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(12)

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G02F 1/133

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(24)

2004 05 22
10-0432292
2004 05 10

(21) 10-2001-0030045
(22) 2001 05 30

(65)
(43)

10-2001-0109485
2001 12 10

(30) 2000-162780 2000 05 31 (JP)
2001-004163 2001 01 11 (JP)

(73) 가 가 1 1 1

(72) 1-9-2가 가
1-9-2가 가
1-9-2가 가
1-9-2가 가
1-9-2가 가
1-9-2가 가

(74)

:

(54)

GND

, , , TFT, , , , ,

1		1	
2a	1		, 2b 2a 가 .
3a	3c	2a	.
4		2	.
5a	5e	4	(20)
6		3	.
7		3	.
8		3	.
9		4	.
10		5	.
11		6	.
12		7	.
13		8	.
14		8	.

< >

10 :
11 : (TFT)

- 12 :
- 14 :
- 13 :
- 15 :
- 16 :
- 17 : NchTFT
- 18 : NchTFT
- 19 :
- 20 :
- 21 :
- 22 :
- 23 :
- 24 :
- 25 : NchTFT
- 26 : NchTFT
- 27 : PchTFT
- 28 :
- 29 :
- 30 :
- 31 :
- 32 :
- 34 :
- 35 :
- 36 :
- 38 :
- 40 :
- 41 :
- 42 :
- 44 :
- 45 :
- 46 :
- 47 :

48 :
50 :
100 :
101 :
102 :
103 :
104 :
105 :
110 :
115 :
116 :
117 :
118 :
120 :
136 : NchTFT
137 : PchTFT
138 : NchTFT
139 : PchTFT
200 :
300 :
400 :
500 :
S :
G :
C :
Cs :
CKV :
STV :
CKH :
STH :
VDD1 :
VDD2 :
GND :
CKU :
pg :
Vth :
:
VDD :
ps :
Vthn :
Vthp :
Vg1 :
Vg2 :

가 TFT()
가

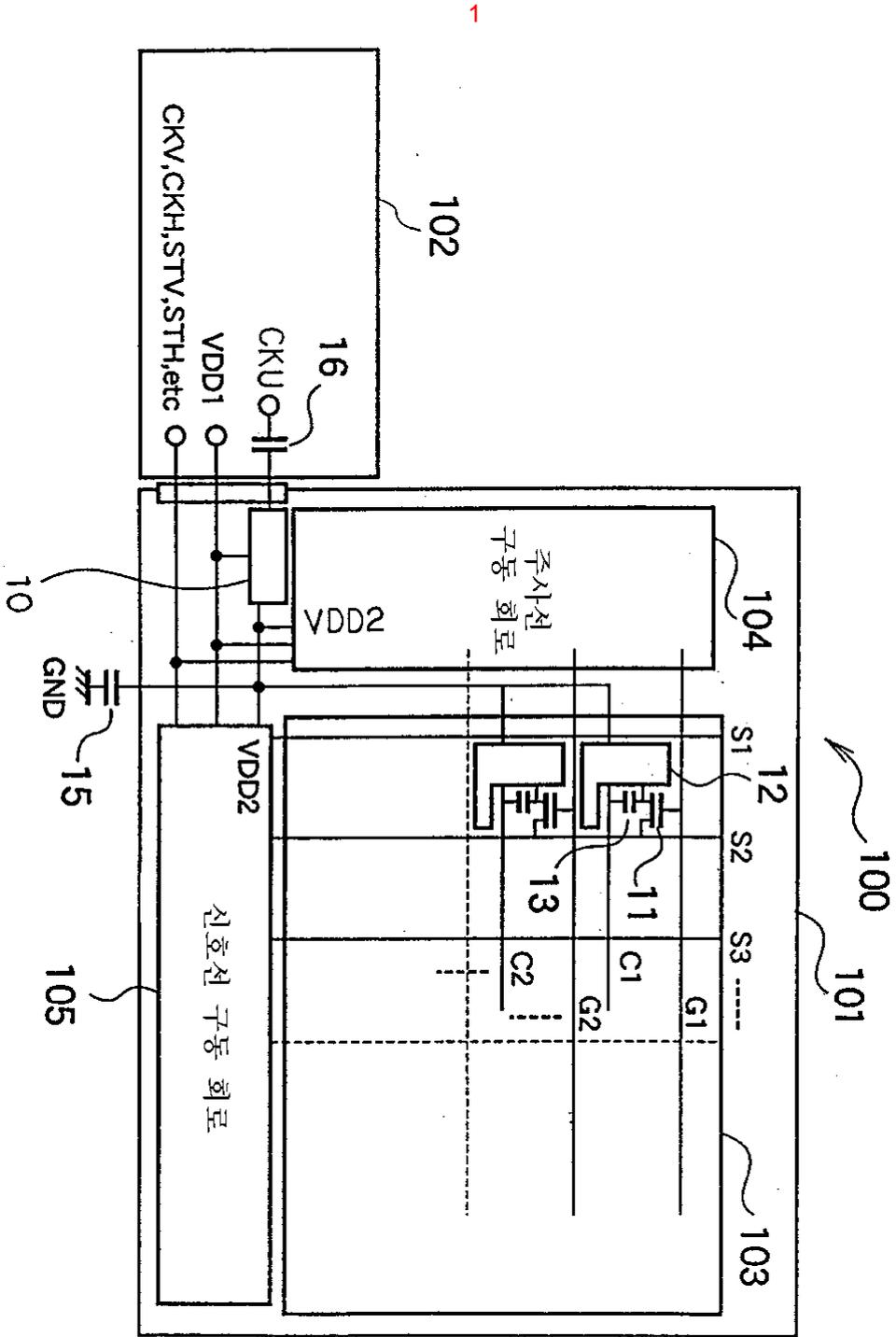
1 1 2 2 3
pg 2 ps 1 n 2 p 1
< p 2 > n .
[1]
1 1 . 1
(101) (103), (104), (105) (10)가
(103) S1, S2, S3 ... (S), G1,
G2 ... (, G)가 TFT(11)가
S G
TFT(11) S (12) (12)
(103) (12) ()
() (102)
(12) ()
(12) (13)
(13) (12) C1, C2 ... (, C) Cs
C (13)
(104) 1 (102) G1, G 2 ...
(104) STV () CKV STV가
() CKV
()
() G1, G2 ...
(105) ()
S1, S2, S3 ... (105)
(102) STH () CKH STH가
STH () CKH
S1, S2, S3 ... 가
/

