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(12)

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(B1)

(45)

(11)

(24)

2010 04 15

10-0952836

2010 04 06

(51) Int. Cl.

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G09G 3/20 (2006.01) H01L 51/50 (2006.01)

24

(21) 10-2008-0070608

(72)

(22) 2008 07 21

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428-5 SDI

(65) 10-2010-0009807

(43) 2010 01 29

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(56)

KR1020040107047 A

(74)

KR1020080003240 A

KR1020060065168 A

KR1020050085053 A

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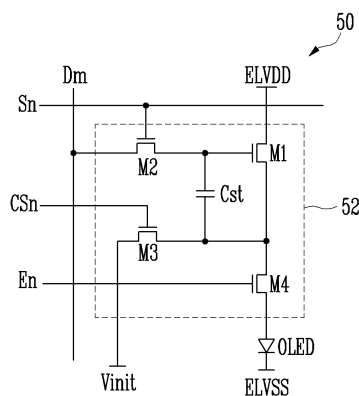
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(54)

(57)



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 i(i)
 1 2
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 1 1
 1 ,
 1 , i
 - 2 ,
 1 , i
 - 3 ,
 1 , i
 - 4 ,
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1 2 , 1
1 1
1 , 2
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4 ,
1 .
8
7 , 2 1 3 - , 3 4
1 3 - .
9
7 , 1 4 N .
10
7 , 2 .

[0001]

[0002]

, (Cathode Ray Tube)
. (Liquid Crystal Display Device), (Field Emission
Display Device), (Plasma Display Panel) (Organic Light
Emitting Display Device) .

[0003]

(Organic Light Emitting Diode : OLED) .

[0004]

[0005] 10-2007-0112714

1 1 () 2 ()

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[0006]

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[0007]

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[0008]

1 ,

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, i(i) ,

1 2 , 1

1

1 ,

1 i -

2 , 1 , i

- 3 , 1

i -

4 , 1

.

[0009]

, , 1 3 i , 1

i , 1 2 i

. , 1 2

, 4 -

3 .

[0010]

, 1

.

[0011]

, 1 .

[0012]

, 2 .

[0013]

2 1 2 , 1

1

1 , 1 ,

2 , 1 ,

3 , 1

, 4 , 1

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[0014]

, 2 1 3 - , 3 4

1 3 - .

[0015]

, 1 4 N .

[0016] , 1 .

[0017] , .

[0018] 1 .

[0019] 1 , (10), (20),
(30) (40) .

[0020] (10) (SCS)
(DCS) . (10) (SCS) (20) ,
(DCS) (30) . (10)
(Data) (30) .

[0021] (20) (S1 Sn), (CS1 CSn) (E1 En) .
, (20) (S1 Sn)
(50) . , (20) (CS1 CSn)
, (E1 En) .

[0022] , (20) i(i) (50) , i
(Si) i (CSi)
, i (Ei) . , (20)
.
() .

[0023] , (20) 3 , 1 3 (T1 T3) n
(Sn) , 1 (T1) n (CSn)
1 2 (T1 T2) . ,
3 (T3) .

[0024] , 1 (T1) (50) , 2 (T2)
.
, 3 (T3)
.

[0025] (30) (D1 Dm) (D1 Dm)
.

[0026] , (30) 3 , 1 (T1) 2
(T2) (D1 Dm) (V0) ,
3 (T3) (D1 Dm) (Vdata)
.
(V0) 2 (Vinit)
, (V0) (GND) , (Vinit) (V0)
(2 1 (M1)) .

[0027] (40) (S1 Sn), (E1 En), (CS1 CSn) (D1
Dm) (50) .

[0028] (50) (S), (E), (CS)
(D) ()
.
, (50) 1 (ELVDD) 2 (ELVSS) .

(50)

.

