

(19) (KR)  
 (12) (B1)

(51) 。 Int. Cl. <sup>6</sup>  
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 (45) 2002 04 06  
 (11) 10 - 0315977  
 (24) 2001 11 15

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(21) 10 - 1993 - 0017940 (65) 1994 - 0008102  
 (22) 1993 09 07 (43) 1994 04 28

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(30) 92 - 241719 1992 09 10 (JP)  
 (73) 가 가 . . .  
 가 가  
 가  
 가 . . .  
 가 4 - 6

(72) 2 - 502

61 LOMA VISTA DR., BURLINGAME, CA94010, U.S.A

1 - 48 - 18  
 1 - 69  
 519 - 18  
 (74)

:(  
 (54)

---

, 가 ,  
 3 MOSFET , 1  
 , , 2

, 3  
가 . ,  
, MOSFET

가  
, MOSFET  
가 ,

1a

1a

1b

2

3

4 3

5a MOSFET ,

5b 5c MOSFET ,

6 MOSFET ,

7

8

9

10

11

\* \* ,

1..... ,

2a,2c,3a,3c,4a,4c..... ,

2b,3b,4b..... , 5,6,14..... ,

7,45,48,63,64,65,66,67,68..... ,

8,16,44,47..... , 9,15..... ,  
 10..... , 12,13,42,43..... ,  
 23,24,31,32..... ,  
 25,30..... , 41..... MOSFET,  
 50..... , 51,93..... ,  
 52,53,69,70,71,94..... , 54..... ,  
 55,95..... , 61..... ,  
 62,76..... , 72..... ,  
 73,74,75..... , 98..... ,  
 97..... , 99..... .

, 16M  
 가  
 90  
 (ISSCC 90 Digest of Technical Paper) (1990, IEEE), 132 - 133  
 가 .  
 4M

4M  
 가  
 가  
 1024 (行) × 4096 (列)  
 가  
 4096  
 ,  
 가  
 .

,  
 (AND)  
 가  
 ,  
 가  
 가

4M  
 RAM  
 ,  
 가  
 ,  
 가  
 ,  
 가

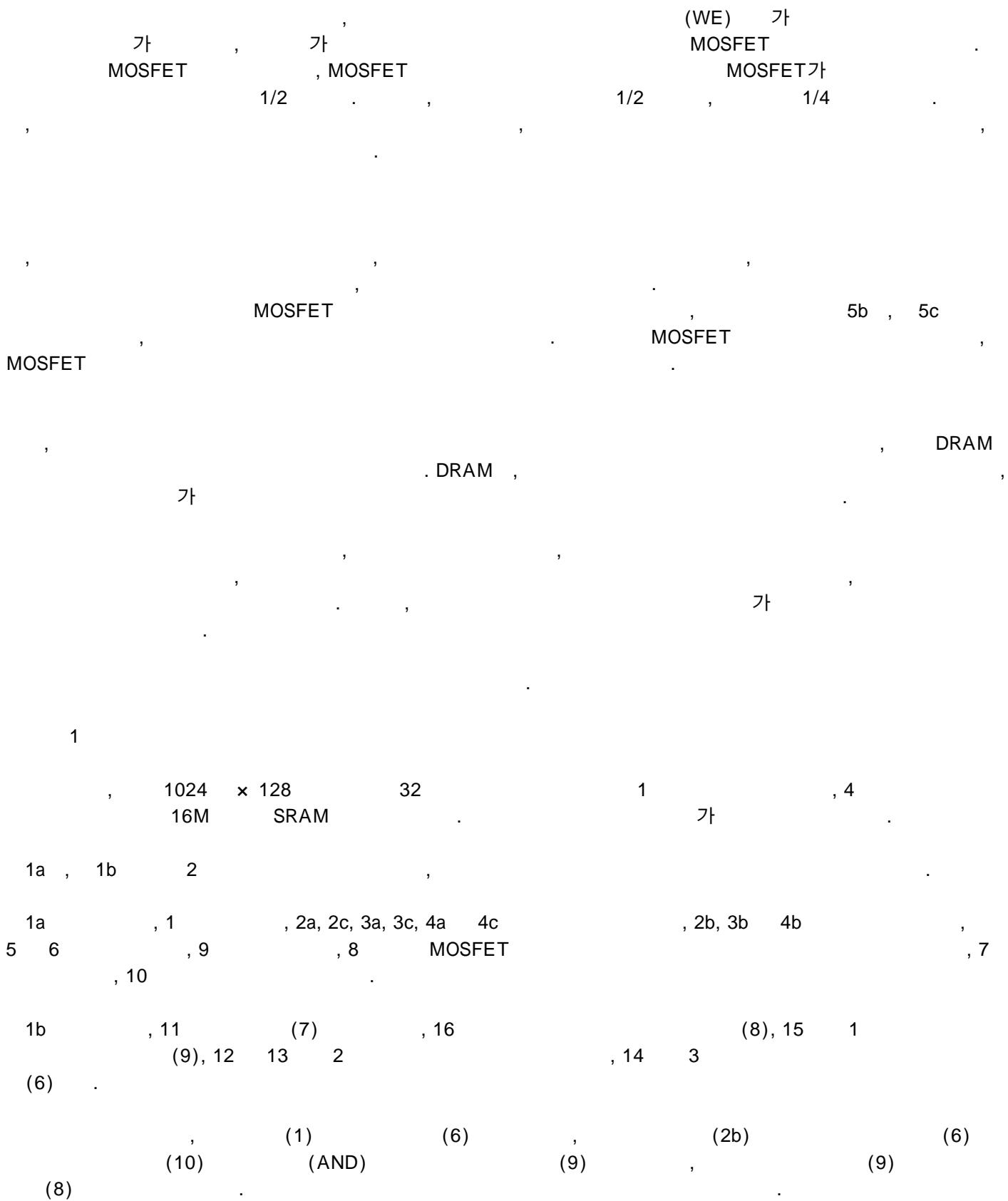
, 가 , , , 가 , , , 1  
, 3 , 2 , 1  
, 3 , 2 , 1  
(equalize) , MOSFET가

