

(19)
(12)

(KR)
(A)

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(11)
(43)

2002 - 0070148
2002 09 05

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(22) 2002 02 27

(30) 0104786.9 2001 02 27 (GB)

(71) 가 가 가 22 22

(72) , 28 22

, 127 12

, 44 124
가 2613 - 1 640

(74)

:

(54)

(11) . 2 (10) , 1 (12) , (6)
(20) 1 (21) (4) 가 LCD
(12)

1
2
3
4 / MOS
5
6 1
7 2 6
8 6
9 2 4
10 3 4
11 4 4
12 5 4
13 6 4
14 13
15 7 4
16 15
17 MOS
18 8 4
19 18
20 9 4
< >
2 :
3 :

4 :
 6 :
 7 :
 11 :
 12 :
 13 :

(TFT)

1 () (2) N M (1)
 (3) , (4) (5) (3)

(6) (7) (7) (5)

2 가 (4) TFT(10) TFT(10) 가 (6)
 1 (12) 2 (13) (11), (12) (13)
 (12) (13) DC

TFT (10) (6)

(2)

(3)

6) , M (4) TFT (10) TFT (10) (7) ()
 (4) (12)

(7) TFT (10) , TFT (10) -

- - (point - at - a - time addressing) (panel - sample - and - hold addressing) (- - - (line - at -

a - time addressing) 가 (3) , , , ,

TFT(10) (11) (12) (14)
 (12)

TFT , 가 (LDD)
 가 TFT 가 " ON"

US5517150 3 - 가 TFT(10)
 (11) TFT(15) 2 (16)
 (13) TFT (10, 15)

(6) , (10, 15) , (12, 16)
 (4) , (16) , (15)
 (10) , (12)
 가 (11)

(12) 가 ,
 , 가 , TFT
 , 가
 가 Cs ,
 CI (4) , V1 , V
 가 , 가

$$\Delta V = \frac{C_s \times V_1}{C_s + C_I}$$

가 , 가 , 가 , 가 ,

US6023074 US5517150 TFT , MOS (18)
 - (MOS) 4 , s d가
 , g가 " (ohmic) ' 가 ,
 . 4 . MOS
 Vt Vt , - -
 Vt , MOS

US5835170 (13) (12) 2 (6)
 5 - - (capacitor - on - gate)
 (1) 가 2 ,
 5 (1) ,

가 ,
 가 ,

1 , ; 1 , , ;
 1 , 2 ; 가
 1 가 2 1

1 2
 2 1
 , 2 2 1 가

2
 , 2 1 2 1
 1 2 1
 1 2 1
 1 2 1 2 1 2
 2 2 1
 / /

6 4
 2 () , TFT(10), (12), (11)
 (21) 1 ()가 TFT(20) (13)
 20) (12) Cs1 가 , 5 TFT(21) Cs2
 3

2가 TFT(20) (21) (11)
 가 (12) Cs1
 (20)가 (21) (12)
 (12, 21) Cs1 Cs2

7 +3.5V (11) 1 2.5V 6 6V 9.5V -3.5V 가 (12) Cs1 500 (21) Cs2

100fF fF 10)가 (12) TFT(10) (

OpF 8 2 (12, 21) 1% 9.5V (11) 6% 9.5V가 9.1V 1

TFT(20) 500fF (21) (20, 21)가

(12, 21) 가 , 1cm²/Vs TFT(10, 20) (4)

(3) TFT(10, 20) 가 (7) . 50cm²/Vs

가 (point - at - a - time) () ; 2 1 1

9 , TFT(20) (21) 가 , 6 .

10 , 5 - - 가
 , 6 (12 21)
 (6) (13) (12 21)
 DC TFT(10) , DC 0V (6) ,
 가 (12, 21)
 , 10

11 (13) (22) , (12 21) 가
 TFT(20) (24) , 6 .
 , 가 DC .
 (24) , TFT(20) , (12)
 , (24) , Vdd , TFT(20) ,
 (12) 가 (21) .

12 , (24) 11
 , 1.5 가 .