(104) (105) VDD1 VDD2 . VDD1
(102) VDD1 () VDD2 (101)
VDD2 (10)
(10) (102) VDD1 VDD1 (10) V
(10) (104) GND (105) (15) (10)
(16) (101) (15) (16)
(102) (15) 1 (10) (15) (16)
(10) (102) (15)
(102) (16) GND (15) (15)
(16) (101) (102) (102) (15)
(15) (15) (16) ()
(13) , (101) (13) C (15) (15) ()
13) Cs (101) (15)
(15) (102) IC, / (, D/A),
() (102)
KU CKV, CKU STV, (10) CKH, STH, C
(102)

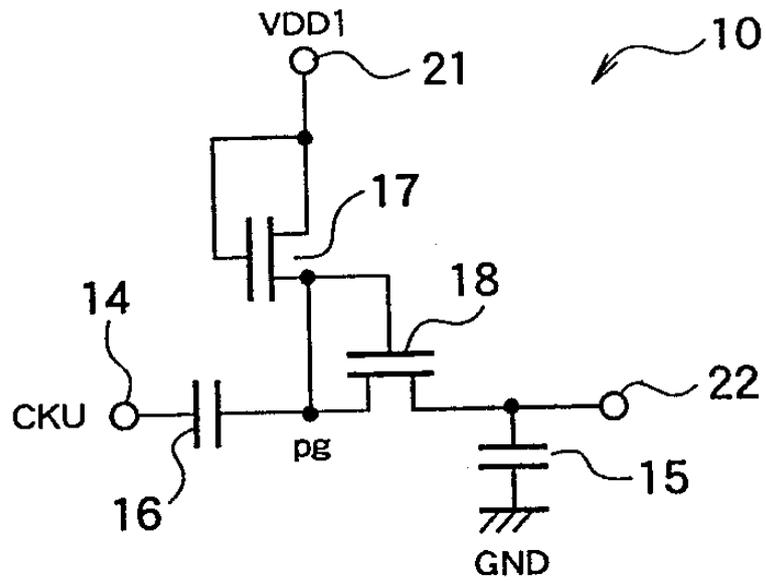
(102) VDD1 (102) () VDD1 (10) ,
VDD2 ()
(102) (101) ()
CKV STV (104)
CKH STH (105) CKU VDDP ,
(10) , 1
1 (100) (10) (102) (102) (10)
(101) (103), (104) (105) , (10)
, 1 (10) (102) (10) (15) (16)
, (10) (10) (102) C 가
, 1 (15) (13) (10)
(100) 가 (10)
(102) (102)
(101) , VDD2 (10) , VDD1 (101))
(101) ,
, (10) 2a (10) , 2b
가 2a, 2b 1 (15) (16) NchTFT
(17) (10) 2 NchTFT(17, 18), (16) NchTFT
NchTFT(18) (16)
(15) NchTFT(18) , pg
3a 3c (10) , 2 3
(10) Vs CKU , 3a 10V
, (14) (21) VDD1 , DC10V
(1.5MHz).
pg (14) (14) CKU가
(0V) Vth가 2V VDD1 NchTFT(17) Vth CKU가
, NchTFT(17) pg 8V(VDD1-Vth) ,
(14) CKU가 (10V)
, .8 18V , 8 18V 8 18V(VDD1-Vth+ Vs) (22)
(14) CKU가 , VDD1 -2Vth+ Vs
, 3c NchTFT(18) Vth 2V , 16V가
VDD2
[2]
2 2
2 1
2 4 2 (20) NchTFT(25), NchTFT(26), Pch
TFT(27), (29, 32) (35) NchTFT(25) pg Nc
NchTFT(26) PchTFT(27) . NchTFT(25) (28) (29)
hTFT(26) PchTFT(27) CKU가 (31) ,
NchTFT(26) PchTFT(27) (32) NchTFT(26) PchTFT(27) ps CKU
/CKU가
4 (29, 32) 1 (16) (34) GND
(35) 1 (15) , VDD , 2a VDD1
5a 5e (20) , 5
(20)

(28) Vs CKU (31) Vs
 /CKU 10V 1.5MHz
 pg VDD Vth DC10V
 Vth가 2V NchTFT(25) 8V(VDD - |Vth|) CKU가 NchTFT(25)
 U가 , 8 18V(VDD+Vs-|Vth|) , NchTFT(26)가 CK 5c
 V가 , NchTFT(26)가 VDD가 , NchTFT(26)가 , VDD가 10V 10
 , /CKU 10V Vs , 20V(VDD+Vs) , /CKU가 Vs가
 가 , (34) PchTFT(27)가 (VDD+Vs)가 ,
 ps 가 , ps가 20V Vth가 , VD
 4 NchTFT(26) , NchTFT(26) , NchTFT(26)
 D-|Vth|가 , (20) 가 NchTFT(26)
 Vth , (/CKU) 2 (20) 1 TFT
 , ps 2 (VDD+Vs) (20)
 [3] 3 2 , 1
 3 3 1
 6 3 (30) 2 (36, 38),
 TFT(137) (42) (44) (38) NchTFT(138) PchTFT(139) NchTFT(136) Pch
 , 2 (36, 38) (30) (45)
 6 (44) VDD가 (16) (43) CKU가 GND (41)
 42) 1 (15) (36, 38) 2 TFT Vth
 n(NchTFT)+Vthp(PchTFT) , NchTFT PchTFT TF
 가 Vthn+Vthp , 3 (30)
 T , 6 (30) Vg1, Vg2 Vthn=2.5V, Vthp=-1.5V , Vthn=1.5V, Vthp
 =-2.5V
 , 6 2 (36, 38) PchTFT 2V
 Vthn=2.5V, Vthp=-1.5V Vthn=1.5V, Vthp=-2.5V
 , 7 3 , 7 (40) NchTFT P
 chTFT (46, 47)
 8 6 3 가 , 8 6 (30) (4
 0) (50)
 (40) (30) (30) 2 (36, 38) NchTFT PchTFT
 (30) (30) (40) (40) (50)
 , VDD가 (30, 40) TFT , T
 가 FT (50) (50)
 Vg1, Vg2 , Vg1, Vg2 (50)
 8 (50)
 2 (50)

