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(43)2002 - 0073238
2002 09 23(21) 10 - 2001 - 0059245
(22) 2001 09 25

(30) JP - P - 2001 - 00072012 2001 03 14 (JP)

(71) 가 가
가 가 가 가 4 1 - 1(72) 가 2 - 650 가 가
가 2 - 650 가 가
가 2 - 650 가 가

(74)

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(54)

15) (115) (115) (113) , (113) , (113) , (156)

(154) (154) (156)

1	1	.
2	1	TFT 가 .
3 (a)	3 (b)	1 .
4 (a)	4 (b)	1 .
5 (a)	5 (b)	1 .
6 (a)	6 (b)	1 .
7 (a)	7 (b)	1 .
8 (a)	8 (b)	1 .
9 (a)	9 (b)	1 .
10	1	.
11 (a)	11 (c)	1 .
12 (a)	12 (b)	1 .
13	2	.
14	2	.
15 (a)	15 (d)	2 .
16	3	.
17	3	.
18 (a)	18 (c)	3 .
19 (a)	19 (b)	3 .
20	4	.

21	4	.
22	5	.
23	5	.
24 (a)	24 (d)	5
25	6	.
26 (a)	26 (c)	6
27 (a)	27 (b)	6
28		.
29 (a)	29 (d)	.
30 (a)	30 (d)	.

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101 :

103 :

105 :

107, 111, 112 :

109 :

113 :

115 :

117 :

119 :

121 : TFT

123 :

125 : a - Si

127 : SiN

129 : n+a - Si

131 :

132 :

135 :

136 :

143 :

150, 152 :

154 :

156, 158, 160 :

162 :

164 :

166 :

200 : TFT

202 : CF

206 :

208 :

210, 212 :

214 :

216 :

(repari)

F; Color Filter)

CF

2

(TFT; Thin Film Transistor)

TFT

(C

TFT , , (TFT가) . TFT . , , TFT CVD(Laser Chemical Vapor Deposition) (laser repair) . 28 30 (a) 30 (d) . 28 (515) . 28 (501) (503) . (501) (503) TFT(521)가 . (501) (503) TFT(521) (517) (501) 가 (503) (505) . (519) (505) (503) TFT(521) (503) . (515) (515) (515) (509) (513) (519) (509) (513) (507) (519) (513) (511) (509) . (515) (523) 1 (517) (501) (526) (515) (527) (527) (515) (529) CVD (513) (525) (515') 2 (515') (515)

29 (d) (515) 30 (a) 30 (d) 29 (a) 29 (d)
 30 (a) 30 (d) 28 A - A' (515)
 가 , 28 (527) (515) (515)
 가 , 28 (515) (523)가

, 29 (a) (531) (515) ,
 (515) (523) (515) ,
 (533) (a - Si) (535) (537) ,
 () () (537) [29
 (b)].

, 29 (c) , n+a - Si (539) (541) , 2
 9 (d) (541) n+a - Si (539) a - Si (535) ,
 (509)() , 30 (a) (509) (,
 全面) (543) , 30 (b) ,
 (513) .

, (517) (526) (501)
 , 30 (c) , (523) (513)
 (509) , (515) (527)
 , 30 (d) , CVD , (527)
 (529) (513) .

, (515)
 , 30 (d) , (529) (515)
 (513) , (517) (501) (,
 526) 가 , 가 (point defect) 가
 가 , 2 가
 (connecting point defect) 가 .

1 , 2

2

1 1 12 (a) 12 (b)
 (TFT; Thin Film Transistor) TFT (200) (CF; Color Filter) CF
 (202) 2

2 TFT (200) 가 TFT
 (200) (103) (101) (10) 3) (101) TFT(121) (101)
 (113) TFT(121) (113) (115)
 TFT(121) (103) (103) (101, 103, 115) →
 → → →

1 가 CF (202) TFT (200)
 (103) IC가 (206) , (101)
 IC가 (208)가 (206, 208) (216)
 (101) TFT (200) (103) (212)
 (212) TFT (200) (214) , CF (202) CF
 (212) (crossed Nicole) (210)

TFT(121) / (inverted stagg
 ered) , / (staggered type) (planar type)
 3 (a) 3 (b) TFT
 3 (a) 1 3 (b) 3 (a) B - B' TFT(121)

3 (a) , TFT(121), (103) (101) , TFT(121) (117) (101) , 가 (103) a - Si (p - Si) (136) , (105) .

119 (136) (105) (103) TFT(121) .

3 (b) , (103) (123) , (136) (103) (123) .

3 (a) 가 , (115) (143) (109) (119) (109) ITO(Indium Tin Oxide) (107) (119) (113) (143) (111) (109) .

TFT (逆) .

(b) , 4 (a) 4 (b) 9 (a) 9 (b) 1 3 (a) 3 (b) 4 (a) 4 (b) 9 (a) 9 (b) (a) 3 (a) 3 (b) B - B' TFT(121) , (b) 3 (a) 3 (b) C - C' .

4 (a) 4 (b) (131) , (Al) 150 nm (103) (115) [4 (a)] (b) [4 (b)] (SiN) 400 nm (123) 15 nm a - Si (125) CVD 120 nm SiN (127) CVD .

(103) (115) , (131) 2 (103) (103) (105) (115) SiN (127) (, TFT) (103) [5 (a) 5 (b) .

].

6 (a) 6 (b) 30 nm n+a - Si
(129) CVD (117), (119), (10
9) (101) 170 nm (132)[(Cr)]

7 (a) 7 (b) 3 (132), n+a - Si (129) a -
Si (125) (101)[7 (a) 7 (b)], (11
7), (119), (109) (136) (11
(105) (stopper) a - Si (125)

8 (a) 8 (b) SiN 300 nm (14
3) CVD (143) (119) (107) (119)
(109) (111)

9 (a) 9 (b) (131) (全面) , ITO
70 nm 5 (113) (113)
(107) (119) (111) (109)

10 12 (a) 12 (b)
(115, 115') 가 (115, 115')
(150, 152)가 (115)
(113) (109) [10 (109)
(101)] , (115) (154)
(113) CVD (156) (156)
(113) (101) (103)
(156) (115)
가 (115') 가 .2 (152)

11 (a) 11 (c) 12 (a) 12 (b) 10 D - D' ()
115) 가
(b) 7 (a) 7 (b) (115), 4 (a) 4
109) (101) [11 (a)] . 11 (b) (S
iN 300 nm (143) CVD 11 (c)
, 70 nm ITO (113) (143)

