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G09G 3/30

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2002 12 02

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(22) 2002 05 24

(30) JP - P - 2001 - 00156509 2001 05 25 (JP)

(74)

1

(54)  $\frac{d}{dt} \left( \frac{\partial \mathcal{L}}{\partial \dot{x}_i} \right) - \frac{\partial \mathcal{L}}{\partial x_i} = 0$

가

가

3

( )

6

1  
2  
3 1  
4 2  
5

6  
7 EL  
8 1  
9 1  
10 2  
11 3  
12 3  
13 4  
14 4

\* \*  
11 : 12 - 1 12 - n :  
13 : 14 - 1 14 - m :  
15 : 21 :

, , , , , , , , , , ,  
) EL ( , , EL(electroluminescence)

가 , , , , ,  
 EL EL  
 EL  
 inous type display) , EL (backlight) 가 , , , , ,  
 EL  
 EL  
 EL  
 EL  
 EL  
 (TFT)) , , , ,  
 1 5,684,365 EL ( ) Hei 8 - 234683 ( ).  
 1 EL (101), EL (101) , (cathode) , (Vdd) (anode)  
 ) TFT(102), TFT(102) (106) (105) (103), TFT(102)  
 TFT(104)  
 EL (rectifying property) , EL OLED(Organic Light  
 Emitting Diode) , , 1 , , OLED  
 , (Vw) 가 (106) 가 , , (105) 가 (103) ( ) 가 ,  
 TFT(102) , TFT(102) (105) , , (105) , , (103) ( )  
 ) 가 , , TFT(102)  
 (103)  
 TFT(102) OLED(101) TFT(102) - (Vgs) 가 , OL  
 ED(101) (105) (106) , 1  
 , (Vw) , , OLED(101)  
 1 112 - n (EL ) , 2 (113) (114) (112 -  
 (115 - 1 1

15 - m)

m

n

m

n

가

EL

, TFT

TFT(

)가

TFT

TFT가

(thermal deformation)

TFT

TFT

(Vth)

mV

1V

OLED(  
(Ids)EL  
)

(Vw)가

(Ids)

( $\mu$ )

, TFT

(Vth)

(Vth)

WO01/06484 ).

3

(

3  
21), OLED(121)

(Vdd)

OLED(1

(123),

(128)

TFT(122), TFT(122)

P -

TFT(124), TFT(124)

(127)

TFT(125),

N -

TFT(122)

(127)

TFT(125)

P -

TFT(126)

가

1

1

가

(Iw)가  
25)  
25)가  
(128)

(127)

(

)가

TFT(124)

TFT(125)

TFT(125)

, Vgs

TFT(1

, TFT(1

, MOS

$$I_w = \mu_1 C_{ox1} W_1 / L_1 / 2 (V_{gs} - V_{th1})^2 \dots (1)$$

(1) ,  $V_{th1}$  TFT(125) ,  $\mu$  ,  $C_{ox1}$  ,  $W_1$   
,  $L_1$

,  $I_{drv}$  OLED(121) , (Idrv) OLED(121) TFT(122) (1)  $V_{gs}$ ,  
2) . 3 , TFT(122) 가 .

$$I_{drv} = \mu_2 C_{ox2} W_2 / L_2 / 2 (V_{gs} - V_{th2})^2 \dots (2)$$

, MOS

$$|V_{ds}| > |V_{gs} - V_t| \dots (3)$$

(2) (3) (1) TFT(125) TFT(122)  
,  $\mu_1 = \mu_2$ ,  $C_{ox1} = C_{ox2}$ ,  $V_{th1} = V_{th2}$  , , (1)  
(2)

$$I_{drv}/I_w = (W_2/W_1) / (L_2/L_1) \dots (4)$$

, (  $\mu$  ), (Cox), ( $V_{th}$ ) 가 , , OLED(1)  
21) 가 , ,  $W_2=W_1$   $L_2=L_1$  ,  $I_{drv}/I_w=1$ , ,  
( $I_w$ ) OLED(121) (Idrv) TFT

4 . 3 N - TFT (122, 125) P - TFT (132, 135) , 3 P - TFT (124, 126)  
N - TFT (134, 136) . , 가 .