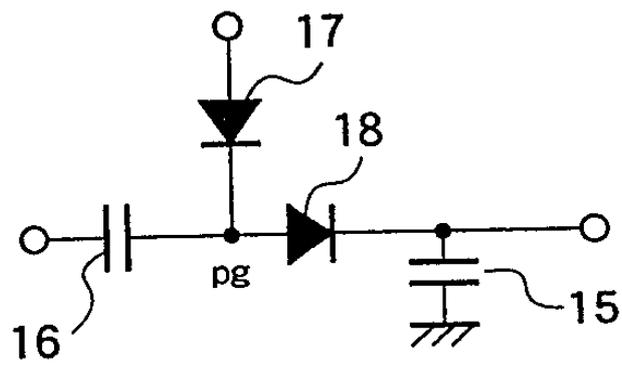
[4]
 9 4 4 (102) (200) 9 1 1
 4 , 4 (200) , 1 ,
 (10) VDDP VDD2 (102) (10) VDDP VDD1
 1 (105) (102) VDD1 (105) (104)
 CKH (10) (102) CKH (10)
 (19) CKH 1 CKU STH CKU (10)
 (102) 9 CKH (10) 가 (16)
 (101) (102) CKH (19) (10)
 CKH CKH (10) CKU (102)
 4 가 (200) (10) (101) 가 (10)
 , 4 (200) 1 가 가
 [5]
 10 5 (102) (300) 10 9 9
 5 4(1) (300) 4
 (19) 5 (10) (19) (48)가 (10)
 (10) CKH (48) CKH CKU (10)
 가 (48) CKH CKH 가 (10) (10)
 5 (300) 4 가 (10)
 2) [6]
 4 5 가 (105) (104) CKH CKV (10)
 STV (10)
 CKV(STV) (105) CKH(STH) (104)
 CKH STH 가 CKH (10)가 CKV STV
 STV) CKH(STH) CKV(
 (10)
 11 11 11 10
 11 (23) (10) (23) Vr
 ef VDD2 (24) (23)
 (24) , (23)
 (10) VDD2 VDD2 Vref VDD2 VDD2 Vref
 VDD2<Vref (23) (OUT) (24)
 (23) CKH(STH) ,



