

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.⁷
H05B 33/04

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(43)

10-2004-0086607
2004 10 11

(21) 10-2004-0021384
(22) 2004 03 30

(30) JP-P-2003-00093643 2003 03 31 (JP)

(71) 가 가 가 가 4 1-1

(72) 가 가 가 가 4 1-1

가 가 가 가 4 1-1

가 가 가 가 4 1-1

(74)

:

(54)

EL 가 , 가가

가 (50) , (50) 가 (10) 가 ,

1

, EL , ,

40, 62 :

42 :

44 :

46 :

52 :

54 :

56 :

58 :

60 :

64 : 1

66 : 2

68 :

70 :

72 :

74 :

76 :

80 :

82 :

84 :

88 :

90 :

92 :

94 :

100 :

102 :

104 :

106 :

108 :

110 :

122, 122 :

114, 1116, 124 :

118 :

120 :

126 :

128 :

130 :

132 :

134 :

136 :

138 :

140 :

142 :

144 :

146 :

148 :

150 :

(EL)

가

EL(Electro Luminescence), FED(field emission display)

가 . EL

. FED

1 , TFT , EL 가 (EL)
 EL 가 2 1
 가 가
 , EL 13 14 EL
 가 1 2 , 1, 2
 3
 13
 (104) (100) (106) (102) (102) (108)
 (110) (102) (TFT)가
 TFT가 (100) (112) (112) (108)
 (110) (114, 116) (112) (114, 116)
 (108) (110) (118) (120)
 (118) (120) (112) (122)
 (122) (120) (124)
 T (122) (124) (120) (126) , TF
 (128) , EL (130) 가 , (132) (134) (100)
 (126) 가 , ITO 가 (134)
 TFT EL 가 (100) (136) EL (122) (13
 6)
 14
 14
 EL 가
 , (122) (124) (120)
 (134) , (132) , (130) , (128) (126)
 , ITO 가 , (100) (126)
 , (134) , 가
 (100) TFT EL (140)가 15
 (106) (118) (100) (140) TFT
 (142) , TFT
 (144) (148)가 (142) (146)
 (146) , (144) (148) (150)
 가 , 1) , 2)
 , 3) , 4) PC TV
 1) 4) 가 , a) EL 가 , b)
 가 ()

, 1)

, 2)

TAB(Tape Automated Bonding)

COF(Chip On Film)

COG(Chip On Glass)

, 3)

가

가

, COG

[1]

2001-060076

[2]

2001-147659

[1]

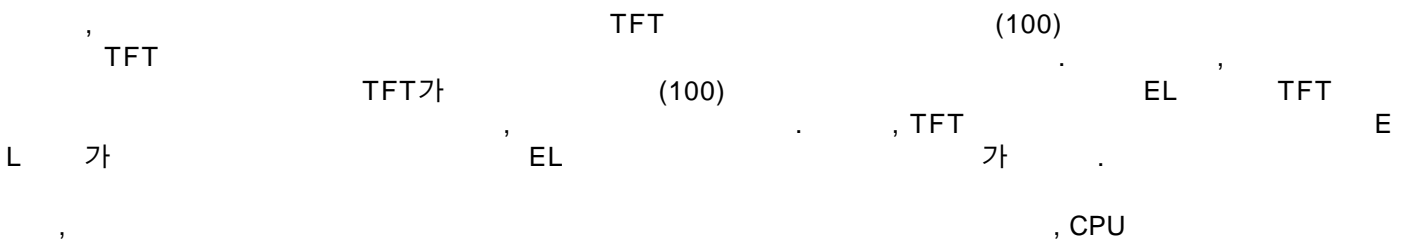
T. Shimoda et al., "High resolution light emitting polymer display driven by low temperature polysilicon thin film transistor with integrated driver", ASIA DISPLAY 98, pp.217 - 220

[2]

M. T. Johnson et al., 'Active matrix poly LED display', IDW '00, pp. 235-238

[3]

T.Sasaoka et al., 'A 13. 0-inch AM-OLED display with top emitting structure and adaptive current mode programmed pixel circuit(TAC)', SID 2001, pp. 384-386



가가

가

가

가

1

1

가

2

1

2

1

2

1

2

,

1

, 2

2 , 1 2 1

[1]

1 1 1 4 .