, (115), (113) 12 (a), (109)
 (115) (154)
 (154)

, 12 (b), (113), (109)
 (156) (154) (156) CVD
 (113) (101) (103)
 (156) (115)
 가

(115, 115') (1
 56) (113, 113') (115, 115') (113, 113')
 (117) 가
 (115)
 (115') 2

2 13 15
 13 3 (a)
 13
 (113) (109) (166)
 (113, 113') 2 (109) 2
 (111, 112) 2 (113, 113')

, 13 1 (115) (150)
 (115') 2 (152)

14 15 (a) 15 (d)
 14 3 (a)
 (115, 115')
 (150, 152)가 (150) (115, 115') (1
 15) (113) (109) [14
 (109) (101)] (115)
 (154) (113) (166) (15)
 6) CVD (166) (156)
 (156) (115) 가
 (115') 가 2 (152)

Figure 15 shows the XRD patterns of the samples. The patterns are indexed to the hexagonal phase of ZnO. The (002) peak is the most intense, indicating a high degree of c-axis orientation. The inset shows the magnified view of the (002) peak, which is fitted with a Gaussian function. The peak position is approximately 34.4° 2θ, corresponding to the (002) plane of ZnO.

Figure 1. Schematic diagram of the experimental setup for the growth of W_{1-x}Mo_x thin films by CVD. The setup includes a YAG laser (355 nm) and a tungsten filament (15 (d)) in a reactor tube. The reactor tube is heated by a furnace (15 (a)) and contains a gas mixture of [W(CO)₆, Cr(CO)₆] (15 (b)) and Ar (15 (c)). The growth temperature is 1000 °C (15 (d)). The growth rate is 3.0 μm/sec (15 (e)). The growth time is 1 h (15 (f)). The growth pressure is 100 Torr (15 (g)). The growth rate is 100 μm/min (15 (h)). The growth pressure is 100 Torr (15 (i)). The growth rate is 100 μm/min (15 (j)). The growth pressure is 100 Torr (15 (k)). The growth rate is 100 μm/min (15 (l)). The growth pressure is 100 Torr (15 (m)). The growth rate is 100 μm/min (15 (n)). The growth pressure is 100 Torr (15 (o)). The growth rate is 100 μm/min (15 (p)). The growth pressure is 100 Torr (15 (q)). The growth rate is 100 μm/min (15 (r)). The growth pressure is 100 Torr (15 (s)). The growth rate is 100 μm/min (15 (t)). The growth pressure is 100 Torr (15 (u)). The growth rate is 100 μm/min (15 (v)). The growth pressure is 100 Torr (15 (w)). The growth rate is 100 μm/min (15 (x)). The growth pressure is 100 Torr (15 (y)). The growth rate is 100 μm/min (15 (z)).

56) (113, 113') (115, 115') (115, 115') (113, 113') (1
 (117) (101) 가
 (115)
 (115') 2
 가 CVD

3 16 19 (a)
 19 (b) 16 3
 (a)
 16 (113) (113)
 (158) (158) (113)
 (113) (158) (115)
 115') (158) (113)
 (103) (101) (103)

17 19 (a) 19 (b)
 3 (a)
 (115, 115') 가 (115, 115')
 (150, 152)가 17 (150)
 (115) (113) (109)
 (17 (109))
 (154) CVD (115)
 (156) (158) (154) (158)
 (156) (158) (113)
 (115, 115') 가 2
 (152) (115')

9 (b) 18 (a) 18 (c) 19 (a) 1
 7 F - F' 18 (a) 18 (c), 19 (a) 19 (b) 1
 (115)
 가 9 (b)
 4 (a) 4 (b) 7 (a) 7 (b)
 (115), (109) (101) [18
 (a)]. 18 (b) SiN 300 nm (143)
 CVD 18 (c) 70 nm ITO
 (113) (158) (143)

, (115), (113), 19 (a), (109), (115), (154), (154).

, 19 (b), (113), (158), (156), (109), (154), (158), (156), CVD, (156), (115), 가 (158).

56) (113), (115, 115'), (113), (115, 115'), (113), (117), (101), 가, (115), (115'), 2, (113), (158), CVD, (156), 가, (158), (113), (113), 가.

, 20, 21, 4, 20, 21, 3 (a), (115, 115'), 가, (115, 115'), (150, 152)가, 20, (150)가, (113), (160), 21, (115), (109), (113), (109), [21, (154), (156), (156), (154), (160), (160), (113), (115), (160), 가.

2, (152), (115'), (152), 가, 2, (113), (115'), (160', 160''), 21, (109), (113), (154), CVD, (156), (154), (160'), (160''), (154), (160''), (160).

(113) , (115) 가 ,

56) (113) (115, 115') (113) (1) (115, 115') (113) (117) (101) 가 , (115) (115') 2 (113) CVD (160) (113) (156) 가 , (113) 가 .

24 (d) 5 , 22, 23 24 (a) 22 23 3 (a) (115, 115') 가 (115, 115') (150, 152)가 22 (150)가 (109) (113) (166) (113, 113') 2 (166) (113) (109) (115) (113, 113') 23 (109) [23 (109) (101)] , (115) (154) (154) .

(113, 113') (154) (156) (166) (156) CVD (156) (115) 가 (162) (162) CVD (113') (156) (156) (115') 가 . 2 (152)

24 (a) 24 (d) 23 G - G' 24 (a) 24 (d) (115) 가 , 9 (b) 4 (a) 4 (b) 7 (a) 7 (b) (109) (101) [24 (a)] . 24 (b) , 70 SiN 300 nm (143) CVD (143) nm ITO , (113) (143) .

6) (150)가 (113) (166) (113) (109) (16)
 (113) (115) (113, 113') 2 (109)
 (113, 113') (154)[24 (a)
 24 (d)] (115) 24 (d) (113, 1
 13') (113) (109) (156)
 (115) (156) CVD (162)
 (113, 113')
 (162) CVD

56) (115, 115') (113, 113') (115, 115') (113, 113') (1
 (113, 113') (117) (101) 가
 (115) (115') 2
 (113, 113') (162)
 가

(b) 6 25 27 (a) 27
 3 (a) 25
 (115, 115') 가 (1
 15, 115') (150, 152)가 25 (150)가
 (109) (113) (164)
 (164) CVD

(115) [25 (115) (113) (109)
 (154) (101)] (154)

(113) (164) (156)
 (154) (115)
 (156) CVD (156)
 (115) 가 2 (152)
 (115') 가

26 (a) 26 (c) 25 H - H' (115)
 가

. , 9 (b)
 4 (b) 7 (a) 7 (b) 4 (a)
 (109) (101) [26 (a)] (115),
 SiN 300 nm (143) CVD , 26 (b) ,
 c) 70 nm ITO (113) 26 (143)
 , 27 (a)
 (150)가 (113) ,
 (164) (164) CVD
 , 27 (b) (115)
 (113) (109) (115)
 (154) (154)
 (113) (164) (156)
 (115) (156) CVD
 (156) (115) 가
 (115, 115') (1
 56) (113) (115, 115') (113)
 (117) (101) 가 ,
 (115)
 (115') 2
 가 가
 3 (158) (103)
 58) (103) 1 (1
 (158) , 1 (115)
 (1)

, 2 ,

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(2)

1 ,
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(3)

1 2 , ,
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(4)

1 3 ,
.