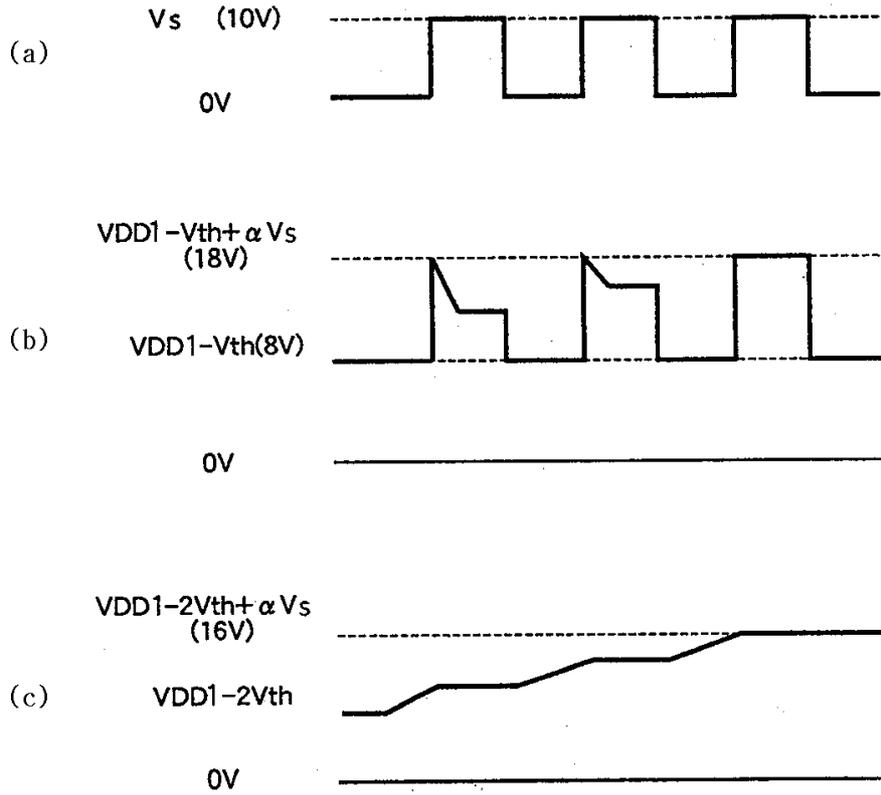
2a



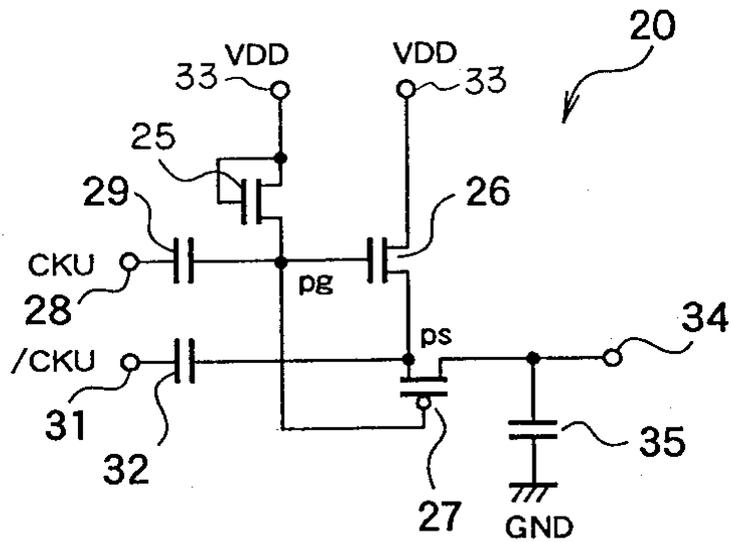
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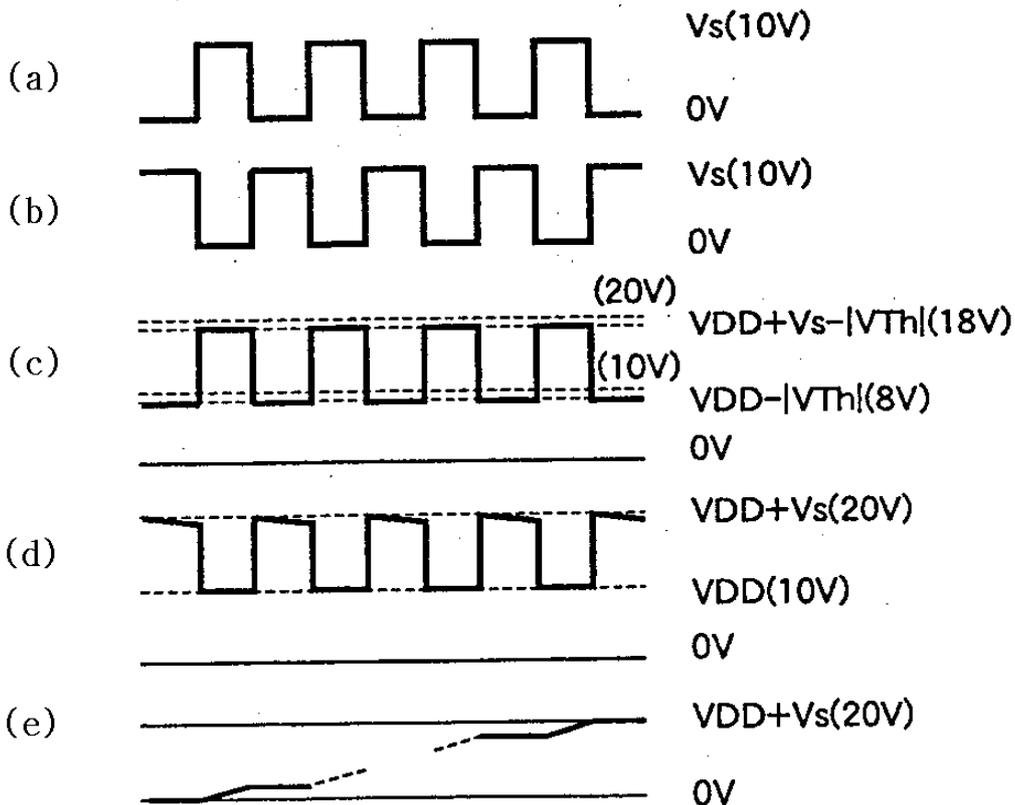
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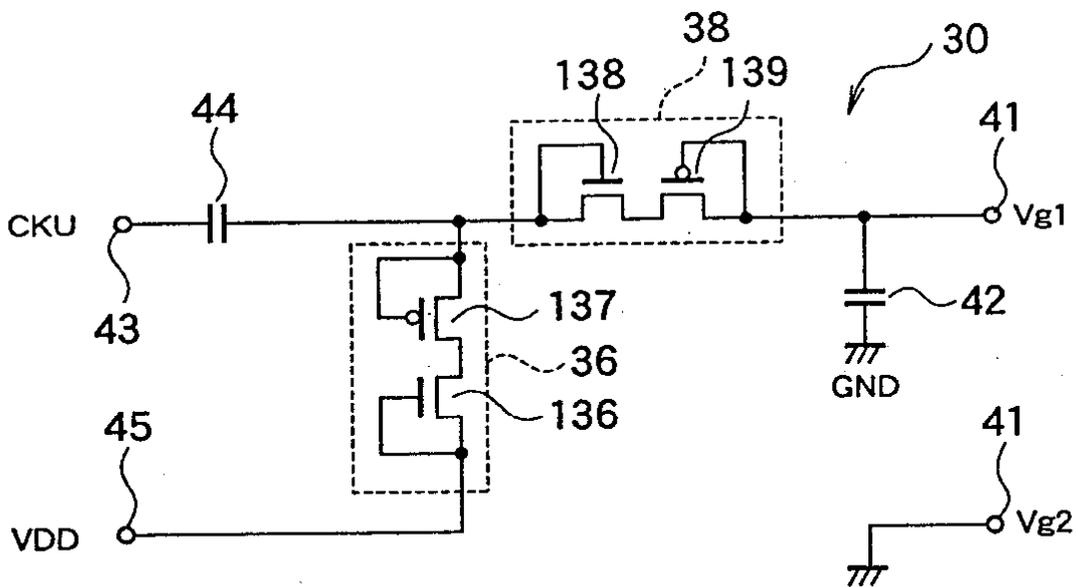
