

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.⁷
H05B 33/00

(11)
(43)

2003-0072247
2003 09 13

(21) 10-2003-0013306
(22) 2003 03 04

(30) JP-P-2002-00057166 2002 03 04 (JP)

(71) 가 가 2 5 5

(72) 8-41-7

(74)

:

(54)

EL , EL (22) (22) (22)
가 . (23), (24), (25) (26) (22)
가 (23), (24), (25) (26) (22)
가 , (24) S1 S0 .

5

, , ,

1 1 .
2 1 .
3 1 .

4	1	.
5	1	.
6	2	.
7	2	.
8	2	.
9	2	.
10	2	.
11	2	.
12	2	.
13	3	.
14	3	.
15	EL	.
16	13 B-B	.
17	EL	.

< >

- 10 :
- 11 :
- 13 :
- 14 :
- 15 :
- 16 :
- 20 :
- 20A :
- 21 :
- 22 :
- 23 :
- 24 :
- 25 :
- 26 :

30 : 1 TFT

40 : 2 TFT

130 :

131 :

132 :

133 :

134 :

135 :

136 :

137 :

138 :

139 :

, (Electro Luminescence : , 「EL」) EL 가 CRT
LCD (Thin Film Transistor : , 「TFT」) EL
15 EL , 16 15 B-B EL TFT
(11) (51) , (52) (51)
TFT (51)
EL (61) EL 가
(110) EL (10) SiO₂ SiN , (10) TFT (1
0) TFT EL , (10) SiO₂ SiN , (10) TFT
(10) (Cr) (11) ,
(12), p-Si (13)
(13) (11) (13c) , (13c) (13c) (14)
(11) (13s) (13d) , LDD(Lightly Do
ped Drain) .

(16) (12), (13) (14) SiO₂, SiN SiO₂
(15), (13d) Al (17)

(17) (13s) (13s)
ITO(Indium Tin Oxide) (18), (61) (17)
(61) ITO(Indium Tin Oxide) (61) EL (60)

EL (60) (61), MTDATA(4, 4-bis(3-methylphenylphenylamino) biphenyl)
1, TPD (4, 4, 4-tris(3-methylphenylphenylamino) triphenylamine) 2
(62), (Quinacridone) Bebq2(10- [h])
(63), Bebq2 (64),
(65)

EL (60) TFT (61)
(65) 가 가 가
가 (63) (61)

11-283182

EL (60) S 16 , (61) (63) S
 , EL (60) , 가 , 17 EL (60)
) EL (60) 가 가 , EL (60)
 , EL (60) 가 ,
 , EL (60) EL (60)
 , EL
 , EL , 가 EL EL , E
 L ,
 , EL (概說) ,
 TFT EL , , 가 (基材)

, 1 1 5 . , 15, 16

1 , (10) TFT . , (10) (Cr) (11) , (12), p-Si (13)

(13) (11) (13c) , (13c) , (13c) (14) (11) (13s) (13d) . , LDD(Light

11) ly Doped Drain)

, (12), (13) (14) , SiO₂ , SiN SiO₂ (15) , (13d) (20)(Al , JSR-315)

(16) (, 1).

, 2 (20) (20) (20A)가 20% 40% , (20)

, 3 , TFT (13s) (21) . TFT s (20) (, (15) 100% , TFT (13s)

, 4 TFT s ITO (22) (22) . (22) (21) , (22) (22)

, 5 가 (22) MTDATA (4, 4-bis(3-methylphenylphenylamin o)biphenyl) 1 , TPD(4, 4, 4-tris(3-methylphenylphenylamino)triphenylamine) (23), (Quinacridone) Bebq2(10-[h]) (24), Bebq2 (25), . (23), (24), (25) (26) . 5 , EL (24) (24) , (23), (25) (26)

, 가 (23), (24), (25) (26) (22) , (24) S1 S0 . , K가 (S0/S1) , EL (17).

2 (24) 가 가 . (,) 2 r² , 2 , 가 . EL 2 r² 4 가 .

