



2a

,

1a

1b

2a	5a	1
2b	5b	1
6a	9a	2
6b	9b	2

\*

1 :  $1_1 \sim 1_m :$

2 :  $2_1 \sim 2_n :$

3 : 4, 5, 8 :

6, 14 :  $7_1 \sim 7_m :$

15 :

LED(Light Emitting Device)

(array)

가

LED가

,

LED

가

LED (portable phone) , 가 가 (pager), (cellular)

LED

가 LED (1 ) ( )

LED 1 , , , 2 ,

가 LED (indium) (Tin) (oxide)(ITO) 가 , 가

LED, LED가 가 가

가 EL 가 LCD

, 1 EL

1 가 , GND(0V) 가 VD(10V)

, 가 가 가 가

(RC ) 가

가 가

가 LED 가 LED

2 가 1 , 1  
 , 1, 2 , 1  
 가 3 , 3  
 2 , 1 2  
 1 , 2 3  
 가 , 1 2 3  
 , 1 2 1, 3  
 .

VC GND VT

.

1 / 1  
 , 2

VT VC GND , VC GND  
 가

가 ,  
 1 2  
 ,

1  
 2 5 1

VT(5) VD(4) GND(6)

2a 5a D1 Dm , S1 Sn , p(1,1) p(m,n)  
 (15) , 가 (1) , 가  
 (2) , (1) (2) (3)

V) (2) VP(8) GND(14) , Vp(8)( :10  
 , GND(14)( :0V) (2<sub>1</sub> ~ 2<sub>n</sub>)

(1) VD(4) GND(6) , VD(4) 1<sub>1</sub> 1<sub>m</sub>  
 D(6) D1 Dm (7<sub>1</sub>~7<sub>m</sub>) , VD(4) GN  
 VT(5)( :5V) .  
 (2) (2<sub>1</sub>~2<sub>n</sub>) (7<sub>1</sub>~7<sub>m</sub>) /  
 (on/off) (3) .  
 2b 5b 2a 5a (15)  
 2b 5b T(11) , T1(12) VD(4) GND(6)  
 , T2(13) VT(5) .  
 VP(8) (15) P(1,1) S1 GND(14) VP(8)  
 P(m,1) S2가 GND(14) .  
 P(2,2) P(2,m) .  
 P(8) , 2a, 2b GND(14) 0V V  
 10V 2<sub>2</sub> 2<sub>n</sub> S2 Sn 가 .  
 Dm 1<sub>1</sub> 1<sub>m</sub> 0V 7<sub>1</sub> 7<sub>m</sub> D1 Dm , D1  
 1,1) 2a, 2b 1<sub>1</sub> 1<sub>m</sub> T1(12) 가 P(  
 P(1,m) .  
 P(2,1) P(m,1), P(1,2) P(1,n), P(m,2) P(m,n) 0V가 가 ,  
 가 .  
 2a .  
 3a, 3b 2a, 2b 0V , 2<sub>2</sub> 2<sub>n</sub>  
 VP(8) S2 Sn VP(8) 가 .  
 7<sub>1</sub> 7<sub>m</sub> VT(5) .  
 가 , VT(5) T2(13)  
 가 / 0V( 10V) 10V( 0V) ,  
 ) / 가 가 / T2(13) 가 ( 5V ,  
 가 가 / 5V 0V 10V .  
 T2(2)

3a, 3b , p(1,1) p(1,m) VT(5)  
 , VT(5) .

2<sub>2</sub> 2<sub>n</sub> 1<sub>1</sub> 1<sub>m</sub> VP(8) VT(5) D1 Dm .

1<sub>1</sub> 1<sub>m</sub> 2<sub>2</sub> 2<sub>n</sub> D1 Dm  
 VP(8) VT(5)

(21) VT(5) 가  
 VP(8) VT(5)

가 .

4a GND(0V) VP(8)

4a, 4b S2가 1<sub>2</sub> 1<sub>m</sub> 7<sub>2</sub> 7<sub>m</sub>  
 D2 Dm .