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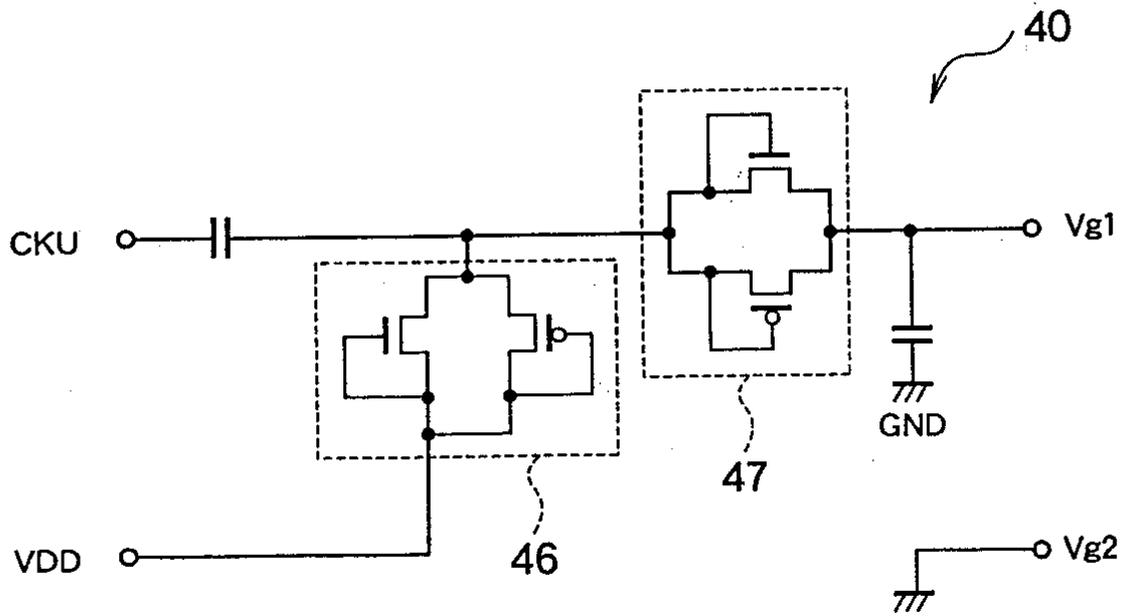
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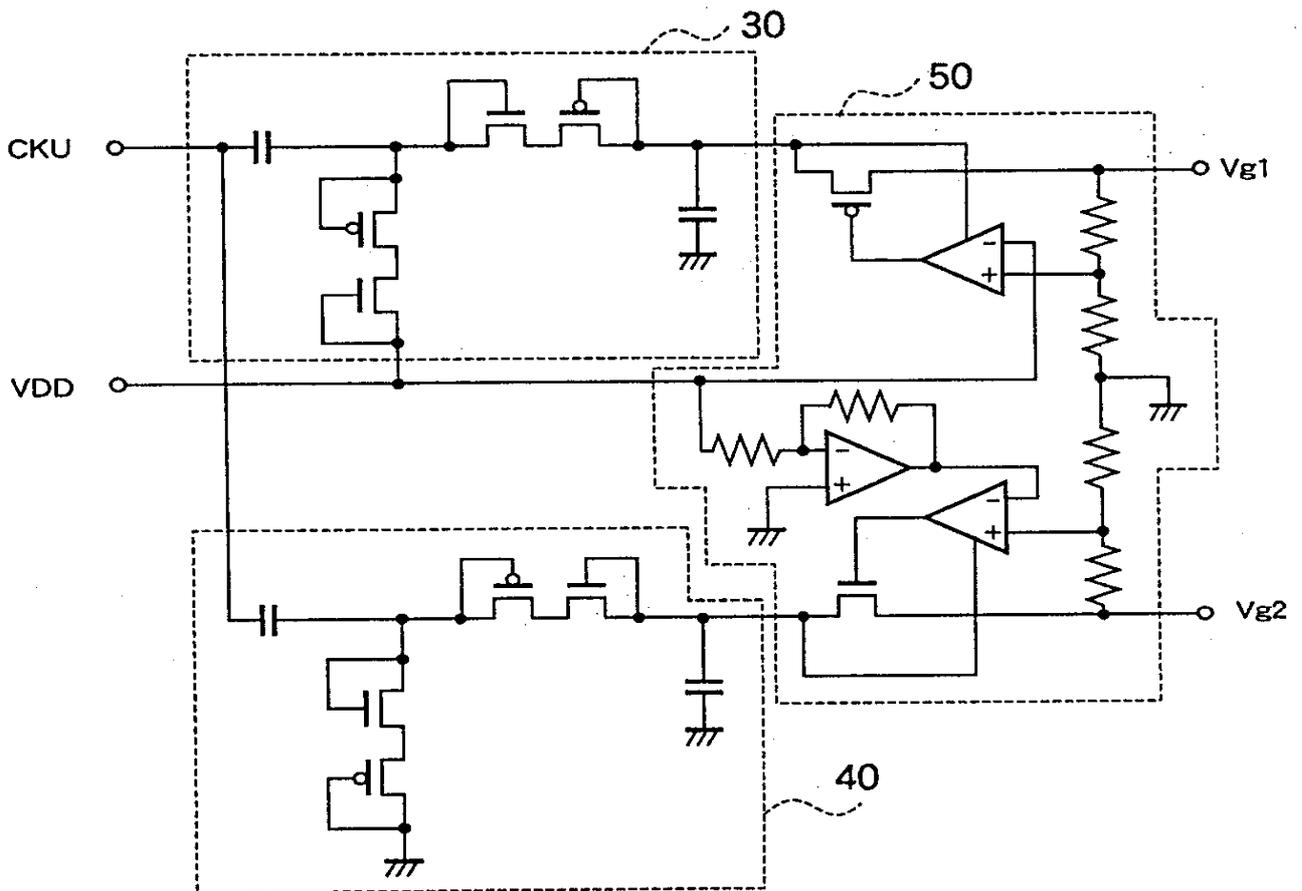
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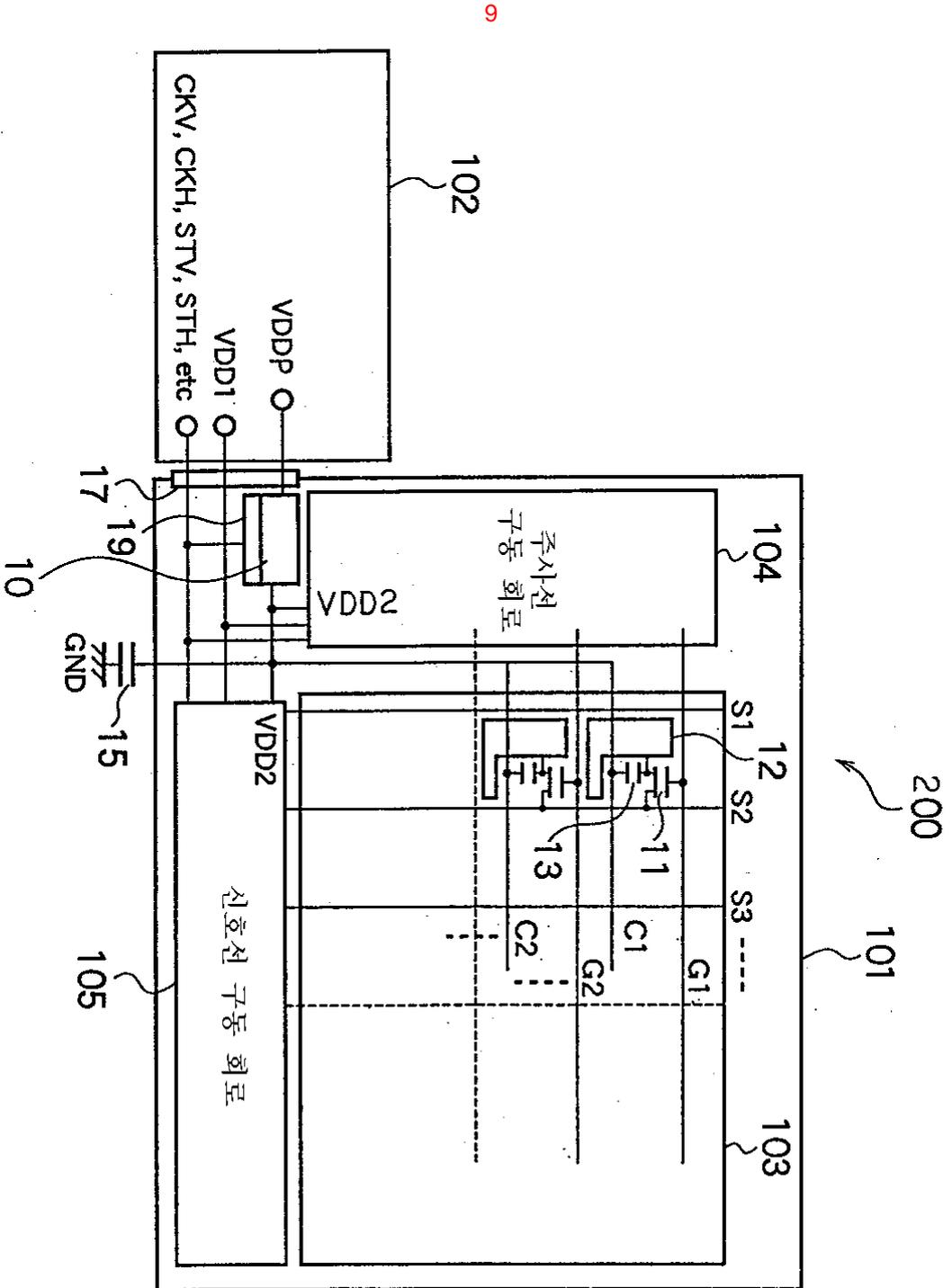


