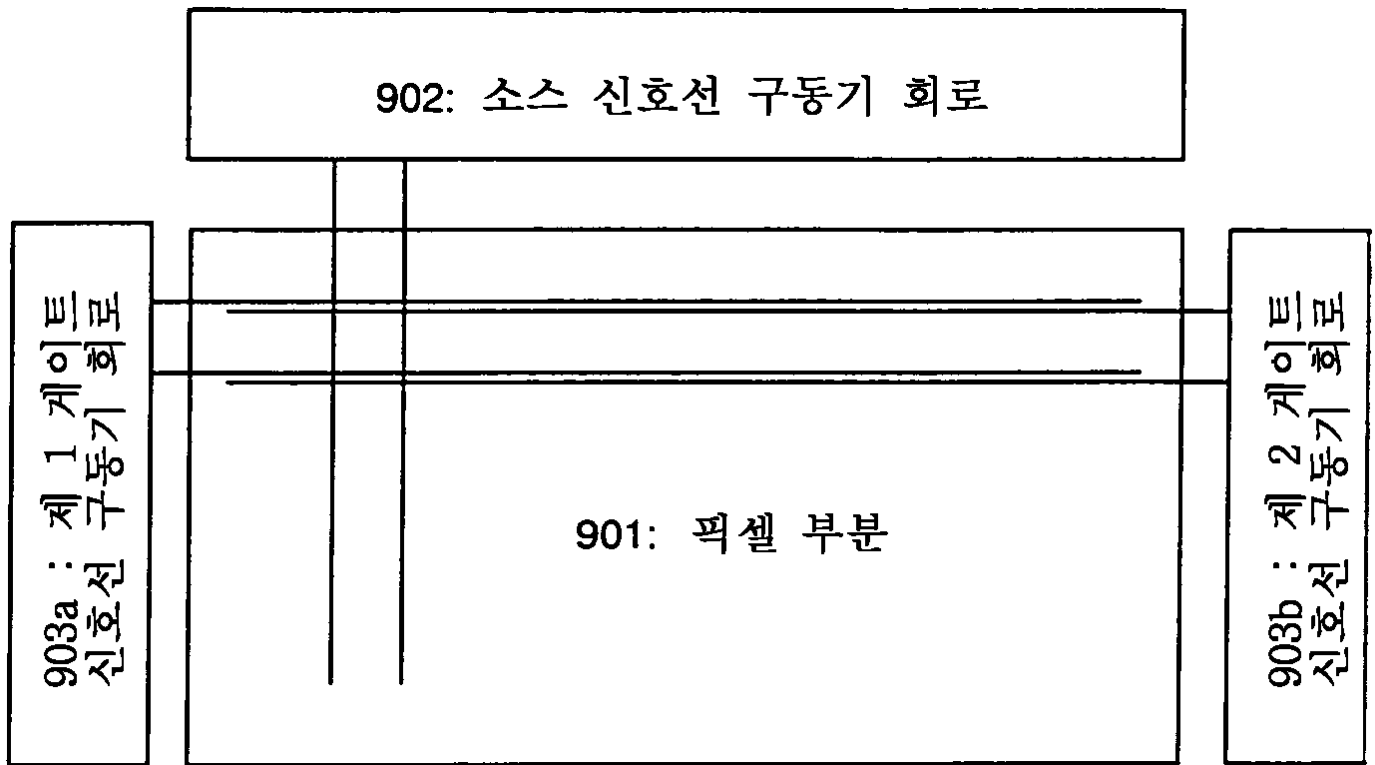
6



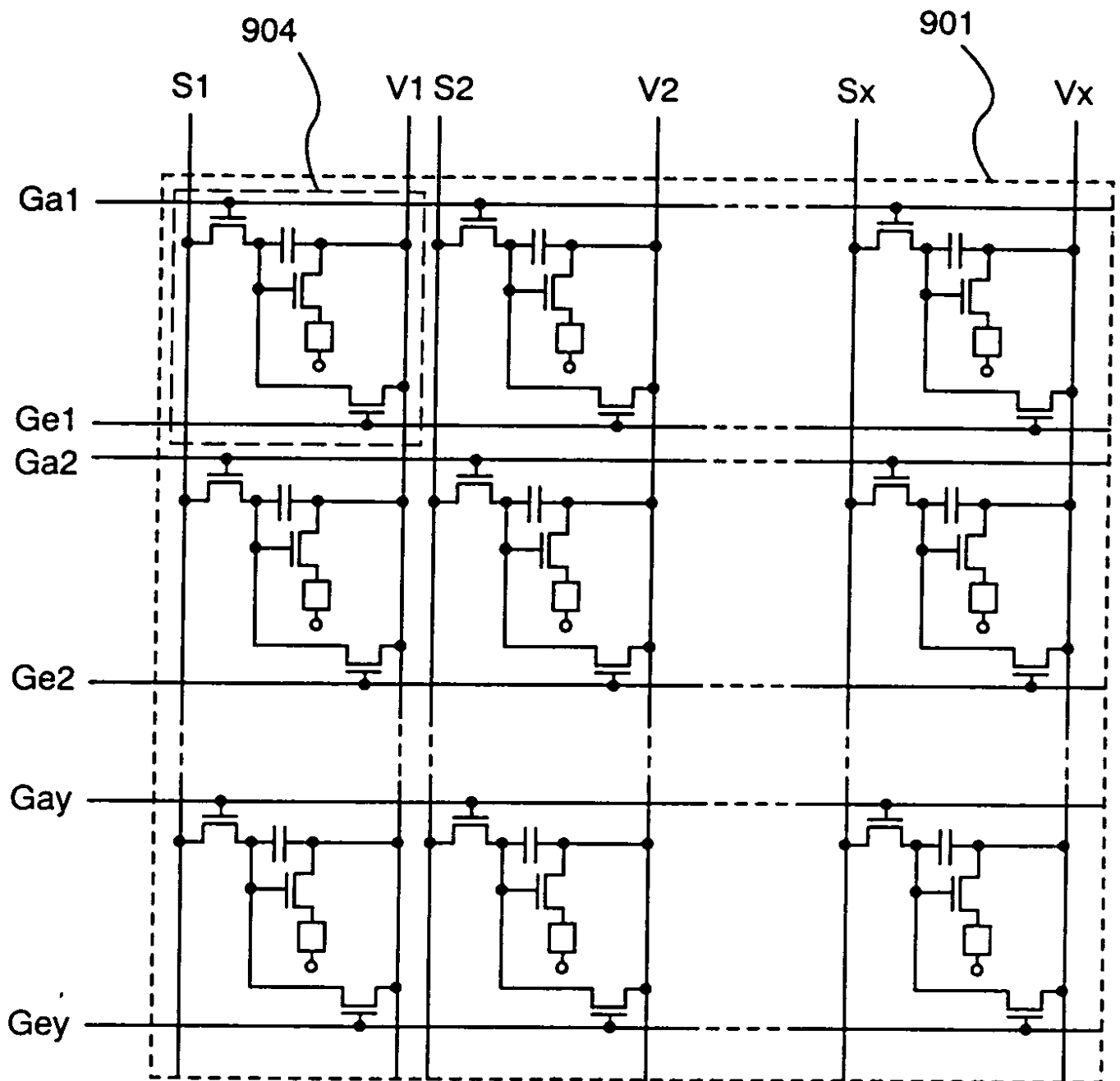
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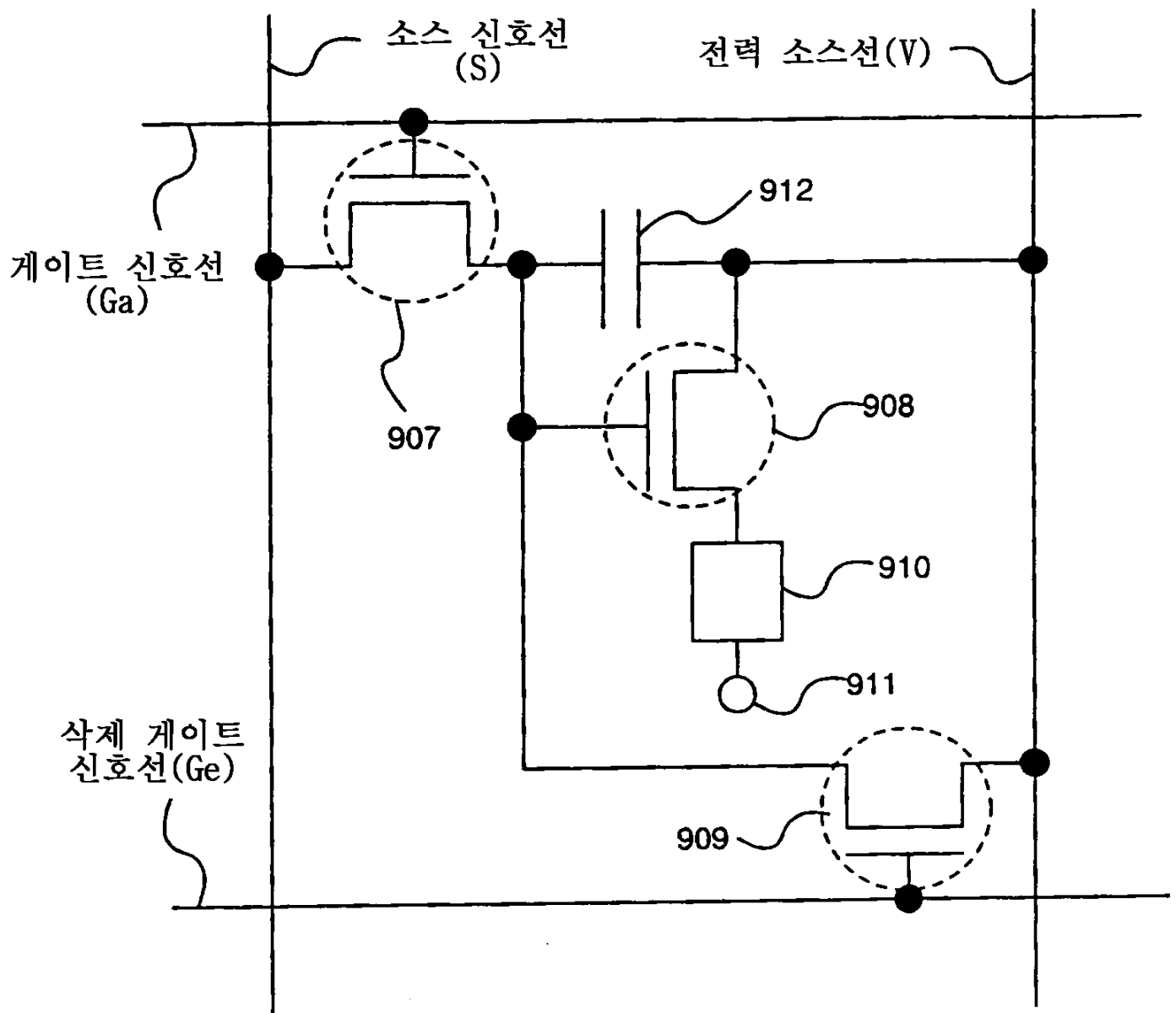


