

(19)
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(KR)
(A)

(51) 。 Int. Cl.⁷
G02F 1/1345

(11)
(43)

10-2004-0086926
2004 10 13

(21)

10-2003-0021117

(22)

2003 04 03

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(72)

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203 903

(74)

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(54)

가

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, .

6

1 가 .

2 1 ' - " , ' - " .

3a 3d 2 .

4 가 .

5	4	.		
6	4	' - ", ' - "	.	
7a	7b		1	
8a	8c		1	
9a	9b		2	
10a	10f		2	
11a	11b			
12a	12b			
13			1	
14			2	
15a	15b	13	14	IC
16a	16b		1	
17a	17b	가		IC
18a	18b		2	

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2, 102 : 4, 104 :
6, 106 : 8, 108 :
10 : 12, 112 :
13, 27, 33, 39 : 14, 114 :
16, 116 : 18, 118 :
20, 120 : 22, 122 :
24, 124 : 26 :
28 : 30, 130 :
32 : 34 :
36, 136 : 38 :

40 : 42, 142 : 1

44, 144 : 2 45, 145 :

46, 146 : 48, 148 :

50, 150 : 52, 152 :

147 : 149 : n+

154 : 1 / 156 : 2 /

127, 133, 139 : 160 : 2

162 : 164 :

166 : 168 :

가

TN(Twisted Nemastic)
가 90 가

(In Plane Switch; , IPS)
160 가 ,

() , () ,

가

5

4

1 4
, 2 1 ' - " , - "

1 2 , (2) (4) , (6) , (45)
 (14) (18) , (18) ((16)
 16) (20) , (2) (24) , (4) (30) ,
 (16) (36) 가 .
 (2) (6) (8) (4) (6)
 (12) (14) (2) (4)
 (5) .
 (16) (5) (2)
 (16) .
 (6) (2) (4) 가 (14)
 4) (10) , (14) (6) (2) (8) , ((12)
 (8) (46) (12) (10) (12) (6)
 (48) (48) (4), (32) (22)
 (4), (10), (12),
 (32) (22) (50) .
 (14) (52) 1 (13) (6) (12)
 (5) , (14) (12) (2)
 1 (14A) , (16) 2 (14B) , 1 2 (14A, 14B)
 (18) (14C) .
 (18) (16) (5) (18) (5)
 (14) (14C) .
 , (6) 가 가 (14) (16)
 (18) 가 . , (14) (14C) (18)
 가 .
 (5)
 .
 50) (20) (16) , (16) (46), (48), ((21
) (22) , (22) (50) (14) 가
 가 (14) .
 (2) (24) () (24) (2)
 (26) (26) , (46) (52) 2 (27)
 (28) .
 (4) (30) () (30) (4)
 (32) (32) , (52) 3 (33)
 (34) .
 36) (16) (36) () ((38)
 (33) (16) (38) (46) (52)
 (40) .
 가 4 3a
 3d .
 3a , 1 (45) (2), (8),
 (26), (16), (18) (38) 1 .

(45) 1 (42) 2 (44)
 (2), 1 (8), (26),
 (16), (18) (38) 1 (44) (Cr) (Mo) 1
 (42) , 2
 3b , 1 (45) (46) 2 (4),
 (10), (46) (48) (50) (22) 2 ;
 (12), (32),
 (46), 1 2 (45) PECVD, (46)
 (SiOx) (SiNx) 1
 (Mo), 2 N P (Mo alloy)
 2
 2
 가 (4), (10), (10) (12), (22)
 1 2
 (50) (48)
 (Ashing) (50) (48)
) (10) (12)
 2
 3c , 2 (46) 3 1 5
 (13,21,27,33,39) (52)
 (46) PECVD (52)
 (52) 3 1 5
 (13, 21, 27, 33, 39) 1 (13) (52) (12) (52)
 2 (21) (52) 3 (27) (52)
 (46) (32) , 5 (26) (39) (52) (46) 가 1
 (38) (12), 2 (21), 4 (33) (12), (22), (32)
 (52) (46) 가 (acryl)
 , BCB PFCB
 3d , 4 (52) (14), (28),
 (34), (40) 3
 (52) 4
 (28), (34), (40) 3 (14), (14)
 1 (13) (12) , 2 (21) (22)