- [0029] 2 1 . 2 N (, NMOS) .
- [0030] 2 , (OLED) , 1 (ELVDD) (50) 1 (ELVDD) 2 (ELVSS) (OLED) (OLED) (52) .
- [0031] , (OLED) (52) 2 (ELVSS) . (OLED) (52) .
- [0032] (52) 1 4 (M1 M4) (Cst) .
- [0033] 1 (M1)() 1 (ELVDD) (OLED) , 1 (M1) (Cst) . 1 (M1) (Cst) 1 (ELVDD) (OLED) 2 (ELVSS) . , (OLED) 1 (M1) .
- [0034] 2 (M2) 1 (M1) (Cst) (Dm) , 2 (M2) (Sn) . 2 (M2) (Sn) (Dm) (V0) (Vdata) (Cst) .
- [0035] 3 (M3) 1 (M1) (Vinit) , 3 (M3) (CSn) . 3 (M3) (CSn) (Vinit) 1 (M1) .
- [0036] 4 (M4) 1 (M1) (OLED) , 4 (M4) (En) . 4 (M4) (En) (,) - .
- [0037] (Cst) 1 (M1) . (Cst) 1 (M1) (Vdata) .
- [0038] , 3 (M3) (50) , 3 (M3) .
- [0039] 3 2 . , 4a 4d 2 .
- [0040] 3 4d 2 (50) , 1 3 (T1 T3) (Sn) 2 (M2) - .
- [0041] , 1 (T1) (CSn) 3 (M3) - .
- [0042] 1 (T1) 4a , 2 (M2) (Dm) (V0) 1 (M1) . , 3 (M3) (Vinit) 1 (M1) . , (V0) (Vinit) 1 (M1) (Vth) , 1 (ELVDD) (V0) (GND) , (Vinit) -Vth . (, (V0) (GND)

(Vinit) , 1 (M1) - , 1 (M1) (V0)

[0043]

, , (50)

[0044]

2 (T2) 3 (M3) -

[0045]

3 (M3) - , 4b 1 (M1)
(Cst) (floating)

[0046]

2 (T2) 1 (M1) 1 (T1) -
, 1 (M1) , 1 (M1)
(, Vgs) 1 (M1) (Vth) 1 (M1)
(ELVDD) (V0) 1
(M1) Vgs (Vth) 1 (M1) - ,
(Cst) 1 (M1) (Vth)

[0047]

, 1 (T1) 2 (T2) (En) 4
(M4) - , 2 (T2) (Cst) 1
(M1)

[0048]

3 (T3) 4c (Dm)
(Vdata) 1 (M1) () (Vdata)
, (En) 4 (M4) -
, (OLED) 1 (M1)

[0049]

, 3 (T3) (OLED) - , 1
(M1) (OLED) (C_{OLED})

[0050]

, 1 (M1) , 1 (M1) Vgs
Vdata+Vth-ΔV , ΔV (Vdata) (mobility)
, (Vdata) ΔV
(Cst) -ΔV (50)

[0051]

(Cst) Vdata+Vth-ΔV , 2
(M2) - , (Sn) (Cs
t) Vdata+Vth-ΔV

[0052]

2 (M2) - 4d 1 (M1)
, 1 (M1) (OLED)
(Voled) (Cst)

[0053]

5 1 , 5 , 2

[0054]

5 , (50') , (52') 3
(M3) 2 (Vinit) 2 (ELVSS)

[0055]

, 5 (50') (Vinit) 2 (ELVSS) , 2 (ELVSS)
(V0) 1 (M1) (Vth) , (50')

[0056] (50') 2 (50) ,

[0057] ,

[0058] 1 .

[0059] 2 1 .

[0060] 3 2 .

[0061] 4a 4d 2 .

[0062] 5 1 .

