

(19)
(12)

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(21)	10-2002-0042974	
(22)	2002 07 22	
(71)	20	
(72)	2 1057-10103	
(74)		
(54)	-	

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EL

EL

EL

4

- 1 EL
- 2 (Active Matrix Type) EL
- 3 2
- 4 1 (Active Matrix Type) EL

5	4	EL	.
6	4		.
7	4	EL	.
8	2	(Active Matrix Type) EL	.
9	8	EL	.
10	8		.
11	8	EL	.
< >			
2 :	4 :		
6 :	8 :		
10 :	12 :		
14 :	16,50,80 :	EL	
18,44,74 :	20 :		
22,52,82 :	EL	30 :	
42,72 :	46 :		
48,78 :	54,84 :		
56,86 :	76 :		
- , .			
, (Cathode Ray Tube) (Liquid Crystal Display), (Field Emission Display),			
(Plasma Display Panel) - (Electro-Luminescence : , EL)			
.			
EL			EL
EL	EL		
가		EL	
.			
1	EL	EL	EL (2)

(14) (4), (6), (8), (10), (12) .

(14) (2) 가 , (2) (4)
 (6) (8) , (14) (12)
 (10) (8) , (8) (6) (10)
 (14)

EL
 (14)

2 (Active Matrix Type) EL

2 , EL (SL) (DL)
 EL(, OEL) (22) EL (16) , (20) (SL)
 (18) , (DL)

OEL (22) (SL) 가 가 (DL)
 (DL) (SL) OEL (22) 가 (SL)
 가 (DL) OEL (22) 가 가
 가 OEL (22) OEL (22) 가
 OEL (22) 가 OEL (22)
 (18) (SL)

(20)
 (DL)

EL 가 OEL (22)
 , OEL (22) (DL)

(20) 3

(Current Mirror)

3 (20) (30) MOSFET(M0) , (30) MOSFET(
 M0) (Current Circuit) OEL (22)
 (i) MOSFET (M1 Mm) , I
 C (20) MOSFET(M1 Mm) (i)
 MOSFET(M1 Mm)

MOSFET(M0) (30) (VDD) MOSFET (M1
 Mm) MOSFET(M0) (i) EL OEL
 MOSFET (M1 Mm) (i) ,
 (22)

(20)
 (R) MOSFET(M0) (20)
 (20) (i)

