

(19)
(12)

(KR)
(B1)

(51) 。 Int. Cl. 7
G09G 3/36

(45)
(11)
(24)

2002 12 06
10 - 0363828
2002 11 25

(21) 10 - 2000 - 0018452
(22) 2000 04 08

(65) 2001 - 0014708
(43) 2001 02 26

(30) 11 - 200638 1999 07 14 (JP)

(73) 가 가 가 22 22

(72) 635 - 0057 14 - 26 - 202

(74)

:

(54)

S) (VDD) , (OFF) (ON) (VSS) , (VDD) , (OFF) (VDD) 가 , TFT (ON) (VS) 가 , TFT (ON) 가 (ACK)

1

1

1

2		가		,
3		가		,
4a		가	Cs - On - Common	,
4b	4a			,
5a		가	Cs - On - Gate	,
5b	5a			,
6				,
7	6	가		,
8	7	가		,
9	7			,
10	7			,
11			가	
				,
12			가	
				,
13	12	가		,
14			가	,
15				,
16	15	가		,
17	16			,
18				,
19	18	가		,
20	19			.

가 , 가 , , Cs - On - Common Cs - On - Gate
 , TFT(Thin Film Transistor) ,
 (91 - 177890 ,
 98 - 274783). 가 가 Cs - On - Common
 Cs - On - Gate 가 .

15 , Cs - On - Common (102) (101) ,
 (103), (104), (105), (106) (107)
 (102) , (108)
 (109) 가 , (102) , (108)
 (109) , TFT , ,
 , , ,
 (107) , (AC) (102) ,
 (106) , () (103) (104) 가 .
 (105) , (CK) (SP) , (103) (10) 4)

(103) , (105) (CK) (SP) 가 ,
 (103) , (103) , (106) 가 .
 (103) , (108)
 (104) , (105) , (104) ,
 (106) 가 . (104) (109)
 (104) (109) 가 , (102) (109)

16 (103) (111), (112),
 (113), (114) (103) , (CK) (SP),
 () (VCC), () (GND), (VDD) , OS1 OSnF
 MF .

(111) (112) ,
 (112) (112) , (CK) (SP)가 ,
 (SP) (CK) (112) ,
 (104) (109) 가 (102) (112) ,
 TFT ON/OFF (/) (113) , (102)
 , (114)

(114) , (113) TFT ON/OFF
 , OS1 OSnFMF (108) 가 , (114) , 17
 , (VCC) 가 (VDD) OS1 OSn
 , 가 (GND) (VSS) OS1 OSn .

18 , Cs - On - Gate (122) (121) ,
 (103) (123) (122) ,
 (108) (108) , ,

(106) , (107) , (AC) (106) (122) .
 (123) (107) (AC) (ACK) ,

19 (123) , (ACK) .
 (ACK) , (114) (114) , (113) ((

ACK) , TFT ON/OFF OS1 OSn ((

(108) 가 , (114) , 20 , (VCC) OSn 가 (G

ND) (VDD) OS1 OSn , 가 (G

(ACK) OS1 OSn .

, Cs - On - Common

, Cs - On - Gate

, Cs - On - Common

, Cs - On - Gate

가

(

)

가

,

Cs - On - Common

Cs - On - Gate

1

2

가

1

2

가

가
Cs - On - Common

Cs - On - Gate

가

가

) 가

가

(

Cs - On - Gate

가 가 () 가 ()

가

1 5

[1]

1 (1) (2), (3), (4), (5), (6) (7) (1) (viewfinder), 4a 5b (2) (17) 4a 4b Cs - On - Common 5a 5b Cs - On - Gate (8) (9) (2) (8) (9) (17) TFT(Thin Film Tr ansistor) (18) (17) (2) (17) (Cs) (Cs) (17) 가

) 가 , (12) 가 . (13) ,
 , (2) , TFT (18) ON/OFF(/) ,
 (VSS) -15 V (14) , (VCC) 5 V, (GND) 0 V, (VDD) 13 V,
 (14) , (6) (VDD) 가 , (13) 가 ,
 , (15) (VDD), , (VSS) (ACK) 가 (14)
 , (8) OS1 OSn가 .
 , 1 1 (14) , (13) (15)
 (18) ON/OFF(/) , (2) TFT
 가 OS1 OSn (8)

(6) (15) , (6) (GND) (VDD), (VSS) 가 ,
 (ACK)가 (15) , (VDD) (VSS)
 (ACK) (14) 가 (CTR)가 (15) ,
 (CTR) 가 (6) (14) 가 (8) 가
 . (CTR) , (VDD) (VSS) 가 가 .

