

(19)
(12)

(KR)
(A)

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10-2005-0002428
2005 01 07

(21) 10-2003-0043806
(22) 2003 06 30

(71) .
20

(72) 492 201 606

540 106 701

(74)

:

(54)

(Charge Sharing)

10

1

2a 2b

3a 3b

4a 4b

5a 5b 1

6a 6b 2

7

8 7 가 1

9 7 가 2

10

11 10

12a 12b 10 가

13 11

< >

11 : 12 :

13 : 14 :

20,40 : 22,38 :

30,34 : 32 :

36 : DAC 42 :

46 : 48 : XOR

50 : AND 42 :

(Charge Sharing)

Matrix)

(Thin Film Transistor; 'TFT')가

(Active

1

1

(Clc)

TFT가

(D1 Dm)

(G1 Gn)

(12) ,
(12)

(14) ,
(14)

(14)
(G1

Gn)

(D1 Dm)

(13) ,

(13)

(11)

(14)

(D1 Dm)

(G1 Gn) TFT (G1 Gn) (D1 Dm) (G1 Gn) (D1 Dm) (G1 Gn) (D1 Dm)
 (Clc) (Clc) (Clc) (Clc) (Clc) (Clc) (Clc) (Clc) (Clc) (Clc)
 (D1 Dm) (Vcom) (Cst)가 (14) (Cst) n
 (Clc) (Clc) n-1 , n
 (12) 가 , ,
 1 1 / , /
 ()가 (D1 Dm) , /
 (11) (D1 Dm) .
 (13) (13) ()
 Clc (11) (G1 Gn) .
 (11) / (V,H) (CLK) (13)
 (GDC) (DDC) (DDC) (GDC)
 (DDC) (Source Start Pulse : SSP), (Source Shift Clock : SSC),
 (Source Output Enable : SOE), (Polarity : POL) (Gate Start P
 (Gate Shift Clock : GSC), (Gate Output Enable : GOE), (Gate Start P
 ulse : GSP) .
 ion Method), (14) (Clc) (Frame Invers
 (Dot Inversion Method), (Line Inversion Method), (Column Inversion Method)
 2a 2b (POL))
 (, ())
 가)
 3a 3b (POL) 가)
 .) 가)
 4a 4b (POL) 가)
 .) 가)
 1 5a 5b 가)
 .(가 (POL))
 , 가 5a (+) (-) 5b (-) (+)
 , 2 6a 6b 2 가)

.(,) (POL) 가 2 .) , 1 2
 () 가 2
 , 1 2 1 2
 7 (Charge Share Circuit)(20)
 7 (SW1) , (20) (D1 Dm) (22) (D1 2 Dm) (SW2) 1
 (20) (D1 Dm) (D1 Dm) (D1 Dm) (20)
 (D1 Dm)
 (20) 가 8 (SW1) , (20) (SW1)가 (SOE)
 (22) 가 가 (D1 Dm) 1 (14)
 SW2) , (20) (SOE) (가 (D1 Dm)) 2 ((D1 Dm) (SOE)
 , (D1 Dm) (SW2)가 -
 , (D1 Dm)
 , (SOE)가 (SW1)가 1 (SW1)가 - 2 (SW2)가
 (14) 1 (SW1)가 가 (D1 Dm) (14)
 SW1)가 - (SOE)가 (SW2)가 - 2 (SOE)가 (SW2)가 1 ((D1 Dm) (SOE))
 (D1 Dm)
 , (20) (SOE) 1 (SW1) 2 (SW2) -
 (20) 1
 9 , (14) 2 2 (SOE) (SOE)
 , (20) 2 (SOE)
 , (24) , (24) (SOE)

(Charge Sharing)

1 , 1
2 , 2

가

1

2

1

, 2

가
가

가

가

가

10

13

10

10

og Convertor :

'DAC'

)(36),

(32),

1 (38),

(30),

2 (40),

(34),

(

(42)

(D)
(Digital to Anal

(32) (SCLK) (102) (CAR) (32) (SSP) (SSP) (SSC)

1 (30) (32) (34) (RGB)

2 (34) (SOE) 1 (30) (RGB) 2 (34) 1

DAC(36) 2 (34) (VPG) (VNG) (RGB) , DAC(36) (POL) (POL)

, 1 , 2 , 3 , ...