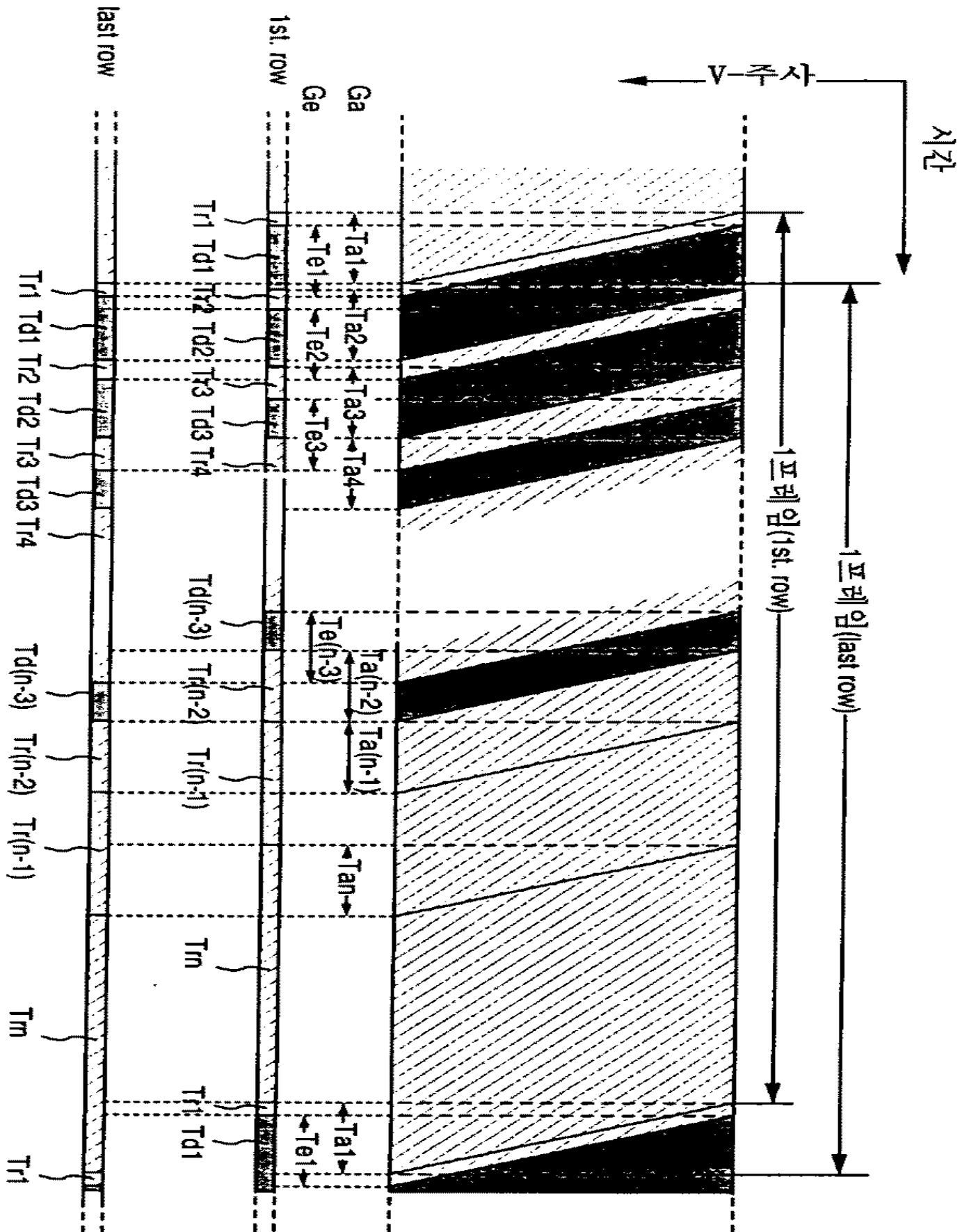


10

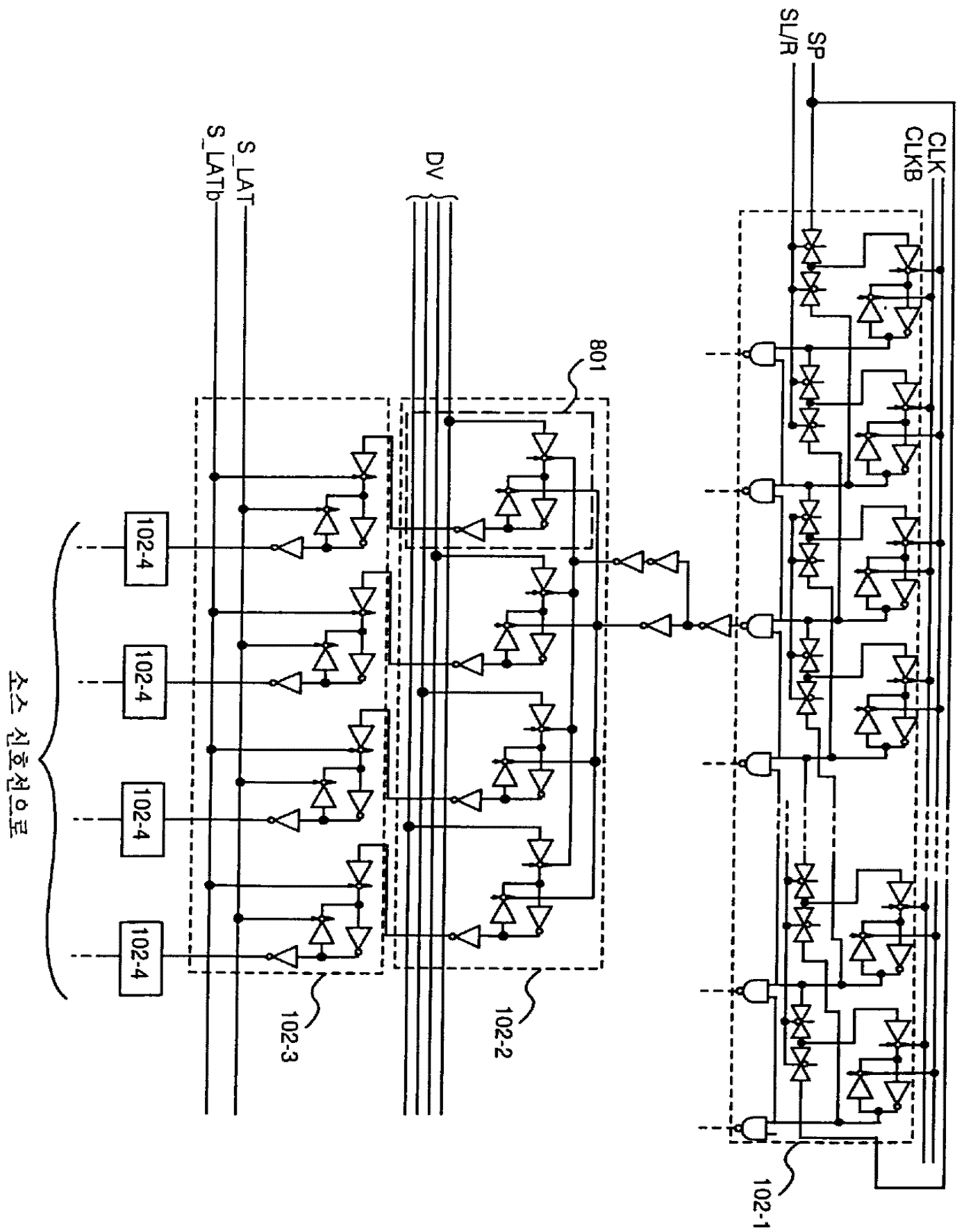


11

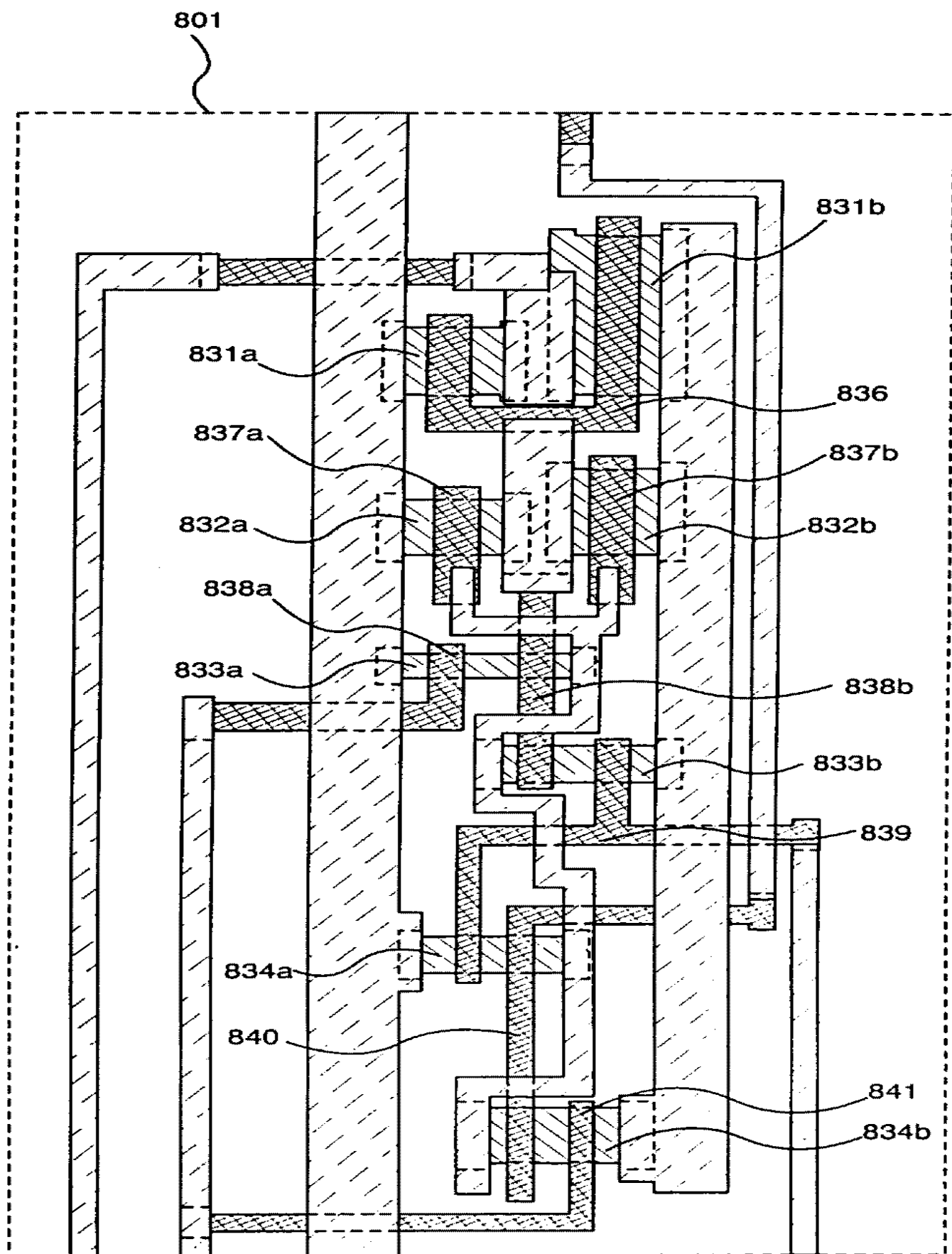




13

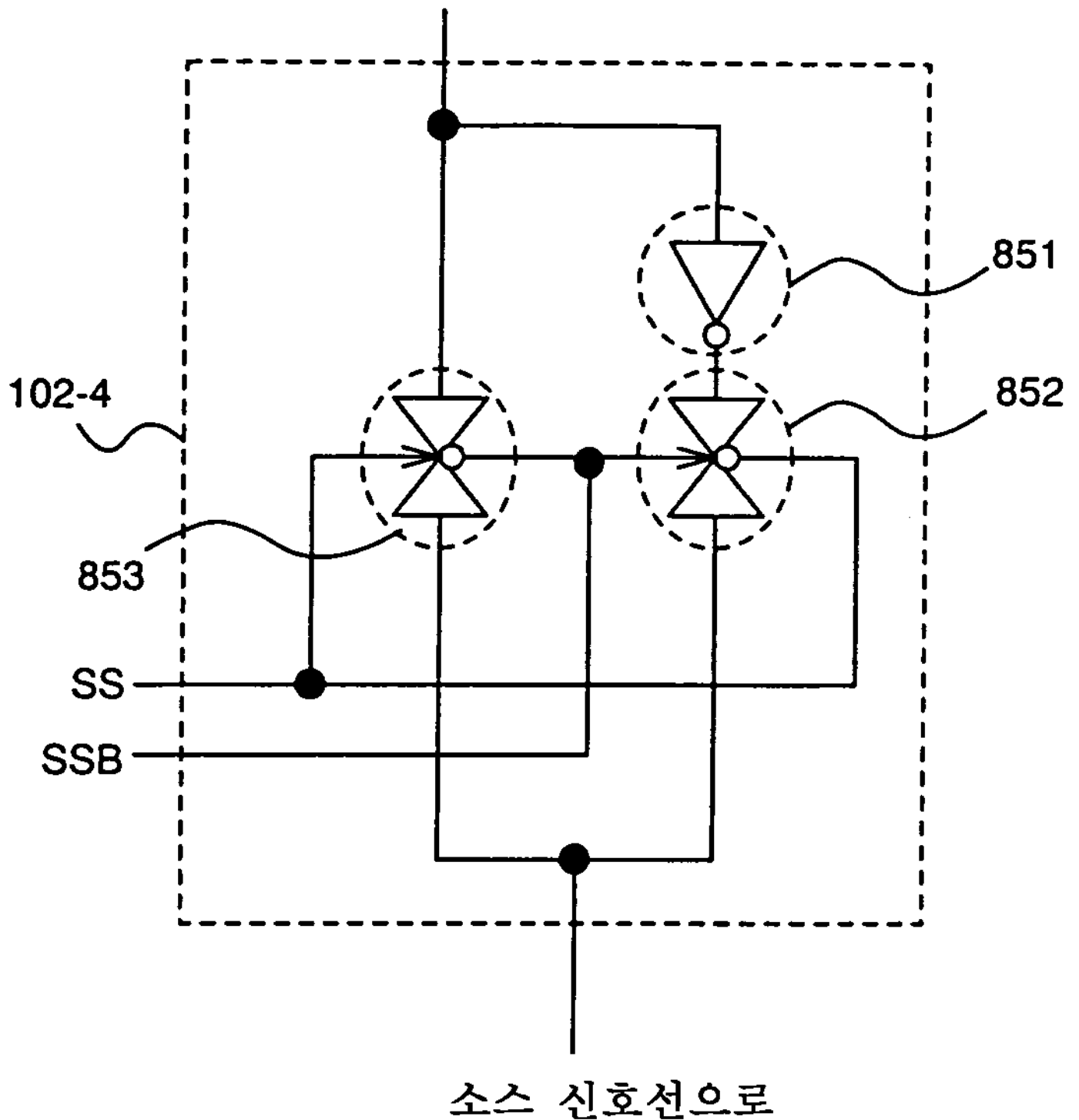


14



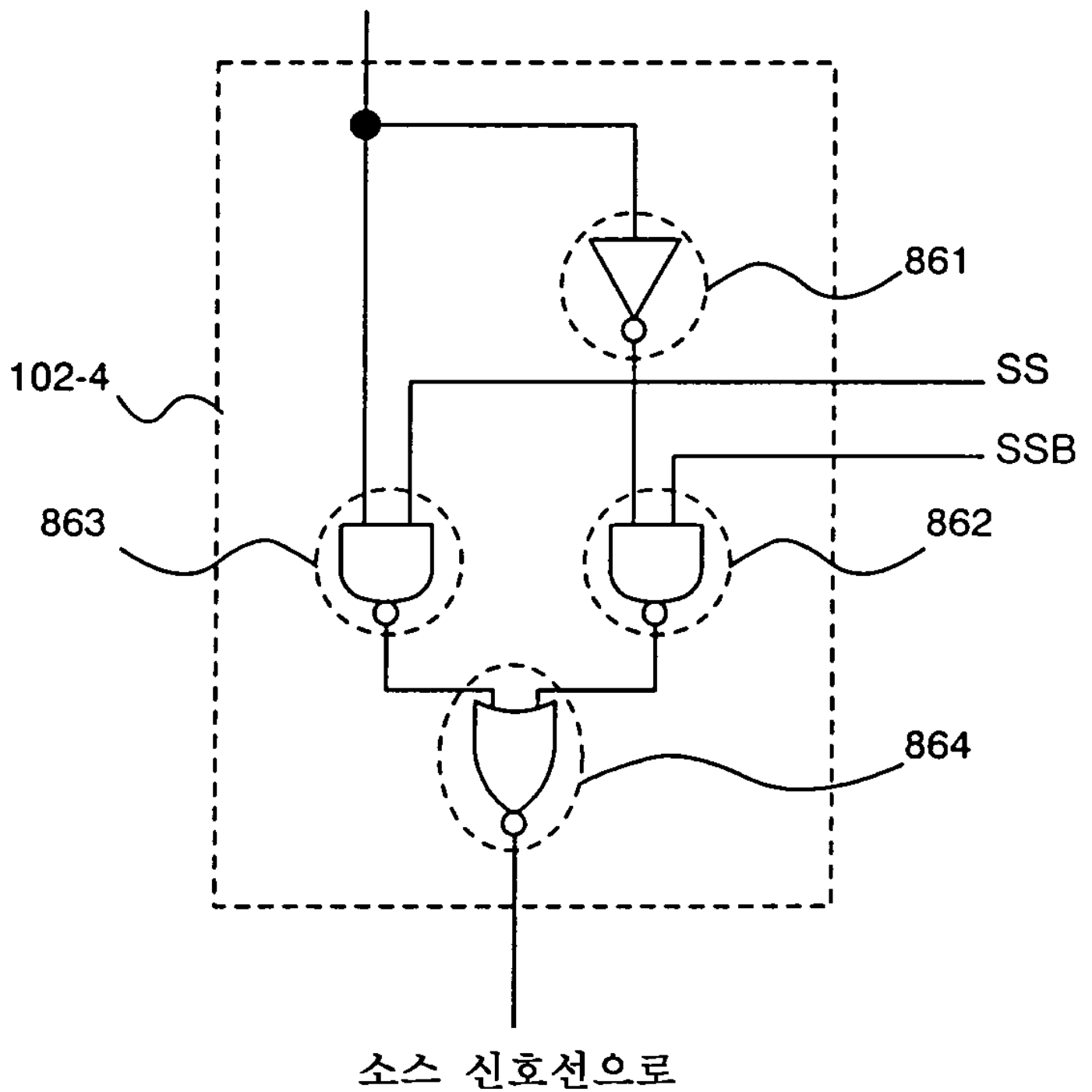
15a

102-3으로부터