EL
 (Thermal Effect) 가 가

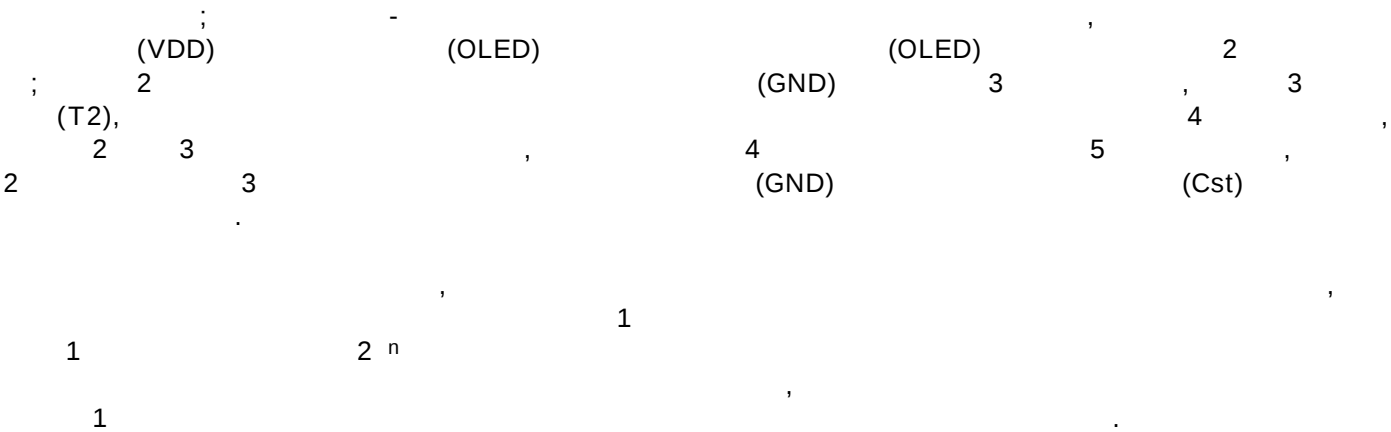
EL

가 EL

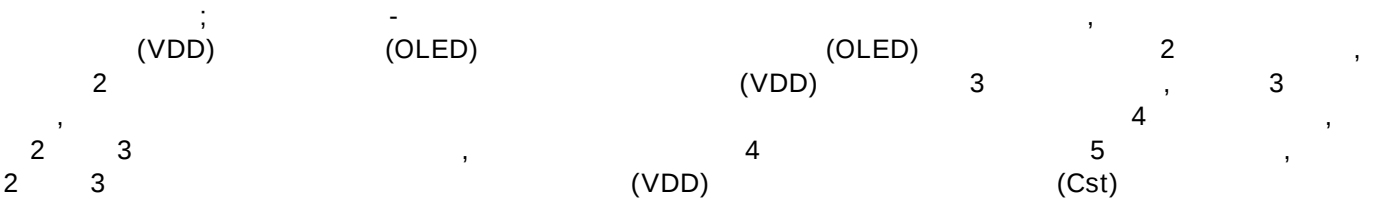
EL

가 가

(VDD)



(VSS) 가 가



1 2 n 1

(MOSFET,Metal-Oxide Semiconductor Field Effect Transistor)

(MOSFET) P N

4 11

4 1 EL (Active Matrix Type) EL 5

4 5 (DL) 1 EL (SL) (50) ,

(SL) (46) (42) (44) EL (44) , (52) (DL) (46) (48)

OEL (52) (54) (OLED) (54) (

VDD) (OLED) 1 TFT(T1) ; 1 TFT(T1)

L) (DL) (GND) 2 TFT(T2) ; 2 TFT(T2), (SL) (D

(DL) 3 TFT(T3) 3 TFT(T3) 2 TFT(T2)

(GND) 4 TFT(T4); 1 TFT(T1) 2 TFT(T2)

T (Cst) . 1 4 TFT(T1 T4) N MOS-FE

3 4 TFT(T3,T4) (SL)

(SL) (Threshold Voltag

$e : V_{th}$
 가 (Vcl) 3 4 TFT(T3,T4) (CL)
 가 2 TFT(T1,T2) 1 TFT(T1)
 가 (Vd) 1 TFT(T1)
 1 TFT(T1) (Vd) (VDD) (GND)
 (OLED)
 2 TFT(T2) 1 TFT(T1) 1 TFT(T1)
 (Cst) (Vd) (GND) (OLED) 1 TFT(T1) 가
 (42) (R, G, B) (46)
 (42) (44)
 (46)
 (44) (SL)
 (48) 6 (42) (56) ,
 (56), (46) (VDD)
 (Voltage Controlled Current Source ; VCCS)
 (56) N (bit) (56) (42) (VCCS)
 (VCCS)
 (VCCS) (56) 가 (VCCS) (V
 DD) (56) (46)
 (Iref)
 (DL) (46)
 EL , OEL (52) (DL) 가 OEL (52)
 7 4 EL
 7 , EL (46) 6
 (VCCS) MOSFET(M1) , (VCCS)
 MOSFET(M1) (Current Circuit) OEL (52)
 (DL) 2 n (Iref) MOSFET (M2 M5) ;
 (VCCS) MOSFET(M1) MOSFET (M2 M5)
 (Cd) , (46) M
 MOSFET (M2 M5) (Iref) (DL) MOSFET(M2
 M5) (S1 S4)
 MOSFET (M2 M5) MOSFET(M1)
 (Iref) MOSFET (M2 M5) (Iref)
 , EL OEL (52)

(46) (Iref) (48)

) (Iref) (46) (Iref) (48)

1 (48) (46) EL (Iref)

(Iref) 가 (46) (DL) (Iref)