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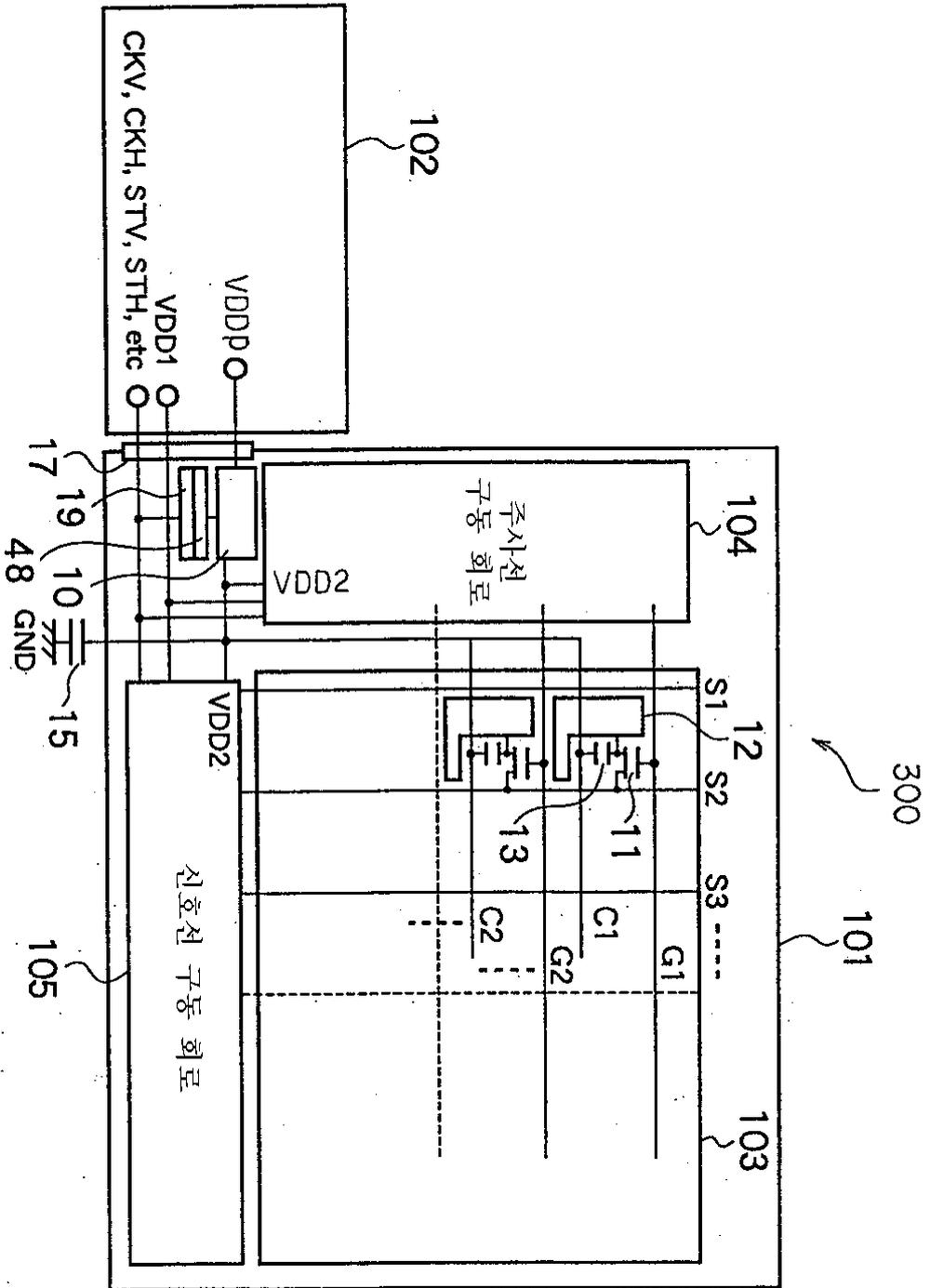
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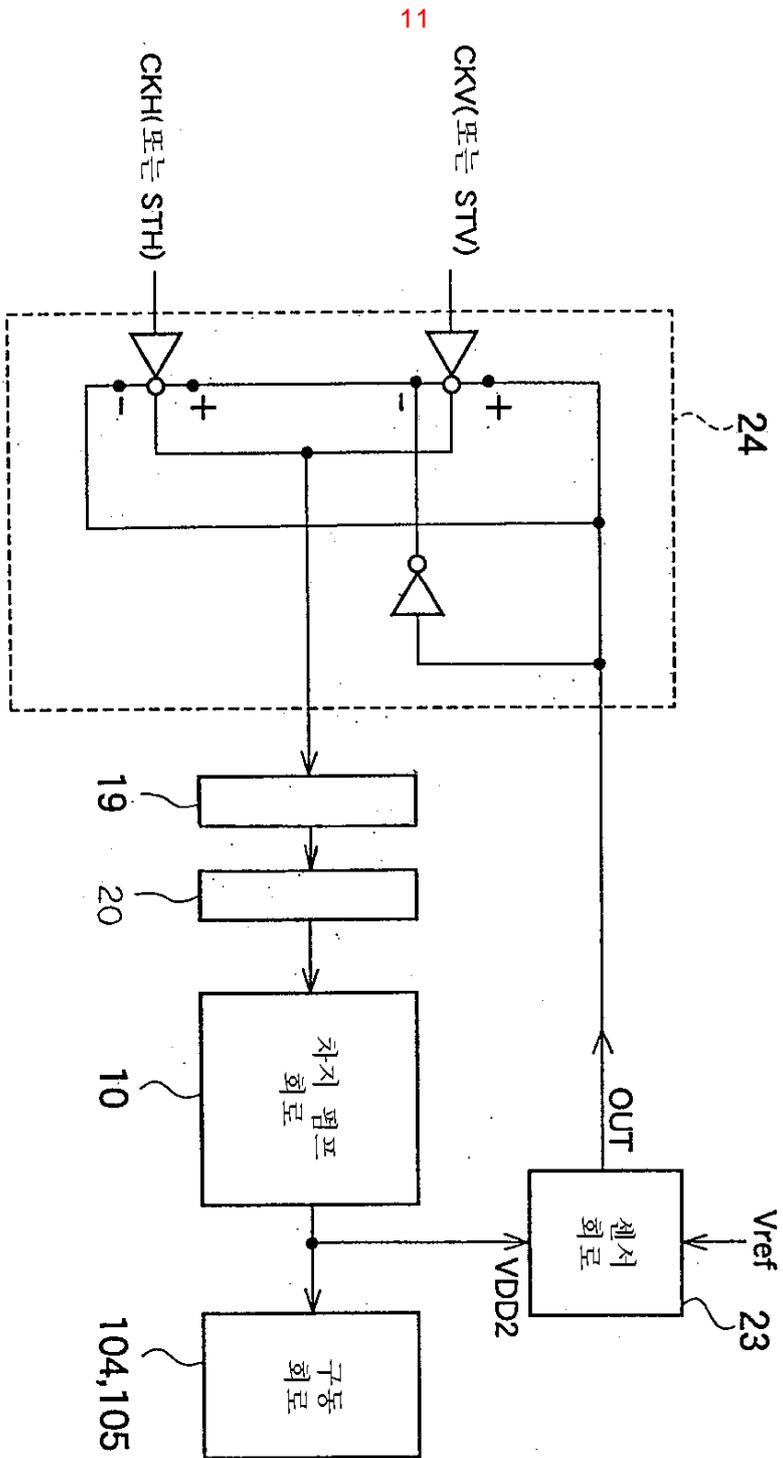