가

가

가

가

가

가

2

가

1

1

2

2

1 2

4 18b

4 가

4 IC(350,356) 가 (Flexible Printed Circuit ; IC(350,356) 'FPC')(354)

IC (356) (Chip On Glass ; 'COG')
(104) IC (356) (104)

(Printed Circuit Board ; 'PCB')(352)
FPC(354) FPC(354) COG (358)
(208) IC(356)
IC(356) IC(356)

IC (350) COG (102)
IC (350) (102)

, PCB(352)
FPC(354) FPC(354) COG (358)
(208) IC(350) IC
(350) IC(350)

IC(350)

FPC(354) PCB(352) IC(350,356)
6) , FPC(354) PCB(352) , FPC(354) COG (358)

, FPC(354) (282) ACF (

116)

IC(350,356) , (208) (

) FPC(354) COG (358)

(360) 5 6 (145) 가 (204)
(200) (202)가

(102) (104) , (145) (146)
(114) (118) , (106) , (118) (116)

(120), (102) (122) (116)
 130) , (116) (124) , (104) (

(105) (102) (104)

(116) (105) (102)

4) (106) (102) (104) 가 (11
 , (104) , (106) (102) (108)
 (106) (108) (114) (112) , (112)
 (148) (146)

, (148) (114), (130), (122)
 (148) (14), (112), (130), (122)
 (150)

(114) (106) (112) (122)
 (105) , (114) (112) (102)
 1 (114A) , 1 (114A) (114B)

(118) (116) (105) , (118) (105)
 (114) (114B)

, (106) 가 (114) (116)
 (118) 가 , (114) (114B) (118)
 가

(105)

(120) (116) , (116) (146), (148),
 (150) (114) 가 가 (122)

(102) (124) IC(350)
 (124) IC(350) (124) (102) (Ti)
 (252)

(116) (136) (116) () (116) (Ti) FPC(354)
 (136)

, 144) , (102), (108), (116), (118) 1 2 (142
 (Ti), (W)

(Al) , (Mo), (Cu)

, 1 (142) (124) (138)
 2 (144) 1 (142) , 2 (144)
 (124) (138) 2 (144)

(104) (104) (130) IC(356) (130)
 (104) (Ti), (W)

IC(356) (130) (252) .

(154, 156) (104), (112), (114) (122) 1 2
(Ti), (W)

(Al) , (Mo), (Cu) .

6) , 1 (154) 1 (154) (130) 2 (156) , 2 (130) 2 (15) (156)

7a 7b 4 5 가 1

7a 7b 1 (145) (102), (108),
1 (124), 8a (116), 8c (118), (136) 1 .

8a 1 (142) 2 (14)
(144) , 1 2
2, 144) (Ti), (W)
(Al) , (Mo), (Cu)

5) , 2 (144) 8b (14)
1 (300)가 (300) 1 (300) (304) , (304)
(P2) (302) , (304) 1 (300) (P1)
1 (300) (302)
(P2) (306) (306) (102), (10
8), 1 2 (142,144) 8c (118), (136) 1 .

9a 9b 가 2

1 (145) PECVD, (146)
(146) (SiOx) (SiNx)

9a 9b 2 (146) (148)
(150) ; (104), (112), (114), (13)
0), (122) 2 2 10a 10f

10a (146) PECVD, 1 (147),
2 (149), 1 2 / (154, 156) , 2 (149) N P , 1
(147) . 1 2 / (154, 156) / (Ti),
(W) , /
(Al) , (Mo), (Cu) .