0V 10V , 5V 10V 가  
 p(2,2) p(2,m) (15) .

, 4a 3a 가 가 .

10V 가 2<sub>2</sub> S2

D2 Dm 1<sub>2</sub> 1<sub>m</sub> 7<sub>2</sub> 7<sub>m</sub> D2 Dm ,  
 GND(6)( :0V) .

4a, 4b 1<sub>2</sub> 1<sub>m</sub> T1(12) p(2,2) p(2,m)  
 , 4a, 4b 0V가 가 .

4a, 4b (15) .

5a, 5b 4a, 4b GND(0V) ,  
 VP(8) 7<sub>1</sub> 7<sub>m</sub>  
 VT(5) .

가 VT(5) T2(13) 3a, 3b

VT(5) p(2,2) p(2,m) VT(5) ,

1<sub>2</sub> 1<sub>m</sub> D2 Dm  
 VP(8) VT(5) .



6b 9b .

, T2(13) T(11) T1(12) VD (4) GND(6)  
 VT(5)( :5V)

6 9 .

P(1,1) P(m,1) S1 GND(14) VP(8) VP(8)  
 P(2,2) P(2,m) S2가 GND(14)

6 S2 (15) (2) 0V 2<sub>2</sub> 2<sub>n</sub>  
 Sn VP(8)

(1) 7<sub>1</sub> 7<sub>m</sub> VT(5)

6a , VT(5) T2(13) 가

p(1,1) p(1,m) VT(5)

VT(5)

2<sub>2</sub> 2<sub>n</sub> 1<sub>1</sub> 1<sub>m</sub> D1 Dm  
 VP(8) VT(5)

1<sub>1</sub> 1<sub>m</sub> 2<sub>2</sub> 2<sub>n</sub> D1 Dm  
 VP(8) VT(5)

(21) VT(5) 가  
 VP(8) VT(5)

가 .

7a, 7b 0V VP(8)가 2<sub>2</sub> 2<sub>n</sub>  
 S2 Sn 가 .

1<sub>1</sub> 1<sub>m</sub> 7<sub>1</sub> 7<sub>m</sub> D1 Dm , D1 Dm  
 GND(6) .