13 , (13) (22) , 6
 , (12 21) , TFT(10 20)가
 , N- (21) , (12) 가
 , TFT , (21) , (21)
 Cs2 (12) , (21)

14 , - TFT 13
 (4) (SL) , TFT(1) (6)
 0) (30) , TFT(10) ,
 2 , (6) (GL) 2 - TFT

TFT(10) , (31) SL , SL (12)
 , GL , SL (RE)(32)
 TFT(10) , (22)

(20) , , GL (13) (21)

TFT

가

15 , 13 , 11

(24) , MOS (12 21) (24) ,

, TFT(20) , (12)가 SL GL

Vdd , (24) , TFT(20) , Cs2

MOS (12) . MOS (35)

GL , MOS

(35) (Vt) 가 , 4

16 , - TFT 15

2 가 . MOS

- TFT . 33

, - MOS 3

MOS 5) 가

17 가 MOS (3

(11) , 15V , 17 2가

가 , 1.5V 10.5V

, MOS 4.5V

TFT

17 , MOS -1.5V , 0V 가

, 2 MOS 2 TFT

가

18 MOS (35) TFT(20)가

15 19

20 , (SL) 가 18

가

Vdd , (24)

(Cs1) (LDD) TFT

, 가 .

(57)

1.

, 1 1 , 1 , 2 가 , 2 1 1 가 2 .

2.

1 ,

3.

2 ,

4.

2 ,

5.

2 ,

6.

1 ,

7.

1 ,

1 2 .

8.

1 ,

2 1

9.

1 ,

, 2 2 1

10.

1 ,

, ,

11.

10 ,

2

12.

11 ,

13.

1 ,

, 2 1 2 1

14.

10 ,

1 2 1

15.

10 ,

1 2

1

16.

10 ,

1 2

1

17.

1 ,

1 2

1 2

18.

17 ,

1 2

19.

18 ,

(GL)

20.

19 ,

1

(SL)

21.

19 ,

2

22.

17 ,

2

23.

22 ,

2

24.

23 ,

2

,

1

25.