2 , 2 / (156) 10b (162) , (1
(162) (160)가 (145) 2 (160) (162) (P3)
66)() , (162) (162) (P1) 2 (166)
(160) 2 (160) (164) .
(P2) (P3) (168) ,
8) (P3) 2 (h2) (168) (P2) 1 (h1) (16

(168) 1 2 / (154, 156)
 10c (122), (130) (104), 2 (104) (112),
 (114),
 , (168) 1 (147) 2 (149)
 10d (150) (148) / (P3) 2 (168) 가 가 (16)
 8) (O₂) (Ashing) (h1) (P2) 1 (P3),
 (168) (154, 156) (P3), 1
 2 / (154) (Ti) 2 / (156) (Mo) , 1
 / (154) (156) , 1
 / (Ti) , 1 / (154) (Mo) 2 / (156) (156)
 , 1 / (154) (104) (150) , (148) (168) (112)
 , 10e 2 (168)
 , 2 (152) (146) 10f 가 (152) (acryl) , BC
 B PFCB
 (136)가 (152) (124) (130)
 (152) ()
 11a 11b
 .
 11a 11b (124), (136) (130)가
 . 12a 12b
 1 2 (145) 가
 , (212) 12a (250)
 12) (124), (212) (130) , (136)가 (2)
 .
 , 12b (212)
 (146) (158) (124), (136) (130)가
 (124), (130) (136)
 가 , 가 (136) 13 14
 , 1 (142) (Ti) , 2 (144) (Mo)
 13 (124) (136) 1 (142)
 . 2 (144)
 , 1 (142) (Mo) , 2 (144) (Ti)
 14 (124) (136) 1 2 (142, 144)
 . (124) (136) 2
 (144)
 , 1 / (154) (Ti) , 2 / (156) (M)
 o) 13 (130) 1 / (154)
 . 2 / (156)

, 1 / (154) (Mo) , 2 / (156) (Ti)
14 (130) 1 2 / (154, 156)
(130) 2 / (1564)

, 15a 15b (145) (124,130) (260,286
) IC(350,356) IC(350) (262)
(260) (124) , IC(356) (284) (
268) (130) IC(350,356) (124)
(130)

IC(350) IC(356)가 (145) COG (358)
16a 16b 1 (252)가 1 (252)
(208) , IC(350) (124) , IC(356)
(130) (200) (145)
(208) IC(350) IC(356)

, (208) COG (358) 17a 17b TAB
FPC(354) , FPC(354) PCB(270) , FPC(354) COG
(288) , FPC(354) (282) (184) ACF(182)
(136) (116) FPC(354) P
CB(352) IC(350,356)

, COG (358) FPC(354) (145) FPC(354) 18a 18b
2 (372) 2 (372) COG (358) FPC(354)
FPC(354) (145)

, 가
, 가 2
, 가 COG
IC

, 가
, 2
, 가 2
가
, 가 COG
IC IC

, 가

(57)

1.

가 .

가

2.

1 ,

3.

1 ,

가 .

4.

1 ,

가 .

5.

4 ,

가

가

6.

1 ,

가

가 .

7.

6 ,

가

8.

7 ,

2

가

가 .

9.

1 ,

가

10.

9 ,

가 .

11.

9 ,

가 .

12.

1 ,

가

13.

12 ,

가 .

14.

12 ,

가 .

15.

9 12 ,

, , , , ,

가 .

16.

1 ,

19 22. , 가

22. 가

23. **24.** , 2
가 가 .

27.