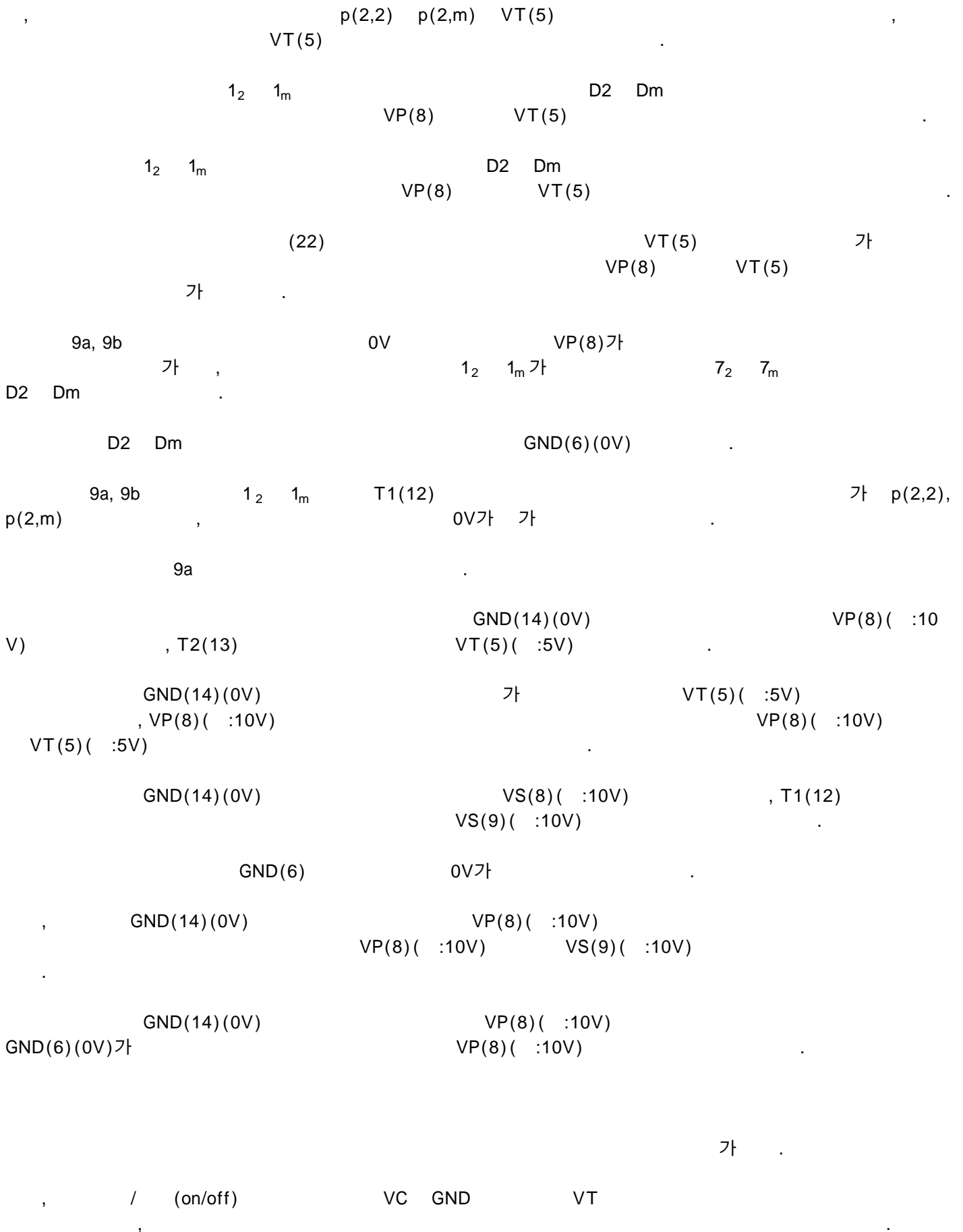
p(1,m) 7 1<sub>1</sub> 1<sub>m</sub> T1(11) 가 p(1,1)  
 , 0V가 가 .

7a .

8a, 8b (15) GND(14) , 가 VT(5)  
 VP(8) , 7<sub>1</sub> 7<sub>m</sub>

가 8a , VT(5) T2(13)





, LED 가 ,

가

(57)

1.

가 1 , 1  
2 , 1, 2 1

가 3 , 3  
2 ,

1 2 1 , 2  
, 3

1 2 1, 3 가

2.

1 ,

2 가

3.

1 , 1 /  
2 .

4.