23 ,

1

/

/

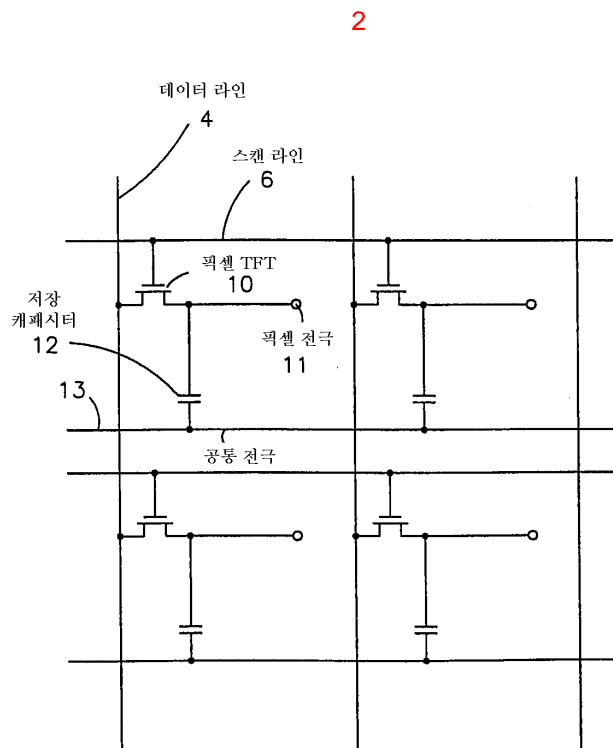
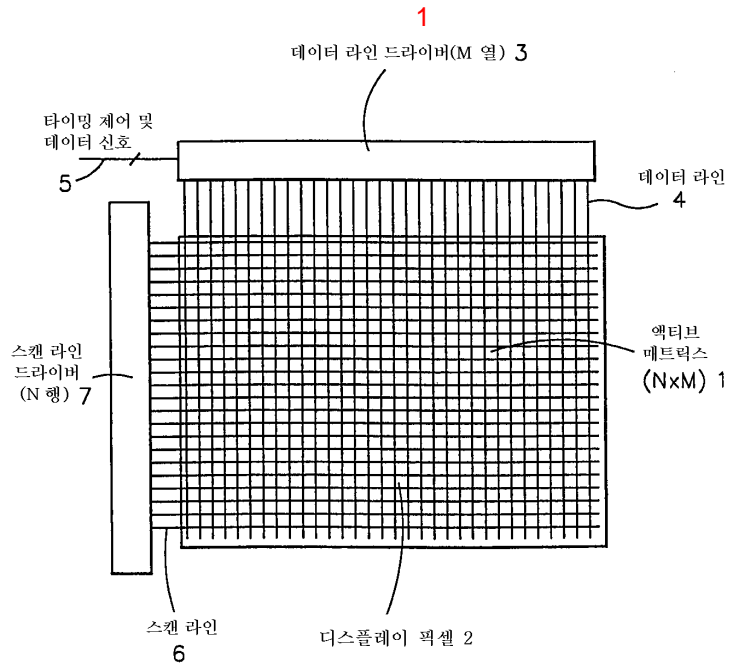
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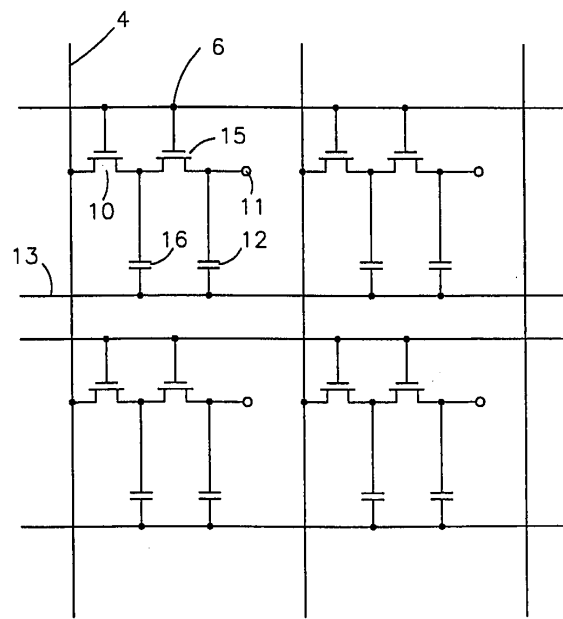
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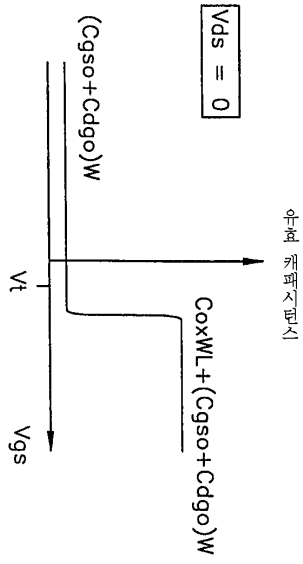
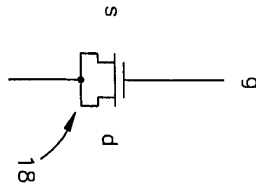