(Iref) (46) EL

가, (48) (42) (48)

(56) (42) (48)가 N M

(46) 1 ,

OS-FET P MOS-FET

8 2 (Active Matrix Type) EL 9

8 EL

8 9 , 2 EL (SL)

(DL) EL(, OEL) (82) EL (80) ,

(SL) (74) , (DL)

(76) , (74) (76)

(72) , (78) , (

76) 4 (46) 가 (46)

1 (DL) 2 (48) (78) (Iref)

(76) (78) 가 가

OEL (82) (84) (OLED) (84)

(VDD) (OLED) 1 TFT(T1) ; 1 TFT(

T1) (DL) (VDD) 2 TFT(T2) ; 2 TFT(T2), (SL)

(DL) 3 TFT(T3) ; 1 TFT(T1) 2 TFT(T2)

(DL) 3 TFT(T3) 4 TFT(T4); 1 TFT(T1) 2 TFT(T2)

(VDD) (Cst) . 1 4 TFT(T1 T4) P

MOS-FET

3 4 TFT(T3,T4) (SL) -

e : Vth) (SL) (Threshold Voltage

(Vcl) 3 4 TFT(T3,T4) (CL)

가 (Cst) , 1 2 TFT(T1,T2) 1 TFT(T1)

2 TFT(T1,T2) 가 (Vd) 1 TFT(T1)

가

1 TFT(T1) (Vd) (OLED)

(Vd)

2 TFT(T2) 1 TFT(T1) 1 TFT(T1)

(Cst) (Vd) (VDD) 1 TFT(T1)

가 (OLED) 가

(72) (R, G, B) (76)

(72) (74)

(76)

(74) (SL)

(78) 10 (72) (86) ;
 (86), (76) (VSS)
 (Voltage Controlled Current Source ; VCCS) .

(86) N (bit) (42) (VCCS)
 (86) (VCCS)
 .

(VCCS) (56) 가 (VCCS) (V
 SS) (86)
 (76)
 (Iref)

(DL) (76) (GND) .

EL (76) 가 가 OEL (82) (VSS)
 (GND) , OEL (82) (DL)

11 8 EL

11 , EL (76) 8
 (VCCS) MOSFET(M1) , (VCCS)
 MOSFET(M1) (Current Circuit) OEL (82)
 (DL) 2ⁿ (Iref) MOSFET (M2
 M5) ; MOSFET(M1) MOSFET (M
 2 M5) (Cd) (76)
 MOSFET (M2 M5) (DL)
 MOSFET(M2 M5) (Iref)

MOSFET (M2 M5) MOSFET(M1)
 (Iref) (78) MOSFET (M2 M5)
 (Iref) , EL OEL (52)
 2ⁿ (, 2,4,6,8, ...)

) (VSS) , (76) (Iref) (48)
 (GND)

2 (76) (Iref)
 (78) EL
 (Iref) (72)
 (Iref) (DL) (Iref) EL (76)
 ,

가, (78) (72) (78)
 (86) (72) (78)가
 (76)

EL (Iref)
 EL

EL

가

EL

, EL

(57)

1.

2.

1

3.

2

4.

3

5.

3

가

가

(VDD)

(VDD)

(OLED)

(OLED)

2

2 (GND) 3 ,

3 (T2),

4 ,

2 3 , 4 5 ,

2 3 (GND) (Cst)

6.

5 ,

1 2 n 1

1 1

7.

6 ,

8.

6 ,

(MOSFE

T,Metal-Oxide Semiconductor Field Effect Transistor) -

9.

8 ,

(MOSFET) P

10.

3 ,

(VSS) 가 , 가 -

11.

10 ,

-

;

- ,
(VDD) (OLED) (OLED)
2 ,
2 (VDD) 3 ,
3 , 4
,
2 3 , 4 5 ,
2 3 (VDD) (Cst)

12.
11 ,
,
,
1 2 n 1
,
1

13.
12 ,
- .

14.
12 ,
(MOSFET,
Metal-Oxide Semiconductor Field Effect Transistor) -

15.
14 ,
(MOSFET) P
- .