(38) DAC(36)

(40) (D) (D) 가 (42)

11 (40) (42)

11 (SW1) , (40) (38) (D1 Dm) 2 (SW2) 1

1 2 (SW1,SW2) (D1 Dm) (42) (CS) (SW2)

1 2 (SW1,SW2)

(46) (42) (46), (XOR) (48) (AND) (50) (48)

) (46) (48) (SOE) (50)

12a (40) 가 2 (42) 12a

12a (POL)가 (46) (48)

(POL) 가 2 (46) (POL) 2

(48) (SOE) (H1) (46) (POL) (POL)

(48) (POL) (46) (POL) (48)

(SOE) (SOE)

(50) (50) (48) (SOE) (50) (50) (C

S)) (SOE) (POL) 가 (SOE) (50) (50)

1 (40) (SW1)가 (50) (38) (CS) 가 1 (SW1) (D1 Dm)

1 (SW1) 2 가 (CS)가 2

가 ()

W2)가 (40) (CS) 2 (SW1) - 2 (S
(D1 Dm) (D1 Dm) (D1 Dm)

(CS)가 1 (SW1)가 (SW1)가 2 (SW2)가 -
(SW1)가 (D1 Dm) (D1 Dm)

가 () 3 가 (CS)가 3 (12b
가

(52) (46) 13
(POL)

가
가
가

(57)

1.

2.

1

1

1

2

2

2 3.

3 4.

4 5.

가

5 6.

6 7.

5 8.

1

2

8 9.

1 가 -

2 가 -

6 10. ,

11.

11 12. ,

가

12 13. ,

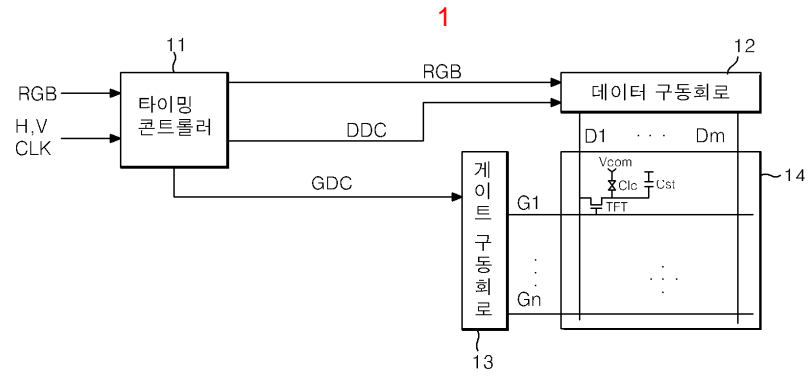
가

13 14. ,

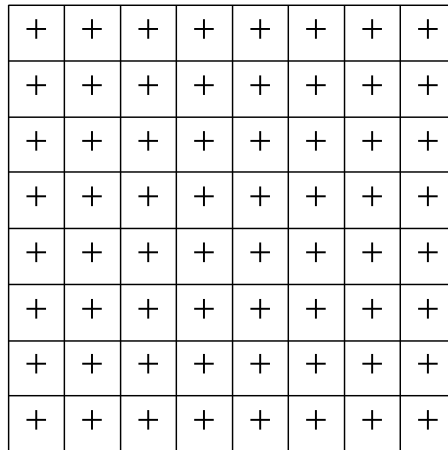
가

13 15. ,

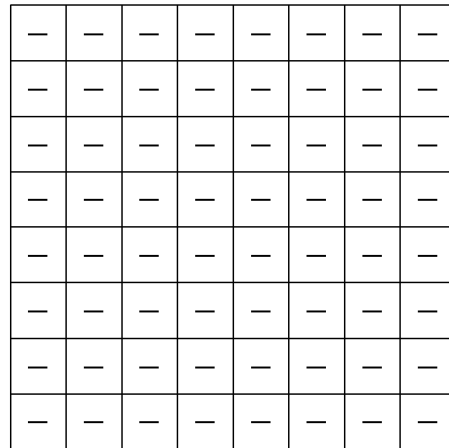
15 16. ,



2a



2b



3a

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |

3b

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |
| - | - | - | - | - | - | - | - |
| + | + | + | + | + | + | + | + |