25 ,

1 2

,

가

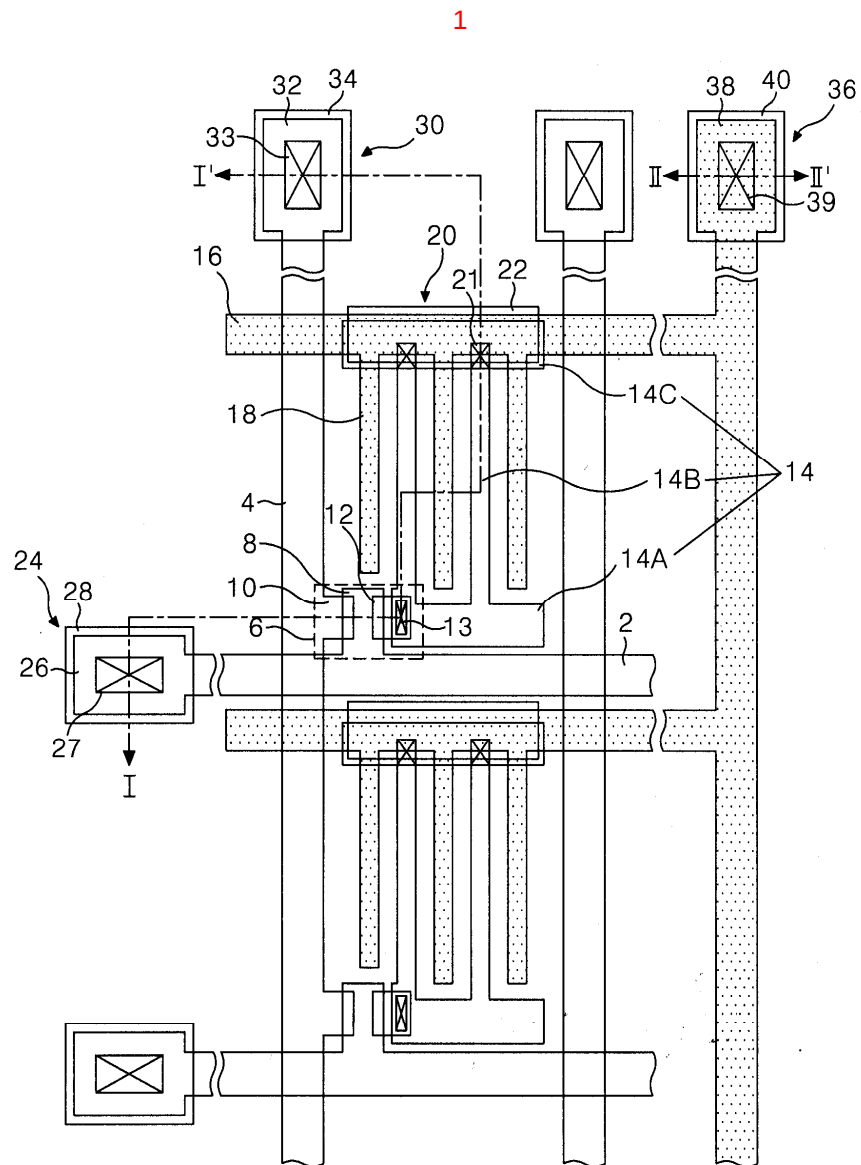
27 28. ,

가

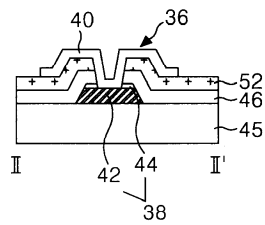
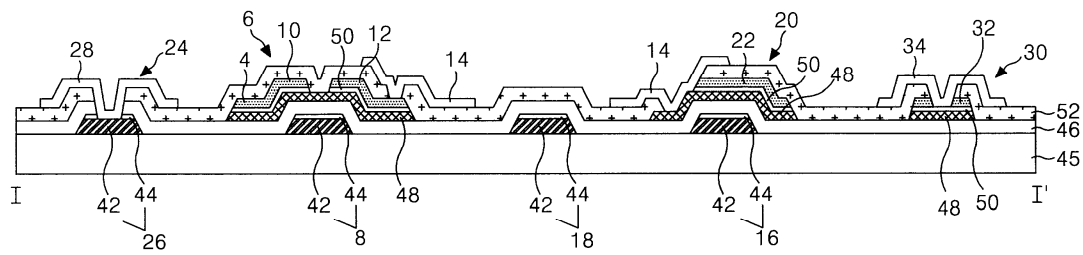
29.

27

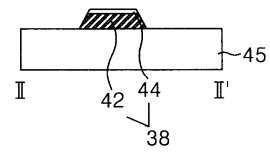
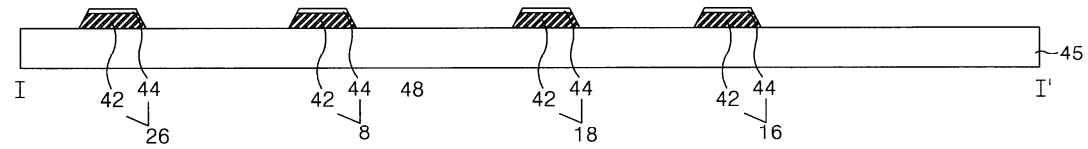
가