1 1 2 4

가 1 1 1

(10) (12) (12) (14) (14)

20) (16) (18) (18) (14) (14)

(22) (22) (10) (18), (14)

(20) (22) (TFT)가

TFT가 (10) (24) (24)

(20) (22) (30) (32)

(30) (32) (24) (34)

34) (32) (38) (38)

(40)

(50) (52) , (54) , (56) , (58) (60)

EL 가

(10) (50) (40) (60) (10)

(34) EL (50) (42)가

(TFT) [(10)] EL

가 [(50)]

EL EL EL

EL 가 EL EL (10) EL (50)

(42) (50)

2 4

(10) , CVD , 400nm

(12) CVD , 40nm

(14)

[2 (a)].

CVD

110nm

300nm, 2%

Nd

Al-Nd

Al-Nd

(16) , Al-Nd

(18)

(14)

(18)

(24)

(P)

(18)

(14)

(20)

(22)

(14)

(20)

(22)

TFT

(18),
[2 (b)].

, TFT가

(10)

CVD
(24)

400nm

(24)

(20)

(22)

(26, 28)

[2 (c)].

(24)

100nm

(Ti)

200nm

(Al)

50nm

Ti/Al/Ti

(20),

(22)

Ti/Al/Ti

(30)

(32)

(26, 28)

[2 (d)].

(30)

(30)

(32)

(24)

CVD
(34)

300nm

(34)

(32)

36)

[3 (a)].

(34)

200nm

(36)

(32)

(38)

(38)

(34)
(38)

(40)

[

3 (b)].

(10) TFT

(50)

10nm

NPD()

100nm ITO

ITO

10nm

Alq₃ (

20nm Alq₃

Alq₃

100nm

(50) ITO

(52) , NPD

(54) ,

Alq₃

(56) , Alq₃

(58) ,

(60)

EL

[3 (c)].

) , TFT (40) 가 (60) (10) EL 가 (50) (50) (34)
[4 (a) (b)]. (10) (50)

(42) (50) (10)

1

(10) (50) EL
가 , EL
EL EL EL

EL 가 , 2 , TFT EL
가 , TFT EL

TFT EL (40)
(40) TFT EL , TFT EL

) TFT EL (38) 가 , 5 (38)
(46) (44) (10) (44)

[2]

2 6 7 1 5
1

6 , 7

가 가 (15) (100) (150)
가 가 가 가

(TFT) 6 EL (EL)가 (70) , (70)
가 (80)

(70) 13

, 7 (10) (12) (12) (14)
 (14) (14) (20) (16) (18) (18) (18)
 (18), (14) (20) (22) (22) TFT가 (10)
 TFT가 (20) (10) (24) (24)
 (22) (30) (32)
 34 (30) (32) (24) (34) (56) (72)
 (54) (52) EL (60) (58) (30) (72)
 (10) (86) (82),
 (84) (88)가
 2a (70) (80) 7 (30) (72) (7
 () (74) (82) (82a)가 (62) (18)
 () (74a) (84) ()가 ()
 (70) (80) 1
 ()가 EL
 (80)
 EL
 2
 가 (80) (88) (82)
 (84) , 8
 ROM IC (80) (80) COG
 가 (80) (82) (84)
 가 (80)
 , 9 (80) (82) (84) (70)
 가 (70)
 [3]
 1 3 10 1 9
 2
 10
 2 (70) (90)

, 10 (10) (12) (12) (14)
 (14) (14) (16) (18) (18) (18)
 (18), (14) (20) (20) (22) TFT가 (10)
 TFT가 (10) (24) (24)
 (20) (24) (30) (32)
 34) (30) (32) (24) (34) (()
 (54) EL (32) (60) (58) (56) ,
 (70) (92) IC (94)가 (92) (70)
 (72a) (70) (90) 7 (30) (72)
 (70) (92) (62)
 , (70) (90) 1 EL
 (90))가 ,
 (90) 가
 , 2 EL
 , (70) (92) (94) (92) (94)
 []
 , 1 EL [(80)] 2
 (80) [(80)] EL 가
 , , ,
 11 2 1 (64) 2 (66) (68)
 12 (64) 2 (66) (68)
 , 12 (68) (76) 가 (68)
 , ,
 , 2 MIM(- -)
 , EL
 , EL
 (1) 가 1 ,