(5)

1 4 , ,
2 ,
2 .

(6)

5 , , 2
.

(7)

5 6 , CVD
.

(8)

1 7 , 2 ,
2
.

(9)

- 8 , CVD
- (10)
- 1 9 , CVD
- (11)
- 2
- (12)
- 11 ,
- (13)
- 11 12 , 2 , 2
- (14)
- 14
- (15)
- 14 15 ,

(57)

1.

1 ;

2

2.

1 ,
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3.

1 2 ,
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4.

1 3 ,
.

5.

1 4 ,
2 , 2
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6.

5 , 2
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7.

1 6 , 2 ,

, 2

8.

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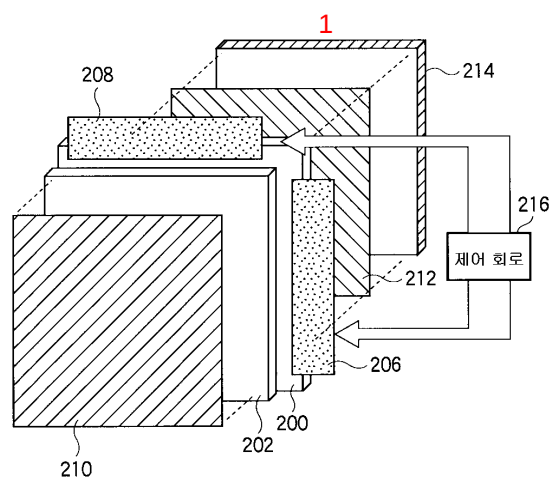
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9.

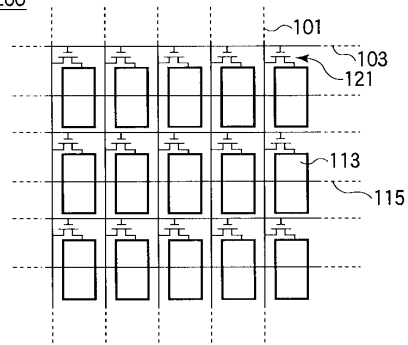
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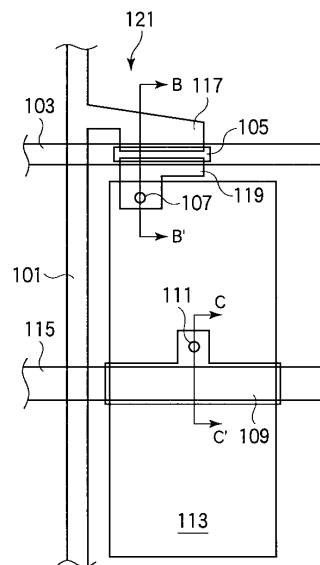
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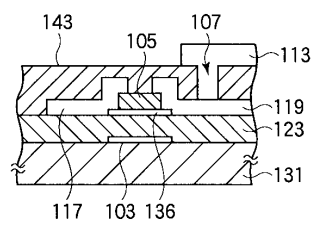