3 ,

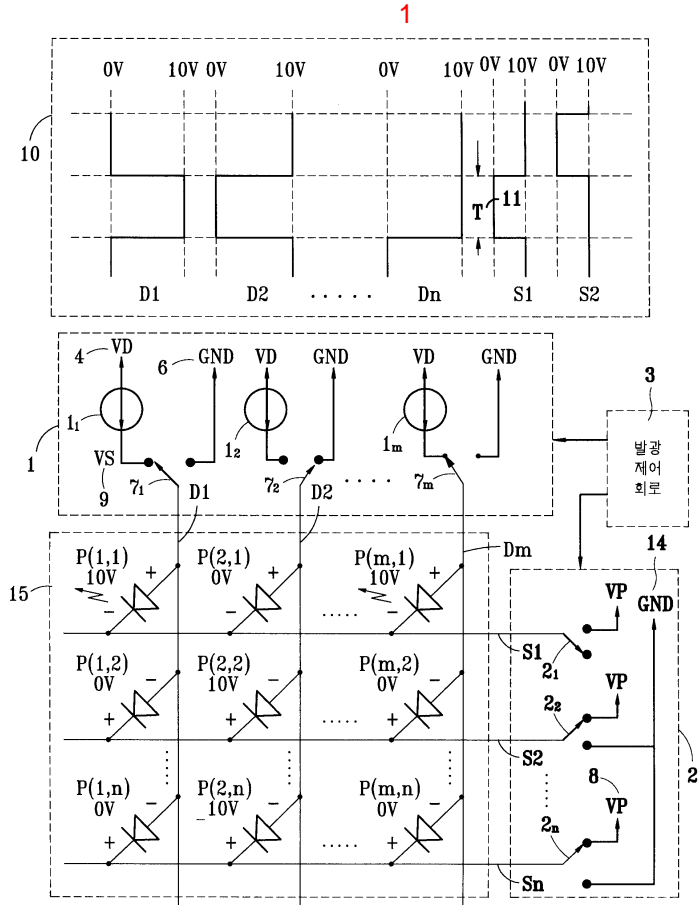
가

5.