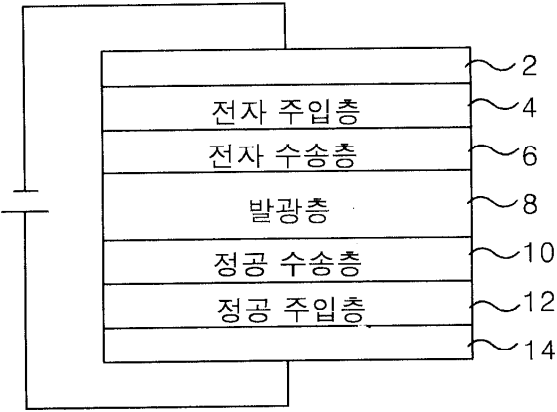
16.
3 ,
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17.
3 ,

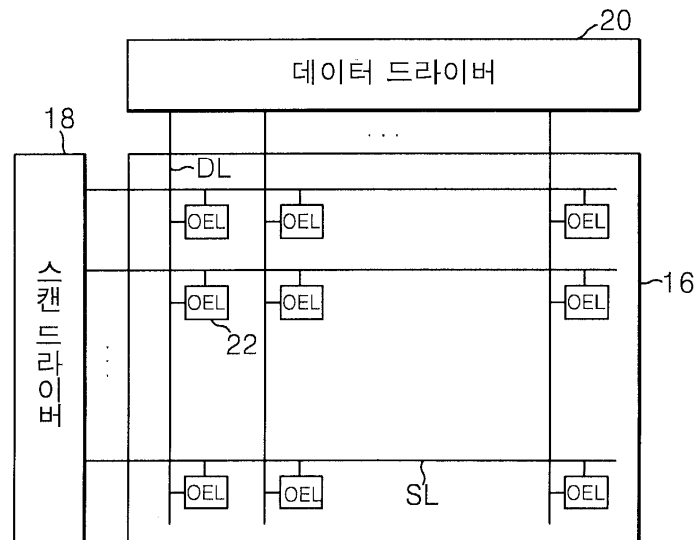
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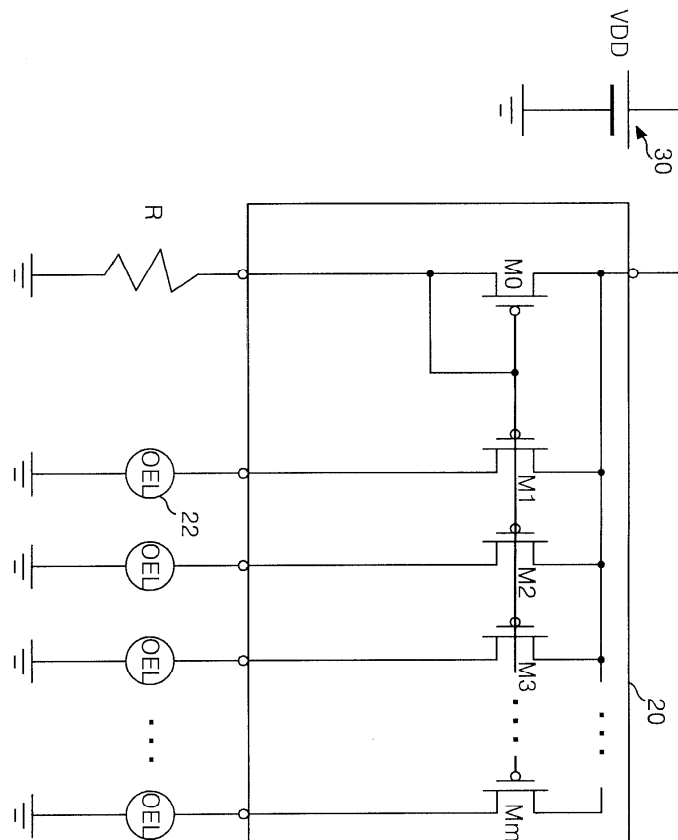
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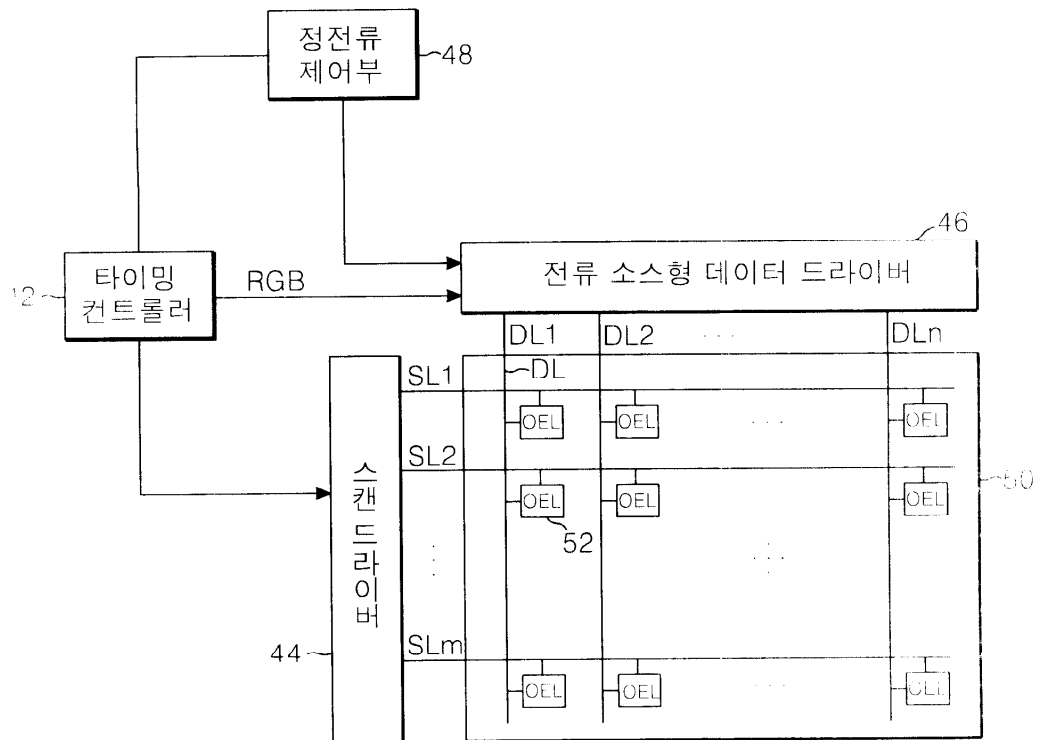