가 ,  
MOSEET

,  
500m /sq 3 ( ) 50m /sq 가 .  
가 .  
가 .  
가 .  
1 ( )

) 가 , , ( ) 가  
가 , 1 (shunt) 가 .  
가 . . . .

, SRAM(Sratic Random Access Memory)  
4M 가







, /WE 가 Ø WR ,  
OSFET (同)  
, MOSFET(46) MOSFET(46) M  
1/4 , 가 가

MOSFET(49)       $\emptyset$  LD /W  
MOSFET(49)

7 , ø<sub>t</sub> 가 , ø SAEQ, ø WR ø LD 3

3 MOSFET , 5b 5c  
MOSFET 가 .

8 DRAM . , 42 43 , 50  
 $\emptyset$  W1  $\emptyset$  W2 ,  $\emptyset$  SA , /  $\emptyset$  SA

DRAM 가 , 5b 5c MOSFET  
, DRAM .

9            8            DRAM             $\emptyset$  WI,  $\emptyset$  W2,  $\emptyset$  SA, /  $\emptyset$  SA, D    /D

4

, 가 , 가 , 가 ,

5

11 5  
91 92 , 93 , 94 , 95 , 96 100 , 98  
, 97 , 99 , SW1 - SW5 MOSFET

(91) (94) (95),  
 SW2 (98) . ,  
 (99)

SW3 . (91, 92) 가 , SW1, SW4 SW5 , SW2  
. (96, 100) , (97) .

(97) 가 " 1" " 0"  
 . (98) . , 가

2 , 3 4 1

(57)

1.

, (row) (column)  
 , 2 MOSFET 2 MOSFET 2

1 ,  
1 (sheet) 가 , 1 2 ,  
2 (sheet) 가 , 2 3

,  
MOSFET

1  
,

MOSFET

2  
,

, (row)

3  
,

1  
,

1  
,

1  
가

2.

1  
,

가 (writing)

(reading)

1 MOSFET  
,

3.

2  
,

1 MOSFET

4.

1  
,

가

MOSFET

,

,  
MOSFET

MOSFET

가

5.

1  
,

6.

5

,

,

가

,

가

가

,

,

,

가

7.

5

,

,

,

8.

1

,

1

9.

1

,

10.

1

,

,

2

3

11.

10

,

3

1

2

12.