(2)

, 2 6 12 . , 15, 16

6 , (10) TFT, (15), (16) . 1 가 .

, 7 , (130)(SiO₂) CVD , (30)

(131) .

, (131) (30) , (131) , 8
(15) (132)가 .

, 9 (32) , 가 (133) . (133)

, 10 (133) (15) , TFT s
(134) , 11 , ITO (22) , (22)
) . (22) (21) TFT s . (135)
(135) , 가 .

, 12 , 가 (135) , 1 가 , EL
(136), (137), (138) (139) .
12 , (137) (135) , (136), (138) (1
39) EL .

, EL (136), (137), 1 (138) (139) (135)
S2 S0 , 가 . , 1 가 (137)

(3)

1, 2 TFT(EL TFT)
가 , 2 TFT(TFT, TFT)

3 .

13 EL , 14 (a) 13 A-A
, 14 (b) 13 B-B .

13 14 , (51) (52) (111)가
, .

(111) EL (60) , EL (60)
TFT(30) , EL (60) TFT(40) ,
EL (60) 1 (61) , 2 (63) . ,

, (51, 52) TFT 1 TFT(30)가 , TFT(30) (33s)
(54) (55) , EL TFT 2
TFT(40) (41) , 2 TFT (43s) EL (60) (61) ,
(43d) EL (60) (53) .

, (51) (54) (54)
, (12) TFT (33s) (55)
(56) 2 TFT(40) (41) 가 .

14 , EL
(100) TFT EL (100) SiO₂ SiN , (100)
) 1, 2 TFT EL . TFT

, TFT 1 TFT(30) .

14 (a) , , CVD , a-Si (10)
(, 「a-Si」 (, 「p-Si」) , , SiO₂ , SiN
(31) (32) (51) Al (52) , EL
Al (53) .
(115) , (32) (33) SiO₂ , SiN SiO₂ (36)
(33d) Al (17) .
EL TFT 2 TFT(40) 14 (b) , ,
(43), (112), Cr, Mo (10) a-Si
(43) (43c) , (43c) (43s) (41)
(12) (43) SiO₂ , SiN SiO₂ (115)
(43d) Al (53)
(17)
(117) .
(17) (43s) , (43s)
ITO (161) , EL (160) (161) (17) (161)
(115) , 가 .
, 14 가 (161) (162), (163), (164)
(165) .
, (162), (163), (164) (165) (161)
, 가 , (163) .
 , EL
, , EL EL (60) .

(57)

1.

2.

1 ,

2 ,

3 ,

4 ,

5 ,

6 ,

7 ,

, 가 .

3.

1 ,

2 ,

3 ,

4 ,

5 ,

6 ,

7 ,

8 ,

, 가 .

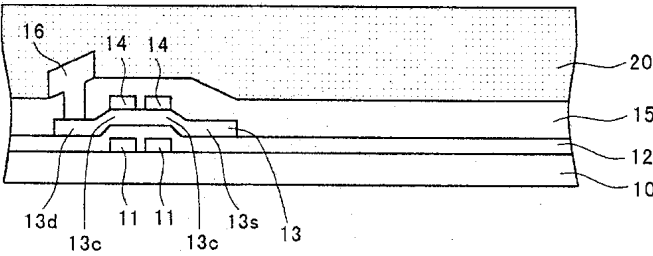
4.

3 ,

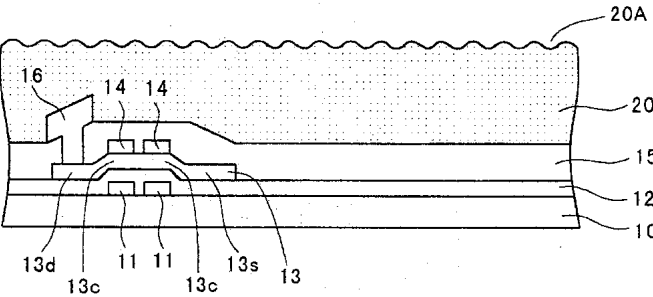
3 , ,

.