3 (15) , (analog gate)(SW1,SW2), (In1,In2)
 S (SW1,SW2) , P MOS(Metal - Oxide - Semiconductor) N MO
 (SW1) , (14) (In1,In2)FMF (CTR)
 (SW2) , (ACK)가 (SW2) , (14)
 , (In1) (CTR) .

가 (CTR) (VDD) 가 , (In1,In2) , (VSS)
 (SW1)가 () . , (15) , TFT (18) ON/OFF
 (14) . , (15) , TFT (18) ON () (VDD) , OFF() (VSS) , (14) 가 (14) , 가
 , TFT (18) ON/OFF OS1 OSn 가 . ,
 (3) , Cs - On - Common (2) 가 .

, (CTR) (VSS) 가 , (In1,In2) , (ACK)가
 (SW2)가 . , (15) , TFT (18) ON/OFF
 (14) . , (15) , TFT (18) ON () (VDD) , OF
 F () (ACK) () , (14) 가 (14) ,
 가 , TFT (18) ON/OFF OS1 OSn
 가 . , (3) , Cs - On - Gate (2) 가 .

, Cs - On - Gate (2) , 가 , (17)
 (CL) (V1c) , ,
 (V1c) (spike) , 가 ,
 (Cs) , (ACK) (8)
 가 , (Cs) ,
 (15)가, TFT (18) (ON) (VDD) , (OFF) (AC)
 (ACK) (14) 가 , (14)가, 가
 , TFT (18) ON/OFF OS1 OSn 가 ,
 (3) , Cs - On - Gate (2)

가 , (1) , (3)가, (2) (2)
 (15) , (1) (6)
 , Cs - On - Common Cs - On - Gate 가
 (6) 가 (15)가 (3)
 (1) , (3) (6) (2)
 (8) 가 , 가
 () 가 ,

(15) , 가
 (1) , (2) TFT (18)
 Metal) (17) , TFT , MIM(Metal Insulator
 MOS

[2]

6 10 , , , 1
 () () , , ,

6 () (23) , (21) , (3)(1)
 (2) (6) , (7) , (AC) (23)
 (4) 가 (23)

(23) , (5) (CK) (SP)
 (23) , (6) 가
 (7) (AC)가 (23) , (8)

(23) , (7) (AC) (ACK)
 , 가

(21) () , (6) (23) (ACK) (21) (23) (6)

7 (23) (15)(2) () (25) (AC) (23) (ACK) (2) (AC)

(25) (6) (GND) (VDD), (VSS) 가 (7) (AC)가 (25) (AC) (ACK) (25) (VDD) (VSS) (ACK) (CTR)가 (CTR) 가 (14) (CTR) (6) (14) (8) 가 (CTR) (VDD) (VSS) 가 가

8 (R1,R2) (25) (28), (SW3 SW6), (In3,In4) () (28) (7) (SW6) (SW3 SW6) , P MOS N MOS (SW3,SW5) (VSS) 가 (SW (R1) (14) (In3) (CTR) (SW5) (14) (In3) (CTR) (SW4) (GND) 가 (SW4) (R1) (In3,In4) (CTR) (SW6) (AC) 가 (SW6) (14) (In3,In4) (CTR) (SW3 SW6) (R1,R2)() (14)

(21) () , 1 (1) ()

(CTR) (VSS) 가 (In3,In4) (VSS) 가 (SW3,SW5)가 (R1,R2) (25) TFT (18) ON/OFF (14) (25) TFT (18) ON() (VDD) , OFF() (VSS) (14) 가 (14) 가 (14) 가 TFT (18) ON/OFF (OS1 OSn) (VCC) 가 (OS1 OSn) (GND) (VSS) (OS1 OSn) (23) , Cs - On - Common (2) 가

(CTR) (VDD) 가 (In3,In4) (GND) 가

(SW4) (28) , (AC) 가
 (SW6)가 (25) TFT (18) ON/OFF
 (14) , (25) (RI,R2) (GND) (VSS)
 , (ACK) , TFT (18) ON()
 (VDD) , OFF() (ACK) () , (14)
 가 (14) , 가 , TFT (18) ON/OFF ,
 (OS1 OSn) 가 (14) , 10 , (VCC) 가
 (VDD) (OS1 OSn) , 가 ()
 GND) , (RI,R2) (V) () (ACK) (OS1
 OSn) , (23) , Cs - On - Gate (2) 가 .