10 ,  
 1 50 /sq 500 /sq 가 , 2 200 /sq 가 , 3  
 13.  
 , , (row) (column)  
 2 , MOSFET 2 MOSFET 2  
 ,  
 1 2 가 1 , 1 ,  
 1 , 1 1 , 1  
 2 , 2 , 1 1 ,  
 ,  
 3 , , 1 , , 3 2 ,  
 2 가

14.

13 ,  
 1

15.

13 ,  
 1 2 3

16.

15 ,  
 3 1 2

17.

15 ,

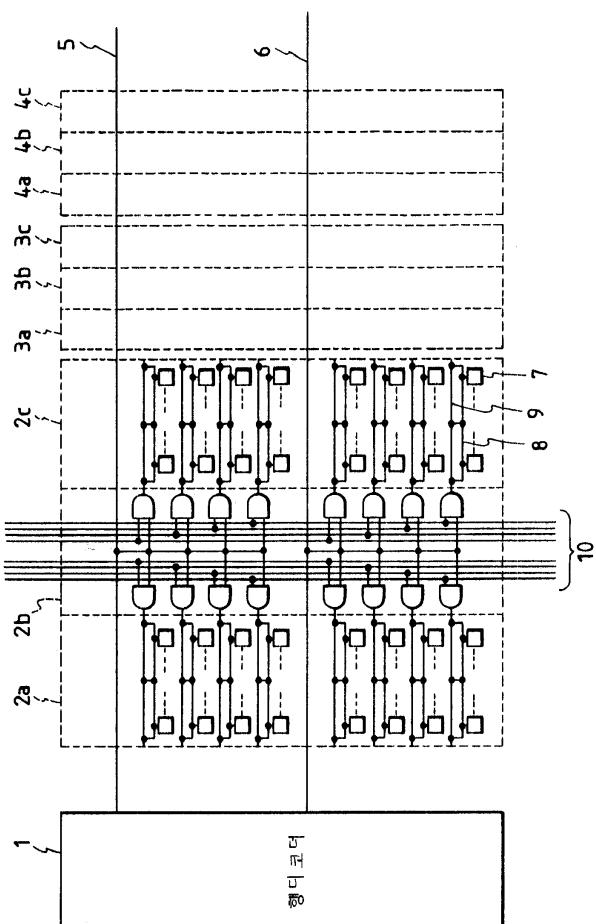
1 500 /sq 가 , 2 200 /sq 가 , 3  
50 /sq 가 .

18.

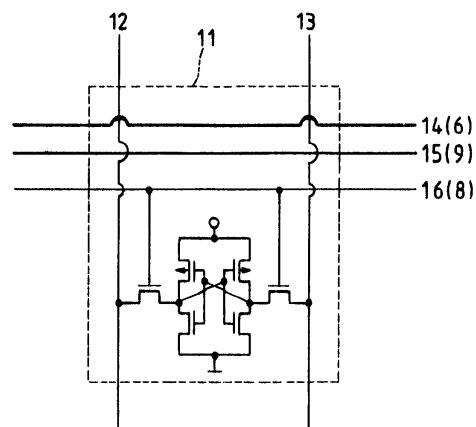
13

1 500 /sq 가 , 2 200 /sq 가 , 3  
50 /sq 가 .