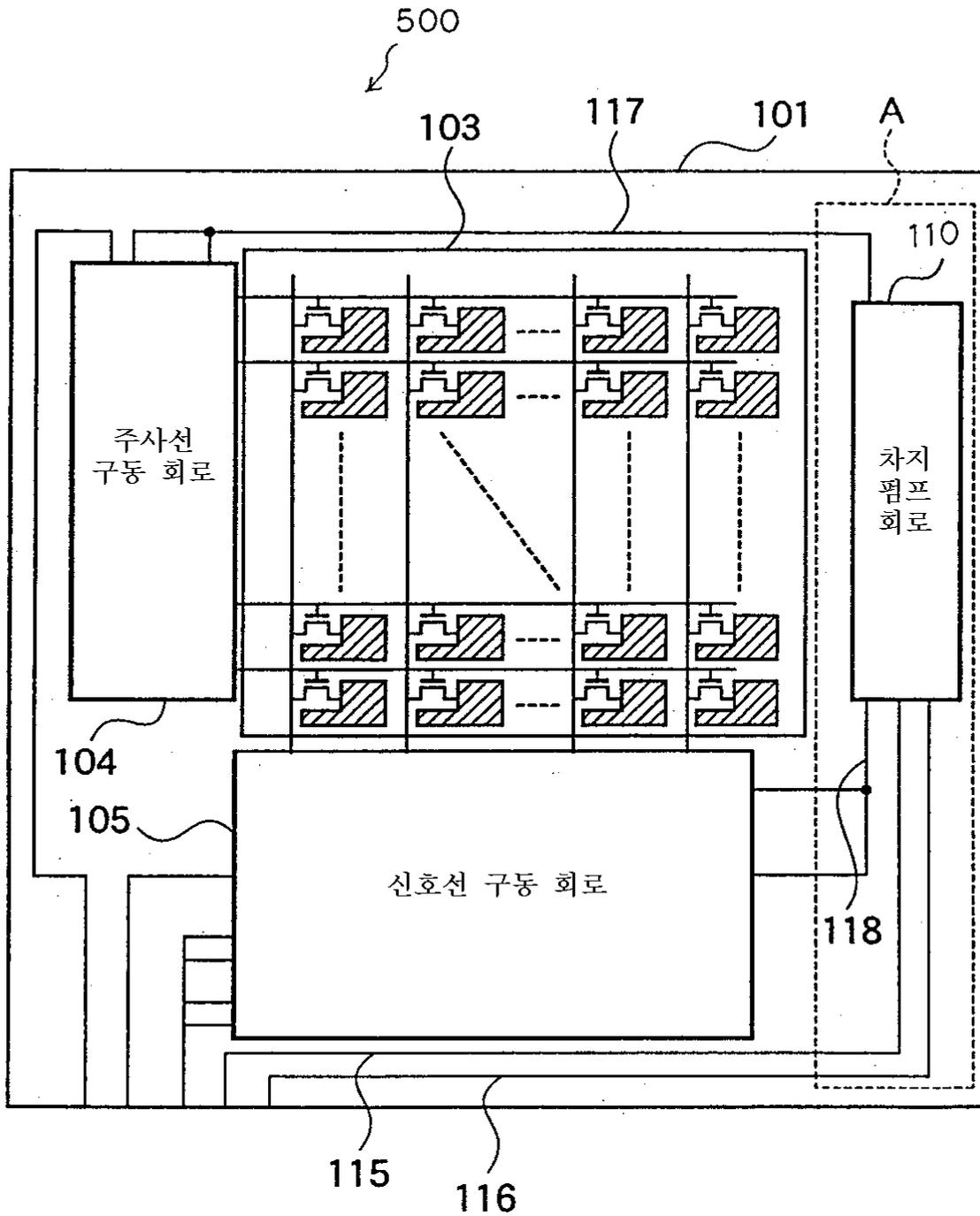
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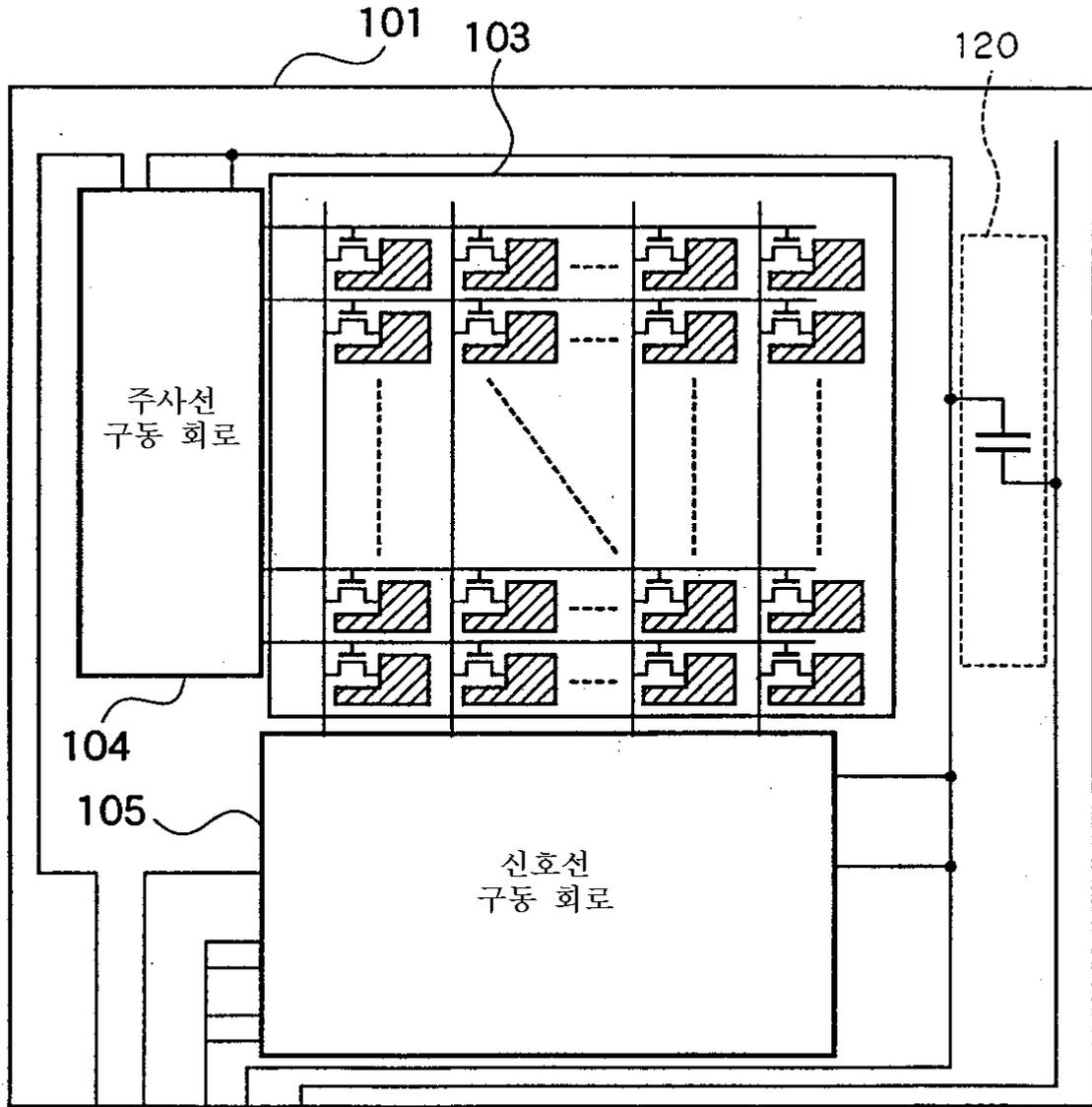