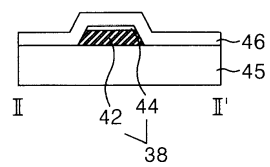
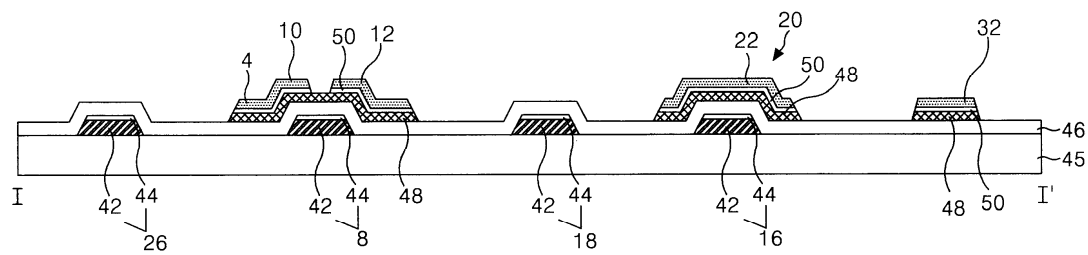
2



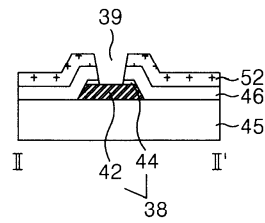
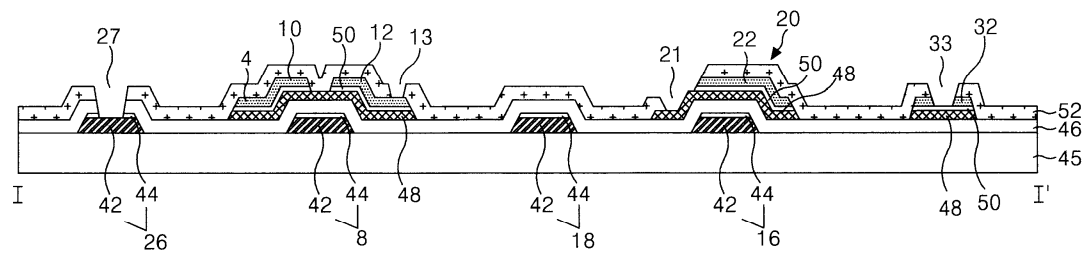
3a



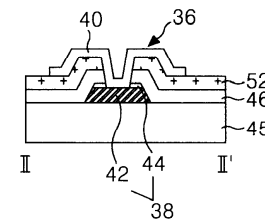
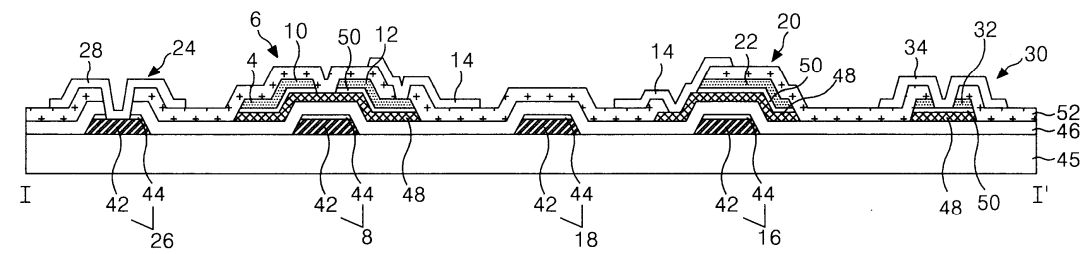
3b