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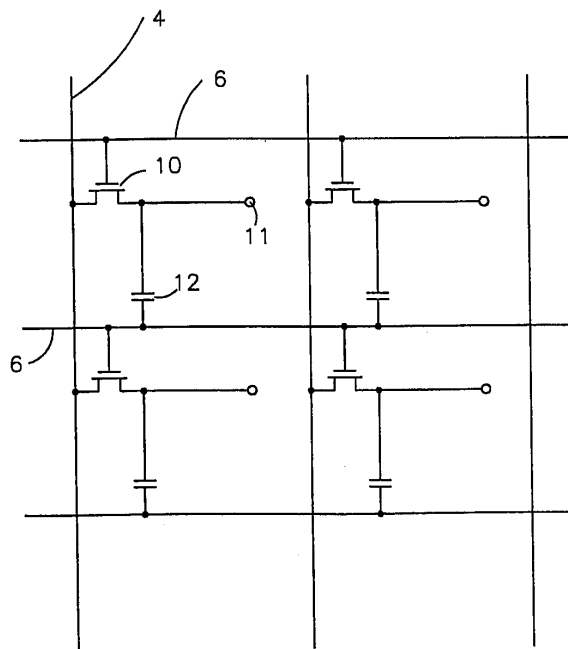
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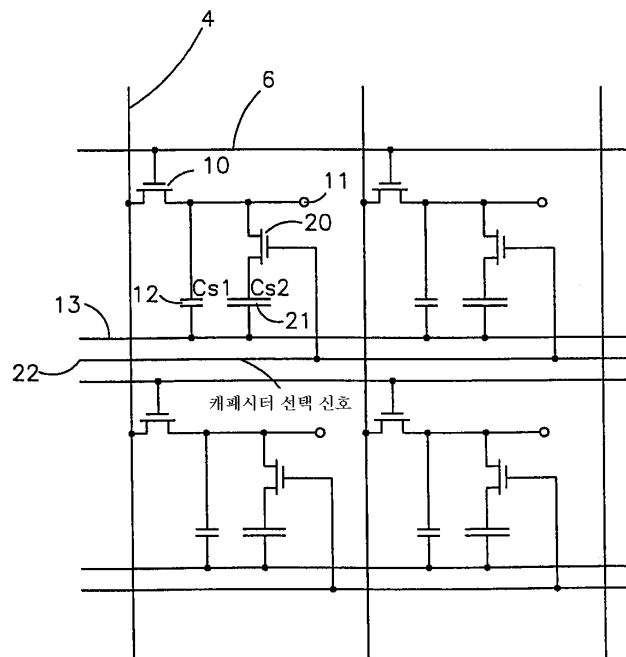
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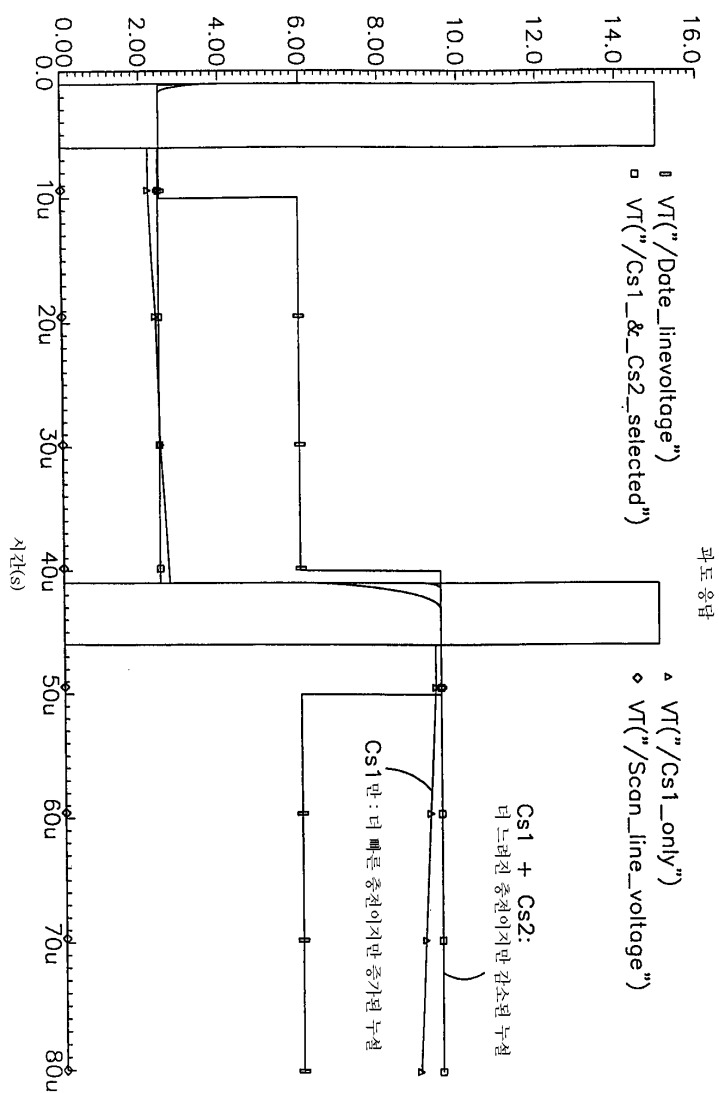