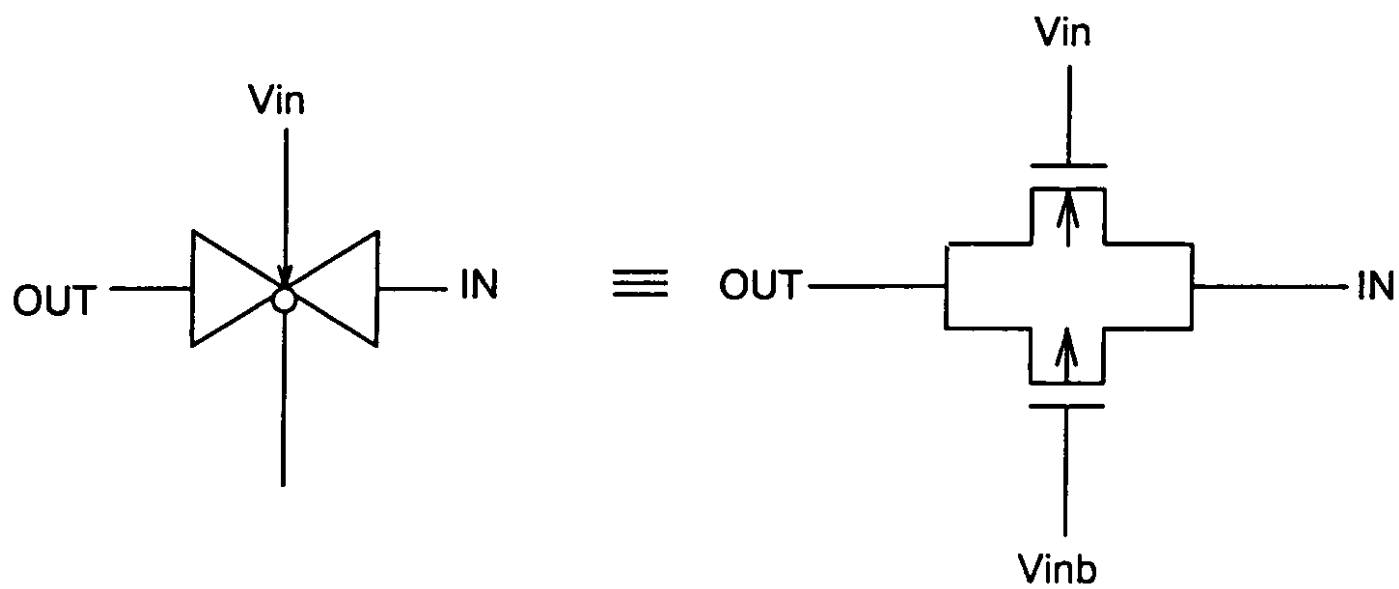


15b

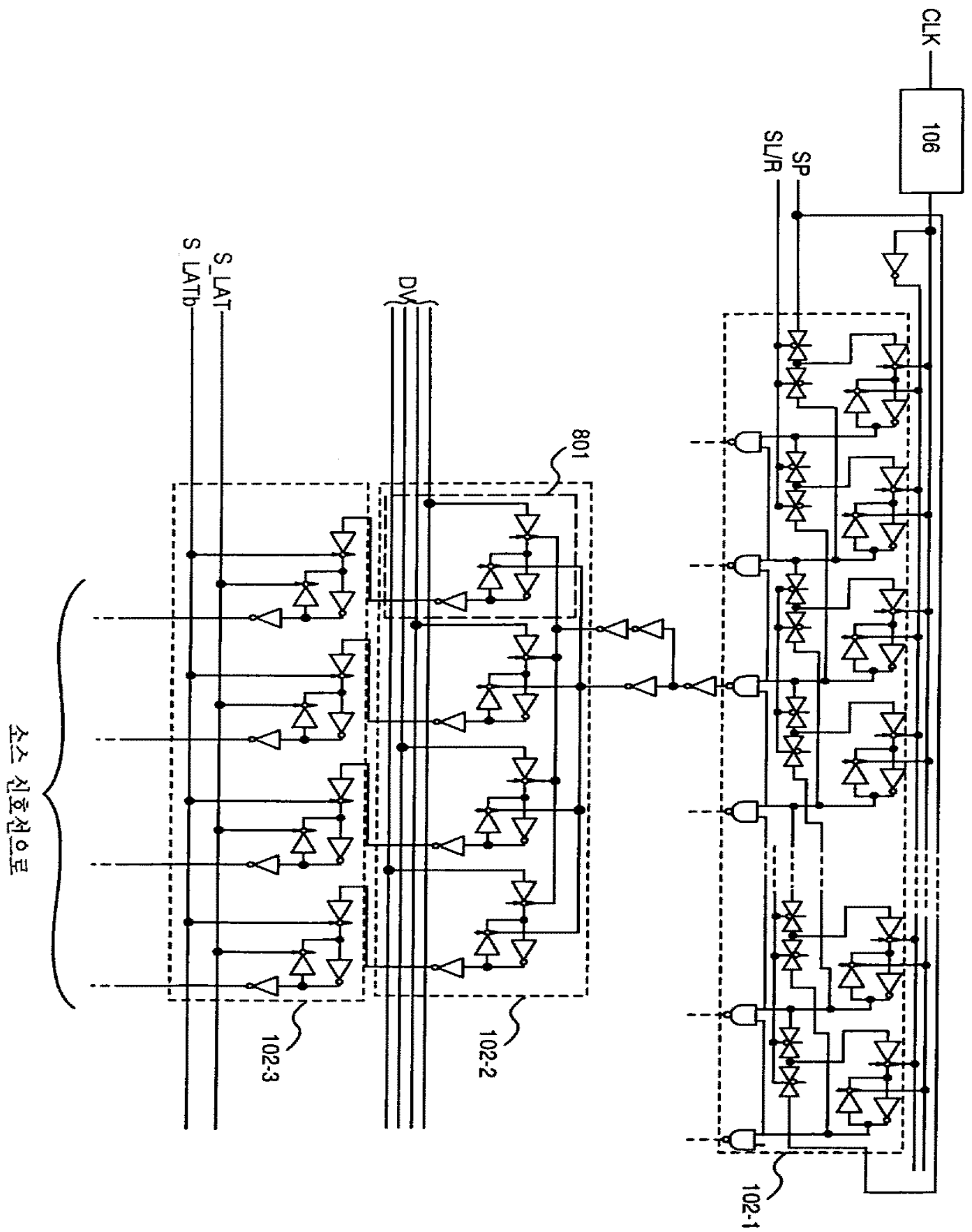
102-3으로부터



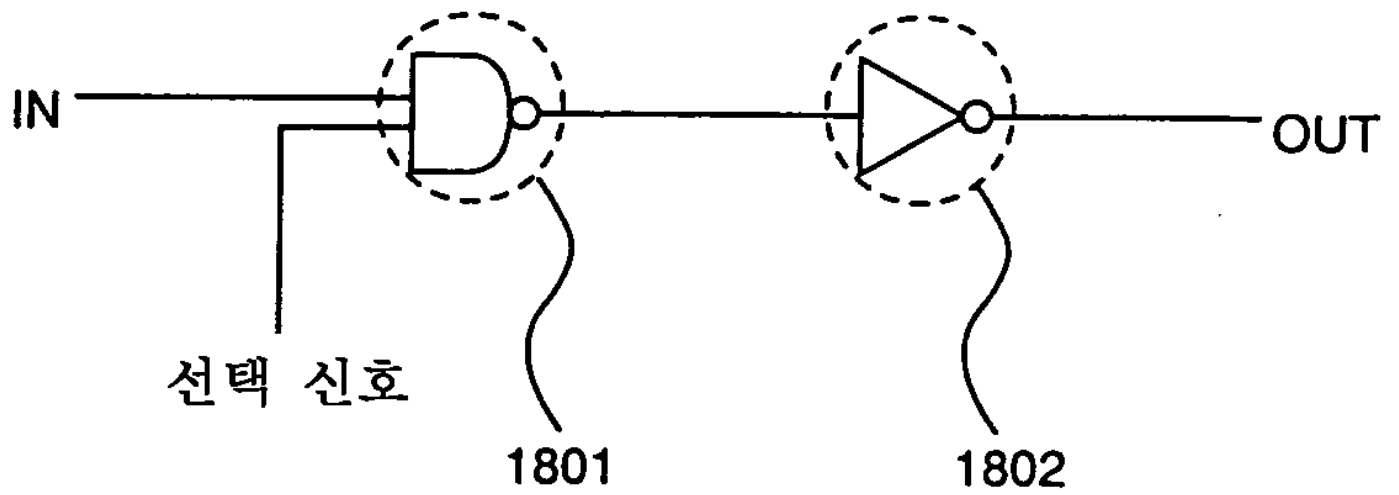
16



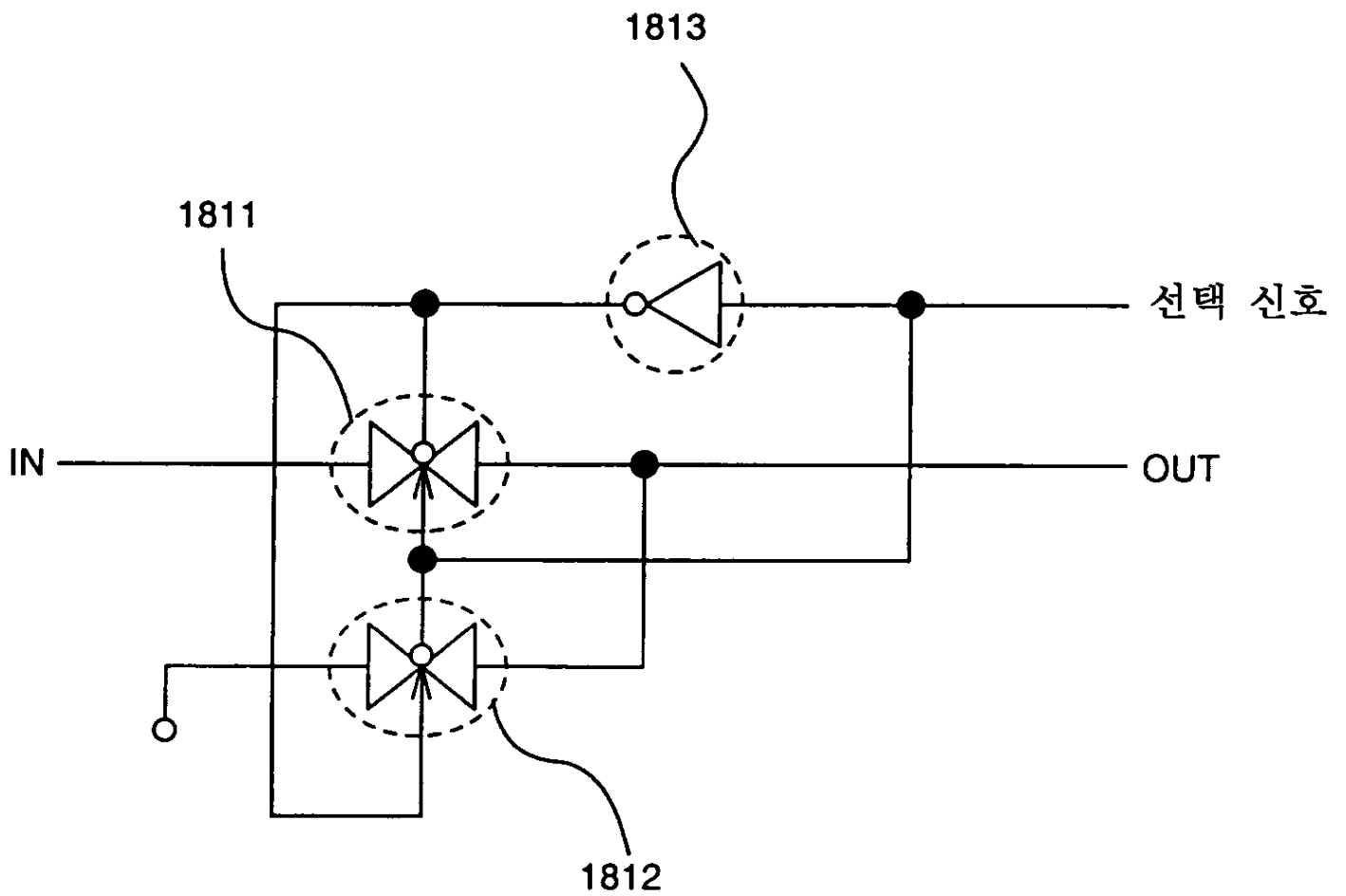
17

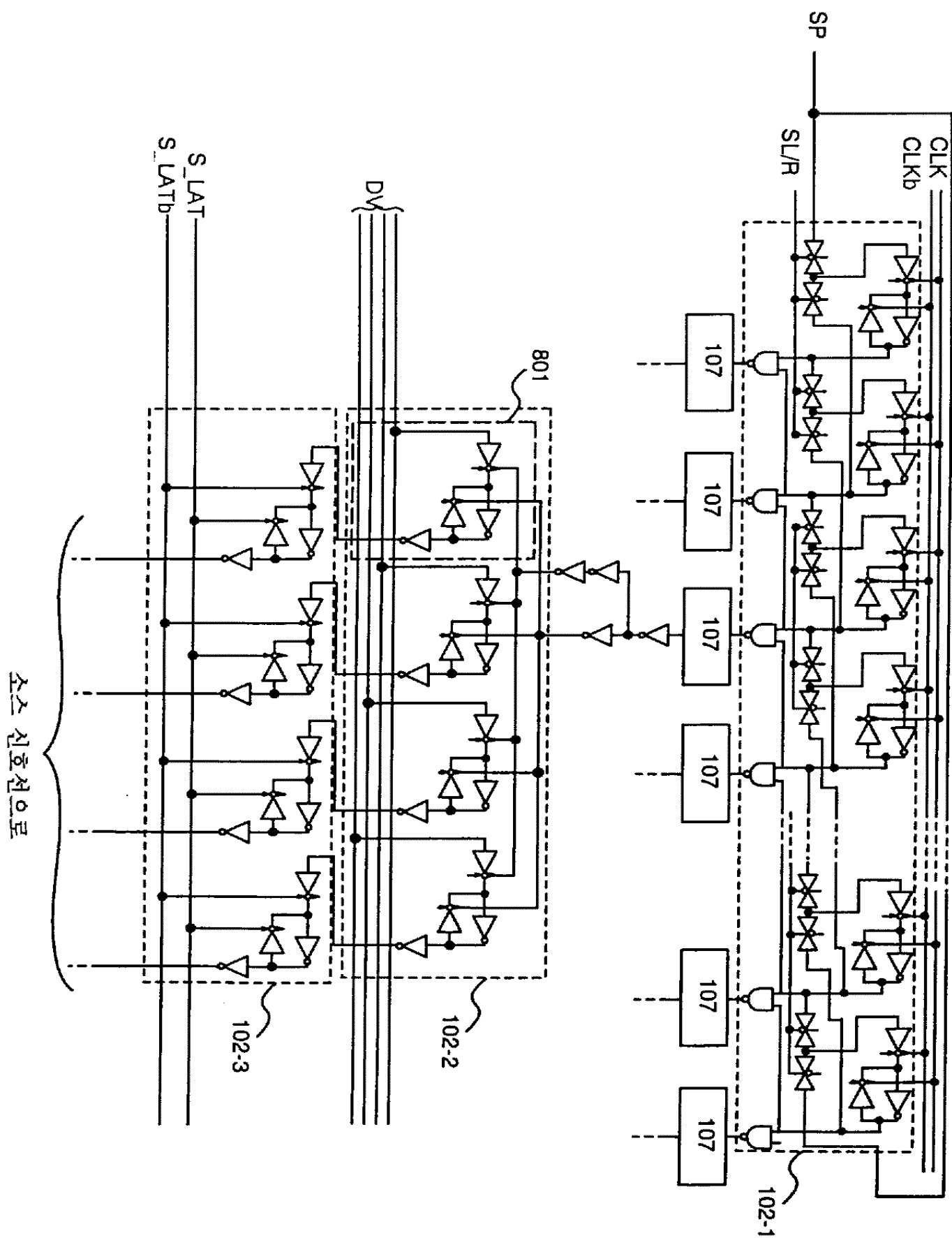


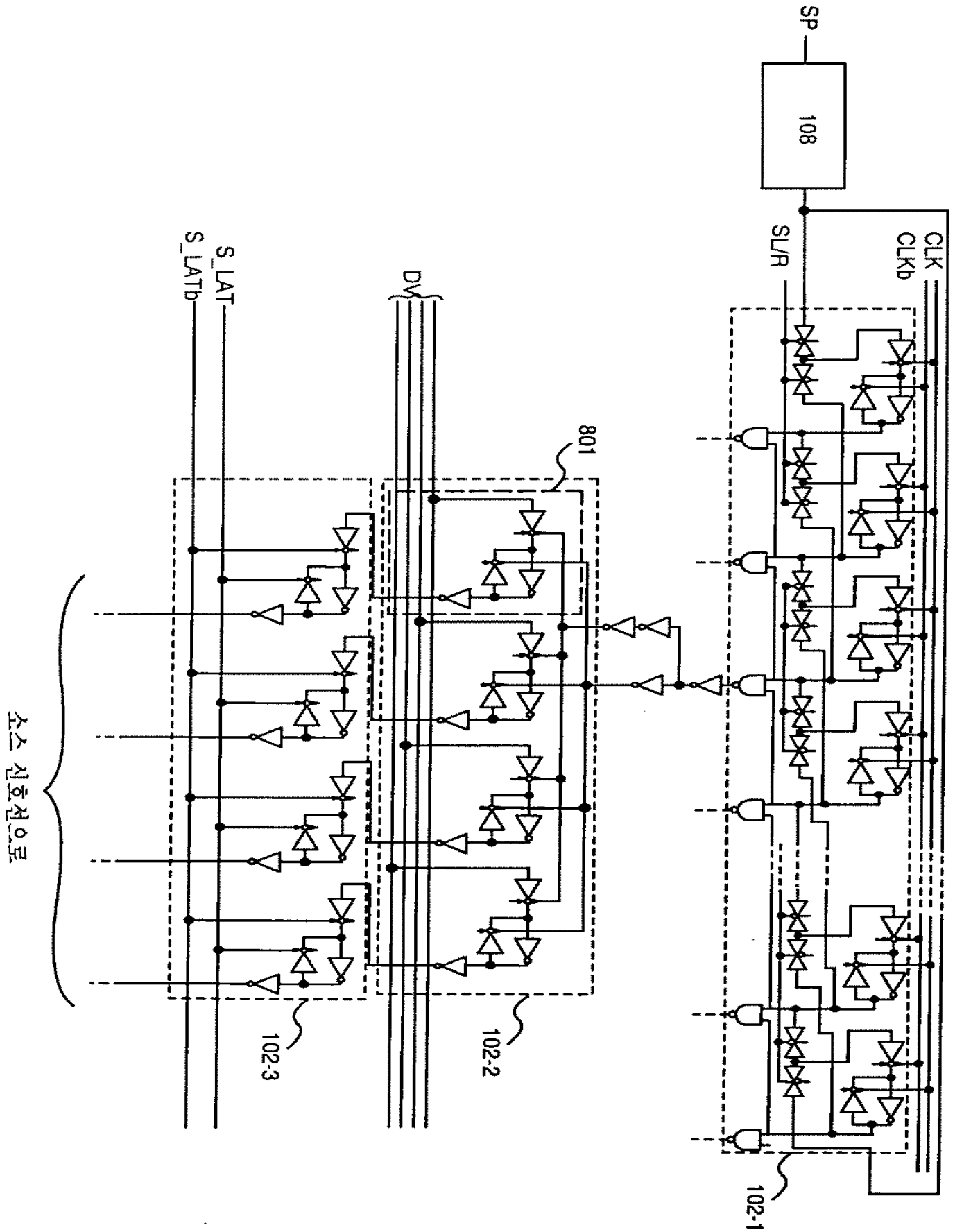