- 1 가 2 가
- (2) 1 , ,
- (3) 1 , ,
- 1 , ,
- 가
- (4) 3 , ,
- 1 , ,
- 가
- (5) 3 , ,
- (6) 3 4 , ,
- 2 , ,
- (7) 1 6 , ,
- EL , ,
- (8) 1 7 , ,
- 1 2 1 2 , ,
- (9) 1 8 , ,
- 1 2 , ,
- (10) 1 9 , ,
- 1 , ,
- (11) 1 , ,
- 2 , ,
- 1 2 1 2 , ,
- (12) 1 , ,
- 2 , ,

5.

1

2

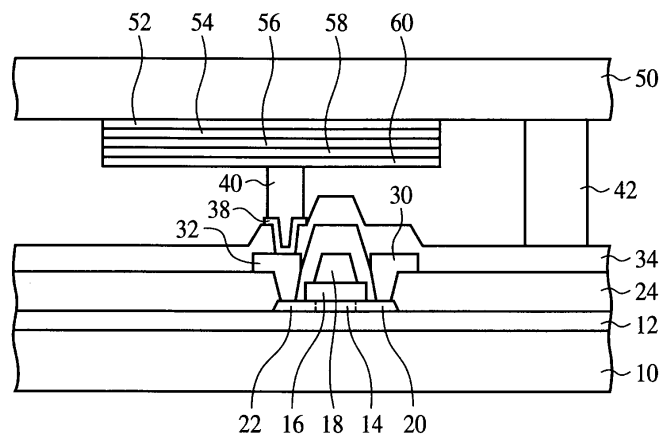
1

2

1

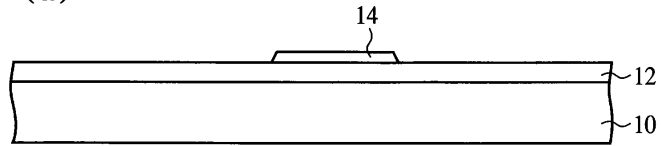
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1

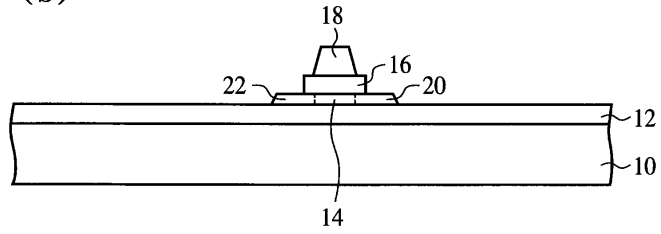


2

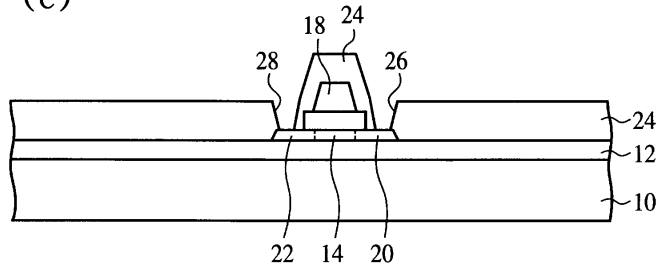
(a)



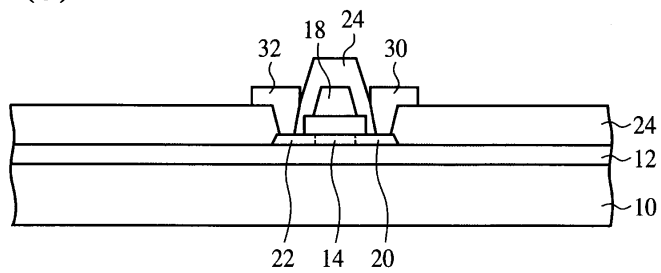
(b)



(c)

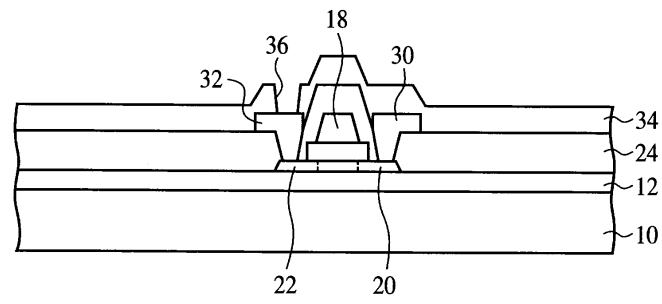


(d)