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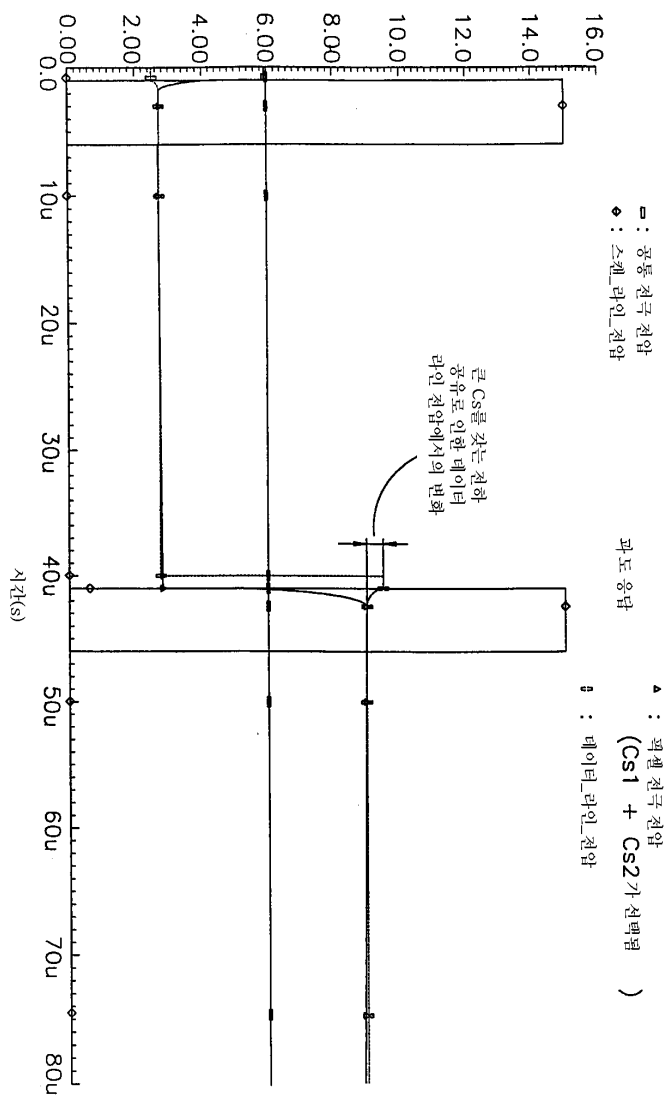
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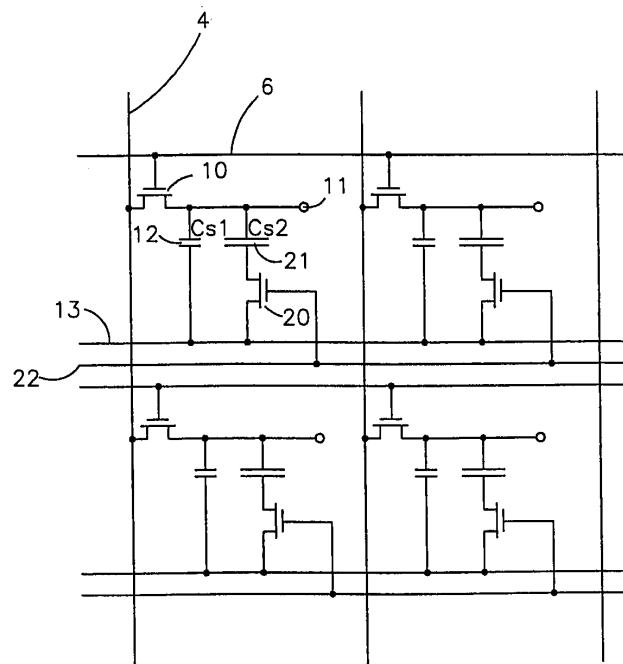
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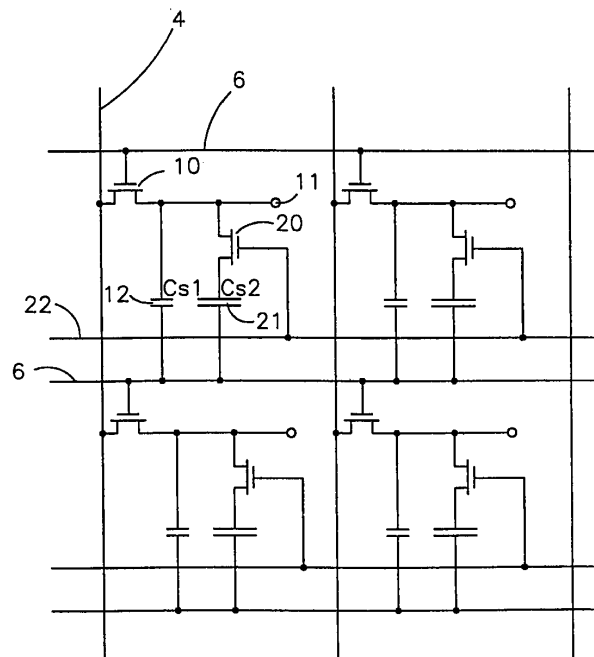
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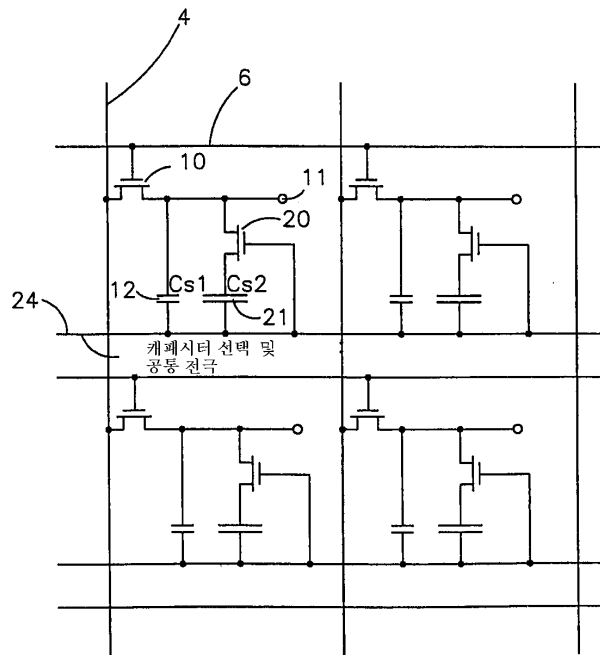