EL . 5

3 4

EL

5 , m  $\times n$  (141) (142 -  
1 142 - n ) 3 TFT(126) (142 - 1 (142 - n ) TFT(124) (142 - 1 142  
- n ) . (143) (142 - 1 142

(141) (144 - 1 144 - m) (144 - 1 (144 - m) (CS)) (145)  
144 - m (145) (144 - 1 144 - m) . (144 - 1

가 , , 3 4  
가 , 가 . , 1

full - color extended graphics array) 가 ,  $100\mu\text{A} \times 3072 \times 15\text{V} = 4.6\text{W}$  . ,  $100\mu\text{A}$  ,  $15\text{V}$  , - XGA(  $1024 \times 3(\text{RGB}) = 3072$  ,

, MOS (1) - (Vgs)

$$1/R_{pix} = \mu_1 C_{ox} W_1 / L_1 (V_{gs} - V_{th1}) \dots (5)$$

, , Rpix (128) TFT(125) . (1) (5)

$$R_{pix} = 1 / (2 \mu_1 C_{ox} W_1 / L_1 \cdot I_w) \dots (6)$$

(6) , (Rpix) (lw)  
 (Cdata) (128) . , ( )

$$= \text{Cdata} \times \text{Rpix} \dots (7)$$

EL 가 . 7 EL (21) . 7 1 ( , EL , 1 (22) (23), (24), (25), (26) (27) , , (27) (28) (E) 가 , (28) (24)

$$\begin{aligned}
 & , \quad (11) \\
 & ( , \quad \text{TFT} \quad ) \quad . \quad , \quad (15) \not\models \\
 & (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \\
 & , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \\
 & , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \\
 & , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15) \quad . \quad , \quad (15)
 \end{aligned}$$

$$\begin{bmatrix} 1 & \\ 8 & (15) & 1 \end{bmatrix}.$$





(57)

1.

가

, ;

가

,

2.

1 ,

,

,

3.

2 ,

,

, - 가  
 (late timing)

(early timing) , - 가  
 ,

4.

1 ,

,

가 ,

5.

4 ,

,

,

6.

4 ,

,

가 ,

7.

6 ,

8.

가

가

9.

1

2

1 , 2 ,

,  
;

가

10.

9

,

,

11.

10

,

,

,

12.

9

,

가

,

13.

12

,

,

.

14.

12

,

,

가

,

15.

14

,

.

,

16.