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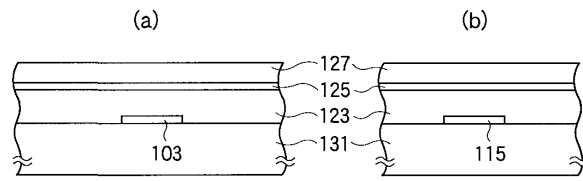
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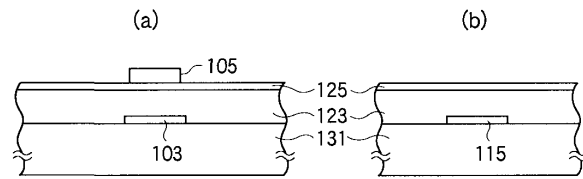
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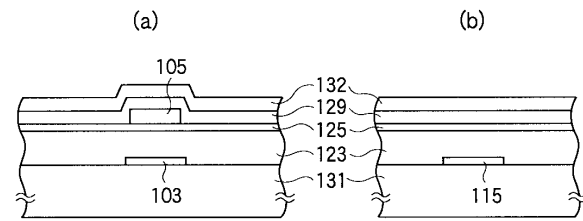
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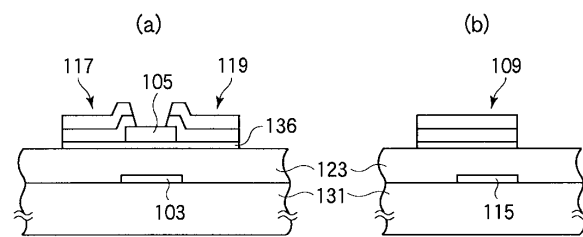
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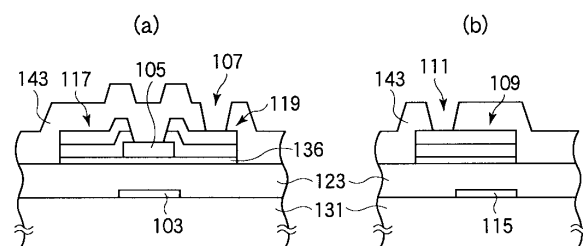
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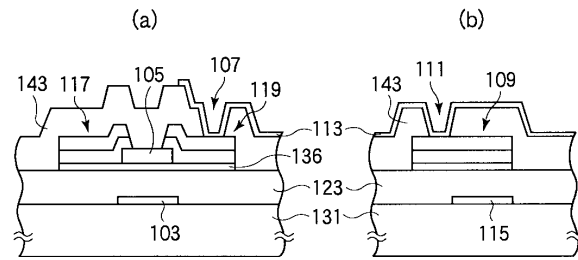
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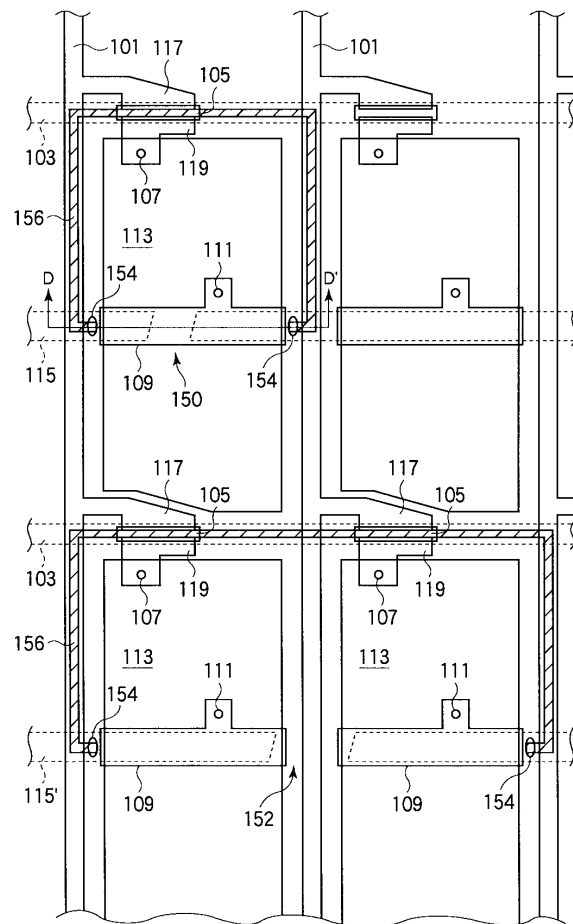