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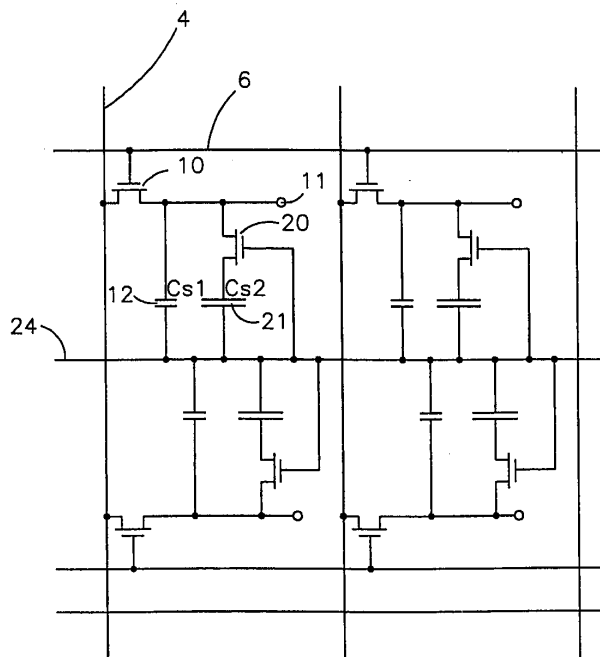
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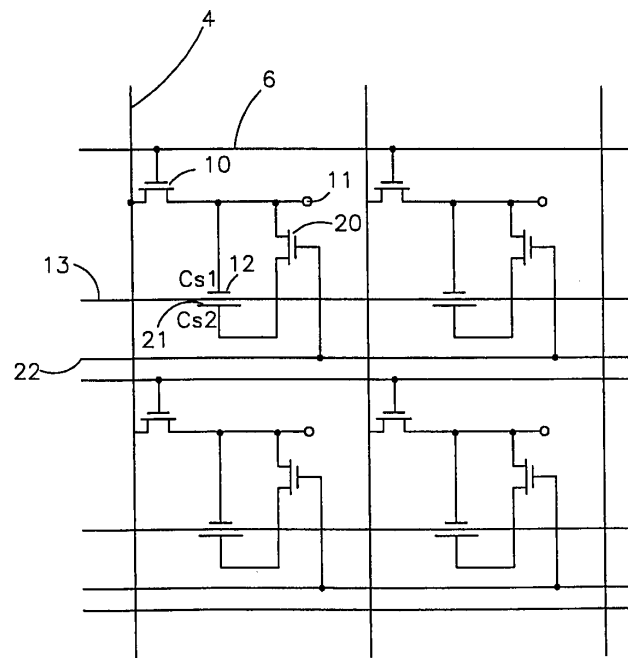
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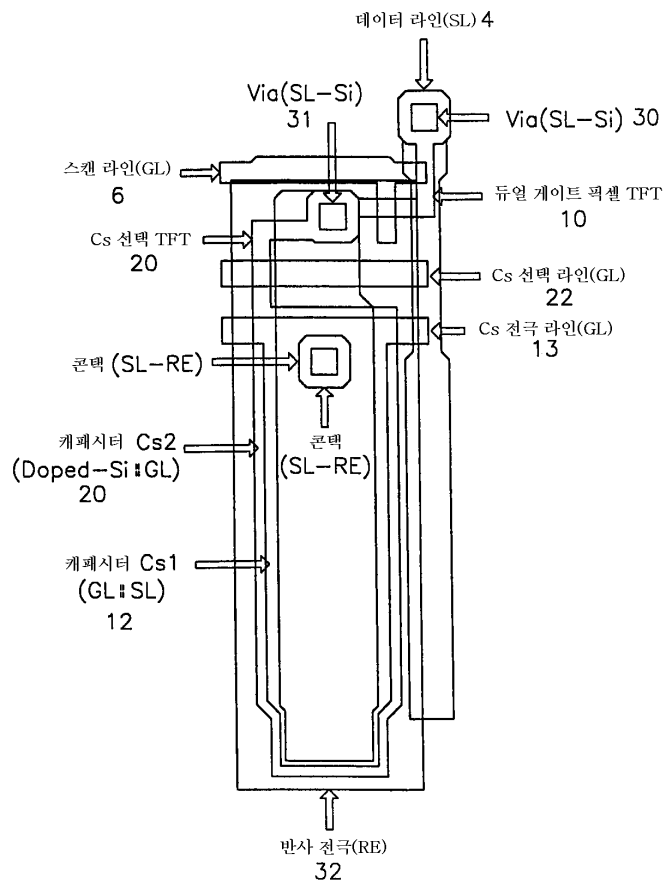