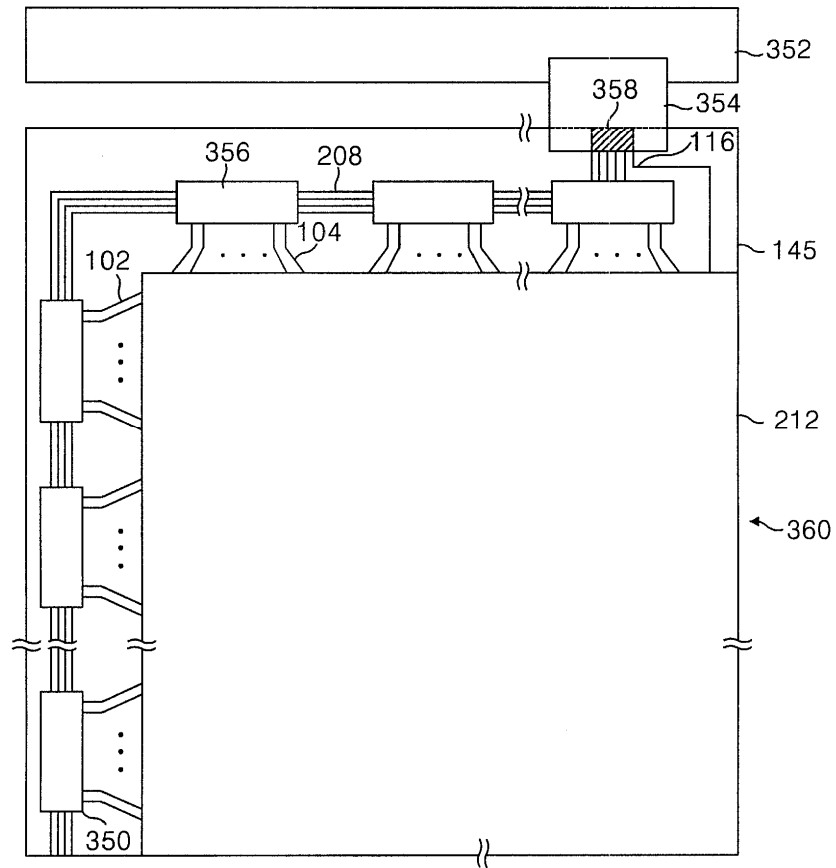
3c