(21) , (23) , (2)
 (8) , 가 (21) , (23) (25)
 () 가 , () , ,

(25) , 가
 (28), (R1,R2))가, (25) (ACK) ()
 (23) , (28) , (25) ,
 (7) (25)

[3]

11 () , , 1,2
 () , ,

11 () (33) , (33) , (5) (23)(7) (CK)
 (SP) 가 , (7) (33) , (6)
 가 (8) , (AC)가 (33) , (33) ,
 (6) (14) (8) 가 (VEEHI) 가

(33) , (7) (AC) (ACK)
 , (21) ,

(33) , (25)(7) () (R3,R4)
 (33) , (CTR) (VEEHI) (V

EEHI) , (VDD) (VSS) (ACK) 가 (14)
 (VEEHI) , (GND) (VSS) 가 가 . (A
 C) , (AC) (AC) (VSS) 가 가 . (R3,R4)
 , (AC) (VEEHI)가 (14) , .
 , (28) , (7) (AC) .

() , 2 (21) ()

, (VEEHI) (GND) 가 , (AC) (AC)
 가 , (R3,R4) , (14) , TFT (18) ON/OFF
 가 . , (33) , Cs - On - Common (2)

, (VEEHI) (AC) (VSS) 가 , (R3,R4) , (14) ,
 TFT (18) ON/OFF 가 . (R3,R4) , (GND) (VSS)
 (14) , TFT (18) ON() (ACK) ,
 , 가 . (14) , 가 , (VDD)dl, OFF() (ACK)
 , (OS1 OSn) 가 . , TFT (18) ON/OFF
 (2) 가 . (33) , Cs - On - Gate

(8) , , (33) , (2)
) 가 . , 가 ()
 , () , (33) .

[4]

1 3 12 13 , , , ,
 () () , , ,

12 , , (23)(7)
 () (43) , (43) , (5) (CK)
 (SP) 가 , (7) (43) , (6)
 , (8) , (AC)가 . (43)

(43) , (7) (AC) (ACK)
 , (21) ,

(43) , (25)(7) () (45) ,
(43) , ()
(PS)

13 (45) , (28), (SW7 SW12), (In5 In8),
(R5,R6) (28) , (7) (SW10)
(SW7 SW12) , P MOS N MOS
(SW7,SW9) (VSS) 가 (SW7) ,
(R5) (14) (In5) (CTR) .
(SW9) , (14) (In5) (CTR) .
(SW8) , (GND) 가 (SW8) , (R5) (14)
(In5,In6) (CTR) (SW10) , (28)
(AC) 가 (SW10) , (14)
(In5,In6) (CTR) , (SW7 SW10)
() (R5,R6) , (14)

(SW11) , (SW9,SW10) (14) , (R5)
(SW7,SW8) (SW11) , (In7) (R6)
(PS) (GND) (SW12) , (R6)
(SW9,SW10) , (R5,R6) (SW7,SW8)
(SW12) , (In7,In8) (PS) ,
(PS), (SW11,SW12), (In7,In8) ()
() (45) , (25) 가

() , 2 (21) ()

(SW12)가 (PS) (VDD) 가 , (In7,In8) ,
25) (SW11) (45) , ()

(PS) (VSS) 가 , (In7,In8) ()
(SW11)가 (SW12) , ()
45) , (AC) (ACK) , (14) 가
(GND) , (43) , (ACK)

(45) , 가
(28) , (45) , (7) (45)

[5]

14

1 4

()

() ,

,

14

(R3,R4)

(33)(11)

(R3,R4)

(VEEHI),

(AC),

(PS)

() (55)

(55) ,

(55) ,

(SW13,SW14),

(In9,InI0),

(R3,R4)