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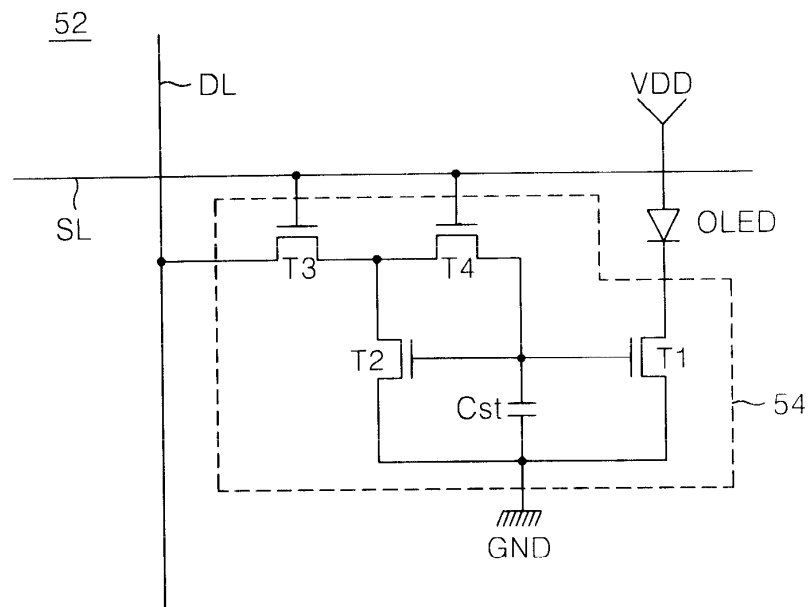
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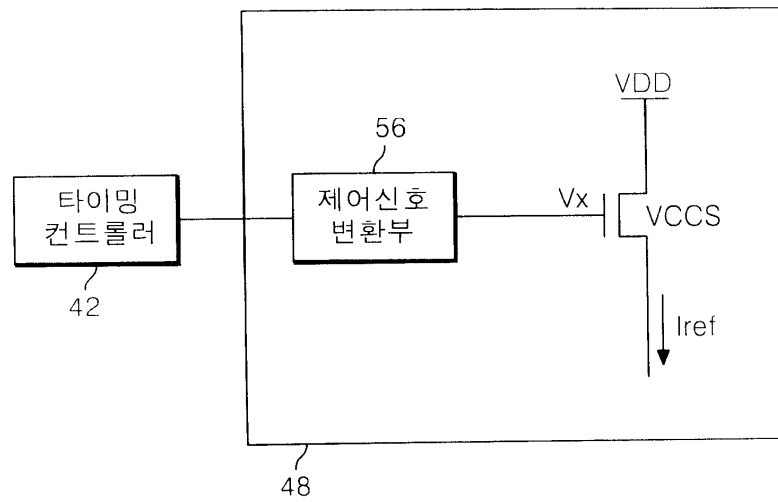
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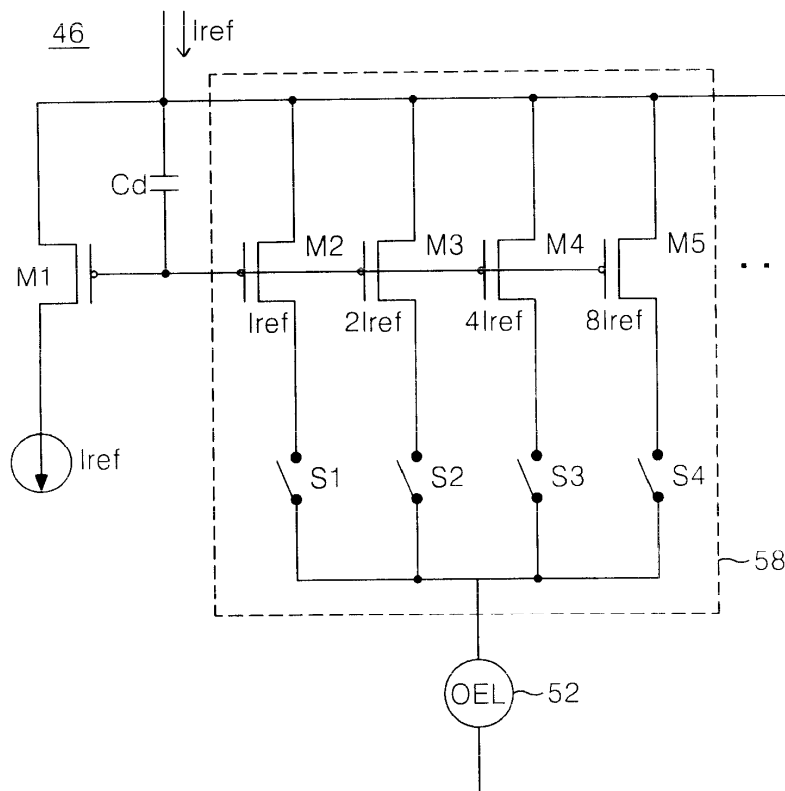
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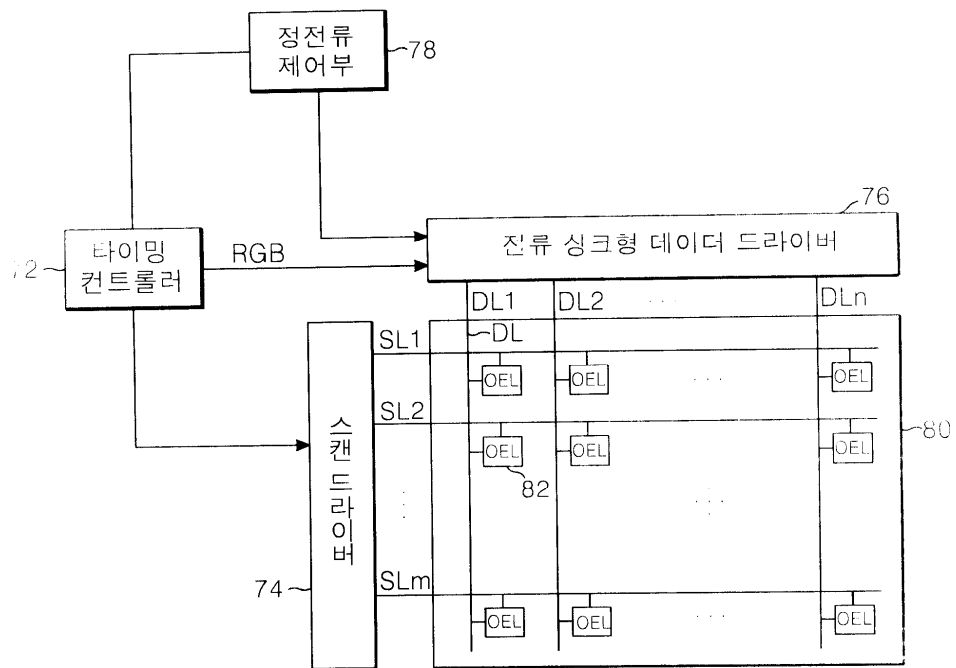