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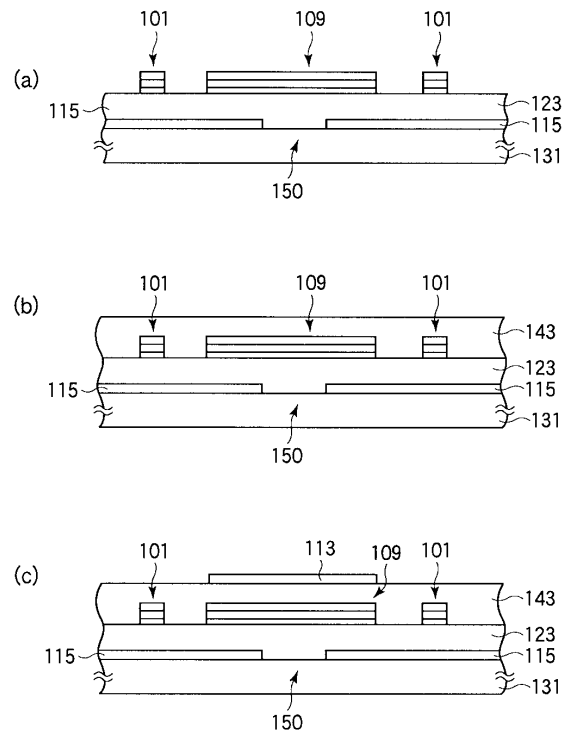
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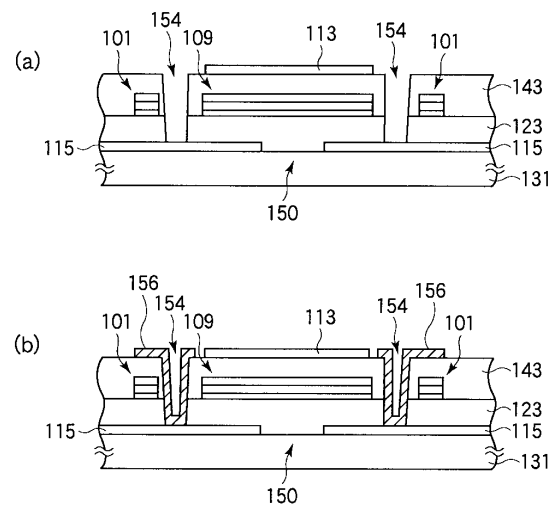
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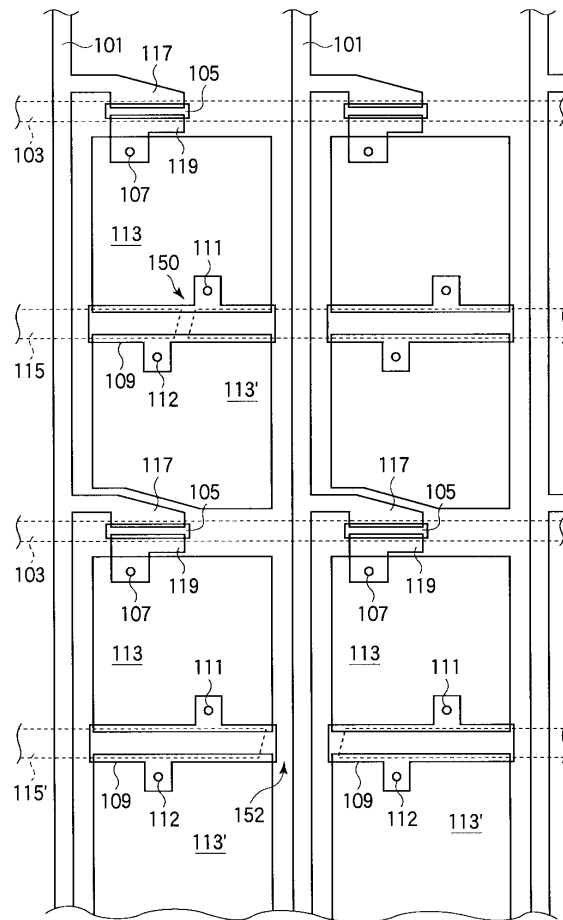
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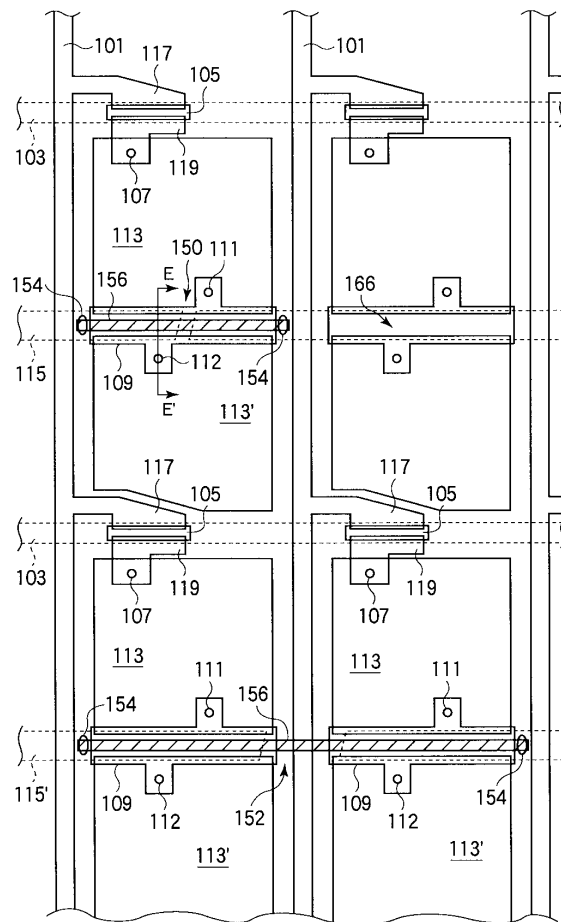
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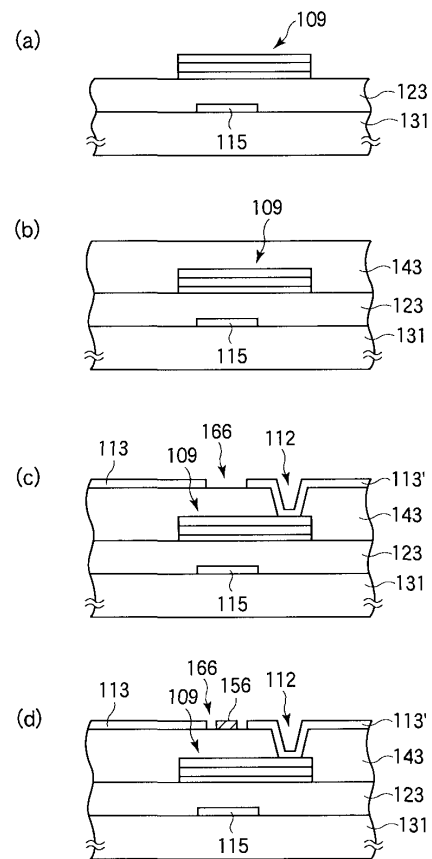
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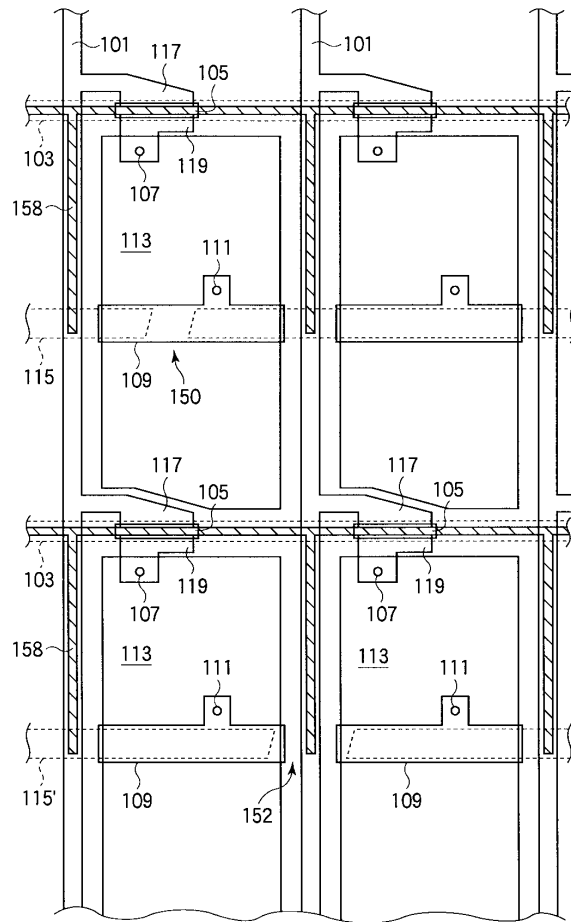
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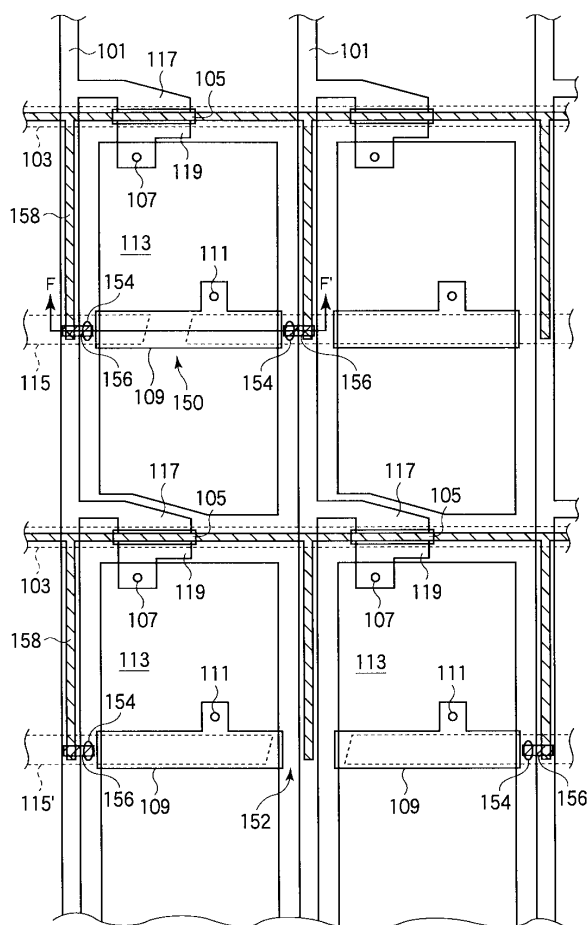