18a



18b

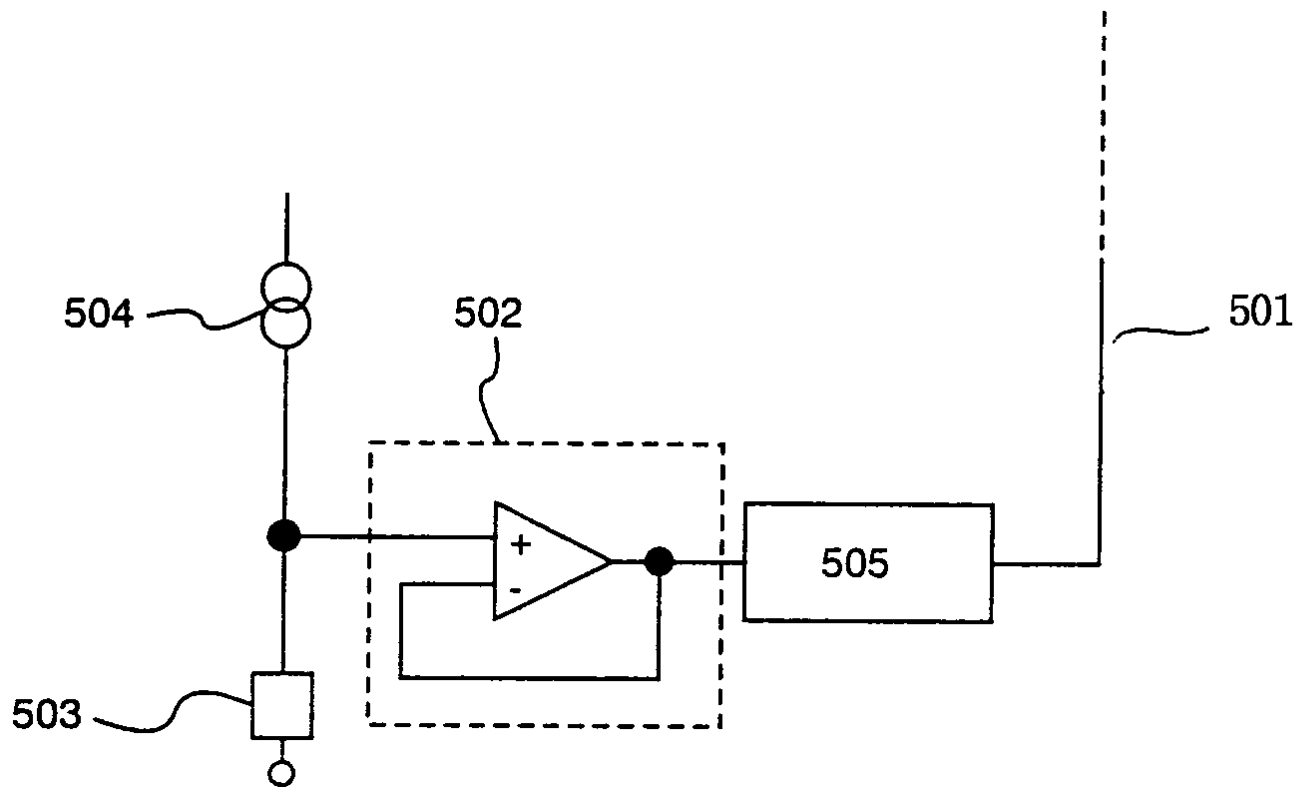




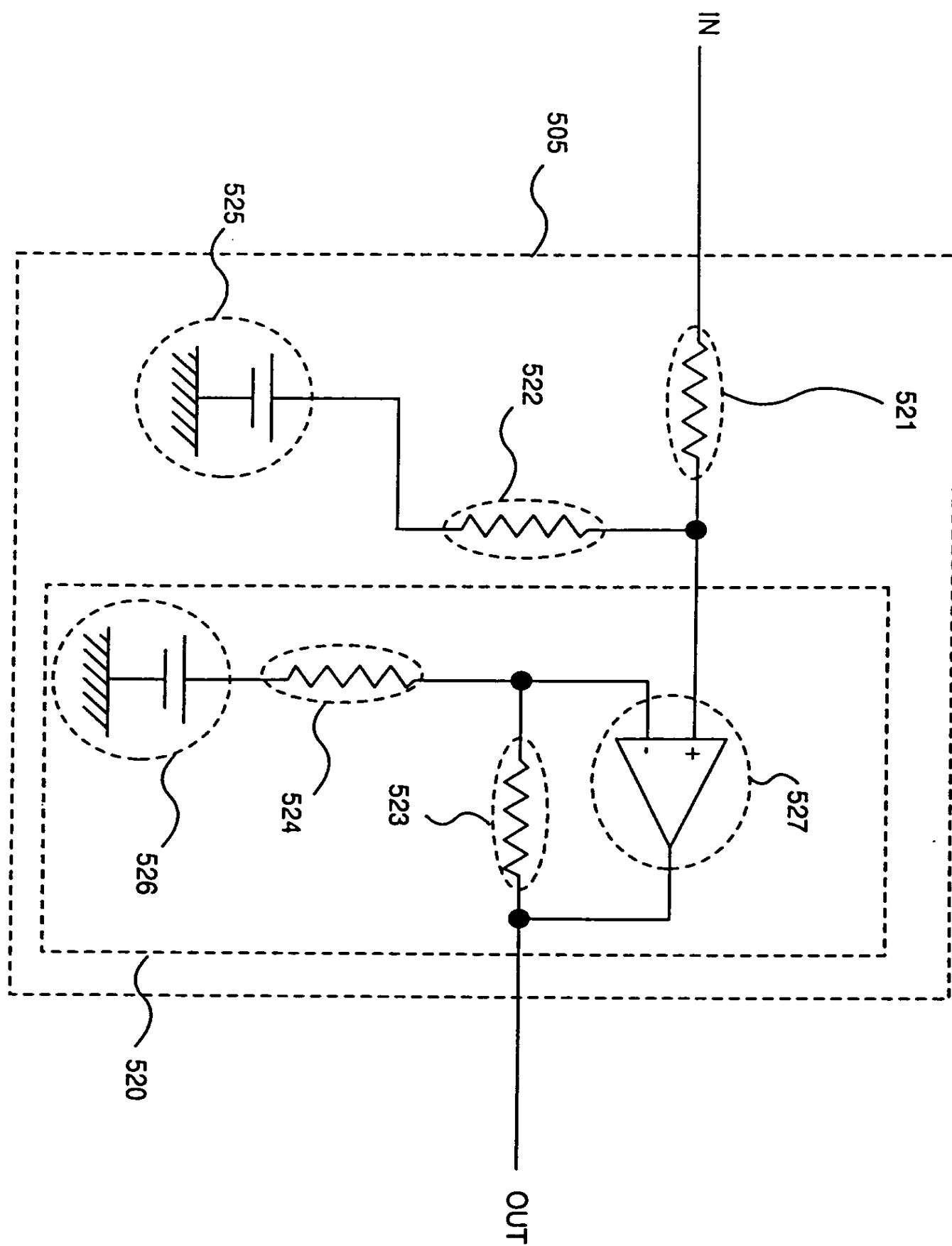


21

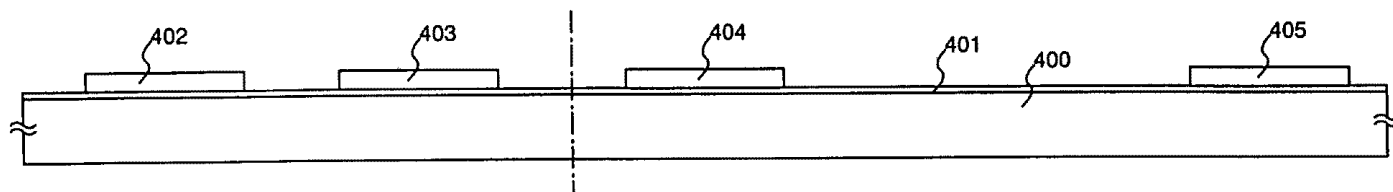
픽셀 부분에서 픽셀 전극으로



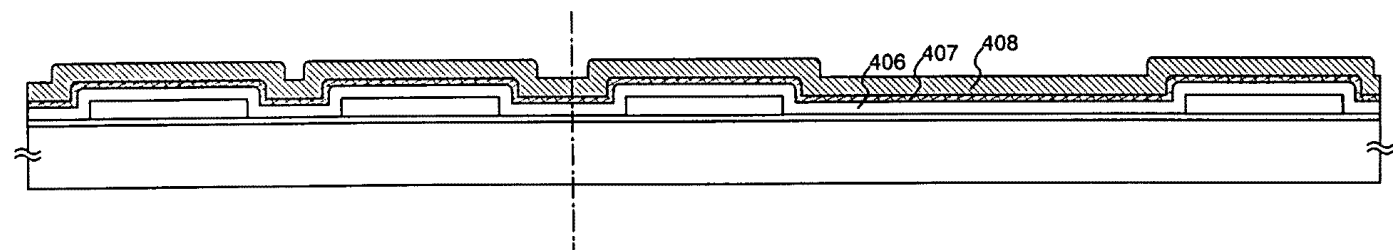
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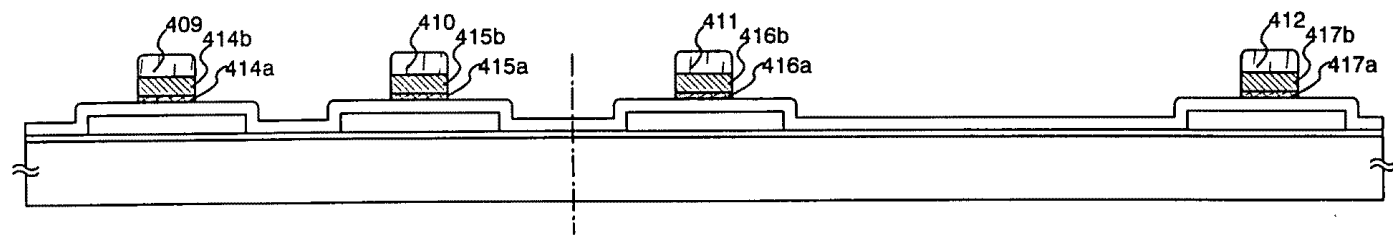