13



14



专利名称(译)	电荷泵电路和平板显示器		
公开(公告)号	KR100432292B1	公开(公告)日	2004-05-22
申请号	KR1020010030045	申请日	2001-05-30
[标]申请(专利权)人(译)	株式会社东芝		
申请(专利权)人(译)	Sikki东芝股份有限公司		
当前申请(专利权)人(译)	Sikki东芝股份有限公司		
[标]发明人	SASAKI YASUSHI 사사끼야스시 MIYATAKE MASAKI 미야따께마사끼 SATO HAJIME 사또하지메 TSUNASHIMA TAKANORI 쯔나시마다까노리 HANAZAWA YASUYUKI 하나자와야스유키 HIRAI HOKO 히라이호꼬		
发明人	사사끼야스시 미야따께마사끼 사또하지메 쯔나시마다까노리 하나자와야스유키 히라이호꼬		
IPC分类号	G09G3/36 H02M3/07 G02F1/133		
CPC分类号	H02M3/073 G09G3/3696		
代理人(译)	CHANG, SOO KIL		
优先权	2000162780 2000-05-31 JP 2001004163 2001-01-11 JP		
其他公开文献	KR1020010109485A		
外部链接	Espacenet		

摘要(译)

公开了在阵列面板上布置驱动电路等的平板显示器实现外部控制电路的紧凑和低成本的技术。包括在外部控制电路中的至少一个电荷泵电路被布置到阵列面板，时钟输入的一部分的输入侧容量和连接在电荷泵电路的输出单元和地GND之间的输出侧容量被布置在阵列面板。液晶显示器，电荷泵电路，平板显示器，TFT，扫描线驱动电路，基板，标记层，像素电极，电极区域。