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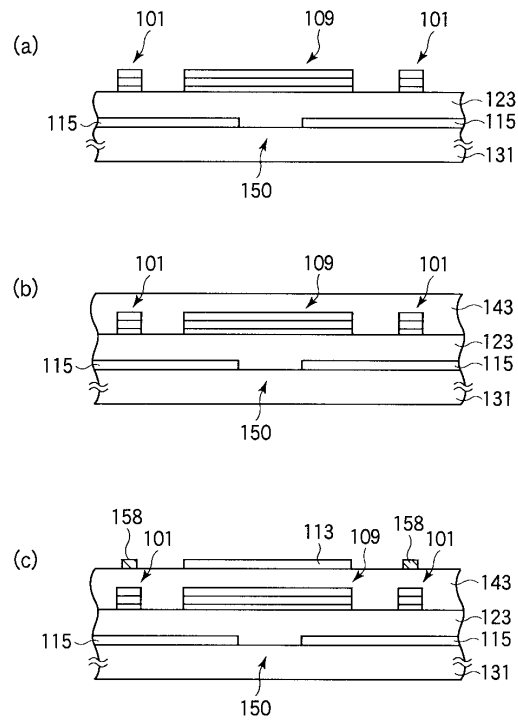
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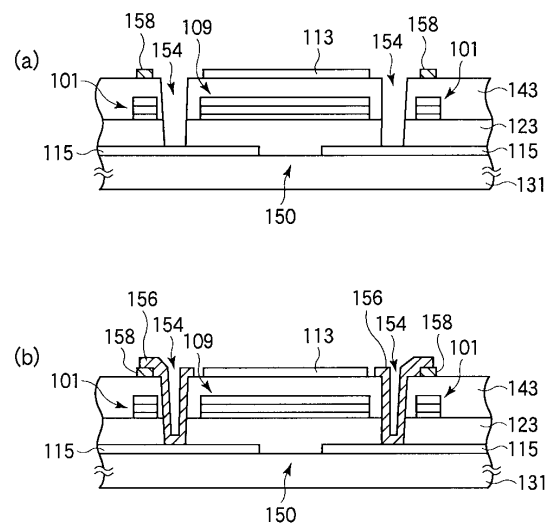
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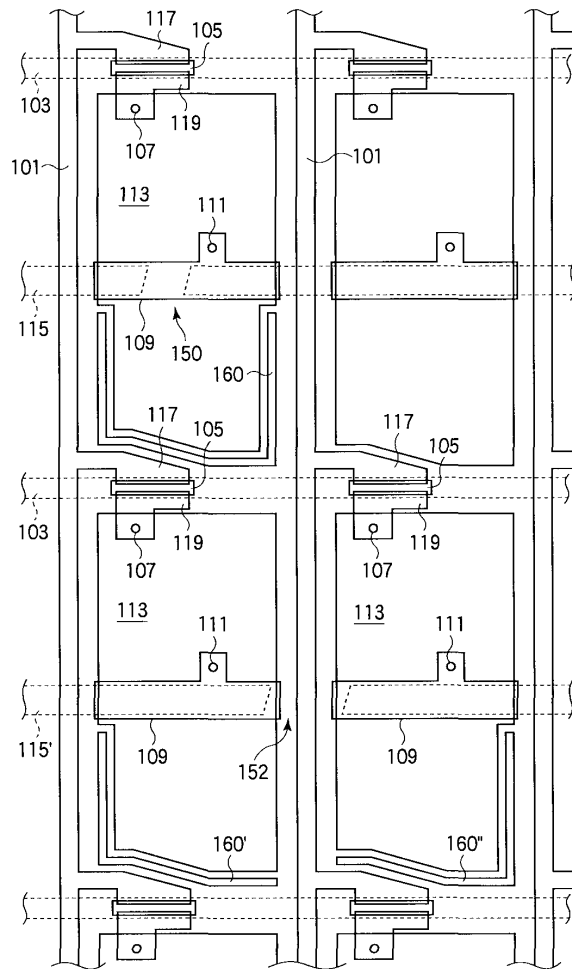
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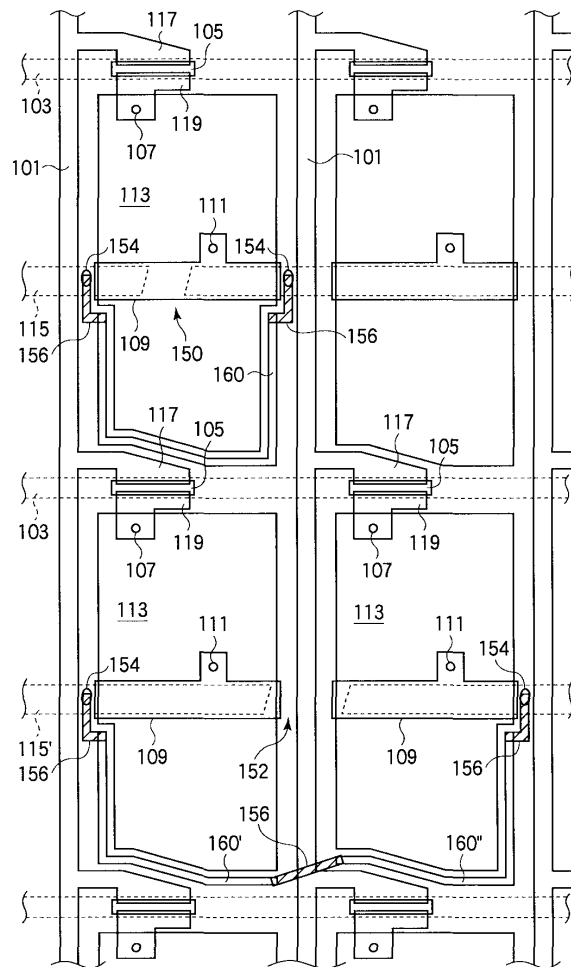
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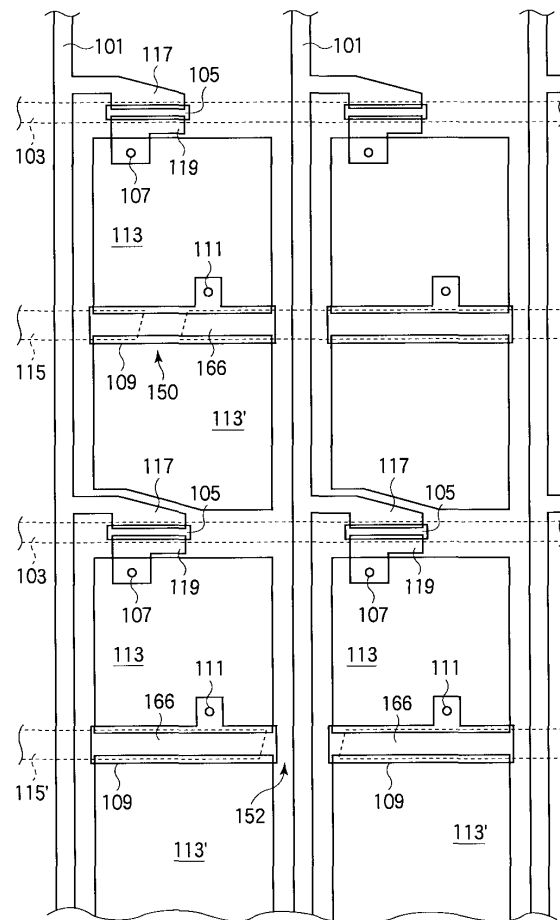
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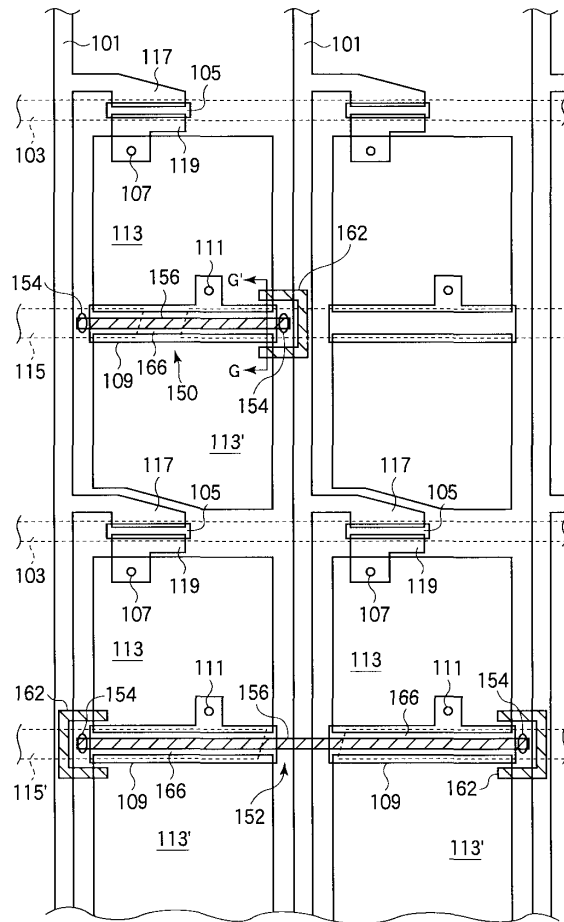