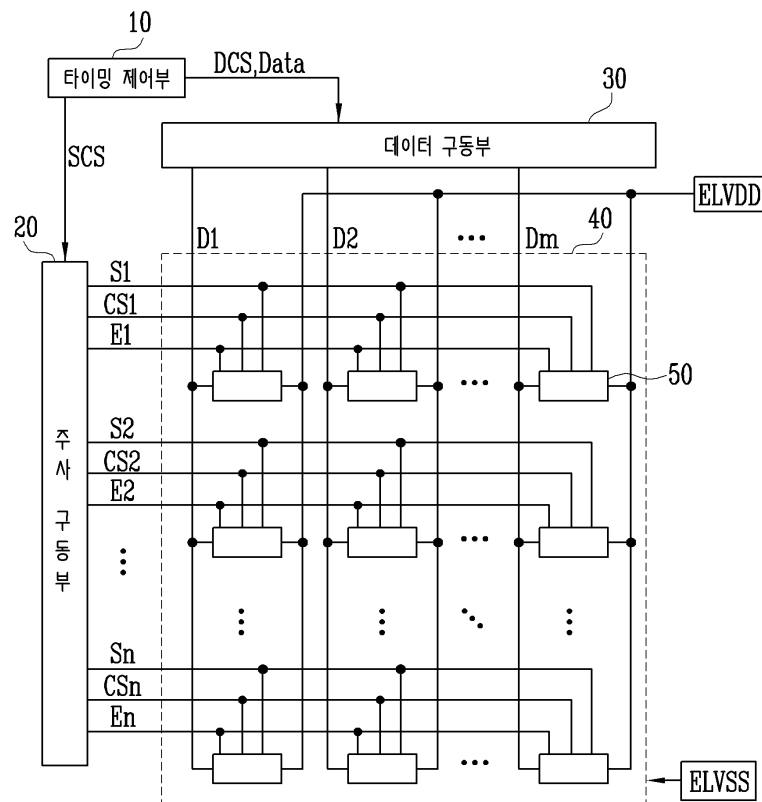
[0063] < >

[0064] 10 : 20 :

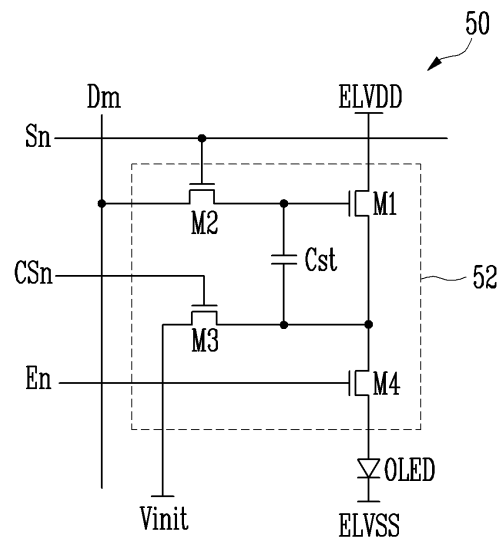
[0065] 30 : 40 :

[0066] 50, 50' : 52, 52' :

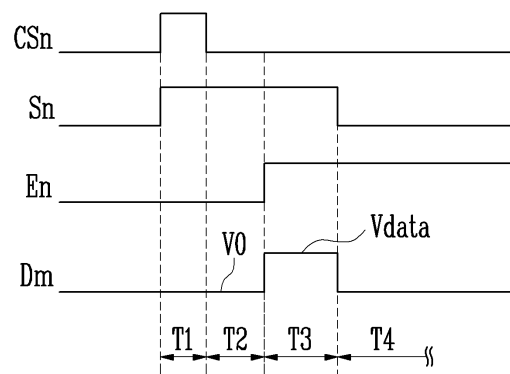
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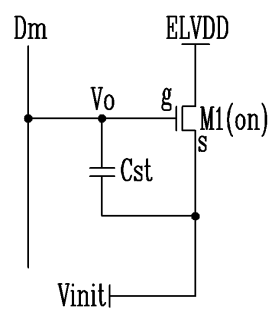
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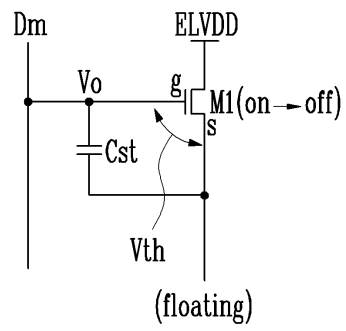
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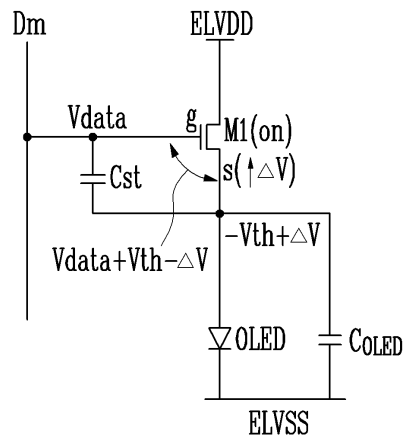
4a



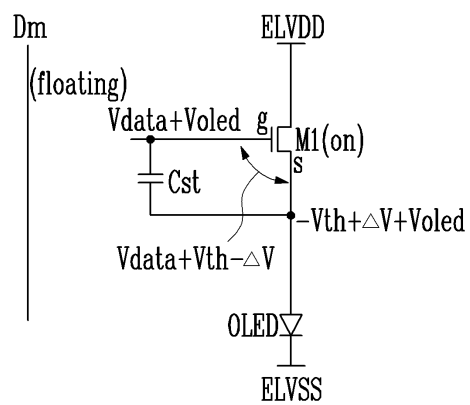
4b



4c



4d



5