23a



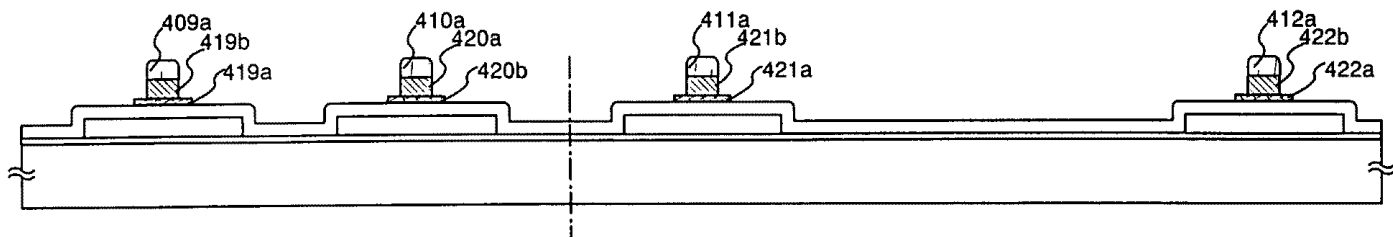
23b

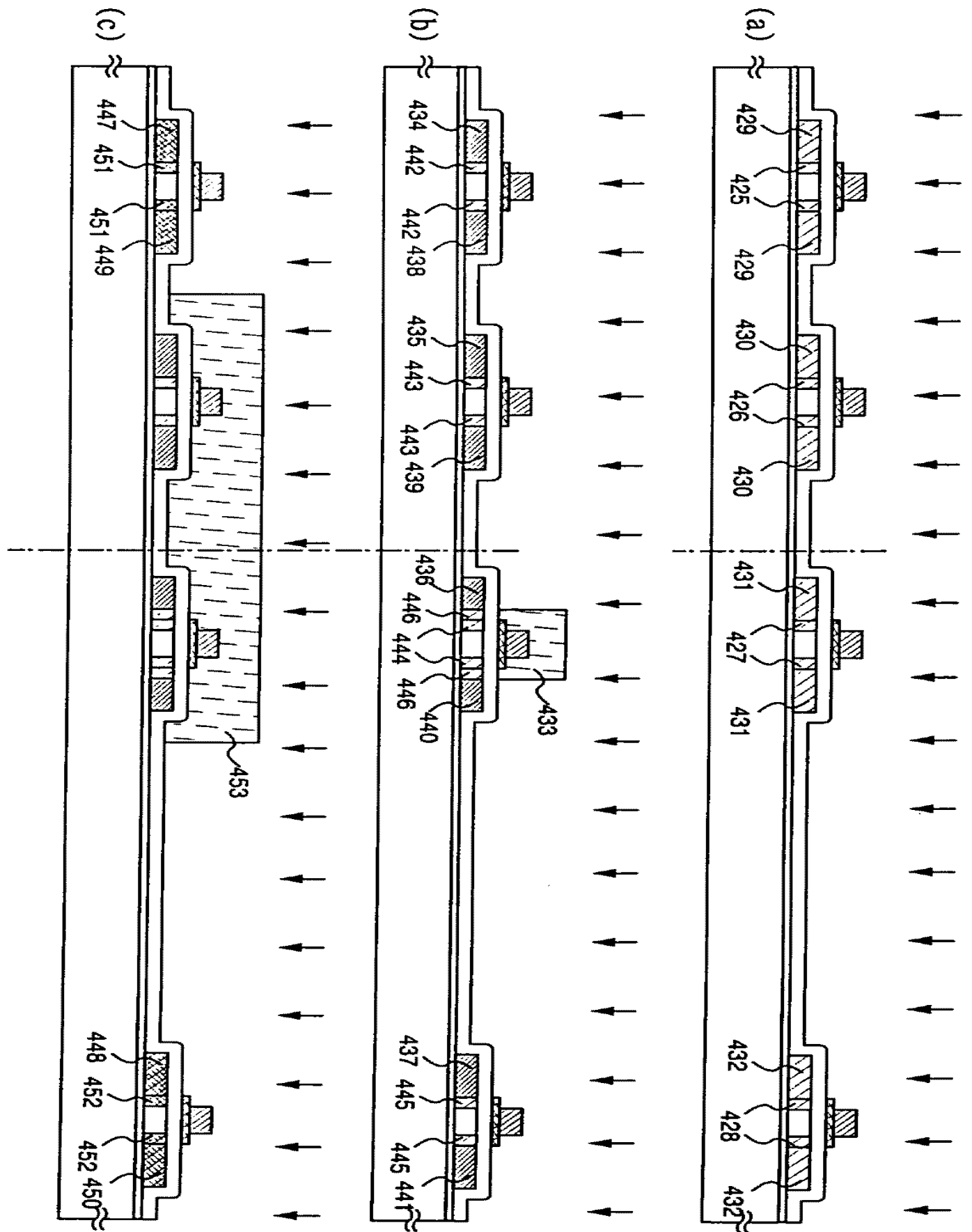


23c

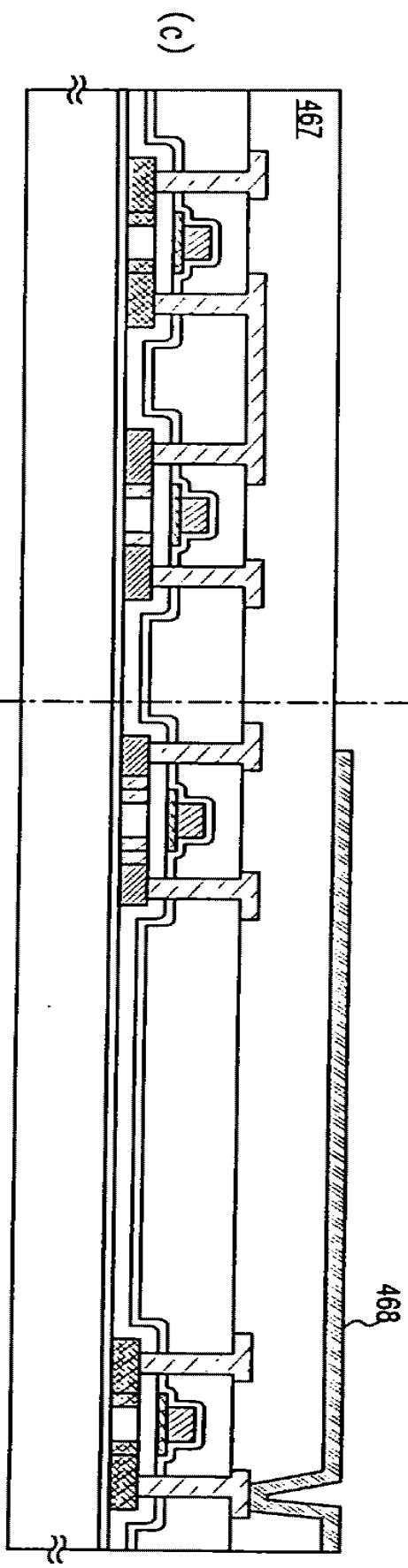
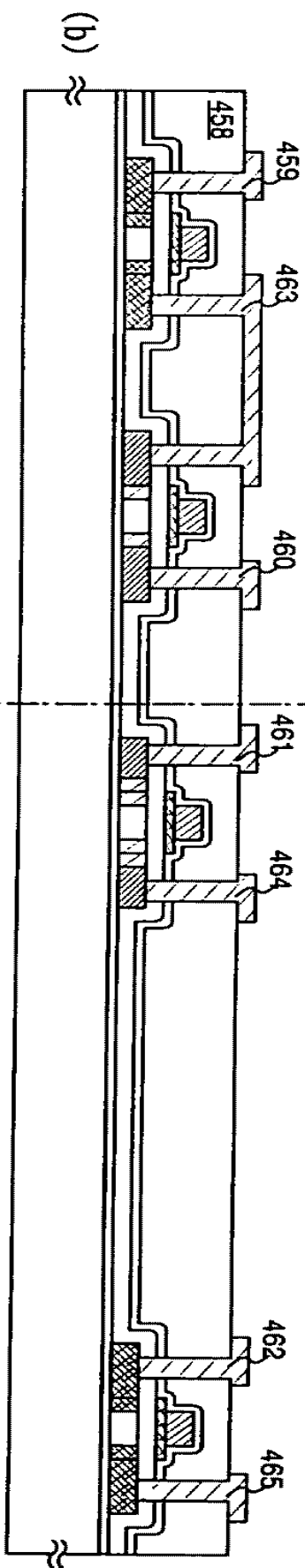
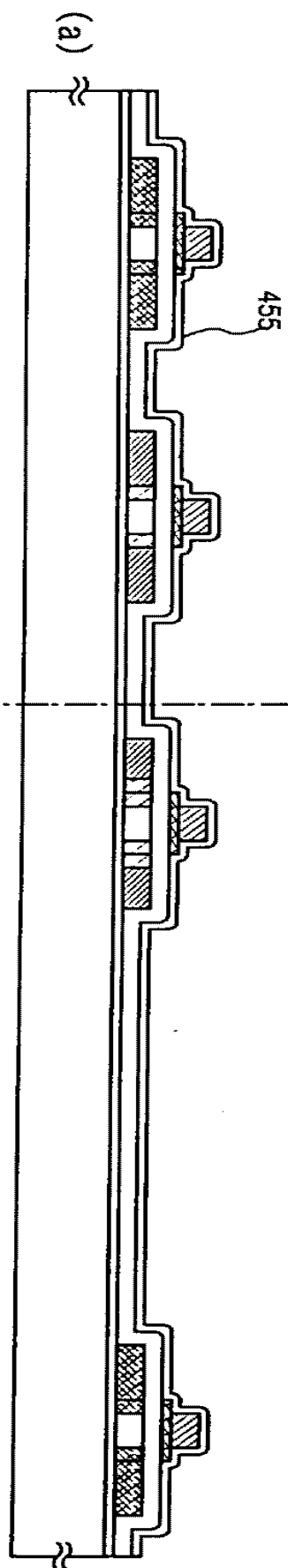