,

1

,

2

,

1

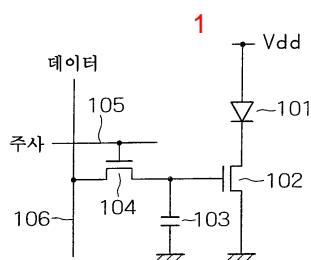
,

2

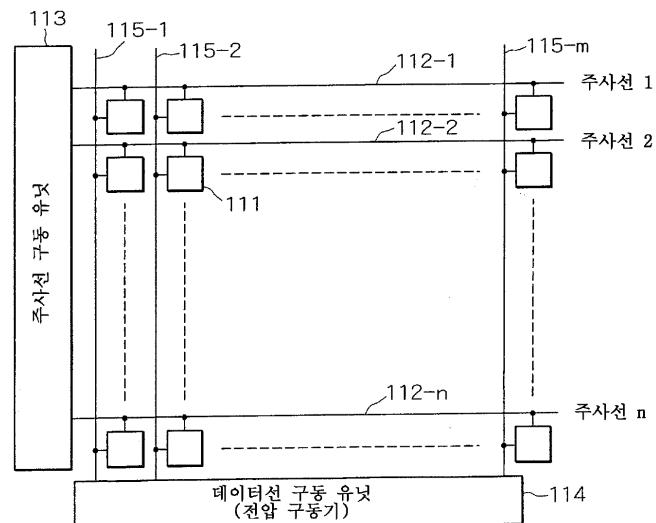
,

가

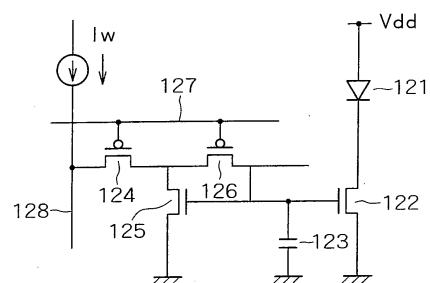
,



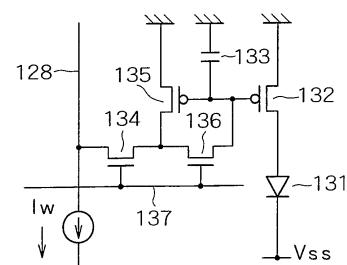
2



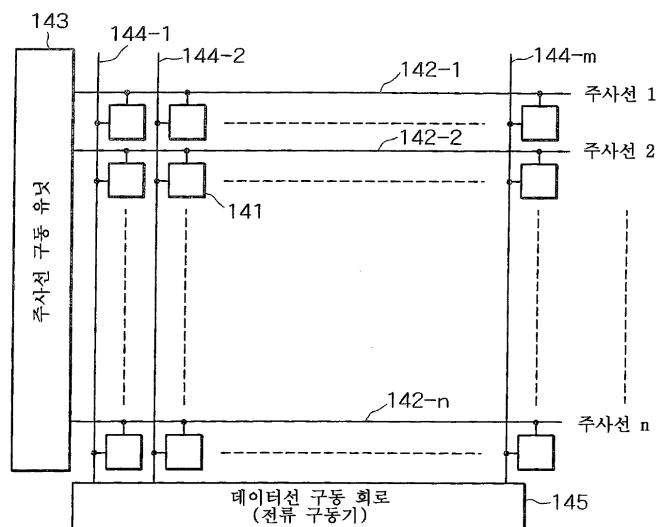
3



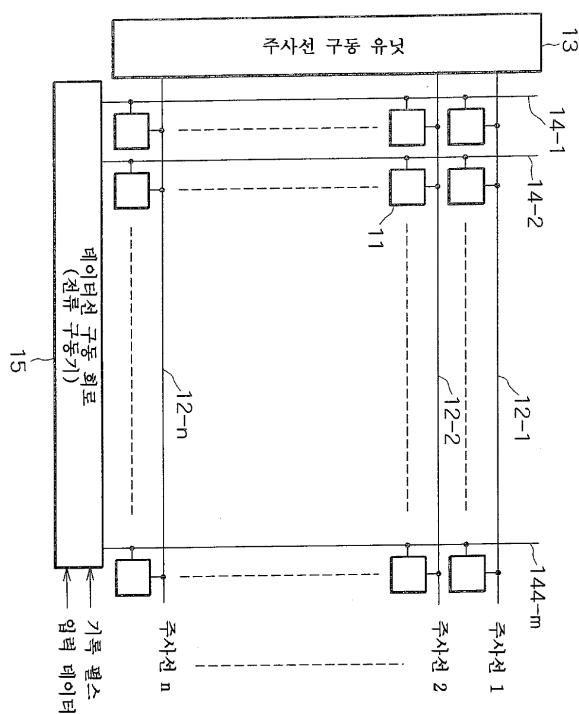
4



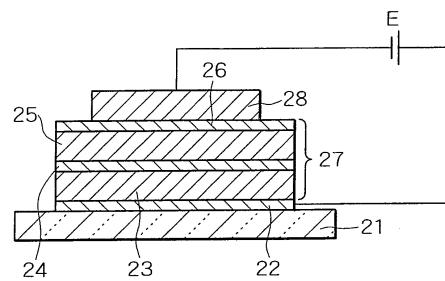
5



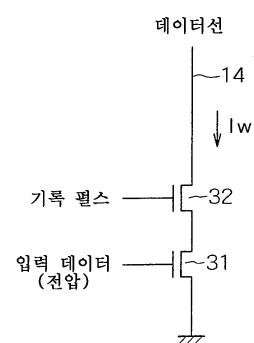
6



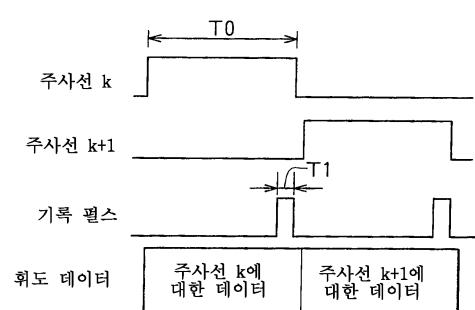
7



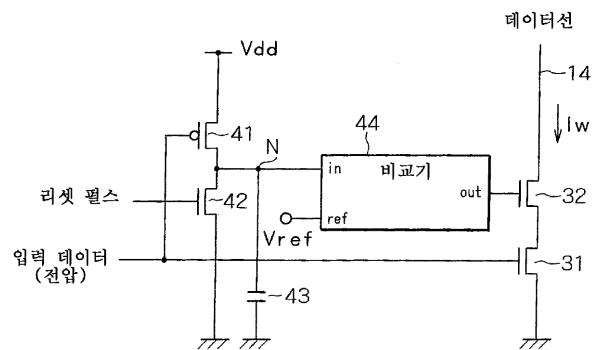
8



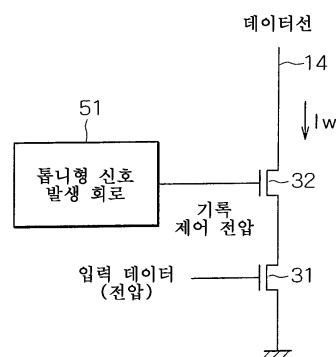
9



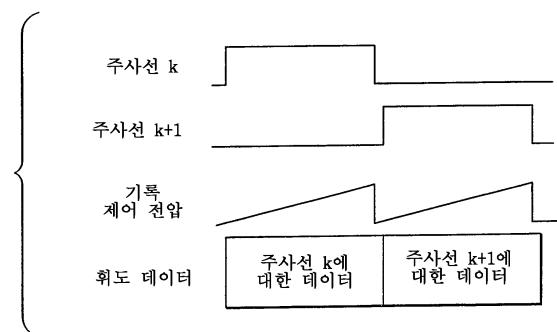
10



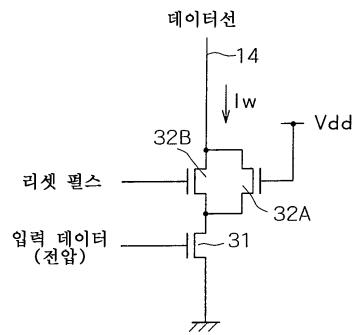
11



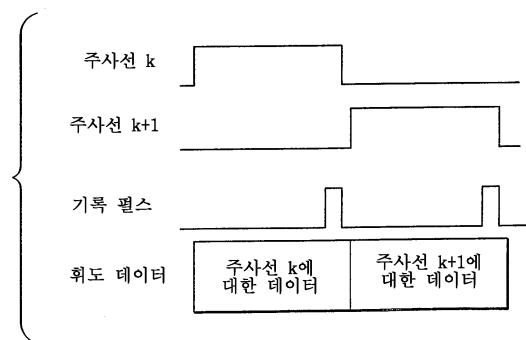
12



13



14



专利名称(译)	有源矩阵型显示装置，有源矩阵型有机电致发光显示装置，		