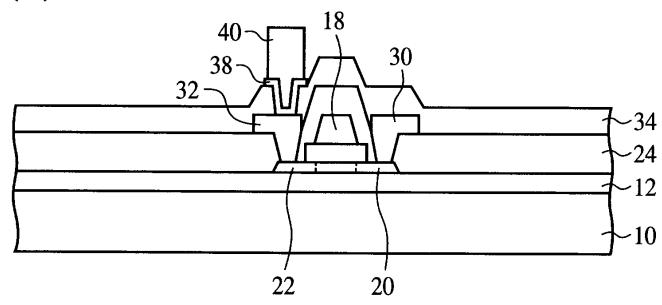


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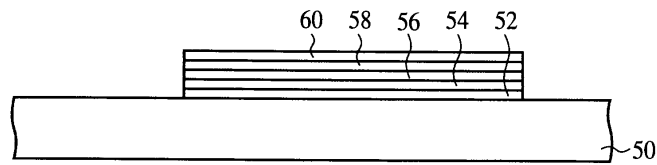
(a)



(b)

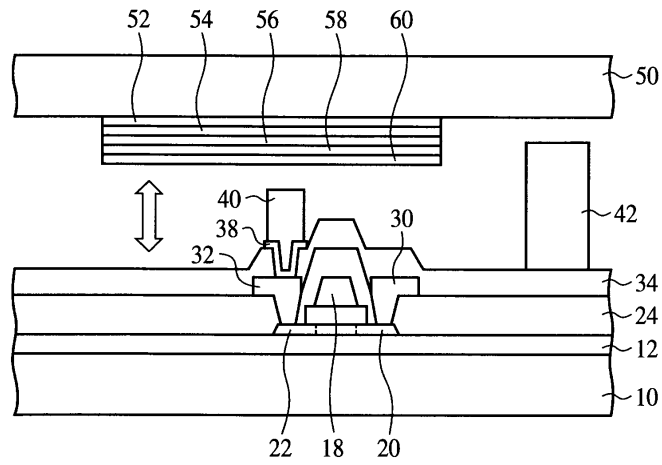


(c)

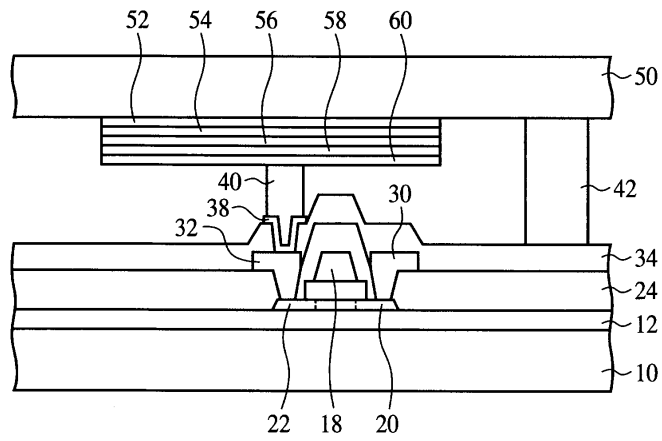


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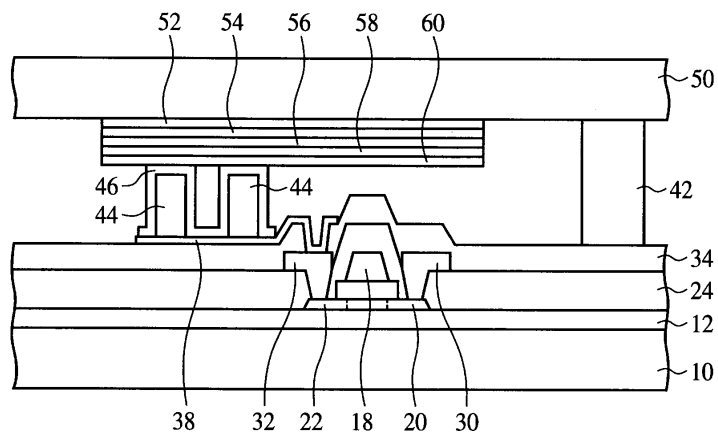
(a)