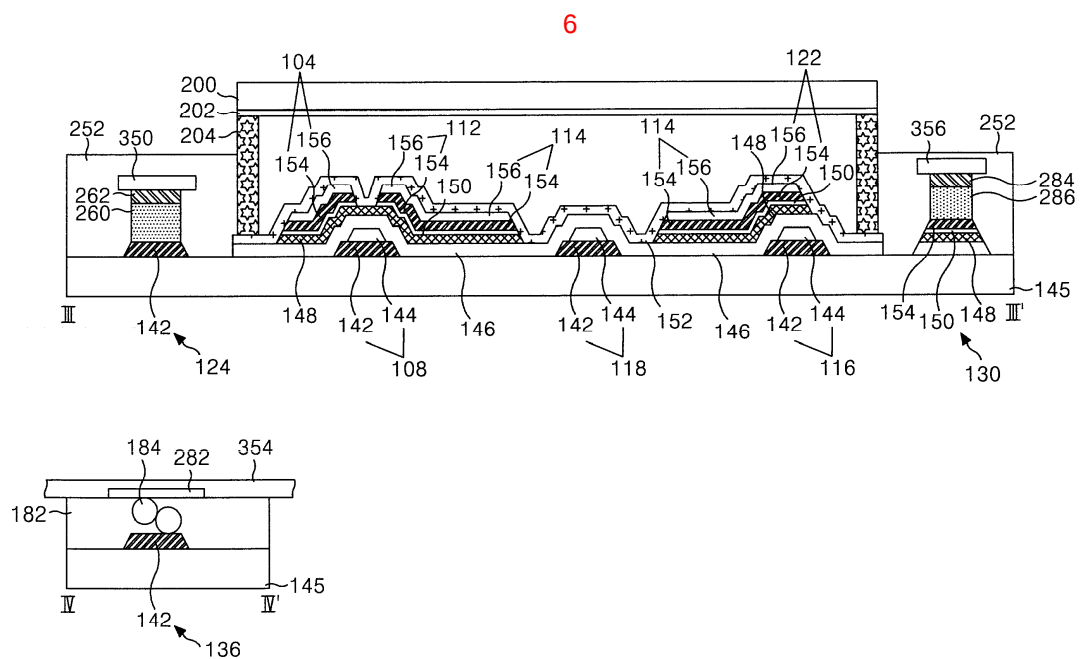
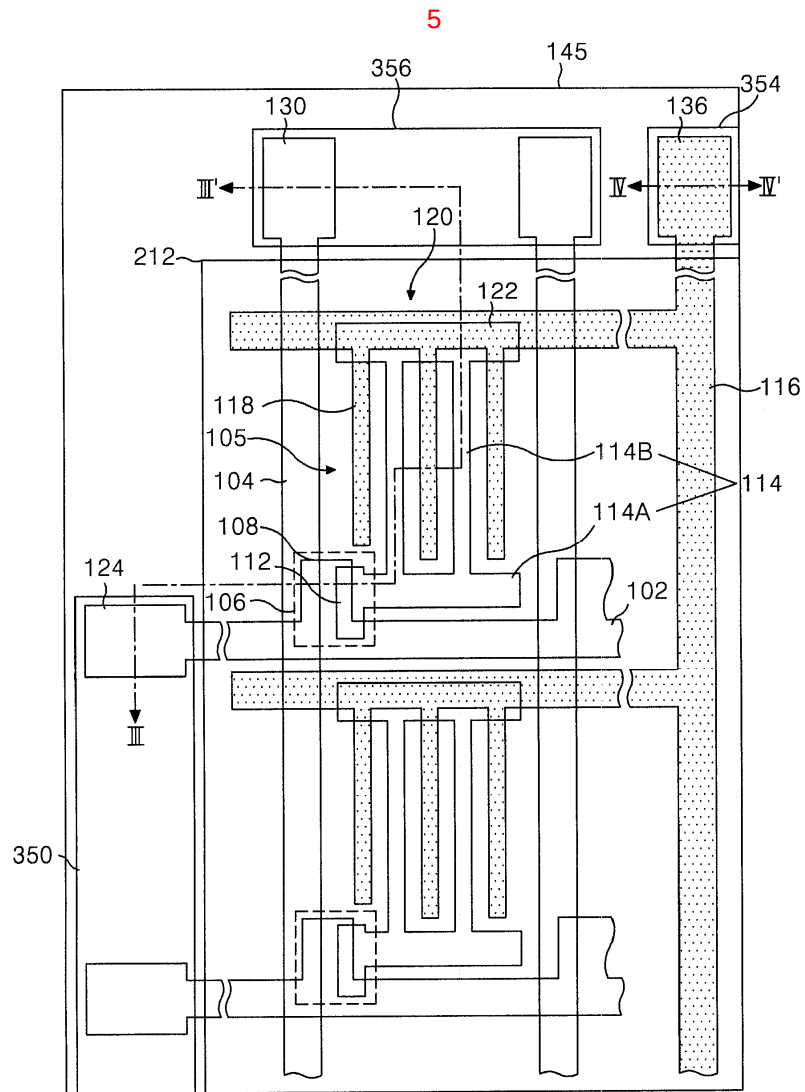