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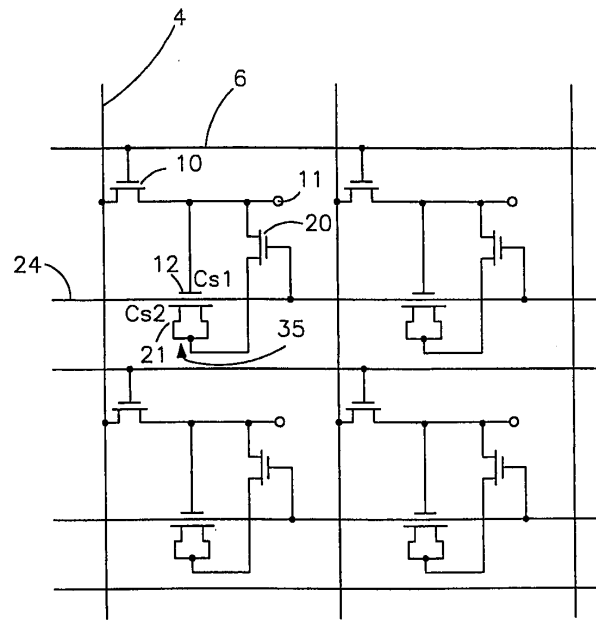
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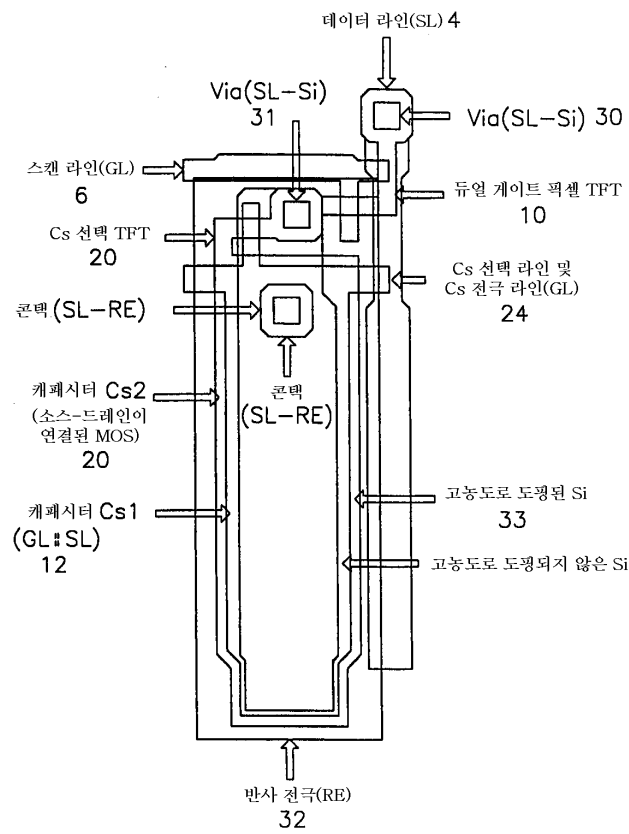
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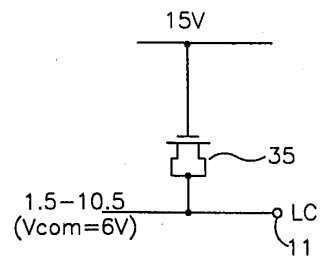