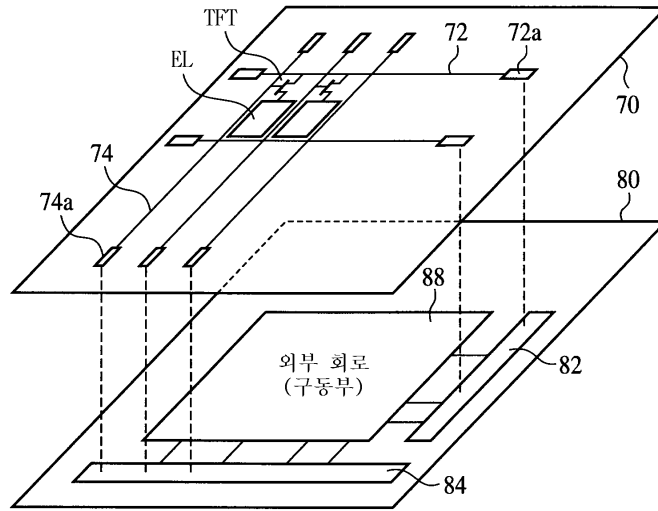
(b)



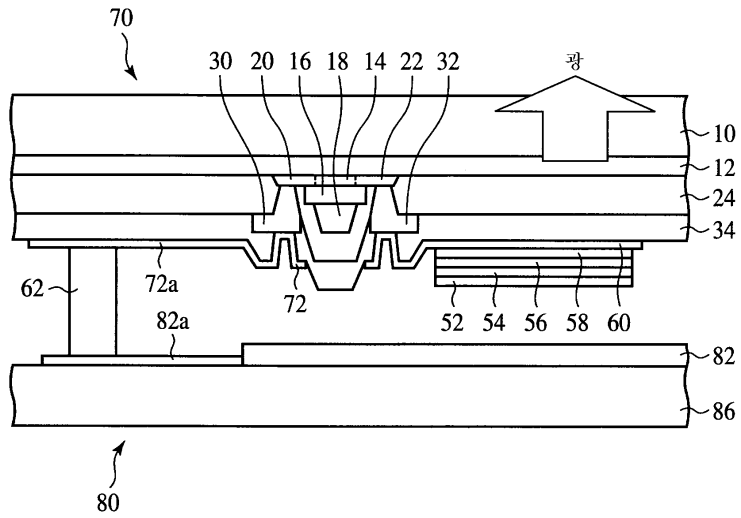
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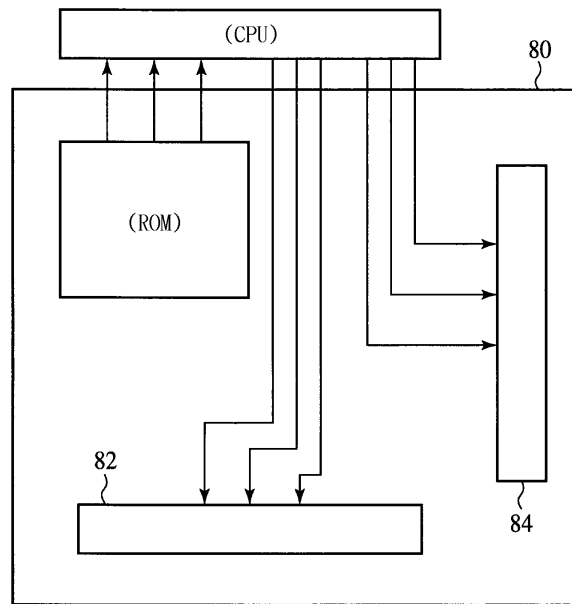
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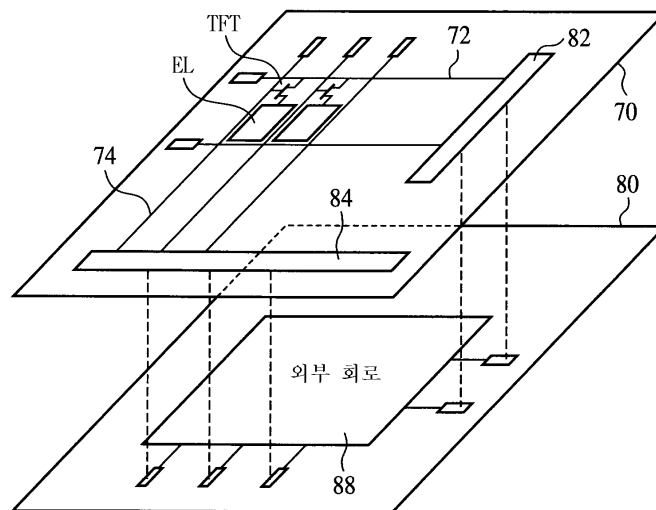
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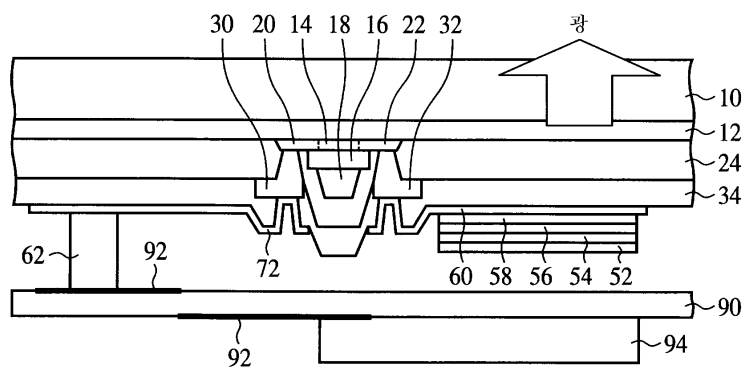
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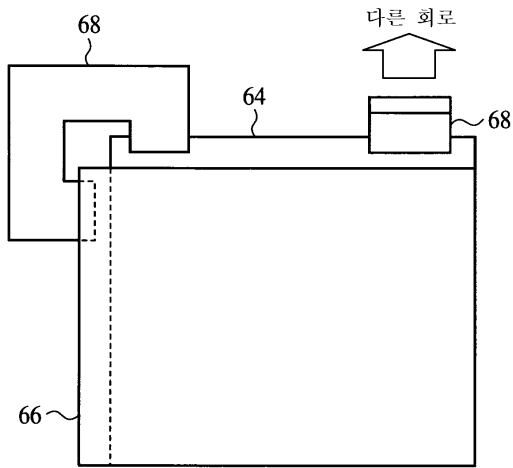