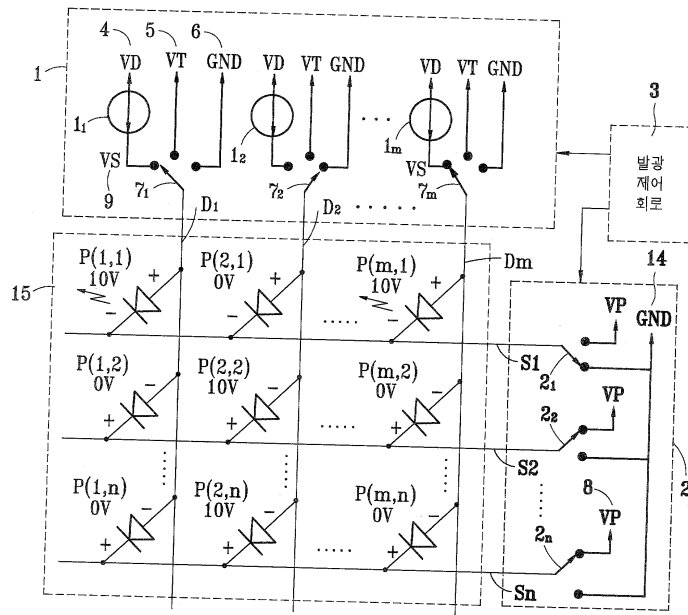
4

2

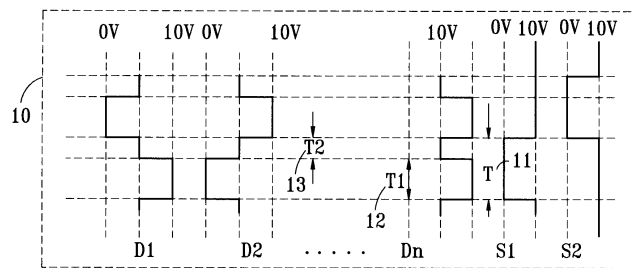
가



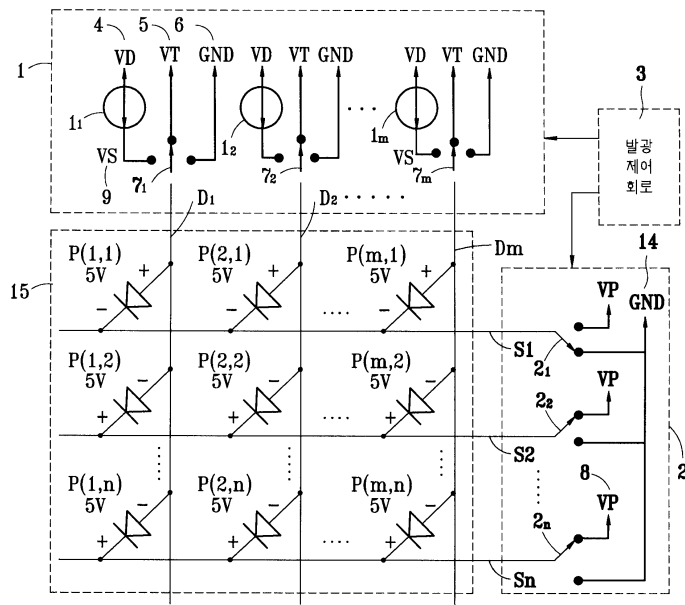
2a



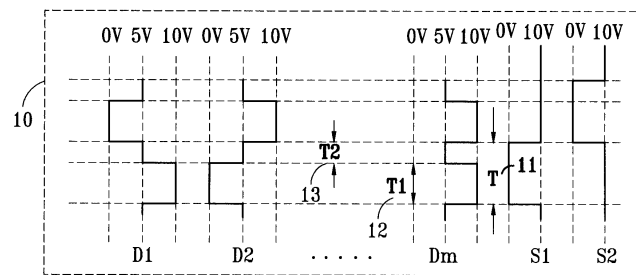
2b



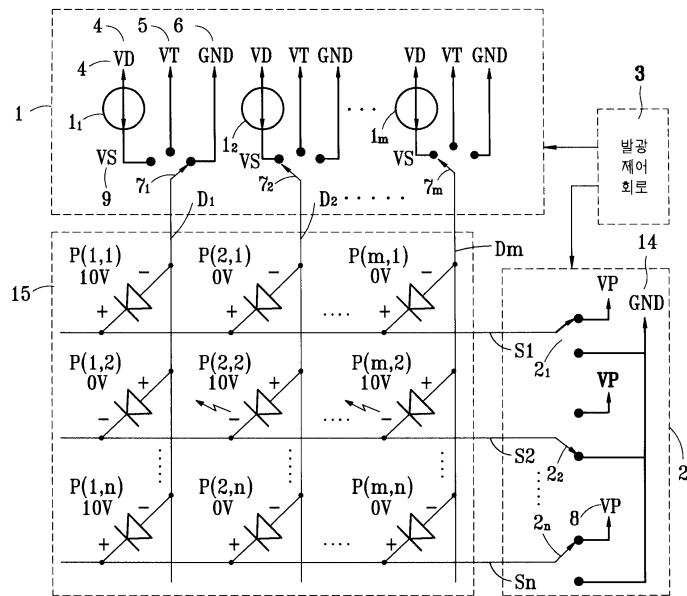
3a