(SW13, SW14) ,

, P

MOS

N

MOS

(SW13) ,

(AC)

(14)

(R3)

(VEEHI)

((GND))

(SW13) ,

(In9)

(PS)

(R3,R4)

(SW14) ,

(R4)

(AC)

(14)

(In9,InI0)

(PS)

(PS),

(SW13,SW14),

(In9,InI0)

()

(55)

(33)

() (R3,R4)

가

() ,

3

()

(SW14)가
() ,

(PS)

(VDD) 가
(SW13)

(In9,In10)

(55) 가

(33)

(PS)

(VSS) 가
(SW14)

(In9,In10)

(55) ,

(AC)

(ACK)

(14) 가

(GND)
(ACK)

(55)

(55)

가

가

가

가
Cs - On - Common

Cs - On - Gate

가

가

가

가

(

)

Cs - On - Gate

가

가

(

)

가

()

가

가

(57)

1.

1

2

1

2

가

2

가

2.

3.

1 , 가 .

4.

3 , , 1 , 1 2 .

5.

4 , ;
가 ,
1 1 ;

2 ,

가 , 1 2 .

6.

1 , .

7.

6 , .

8.

7 , 가 2 .

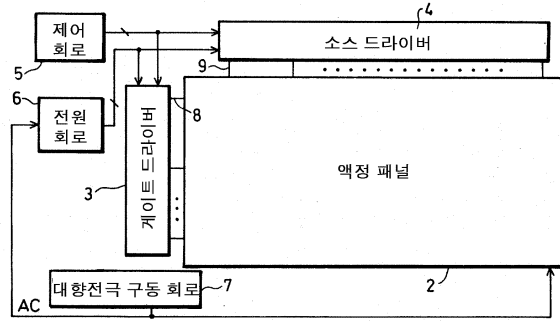
9.

8 , .

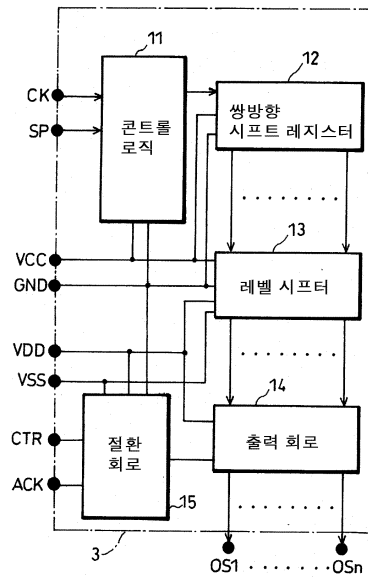
10.

1 .