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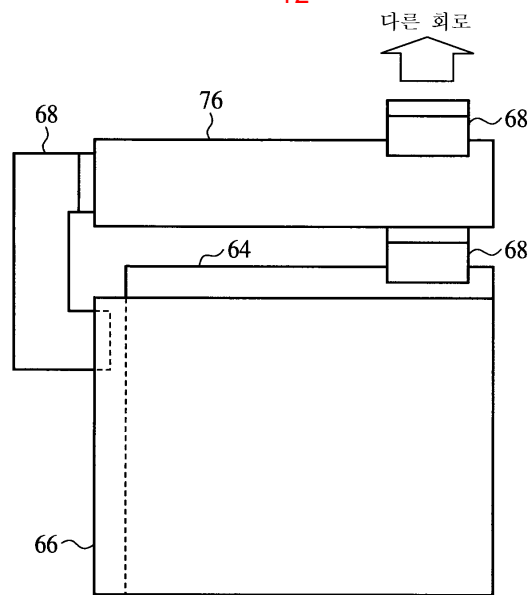
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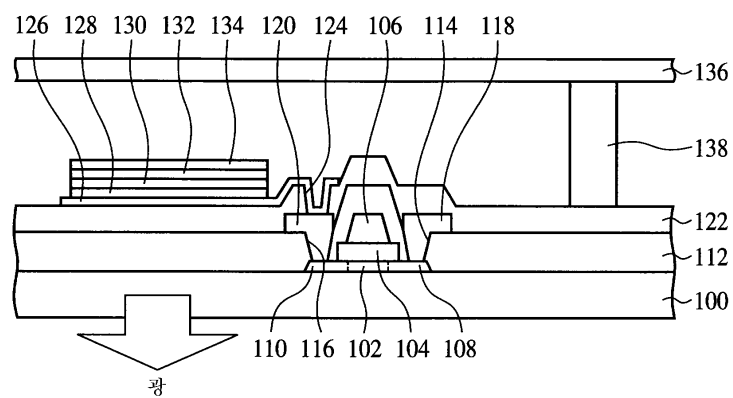
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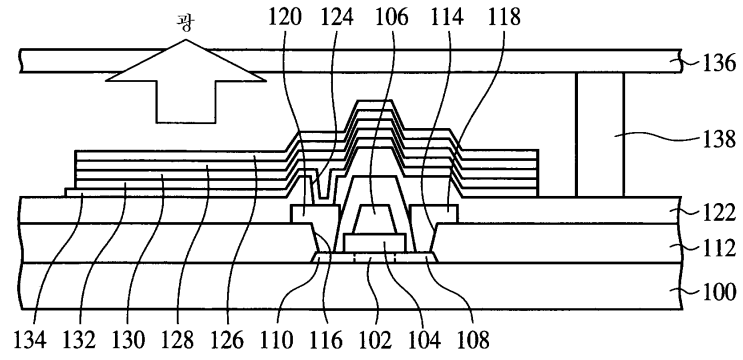
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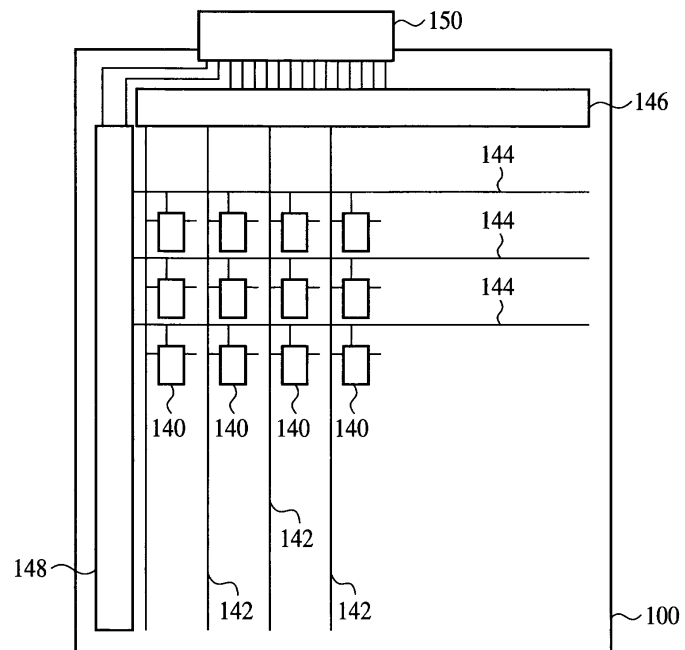
13