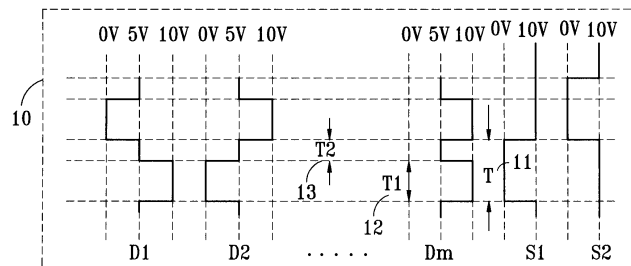
3b



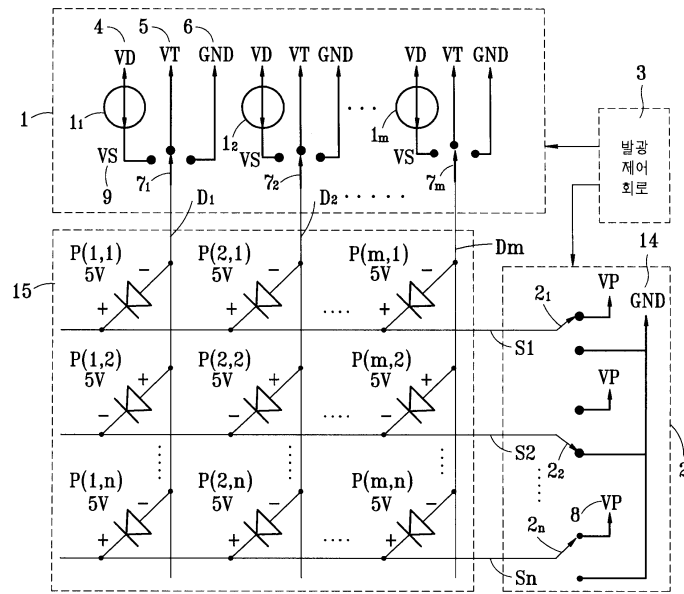
4a



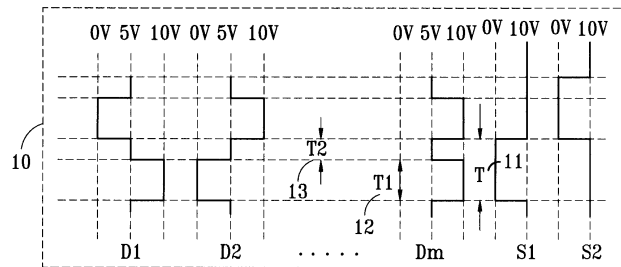
4b



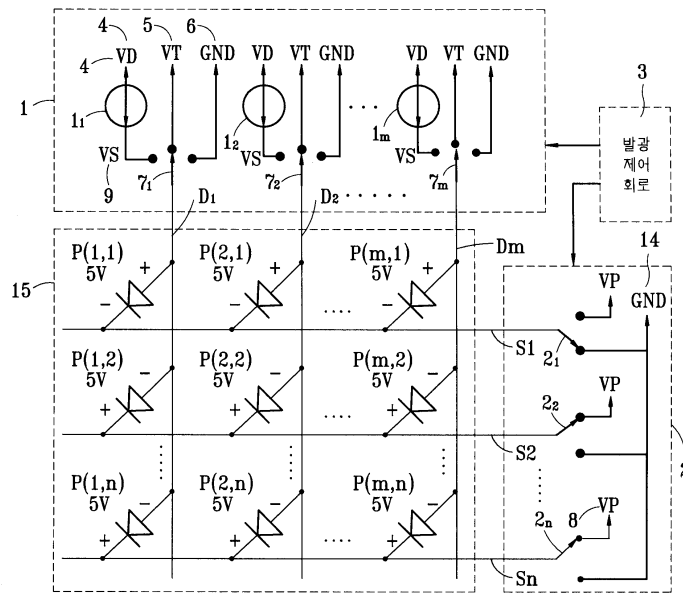
5a



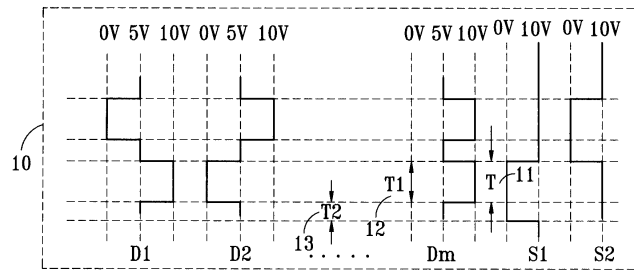
5b



6a