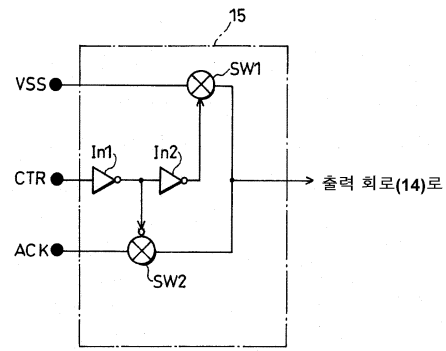
1



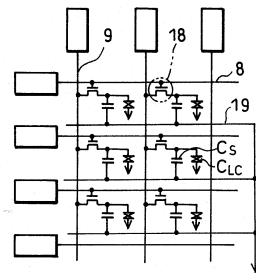
2



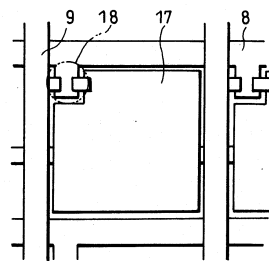
3



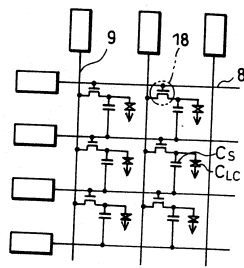
4a



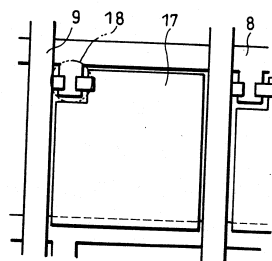
4b



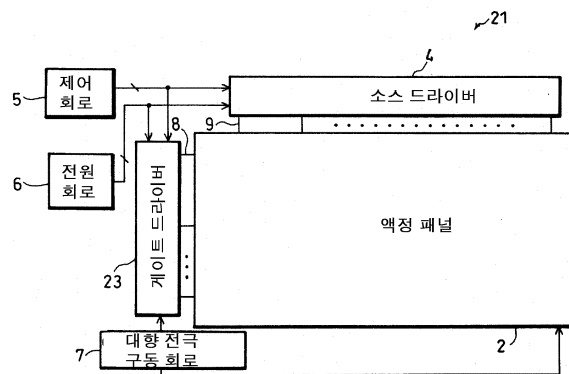
5a



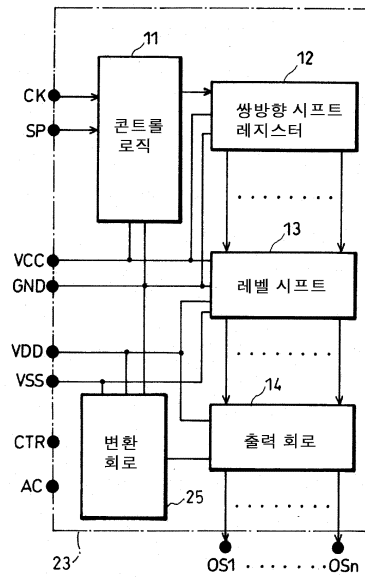
5b



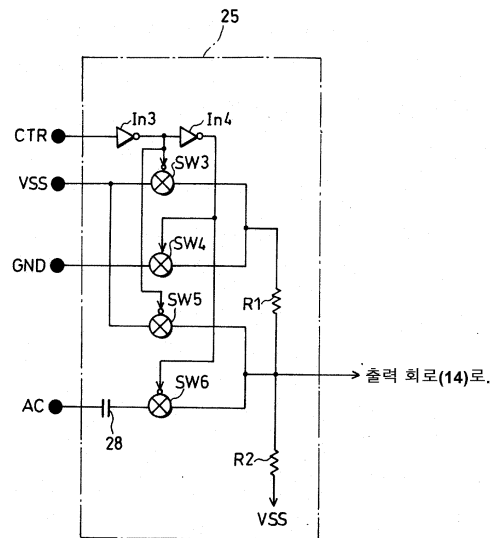
6



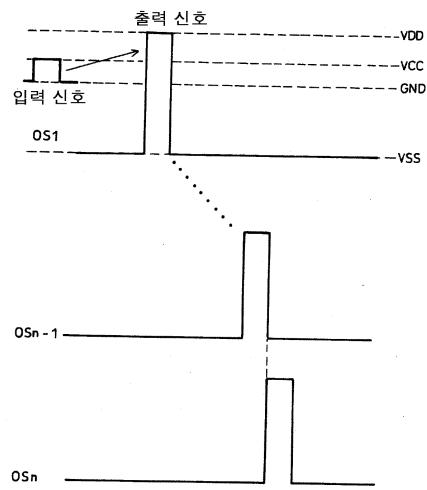
7



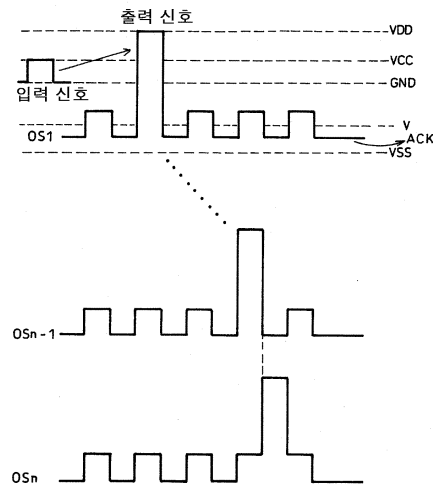
8



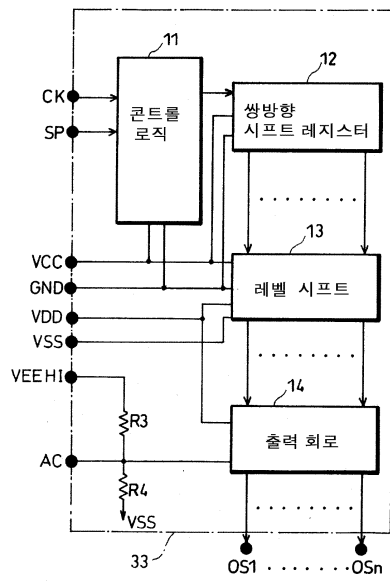