14



15



专利名称(译)	显示装置及其制造方法		
公开(公告)号	KR1020040086607A	公开(公告)日	2004-10-11
申请号	KR1020040021384	申请日	2004-03-30
[标]申请(专利权)人(译)	夏普株式会社		
申请(专利权)人(译)	夏普株式会社		
[标]发明人	OKAZAKI SUSUMU 오까자끼스스무 WATANABE TAKUYA 와따나베다꾸야 HOSHINO ATUYUKI 호시노아쯔유키		
发明人	오까자끼스스무 와따나베다꾸야 호시노아쯔유키		
IPC分类号	H05B33/04 H05B33/10 G09F9/30 G09G3/10 H01L27/32 H01L51/50 H05B33/14		
CPC分类号	H01L27/3253		
代理人(译)	Jangsugil Juseongmin		
优先权	2003093643 2003-03-31 JP		
其他公开文献	KR100737103B1		
外部链接	Espacenet		

摘要(译)

本发明涉及一种使用EL元件等的自发光显示装置及其制造方法，并提供一种能够简化制造工艺并具有高开口率和亮度的高性能显示装置及其制造方法。具有在其一侧上形成的多个发光元件的基板(10)和用于密封在基板(50)的一侧上形成的多个发光元件的电路它包括一个。因此，可以在光滑表面上形成发光元件，并且可以防止发光元件的发光特性劣化。此外，可以改善显示装置的孔径比并增加亮度。1 指数方面 发光元件，EL元件，自发光元件，显示元件