4a

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |

4b

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |

5a

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |

5b

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |

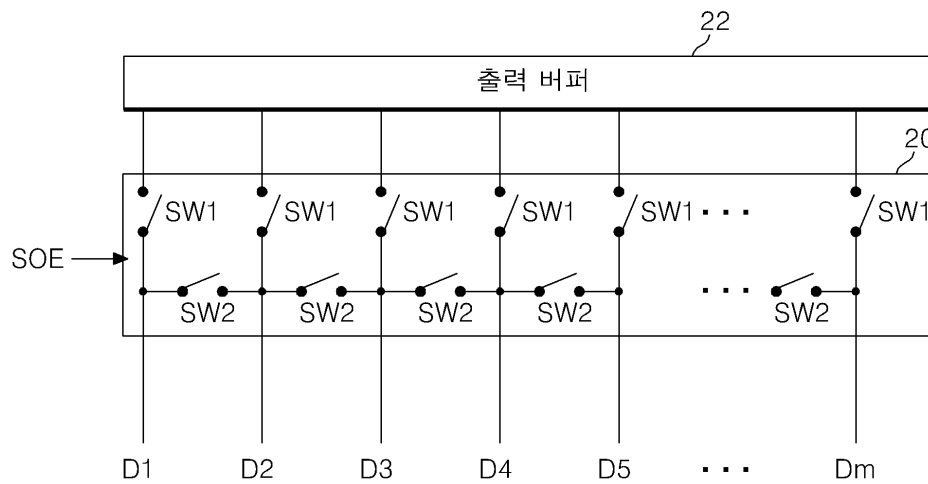
6a

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |

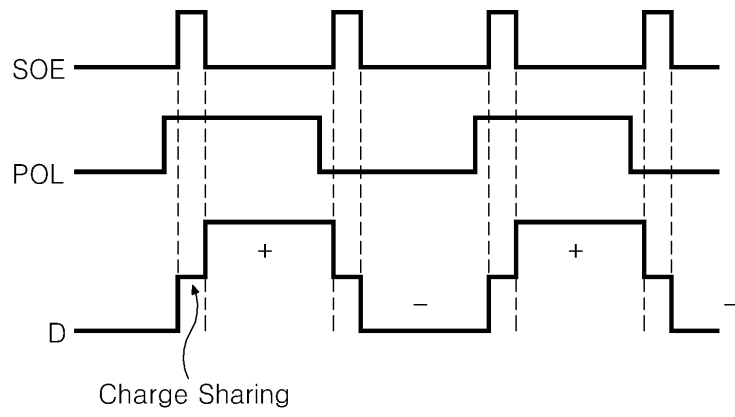
6b

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |
| - | + | - | + | - | + | - | + |
| - | + | - | + | - | + | - | + |
| + | - | + | - | + | - | + | - |
| + | - | + | - | + | - | + | - |