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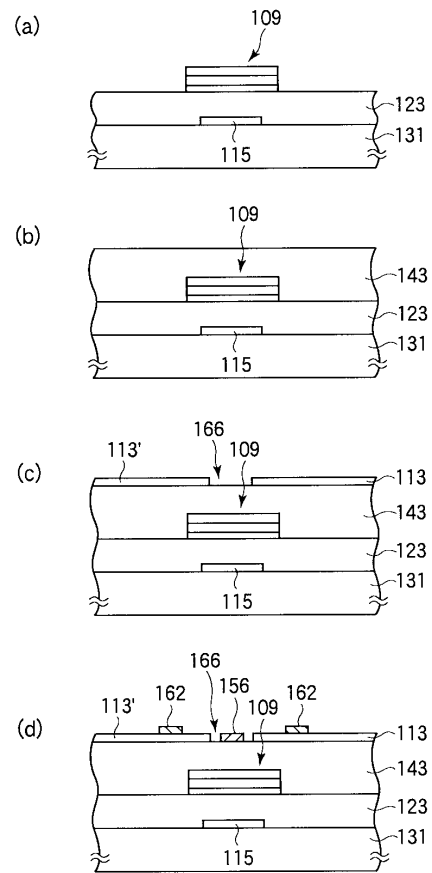
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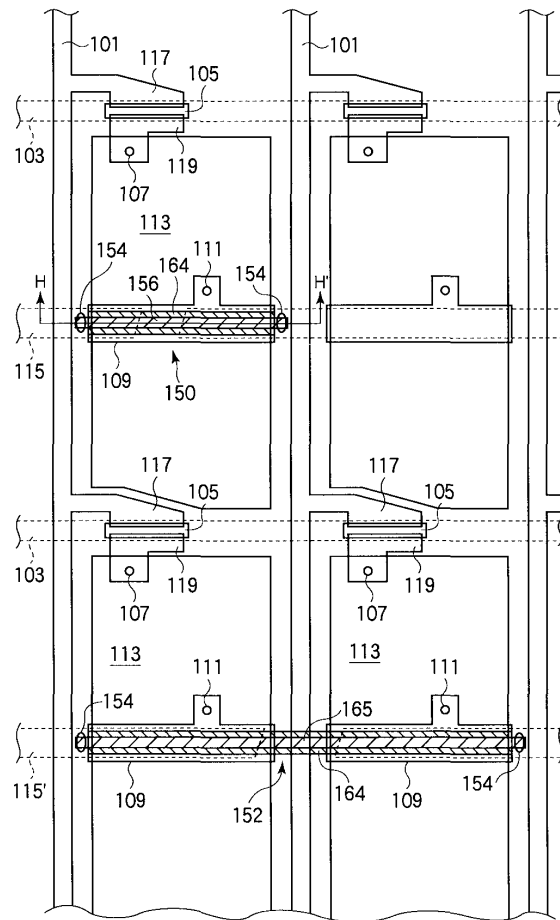
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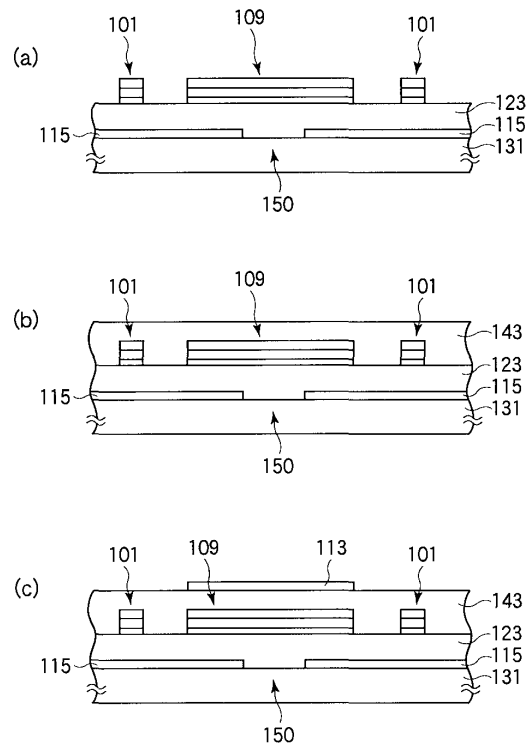
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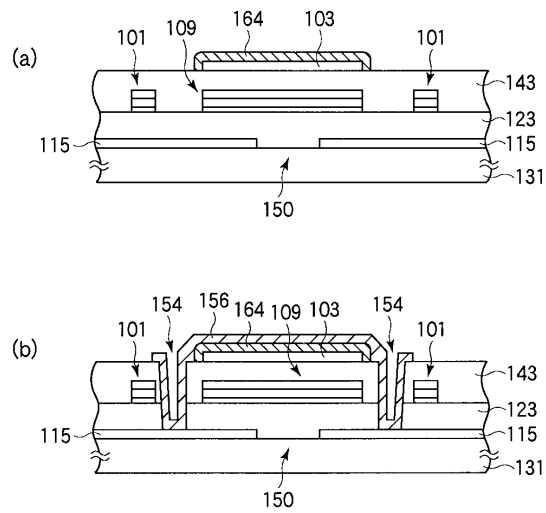
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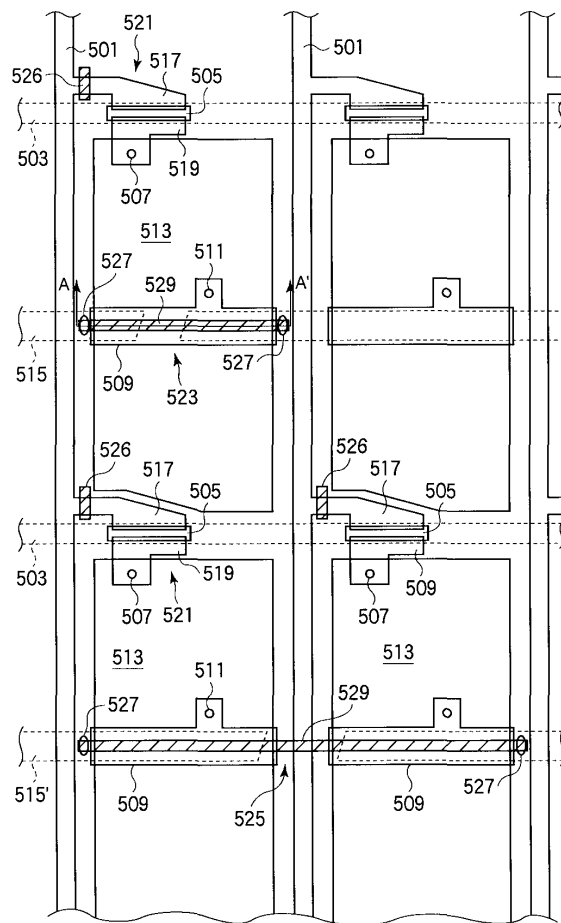
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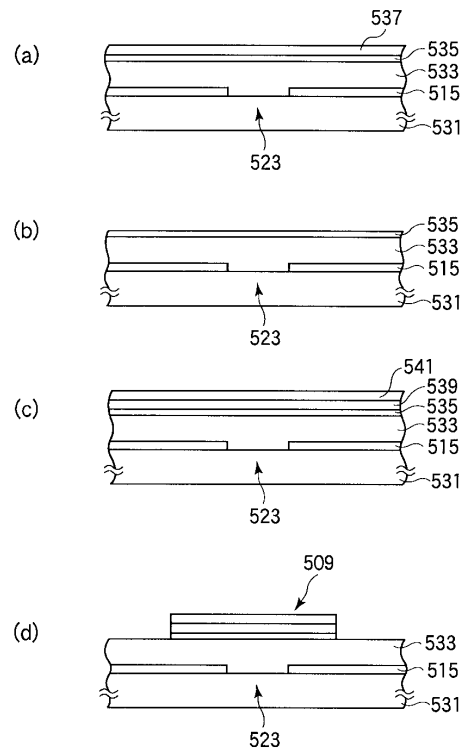
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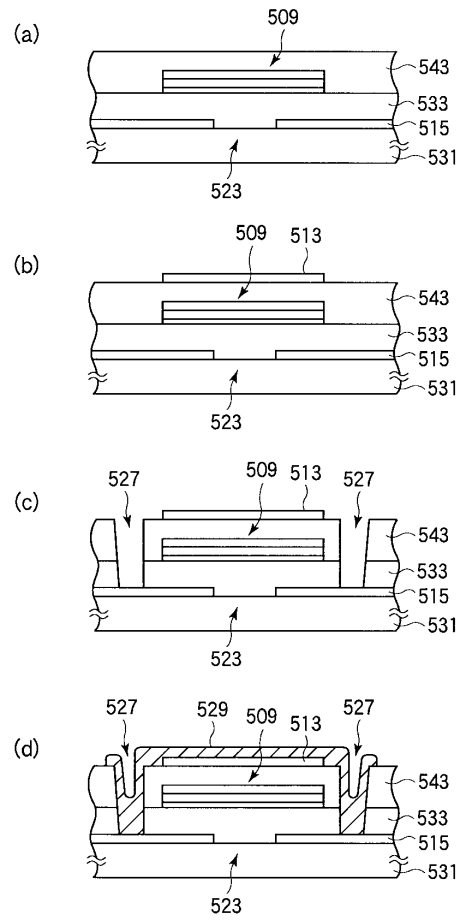
28