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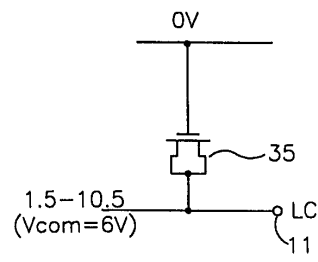
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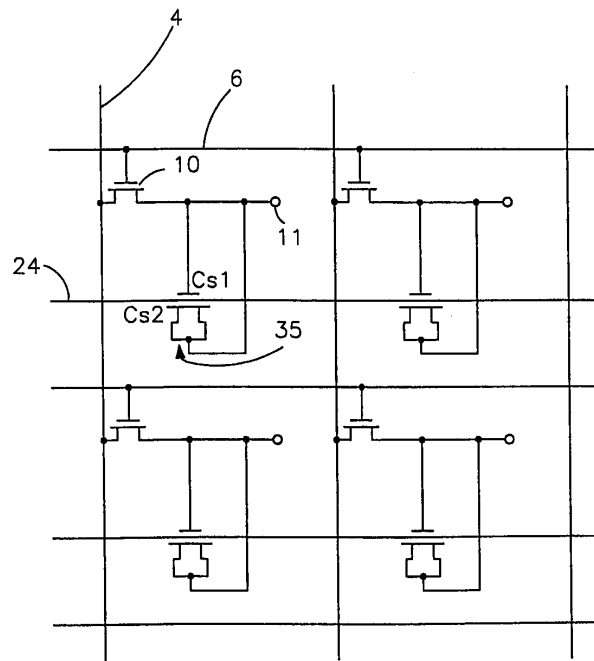
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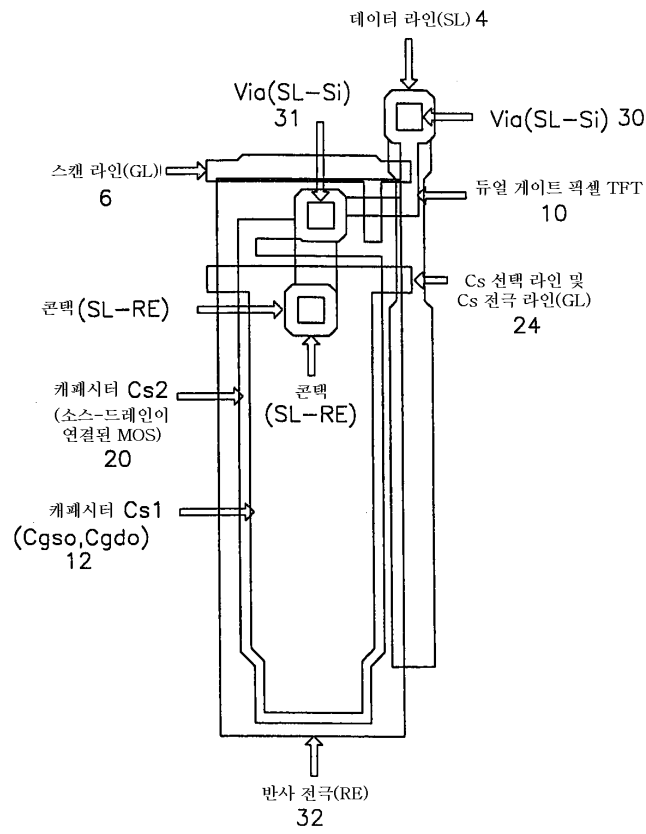
높은 정전 용량을 위한 조건:
 $V_t < 4.5$



낮은 정전 용량을 위한 조건:
 $V_t > -1.5$



19



20