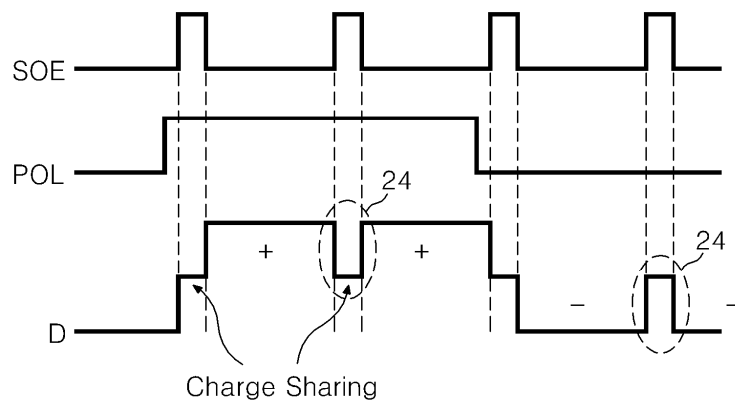
7



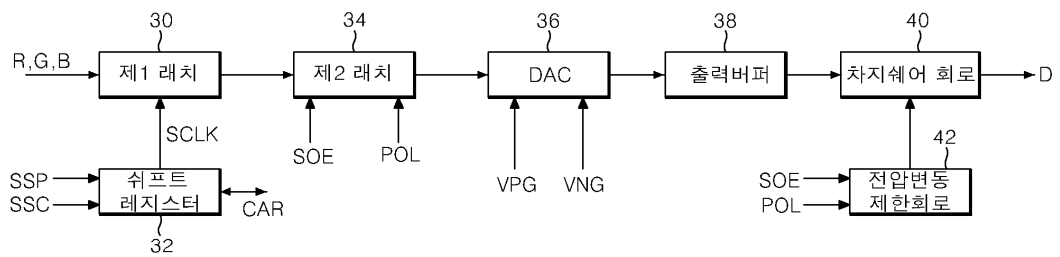
8



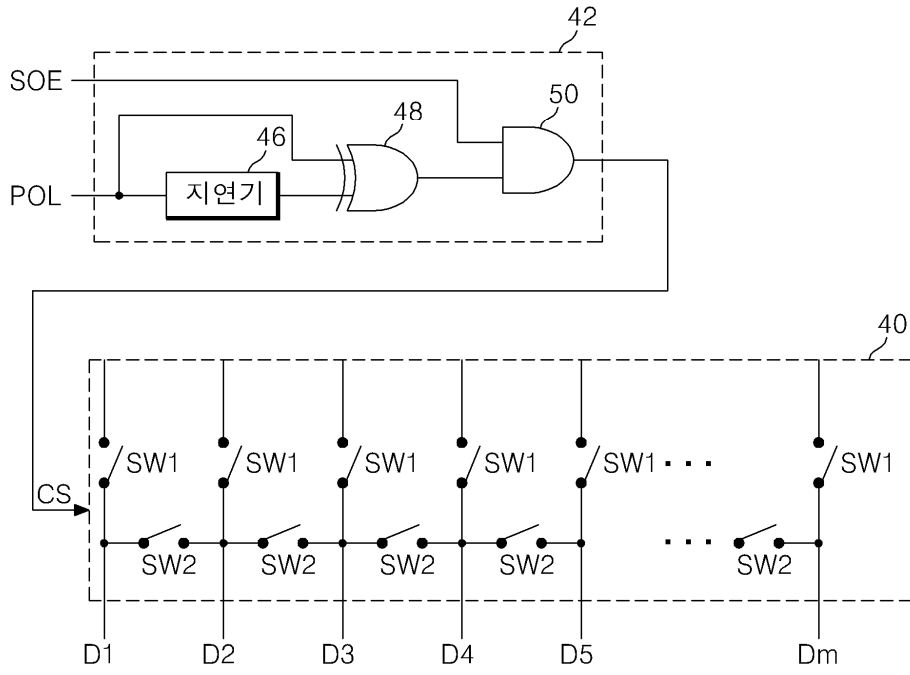
9



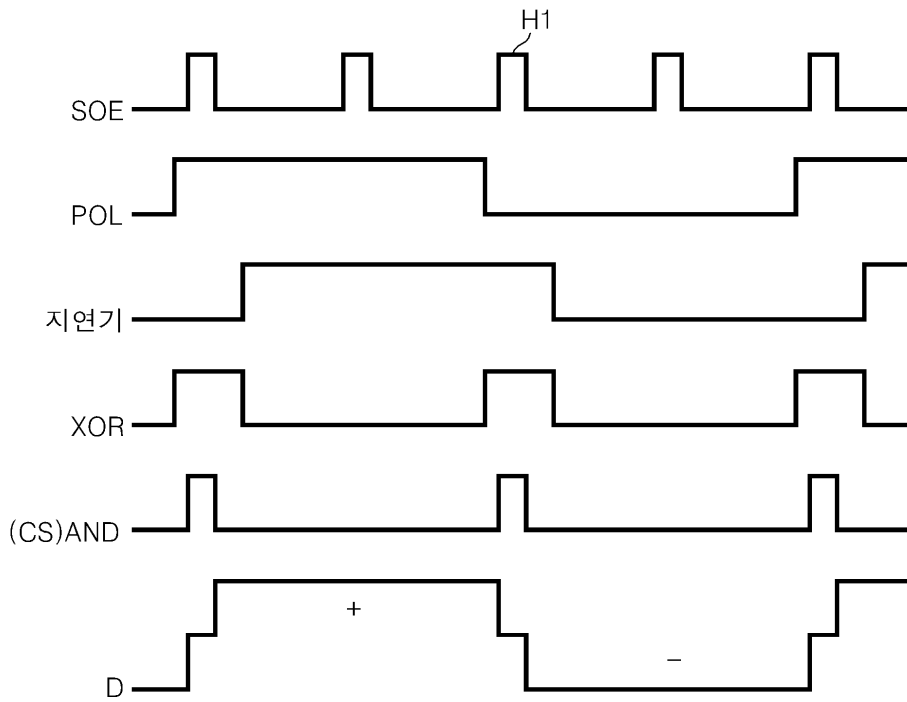
10



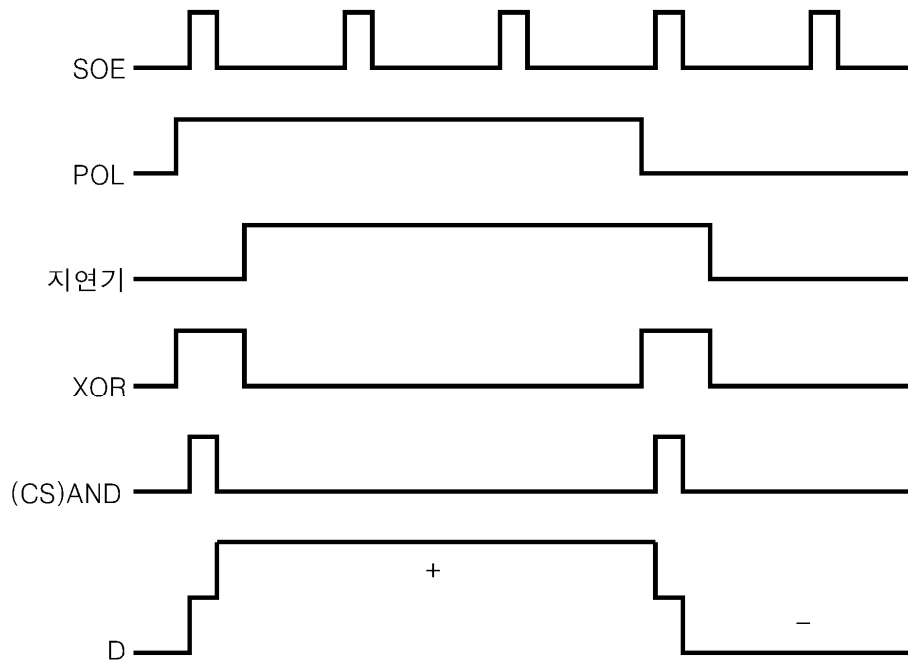
11



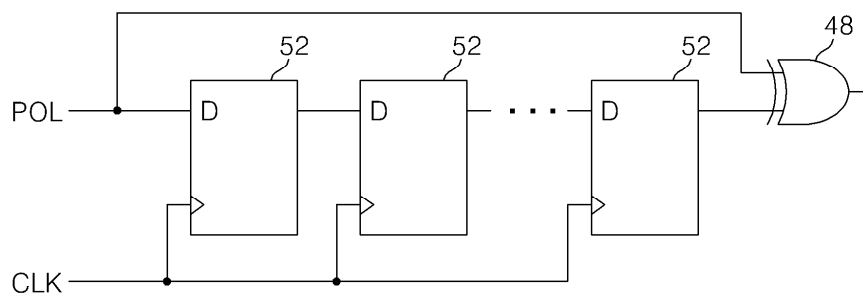
12a



12b



13



| | | | |
|----------------|--|---------|------------|
| 专利名称(译) | 液晶显示装置及其驱动方法 | | |
| 公开(公告)号 | KR1020050002428A | 公开(公告)日 | 2005-01-07 |
| 申请号 | KR1020030043806 | 申请日 | 2003-06-30 |
| [标]申请(专利权)人(译) | 乐金显示有限公司 | | |
| 申请(专利权)人(译) | LG显示器有限公司 | | |
| 当前申请(专利权)人(译) | LG显示器有限公司 | | |
| [标]发明人 | SONG HONGSUNG 송홍성 MOON SUNGWOONG 문성웅 | | |
| 发明人 | 송홍성 문성웅 | | |
| IPC分类号 | G09G3/36 | | |
| CPC分类号 | G09G3/3688 G09G2310/027 G09G2330/021 G09G2330/023 G09G3/3614 | | |
| 代理人(译) | 金勇 年轻的小公园 | | |
| 其他公开文献 | KR100965571B1 | | |
| 外部链接 | Espacenet | | |

摘要(译)

液晶显示装置技术领域[0001]本发明涉及一种能够在保持低功耗的同时以各种反转模式应用电荷共享技术的液晶显示装置。本发明的液晶显示装置包括数据驱动器，该数据驱动器包括多个数据集成电路，该数据集成电路包括电荷共享电路，用于仅在视频信号的极性发生变化时进行电荷共享操作，并且，电压变化限制电路用于提供控制信号，使得仅在执行电荷共享操作时执行电荷共享操作。 10