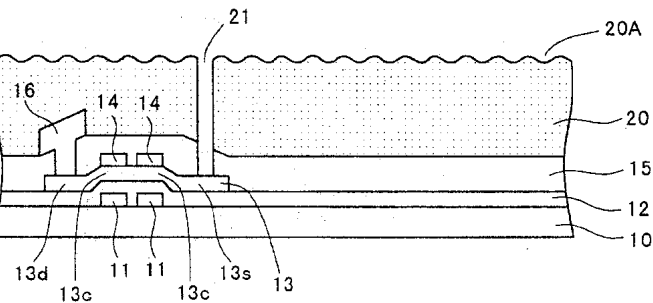
1



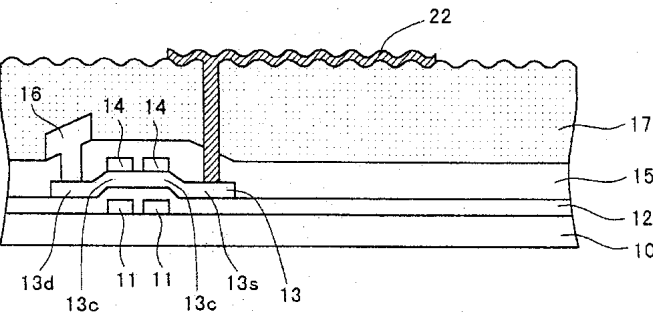
2

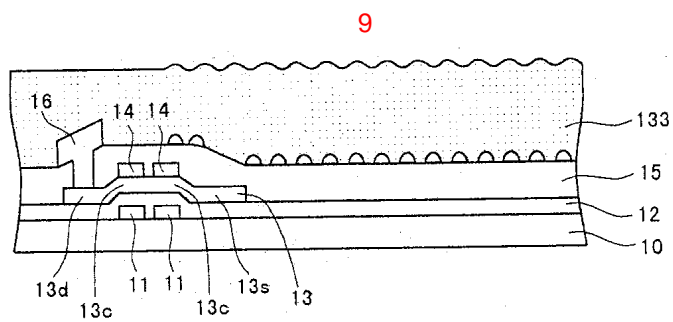
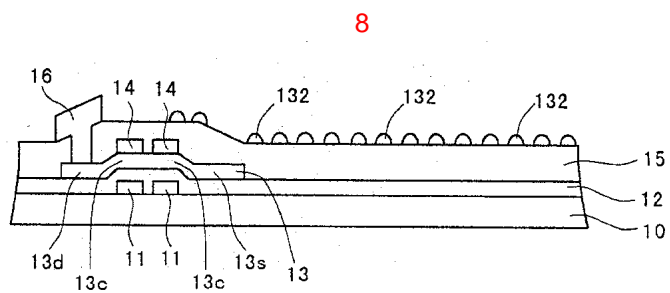
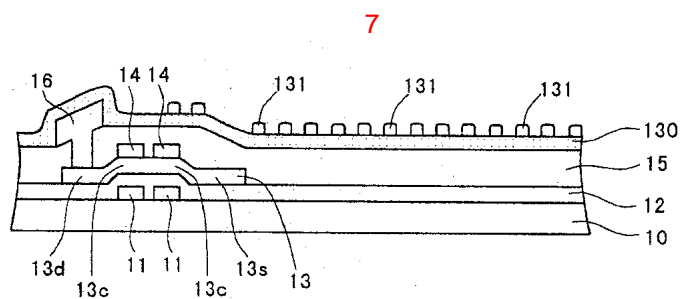
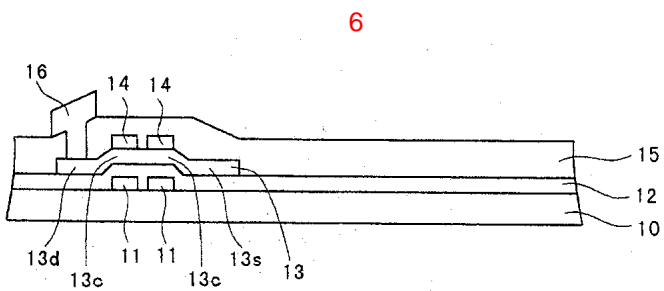
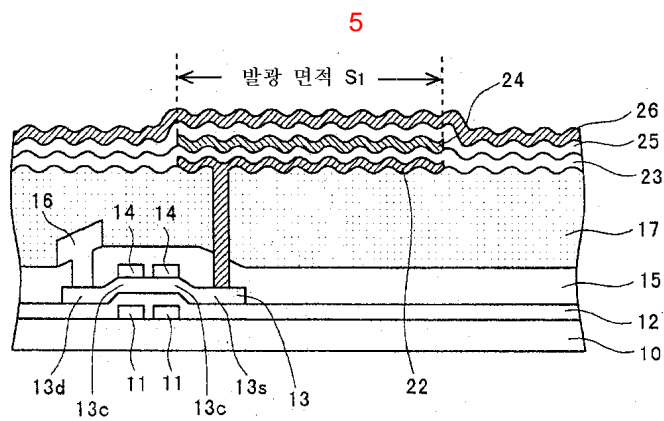