9



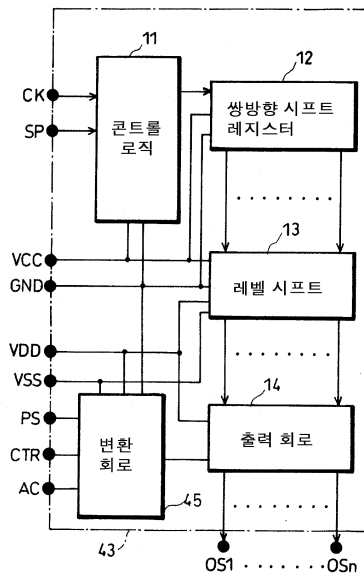
10



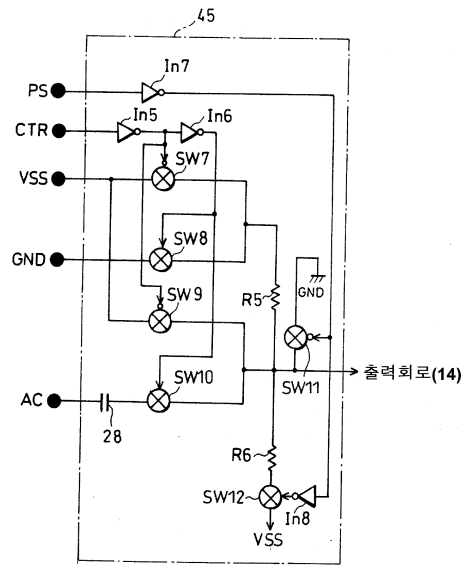
11



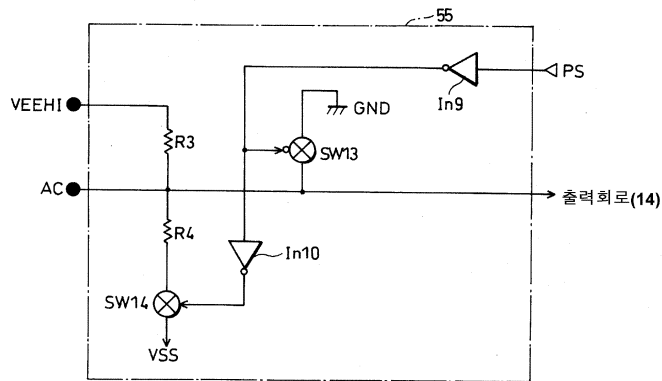
12



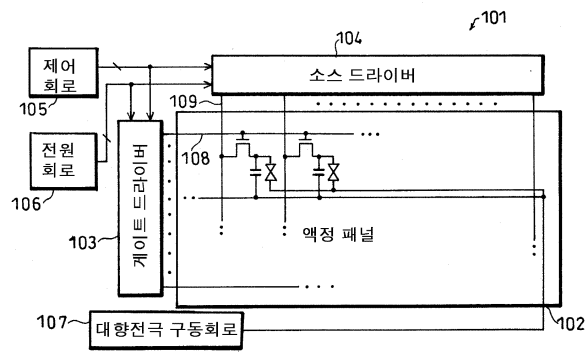
13



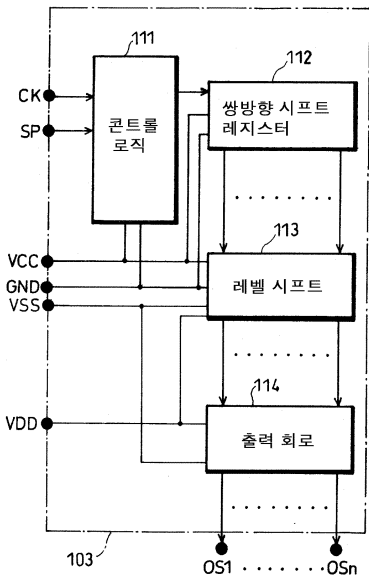
14



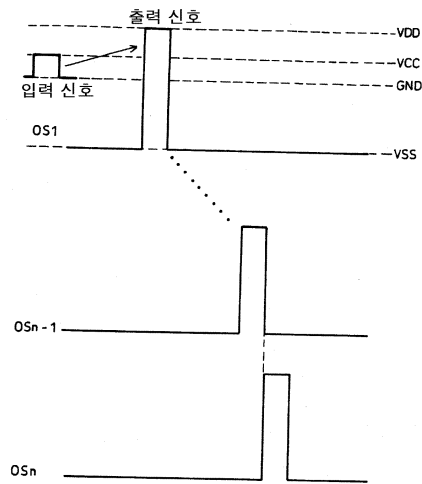
15



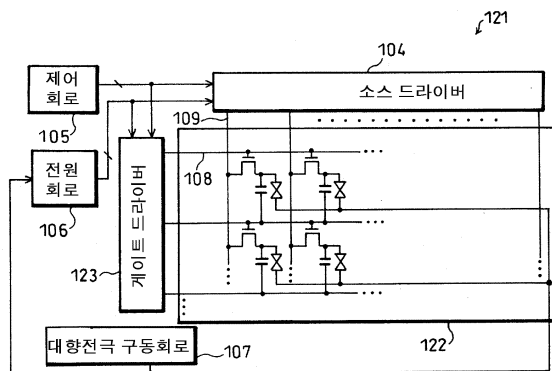
16



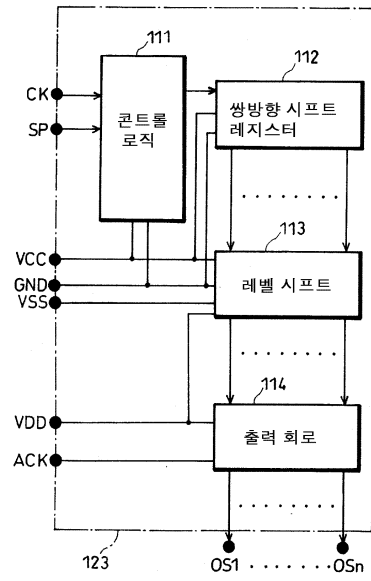
17



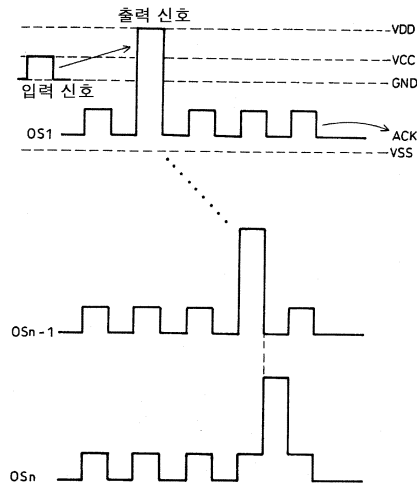
18



19



20



专利名称(译)	液晶显示器		
公开(公告)号	KR100363828B1	公开(公告)日	2002-12-06
申请号	KR1020000018452	申请日	2000-04-08
[标]申请(专利权)人(译)	夏普株式会社		
申请(专利权)人(译)	夏普株式会社		
当前申请(专利权)人(译)	夏普株式会社		
[标]发明人	ORISAKA YUKIHISA		
发明人	ORISAKA, YUKIHISA		
IPC分类号	G09G3/36		
优先权	1999200638 1999-07-14 JP		
其他公开文献	KR1020010014708A		

摘要(译)

有源矩阵型液晶显示装置包括液晶面板，包括开关电路的栅极驱动器，源极驱动器，控制电路，电源电路和对电极驱动电路。当施加电压VDD时，开关电路将对应于TFT元件的导通状态的电压VDD和对应于截止状态的电压VSS施加到输出电路。当施加电压VSS时，开关电路将对应于TFT元件的导通状态的电压VDD和对应于截止状态的矩形波信号ACK的电压提供给输出电路每个被施加。因此，液晶显示装置可以通过使用单个栅极驱动器根据液晶面板的结构来驱动栅极信号线。 1