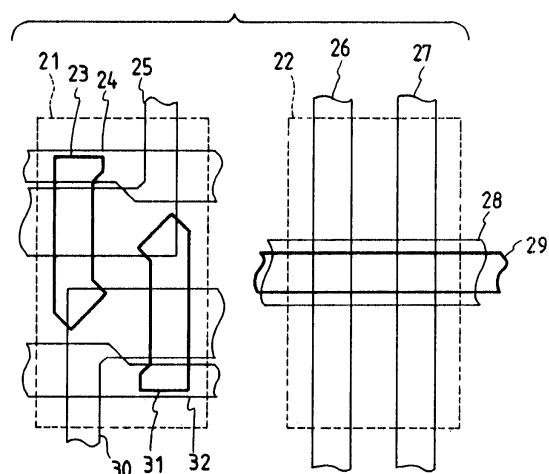
1a



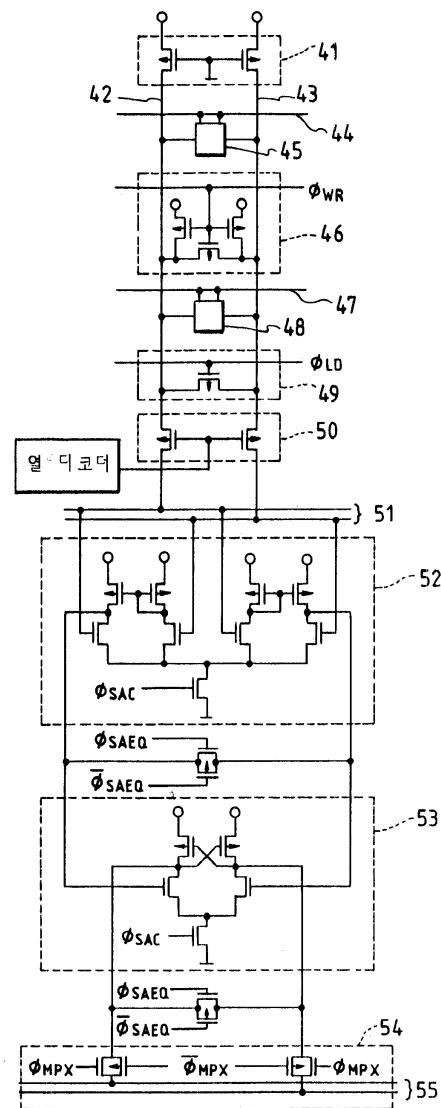
1b



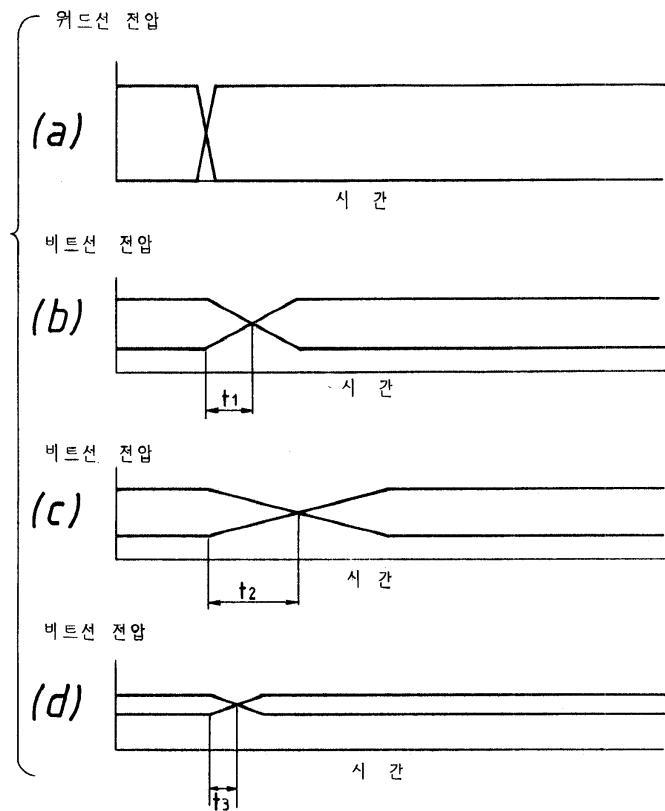
2



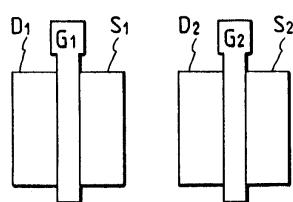
3



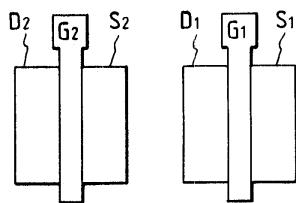
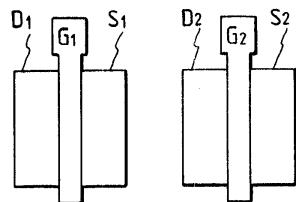
4



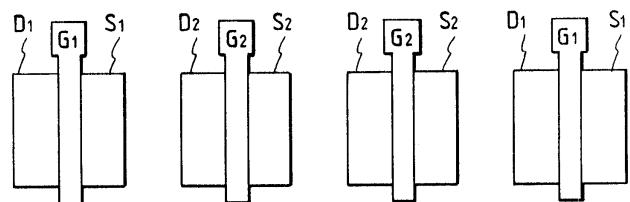
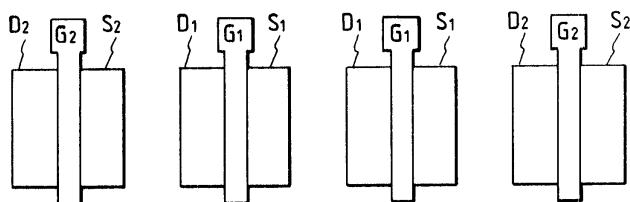
5a