29



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专利名称(译)	液晶显示器及修复缺陷的方法		
公开(公告)号	KR1020020073238A	公开(公告)日	2002-09-23
申请号	KR1020010059245	申请日	2001-09-25
[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		
当前申请(专利权)人(译)	夏普株式会社		
[标]发明人	OZAKI KIYOSHI 오자키기요시 KAMADA TSUYOSHI 가마다츠요시 TSUKAO KOUJI 츠키오고우지		
发明人	오자키기요시 가마다츠요시 츠키오고우지		
IPC分类号	G02F1/1368 G02F1/1362 G09F9/30 H01L21/3205 G02F1/13 G09F9/00 H01L23/52 G02F1/133		
CPC分类号	G02F1/136259 G02F1/136213 G02F2001/136263		
代理人(译)	金泰HONG SHIN JUNG KUN		
优先权	2001072012 2001-03-14 JP		
其他公开文献	KR100757761B1		
外部链接	Espacenet		

摘要(译)

本发明的一个目的是提供一种液晶显示器件及其缺陷恢复方法，能够恢复存储电容器总线中出现的单线缺陷而不会引起新的点缺陷。一种用于修复形成在玻璃基板上的存储电容器总线（115）的线路缺陷的液晶显示装置的缺陷修复方法，包括以下步骤：形成用于使存储电容器总线115暴露在接触孔154中的接触恢复孔154的步骤和形成用于将存储电容器总线115连接到像素电极113的接触修复孔154的步骤，以及形成用于断裂修复的导电膜156的步骤，用于电连接导电膜156以修复断裂。 10 - 1 -