3

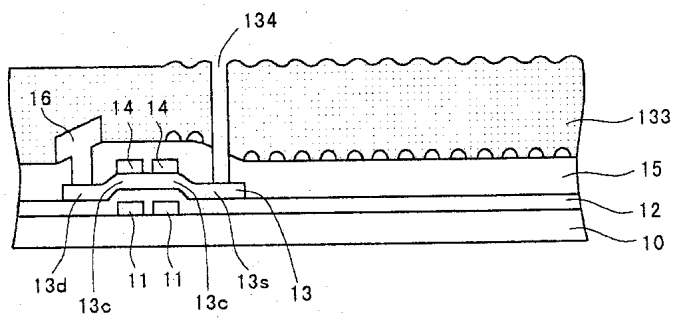


4

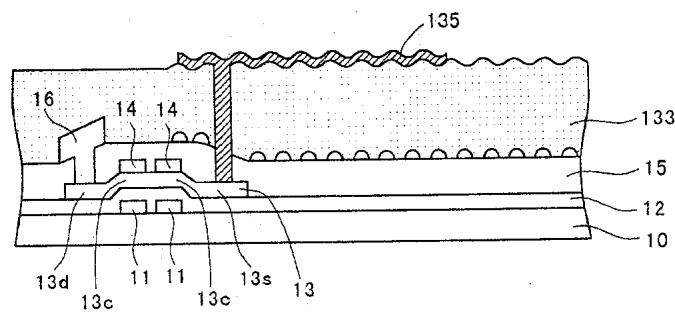




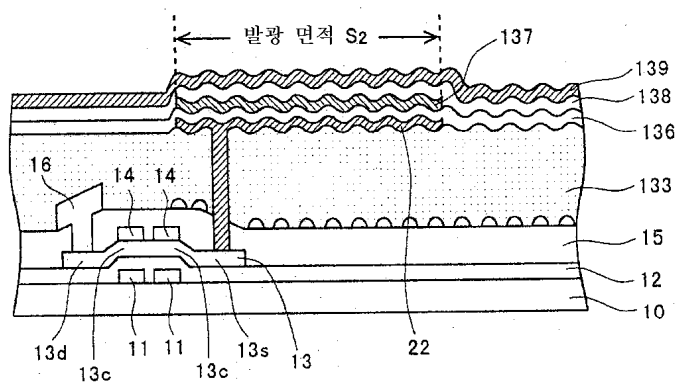
10



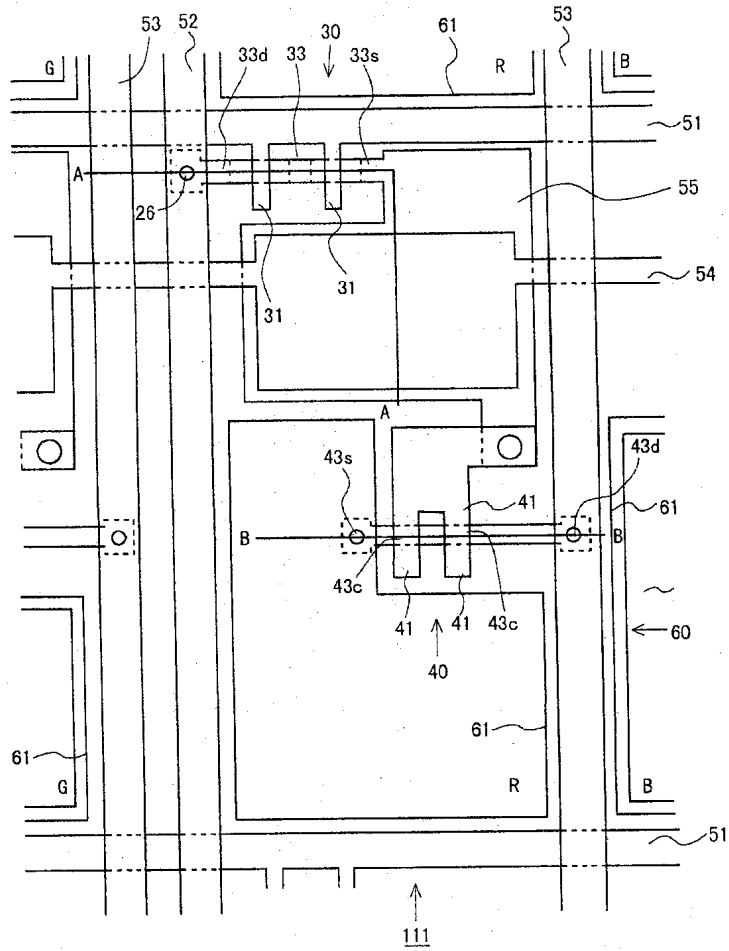
11



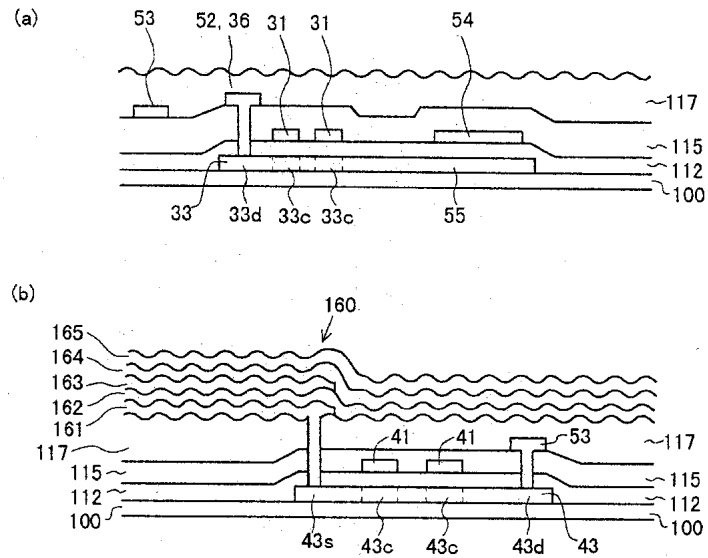
12



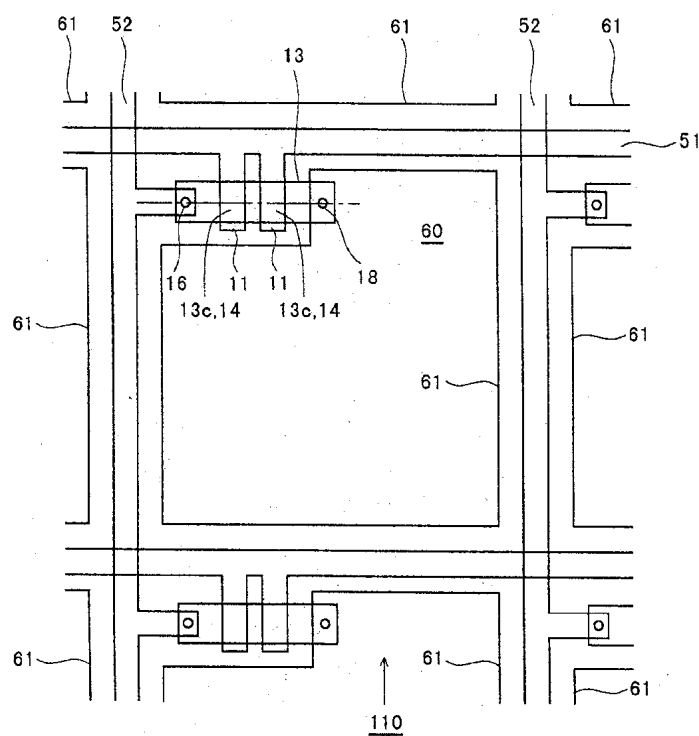
13



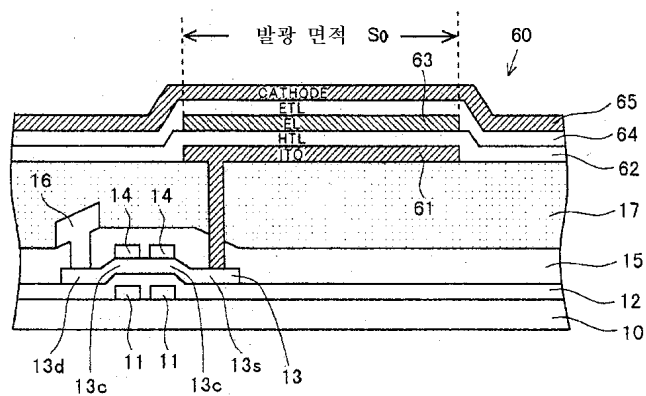
14



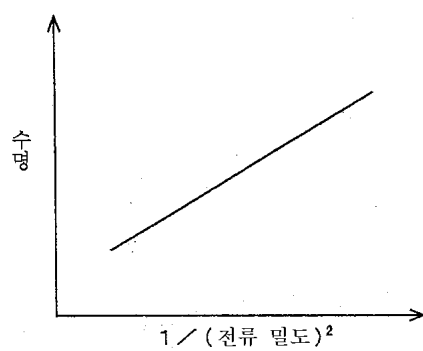
15



16



17