23d

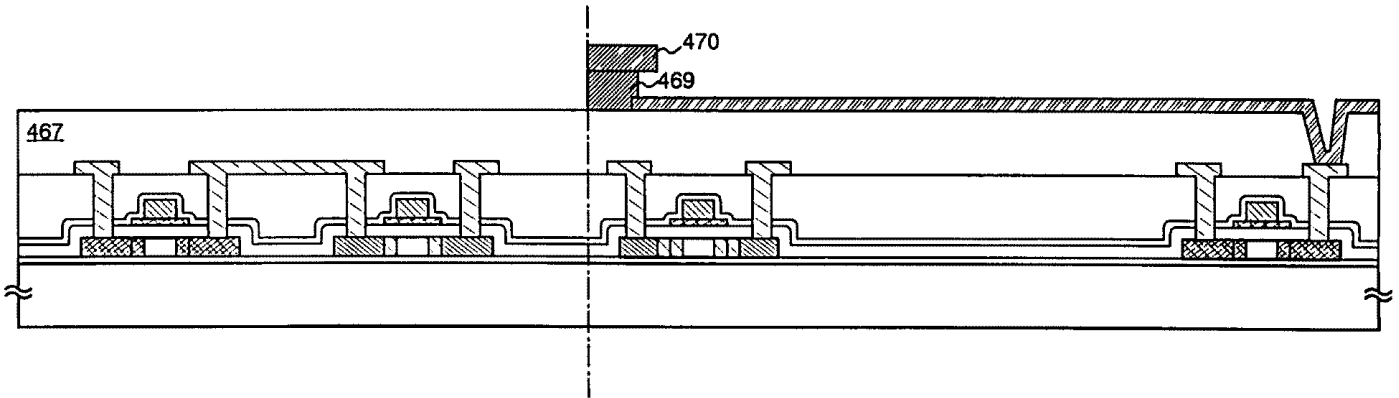




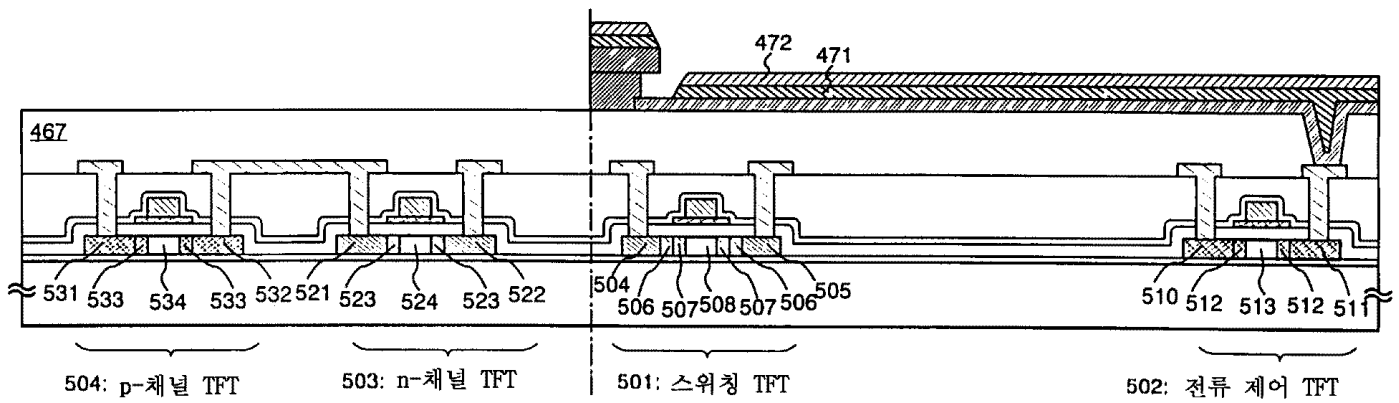
25



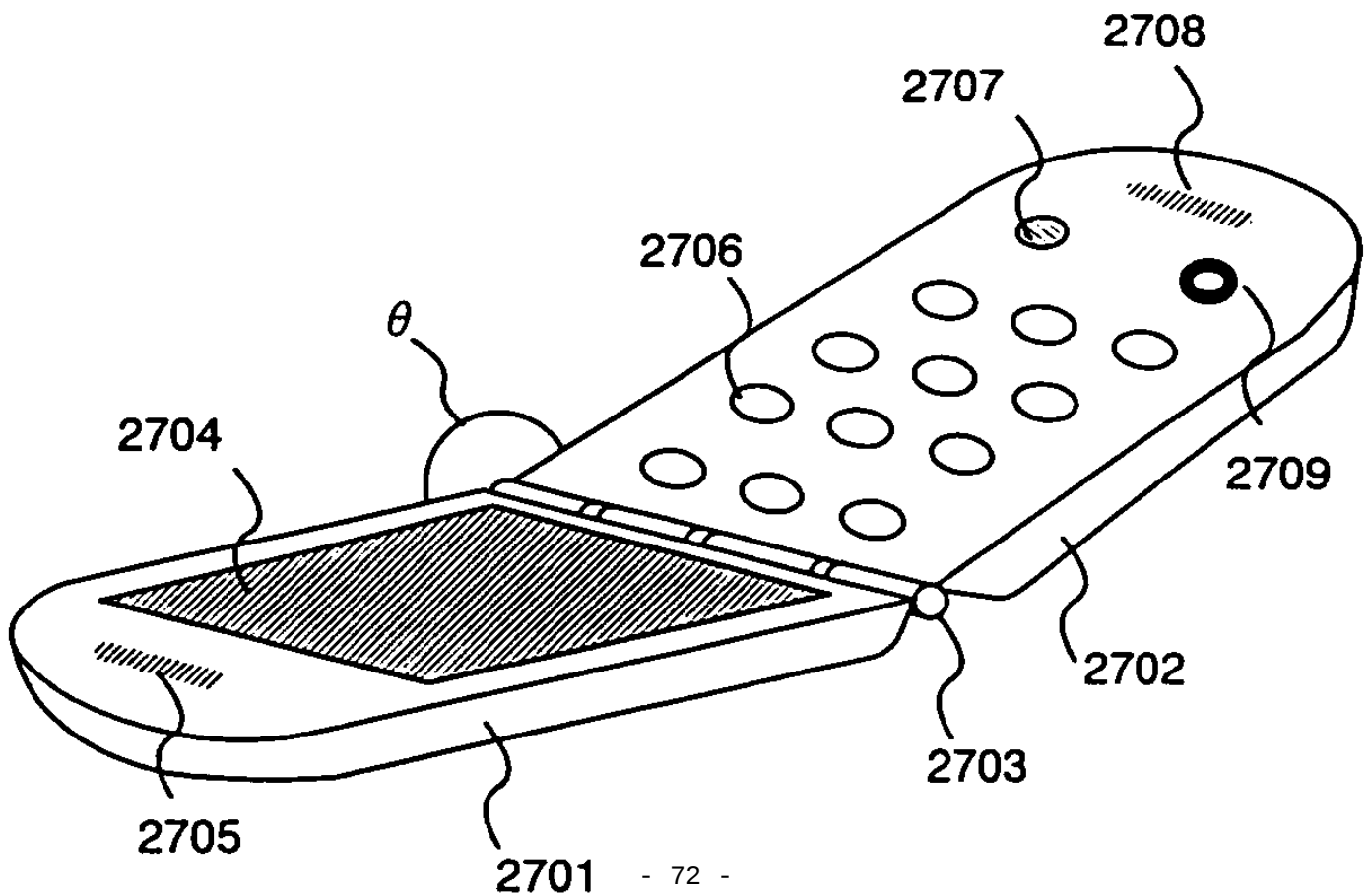
26a



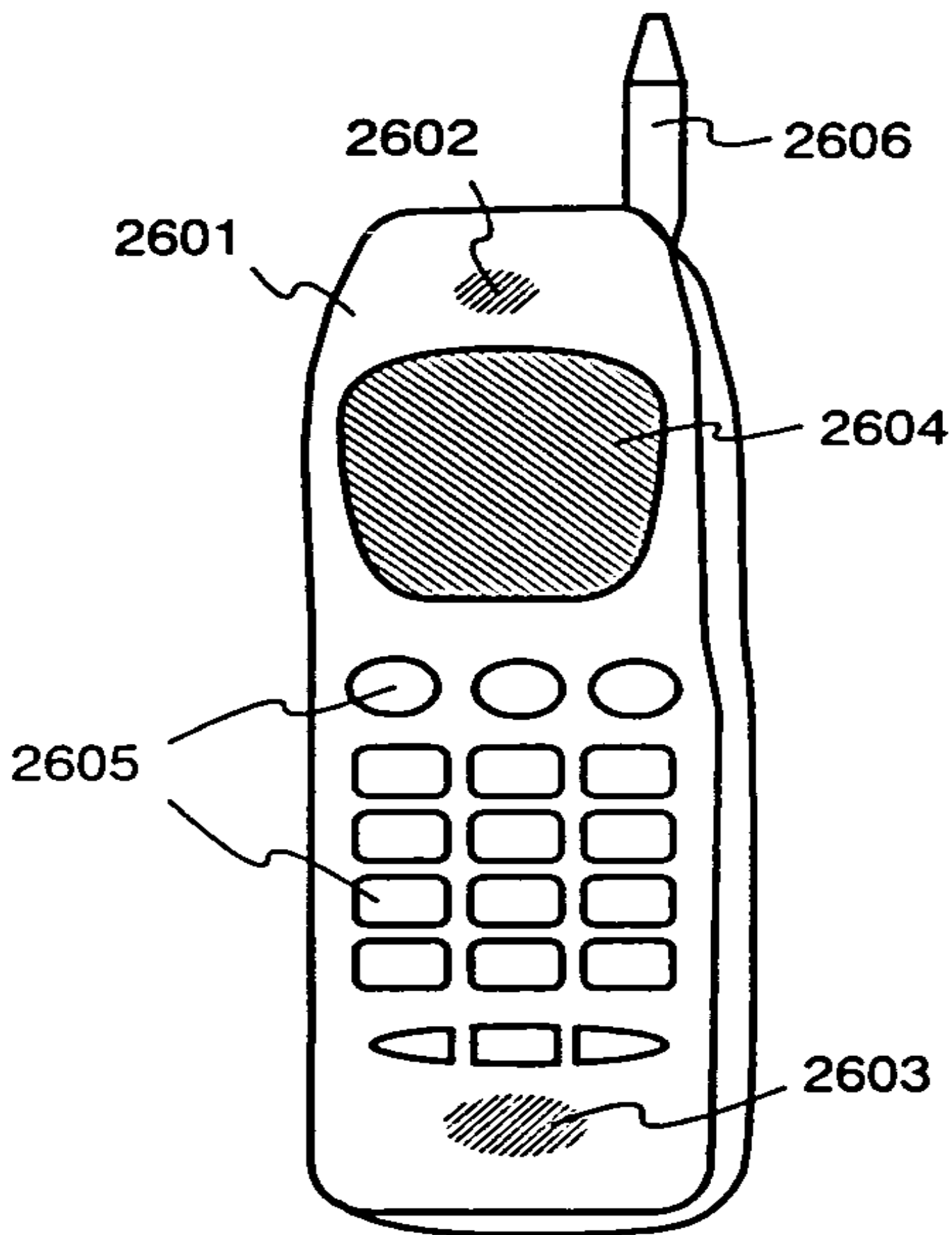
26b



27a

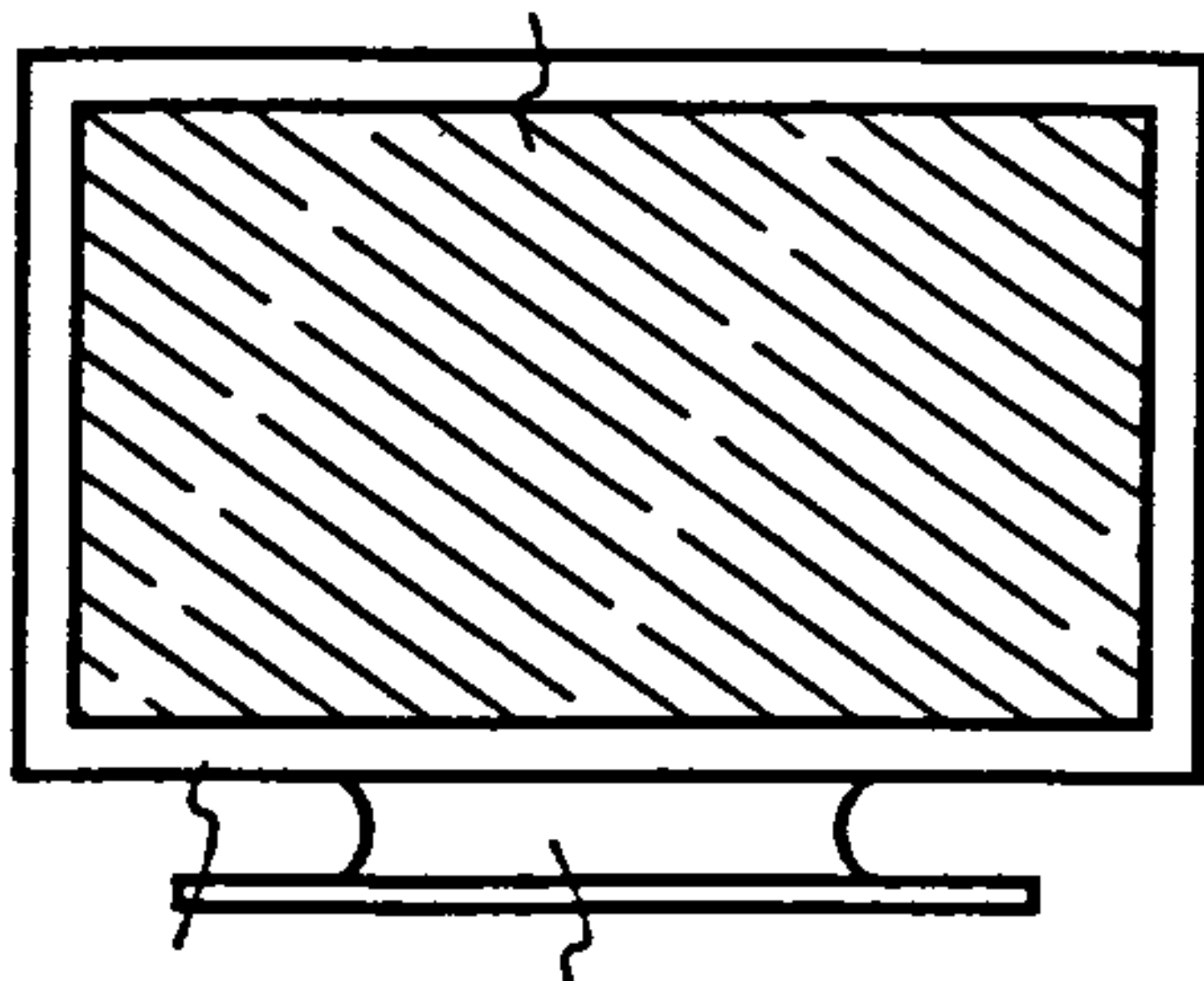


27b



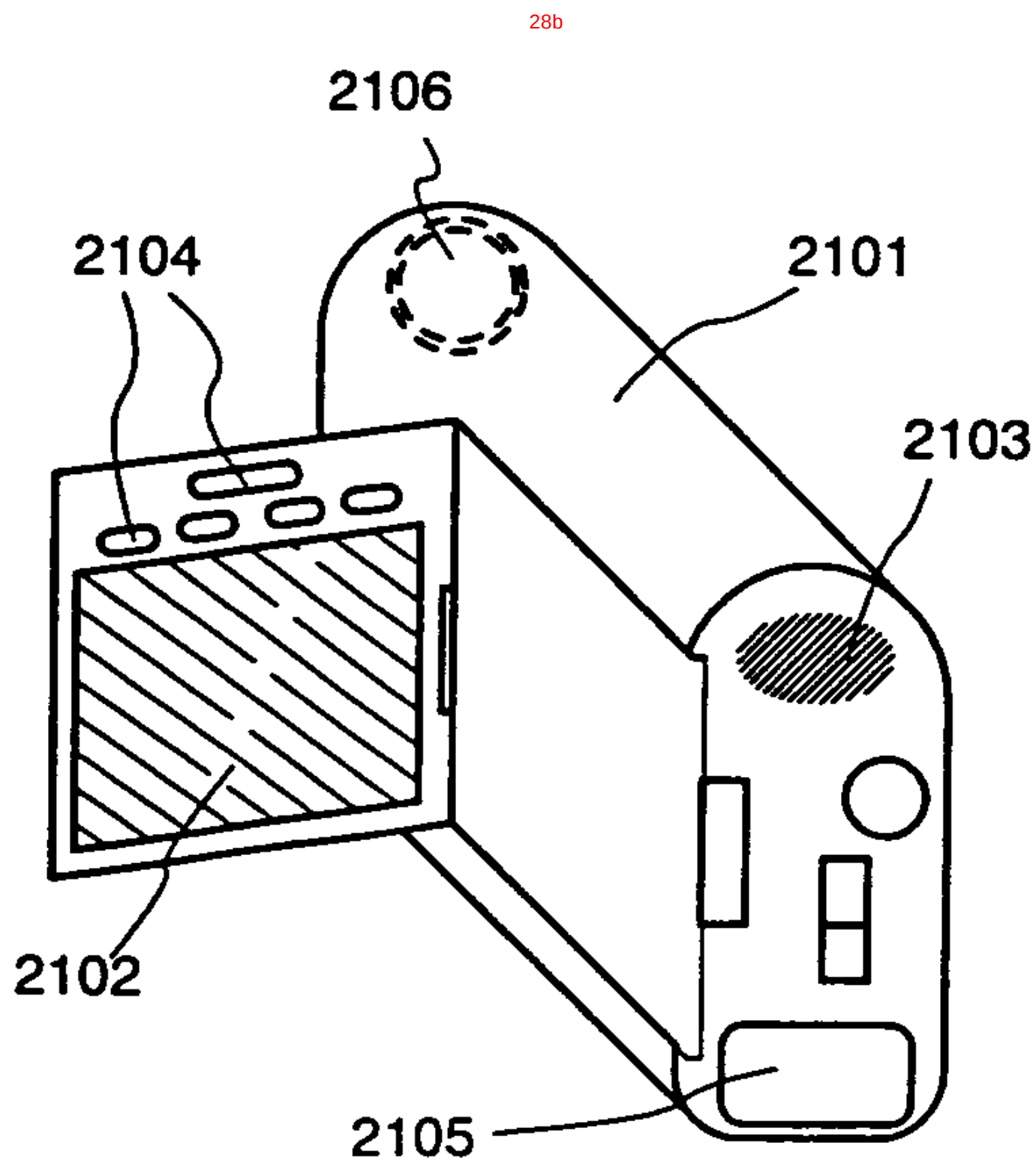
28a

2003

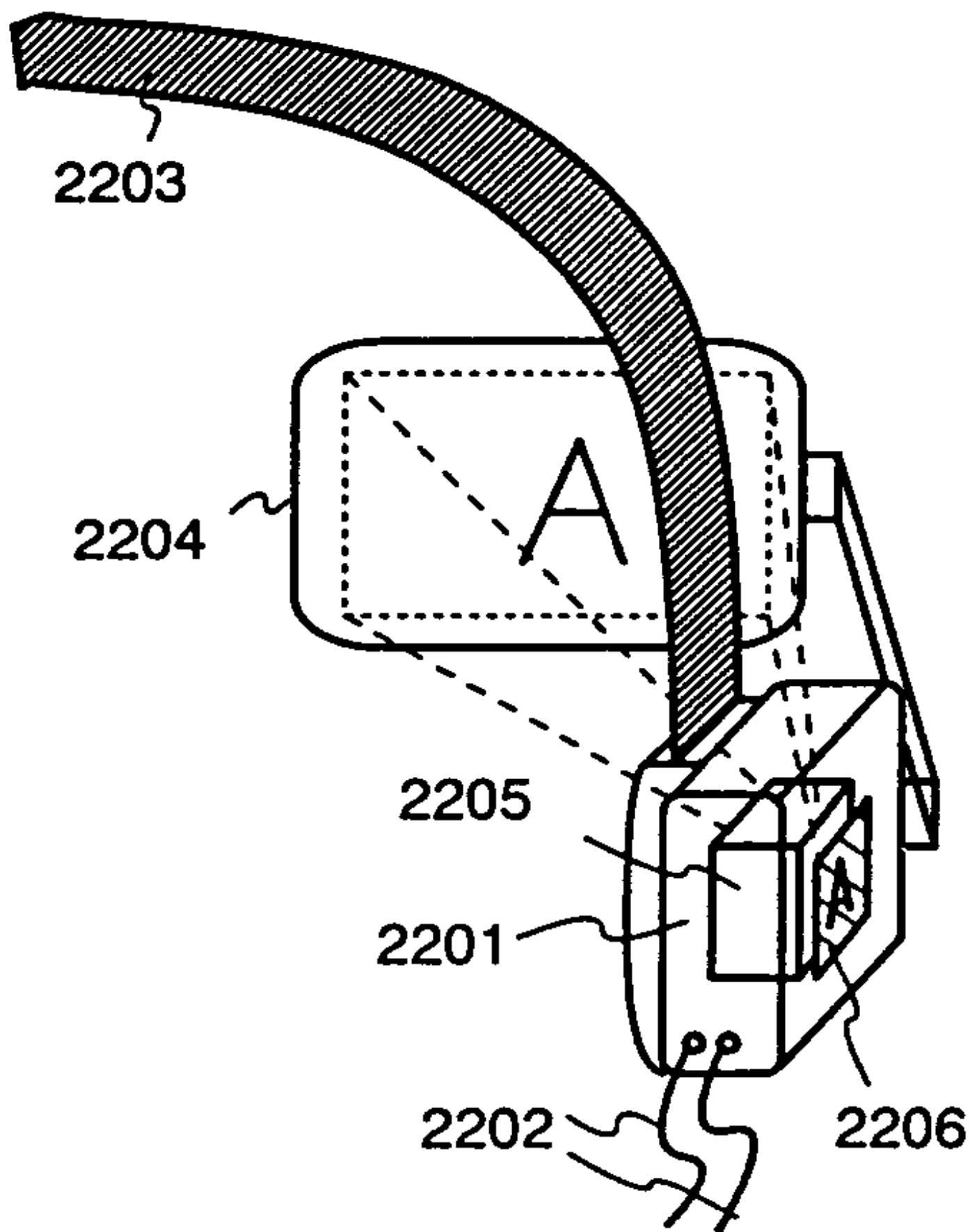


2001

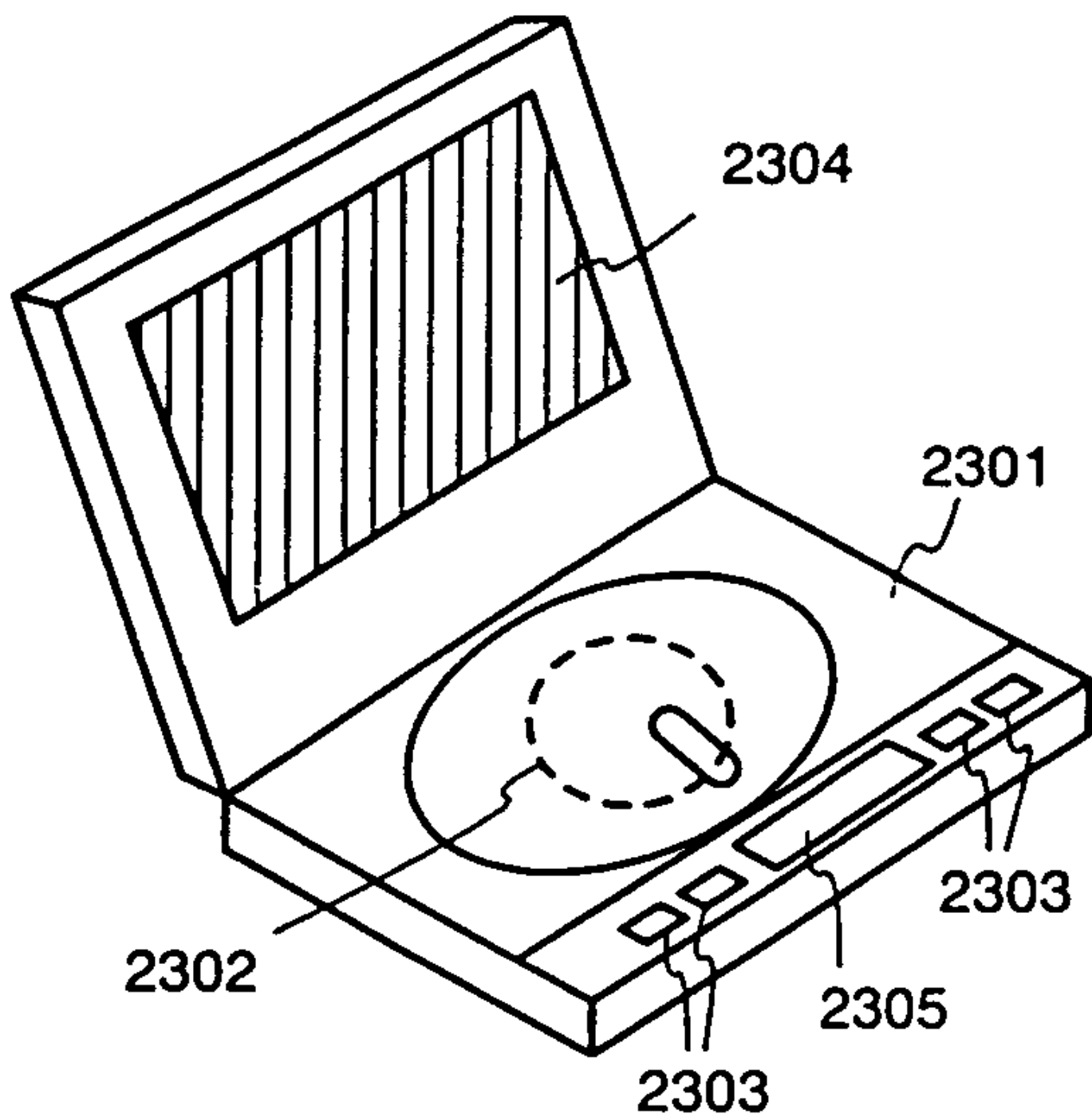
2002



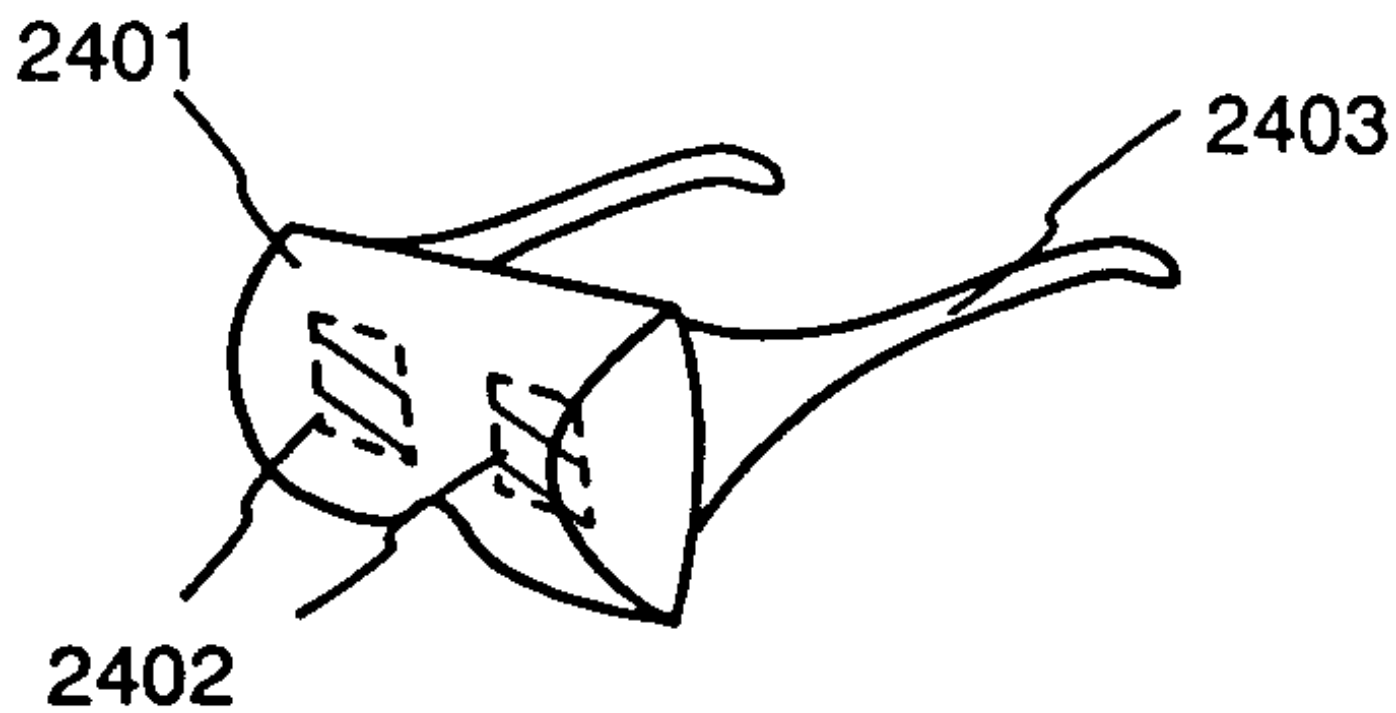
28c



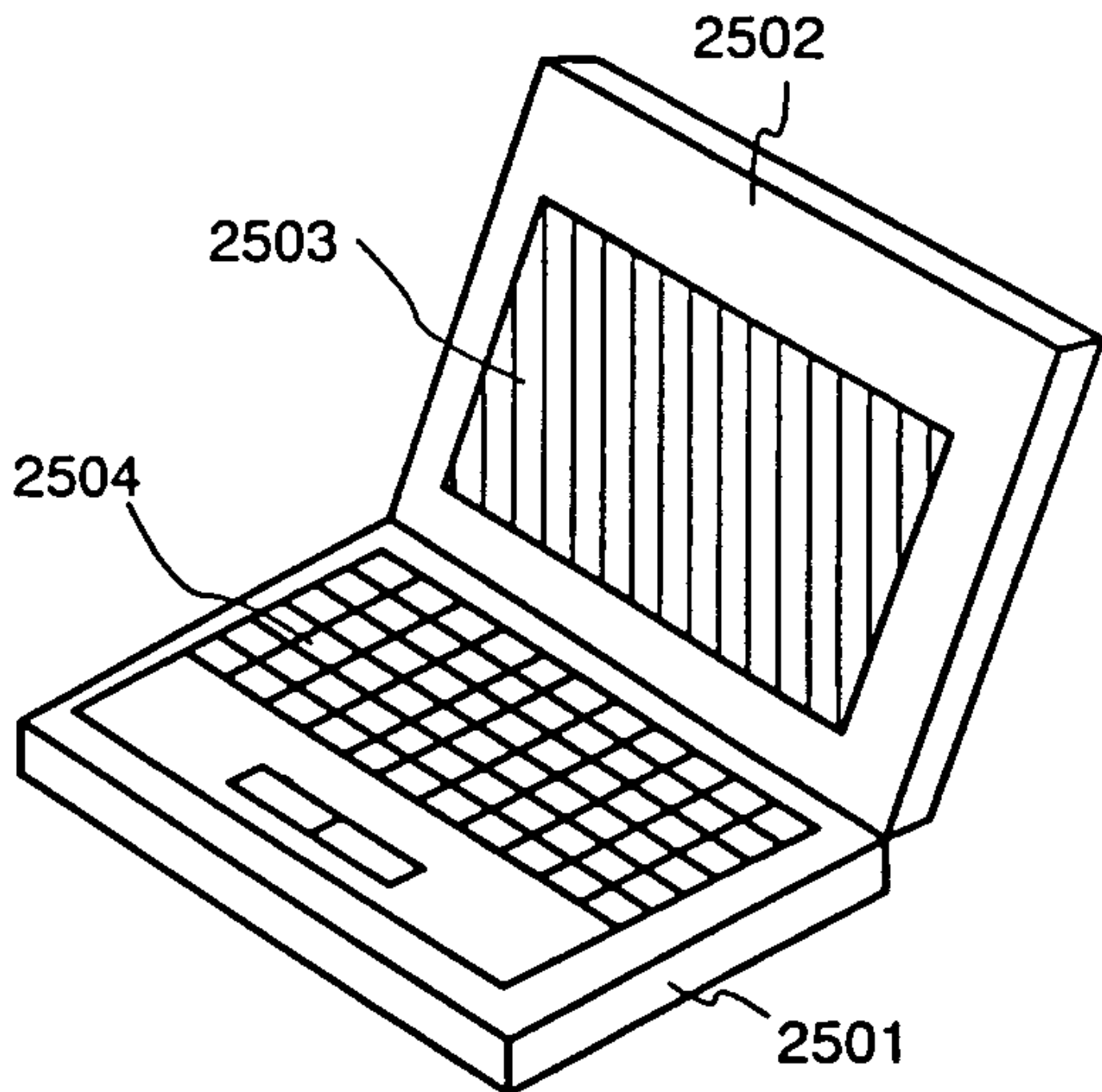
28d



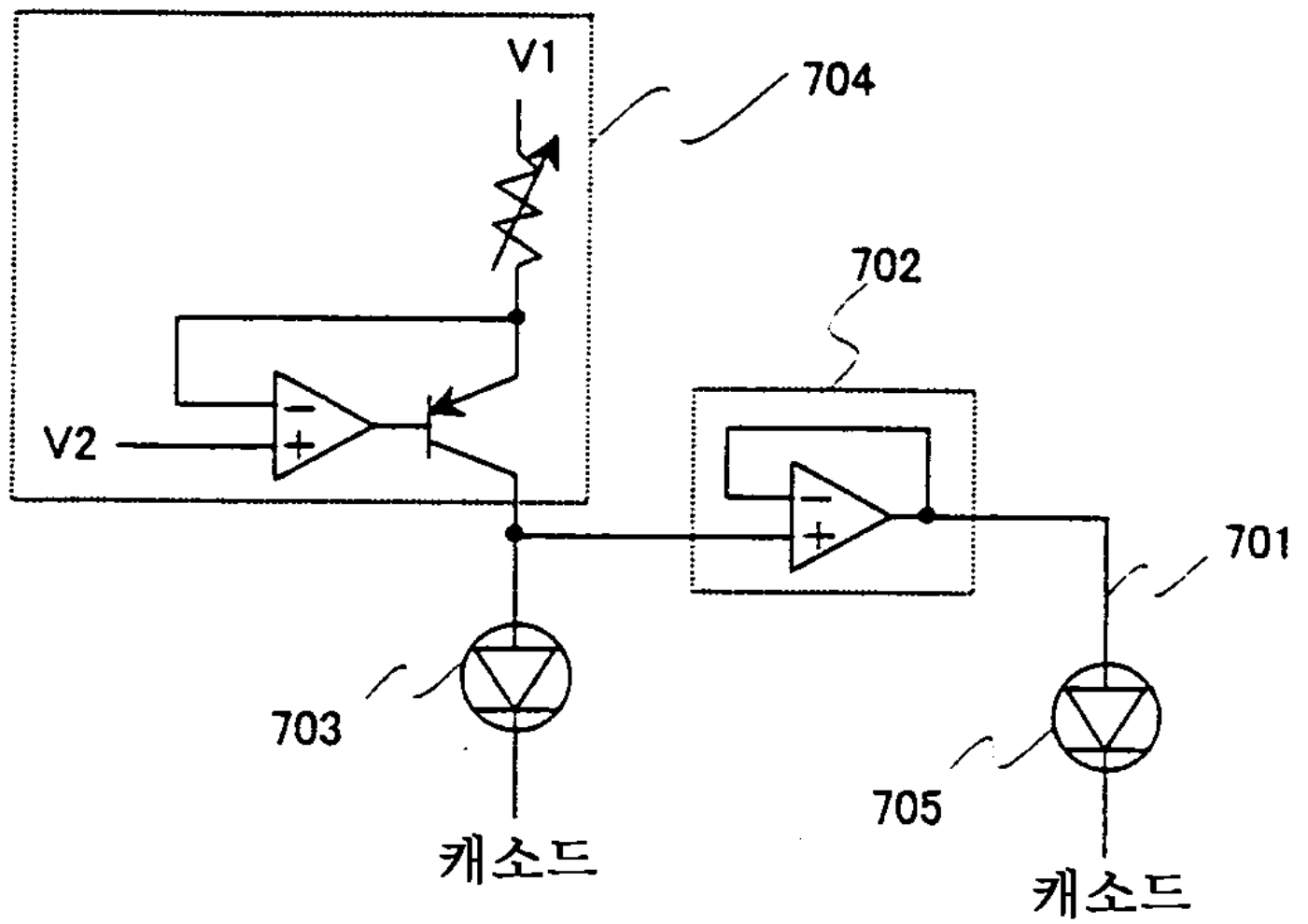