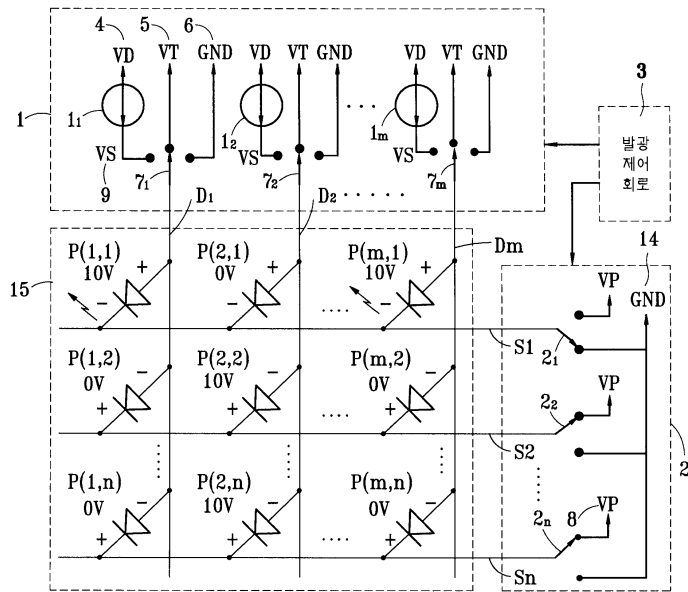


6b

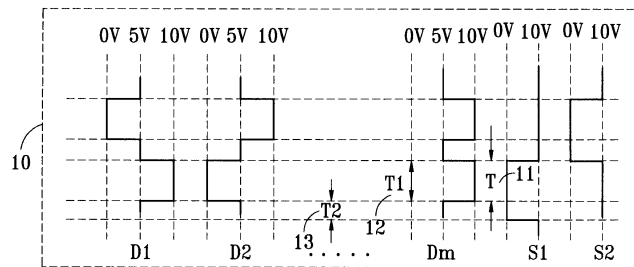




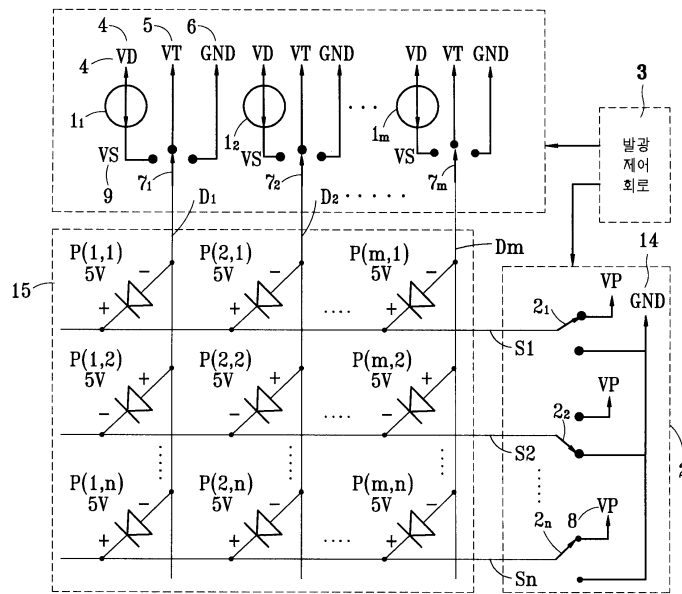
7a



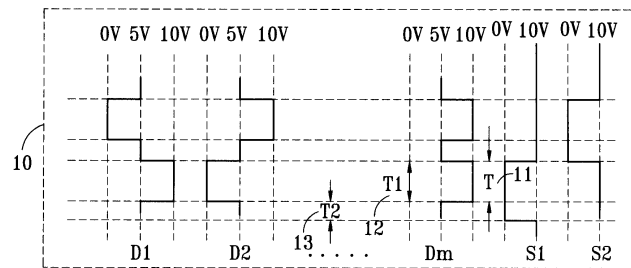
7b



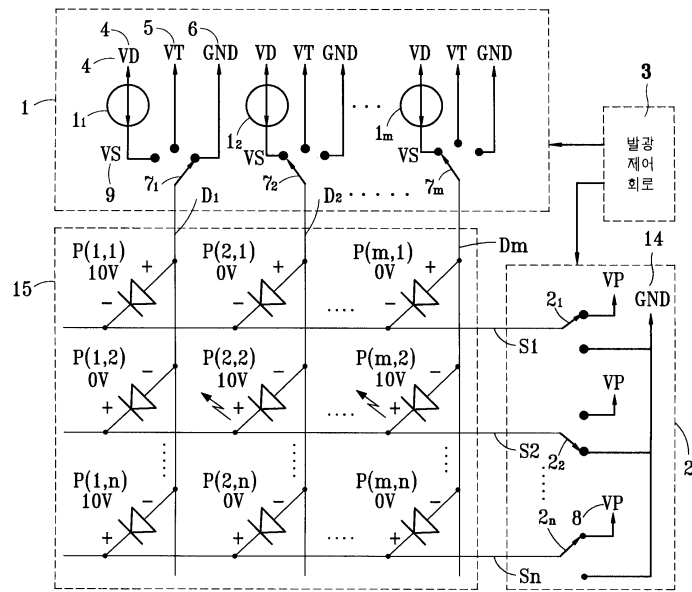
8a



8b



9a



9b