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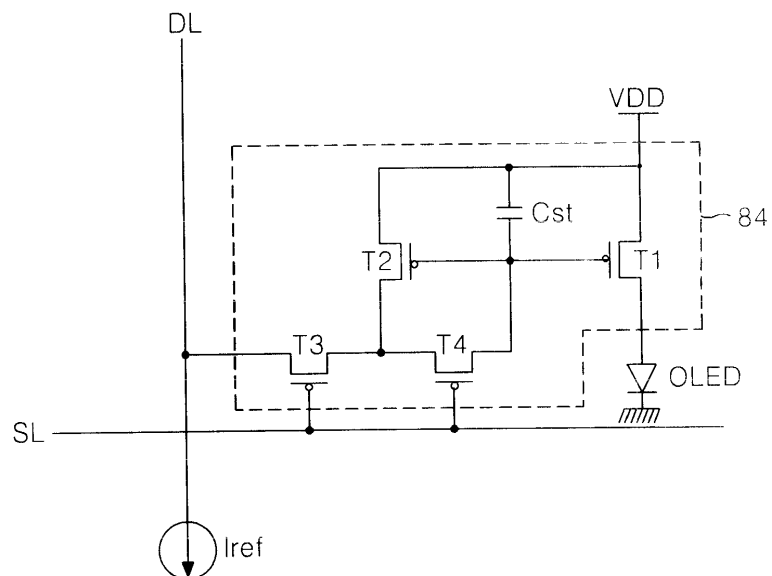
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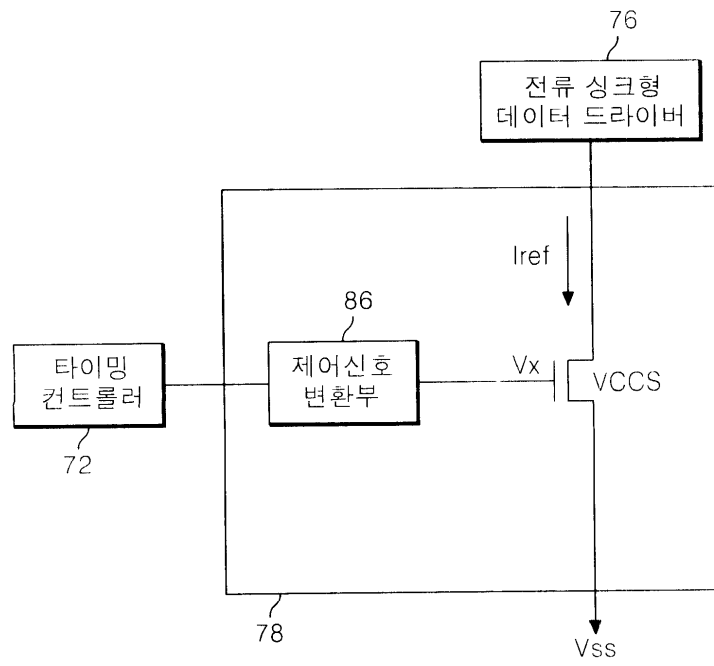
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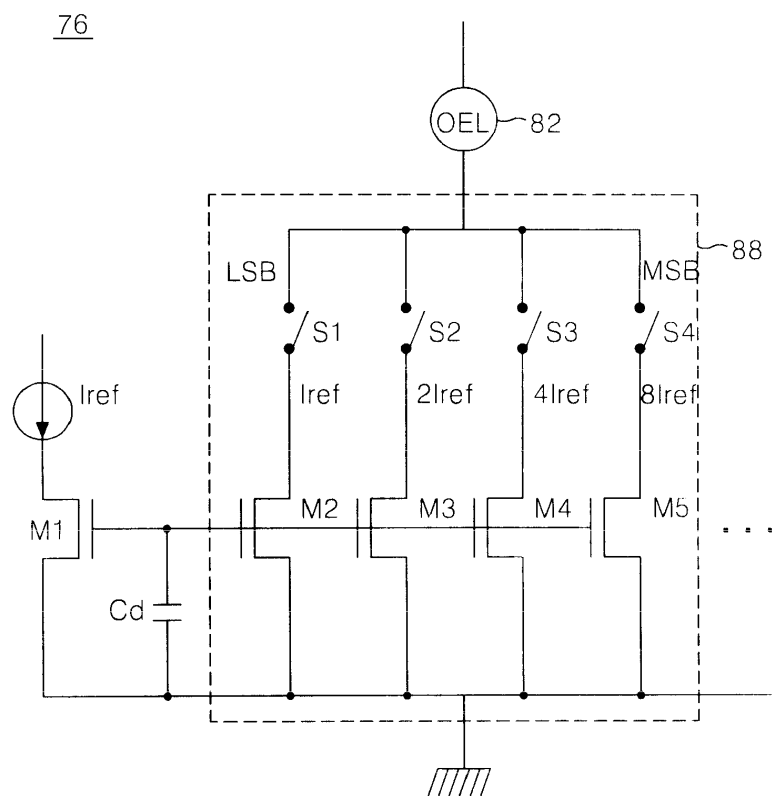