公开(公告)号	<a href="#">KR1020020090330A</a>	公开(公告)日	2002-12-02
申请号	KR1020020028843	申请日	2002-05-24
[标]申请(专利权)人(译)	索尼公司		
申请(专利权)人(译)	索尼公司		
当前申请(专利权)人(译)	索尼公司		
[标]发明人	YUMOTO AKIRA		
发明人	YUMOTO,AKIRA		
IPC分类号	G09G3/30 H01L51/50 G09F9/30 G09G3/32 G09G3/20 H01L27/32 H05B33/08		
CPC分类号	G09G3/325 G09G2330/021 G09G3/2011 G09G2310/066 G09G3/3241 G09G3/3283		
代理人(译)	李，何炳 李昌勋		
优先权	2001156509 2001-05-25 JP		
其他公开文献	<a href="#">KR100872728B1</a>		
外部链接	<a href="#">Espacenet</a>		

### 摘要(译)

本发明的有源矩阵显示器配备有电流型像素驱动电路，该电流型像素驱动电路分别提供记录电流，该记录电流根据用于驱动电光器件的像素电路中的相应流动电流在时间上增加电流值的大小。具有电光器件的亮度数据，其中亮度改变并通过数据线提供，并且周期记录亮度数据用像素电路提供。对于本发明的矩阵型显示装置，记录电流的当前值的大小在记录周期中暂时增加。记录电流在记录周期的初始限制为低电平(或零)。因此，记录电流的平均值下降。矩阵型显示装置，记录电流，亮度数据，像素电路，有源电路元件。