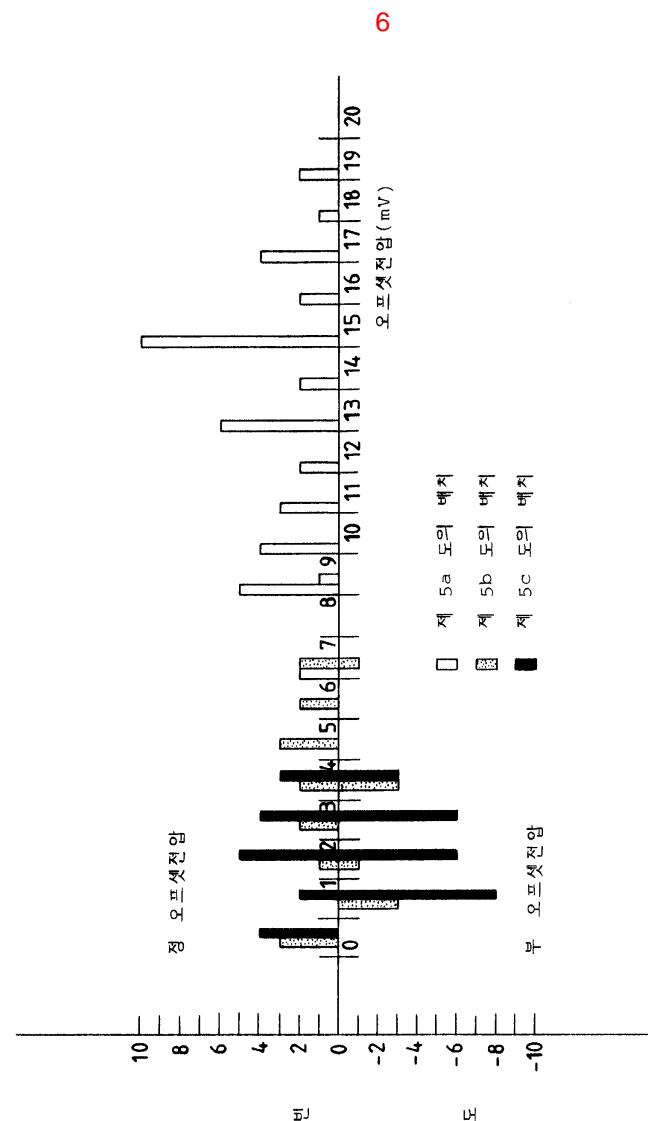


5b

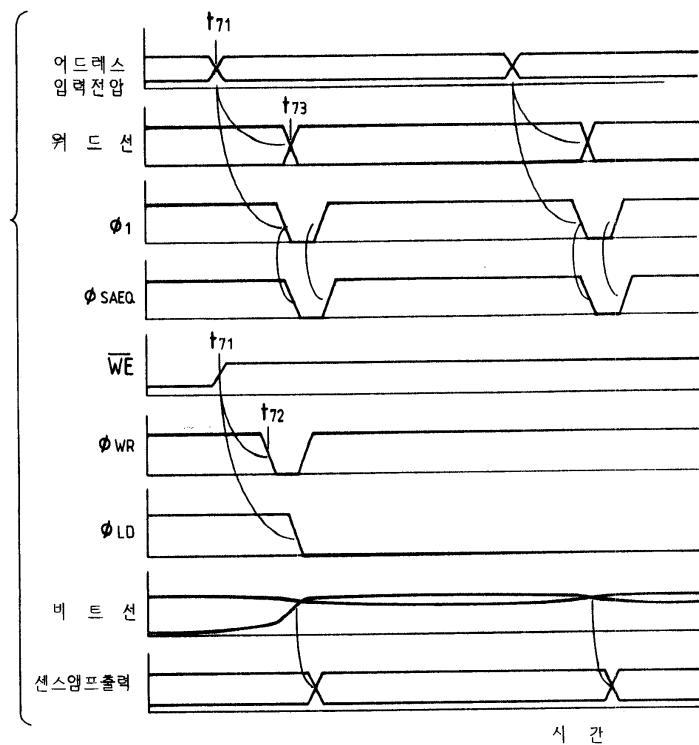


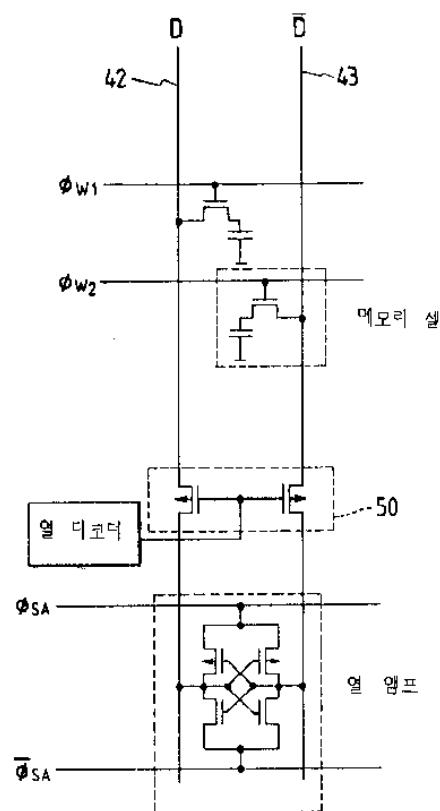