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专利名称(译)	电致发光显示面板驱动装置和方法		
公开(公告)号	KR1020040009137A	公开(公告)日	2004-01-31
申请号	KR1020020042974	申请日	2002-07-22
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG显示器有限公司		
当前申请(专利权)人(译)	LG显示器有限公司		
[标]发明人	LEE HANSANG		
发明人	LEE,HANSANG		
IPC分类号	G09G3/30		
代理人(译)	KIM , YOUNG HO		
其他公开文献	KR100511787B1		
外部链接	Espacenet		

摘要(译)

本发明涉及通过控制数据驱动器的恒定电流信号来控制对比度的电致发光显示板的驱动装置和方法。根据本发明的EL显示面板的驱动装置包括：显示面板，其指示输入电流信号的图像；以及数据驱动器，用于基于恒定电流向显示面板提供数据，并且控制信号转换器在将亮度调节数据响应到控制电流的电压信号和恒定电流控制器，包括用于控制恒定电流大小的电压控制电流源型装置，它用电压信号控制漏极和源极之间的电流。控制电流和数据产生部分，用于产生亮度调节数据。根据这种结构，适合于EL显示板的负载量，根据本发明的EL显示板的驱动装置和方法可以使用恒流控制器控制恒定电流。因此，通过控制数据驱动器的恒定电流，可以更有效地控制EL显示板的对比度。