专利名称(译)	电致发光显示装置及其制造方法		
公开(公告)号	KR1020030072247A	公开(公告)日	2003-09-13
申请号	KR1020030013306	申请日	2003-03-04
[标]申请(专利权)人(译)	三洋电机株式会社 山洋电气株式会社		
申请(专利权)人(译)	三洋电机有限公司是分租		
当前申请(专利权)人(译)	三洋电机有限公司是分租		
[标]发明人	NISHIKAWA RYUJI		
发明人	NISHIKAWA,RYUJI		
IPC分类号	H01L27/32 H01L51/50 H01L51/52 H05B33/00 H05B33/26 H05B33/10		
CPC分类号	H01L51/5262 H01L51/5203 H01L27/3258 H05B33/26 H01L51/5209		
代理人(译)	LEE, JUNG HEE CHU, 晟敏		
优先权	2002057166 2002-03-04 JP		
其他公开文献	KR100564197B1		
外部链接	Espacenet		

摘要(译)

电致发光单元的有效发射面积增加。实现高亮度。而且，在保持电致发光元件的发光亮度的同时延长寿命。凹凸形成在平坦化绝缘层（22）的表面上。平坦化绝缘层（22）的凹凸的不平坦部分被反射形成在阳极（22）的表面上。空穴传输层（23），发光层（24），电子传输层（25）和阴极（26）通过真空沉积法在阳极（22）上形成。空穴传输层（23），发光层（24），以及阴极（26）和电子传输层（25）的表面可以设置有相应的不平坦部分，阳极的凹凸形状（22）被反映出来。因此，与迄今为止的例子的S0相比，发光层（24）的有效发光面积S1增加。平坦化绝缘层，发光层，电子传输层，真空沉积方法。