5c

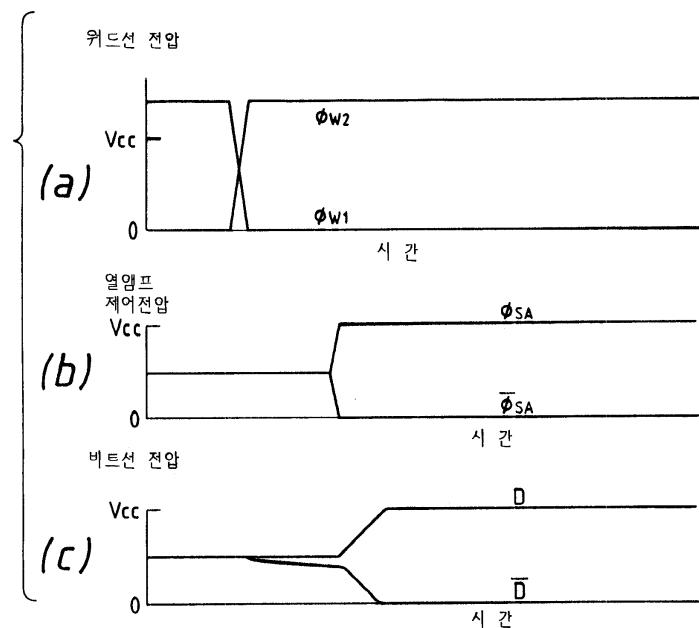


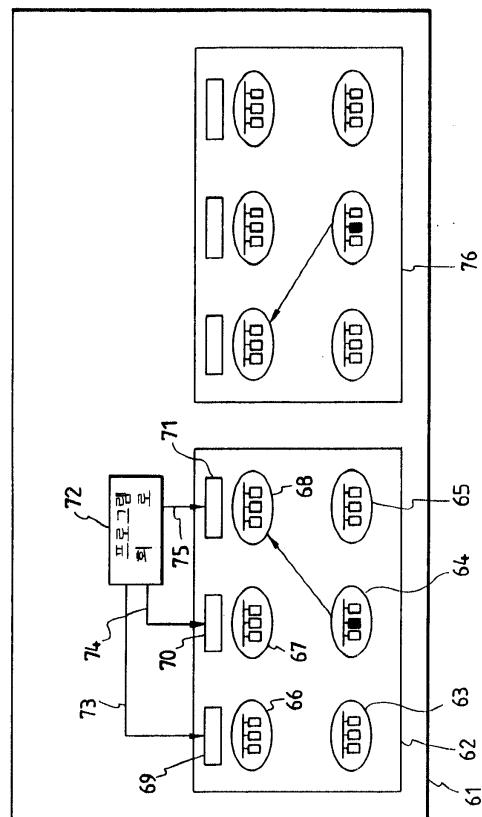


7









11