28e



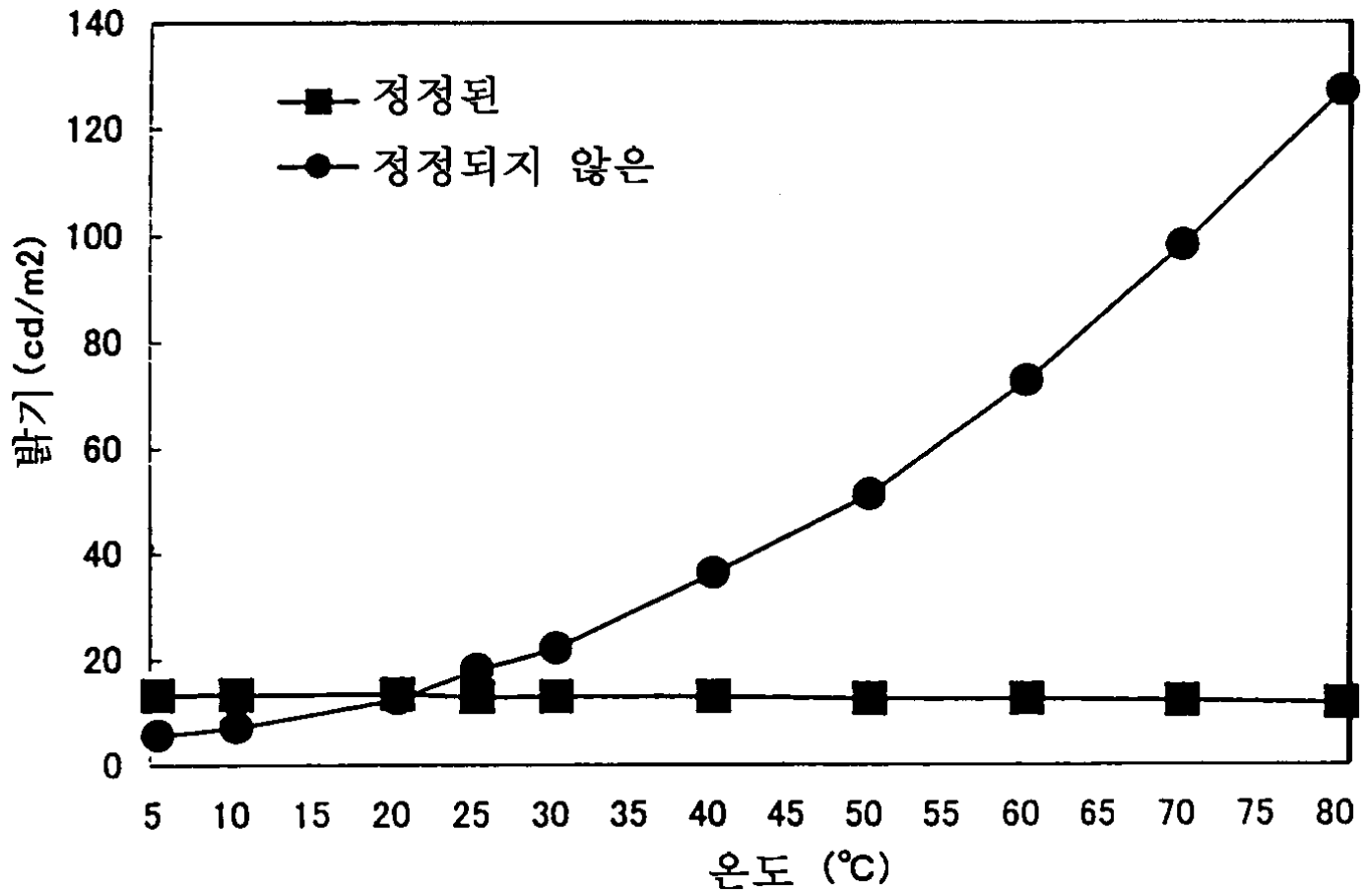
28f



29a



29b



专利名称(译)	显示设备		
公开(公告)号	KR1020010098690A	公开(公告)日	2001-11-08
申请号	KR1020010020674	申请日	2001-04-18
[标]申请(专利权)人(译)	株式会社半导体能源研究所		
申请(专利权)人(译)	株式会社绒布器肯kyusyo极限戴哦		
当前申请(专利权)人(译)	株式会社绒布器肯kyusyo极限戴哦		
[标]发明人	YAMAZAKI SHUNPEI 야마자키순페이 KOYAMA JUN 코야마준 OSAME MITSUAKI 오사메미츠아키 OSADA MAI 오사다마이		
发明人	야마자키순페이 코야마준 오사메미츠아키 오사다마이		
IPC分类号	G09G3/30 G03B19/02 G09F3/00 G09F9/30 G09G3/10 G09G3/20 G09G3/32 G09G5/00 H04B1/00 H04M1/00 H04N5/225 H05B33/00 H05B33/14		
CPC分类号	G09G3/2022 G09G3/3258 G09G3/3266 G09G3/3291 G09G2300/0842 G09G2300/0866 G09G2310 /0251 G09G2310/0262 G09G2310/027 G09G2310/0281 G09G2320/029 G09G2320/041 G09G2320 /043 G09G2330/021 G09G2330/028 H01L27/32 H01L27/3244		
代理人(译)	李，何炳 李贝尔 申铉MOON		
优先权	2000117045 2000-04-18 JP 2001059511 2001-03-05 JP		
其他公开文献	KR100677178B1		
外部链接	Espacenet		

摘要(译)

本发明旨在抑制EL显示器的功耗。像素部分中显示的图像的亮度确定图像的对比度是否反转，输入到像素部分的数字视频的位数是否减少，以及EL层的温度用于监视EL显示器上的温度因此，即使通过提供另一个EL元件来改变，流过EL元件的电流的大小也可以保持在恒定的水平。 1 指数方面 EL元件，监控发光元件，模拟开关，源信号线驱动电路 - 1 -