3d

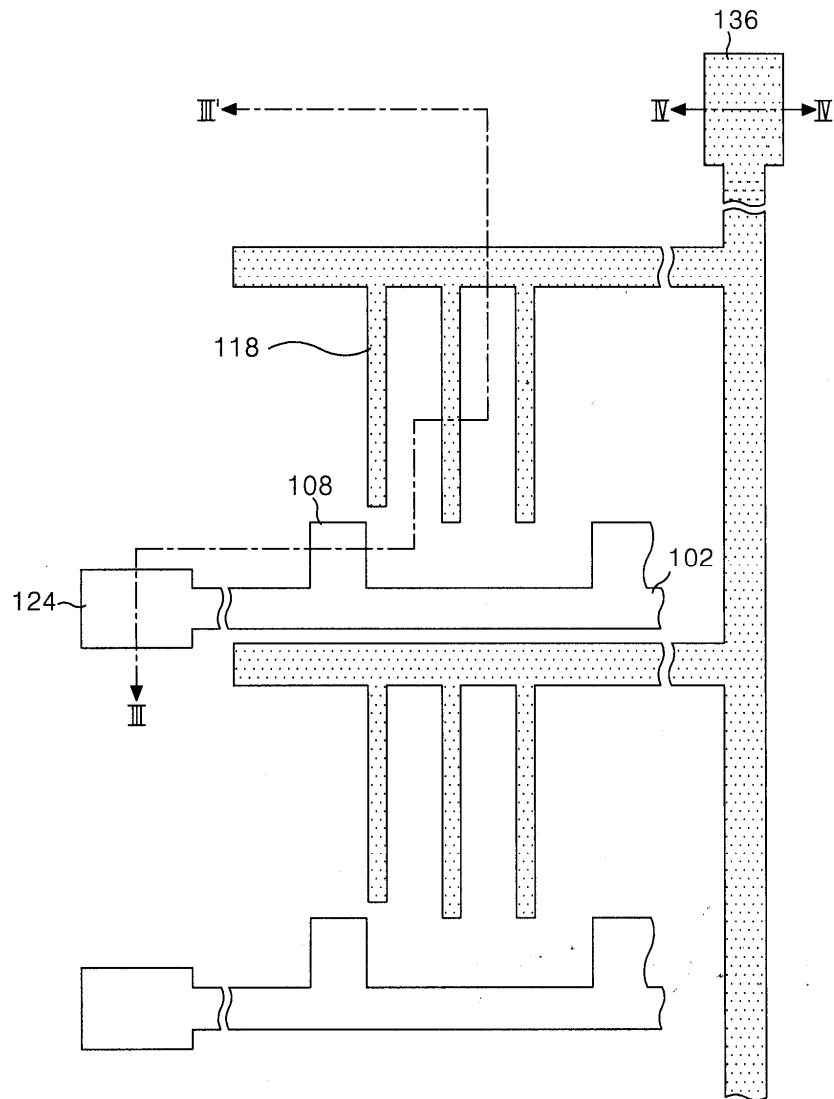


4

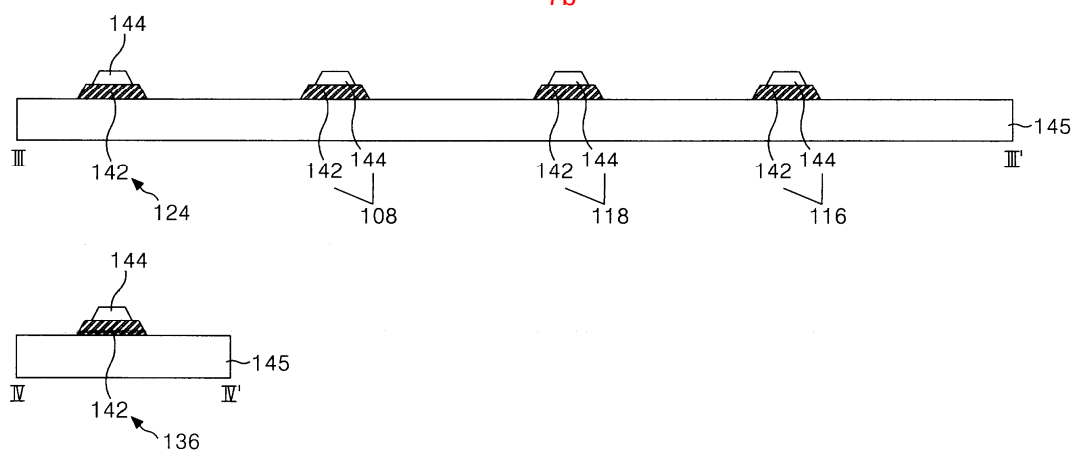




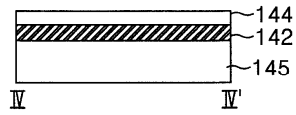
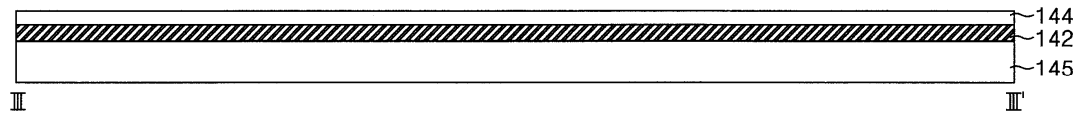
7a



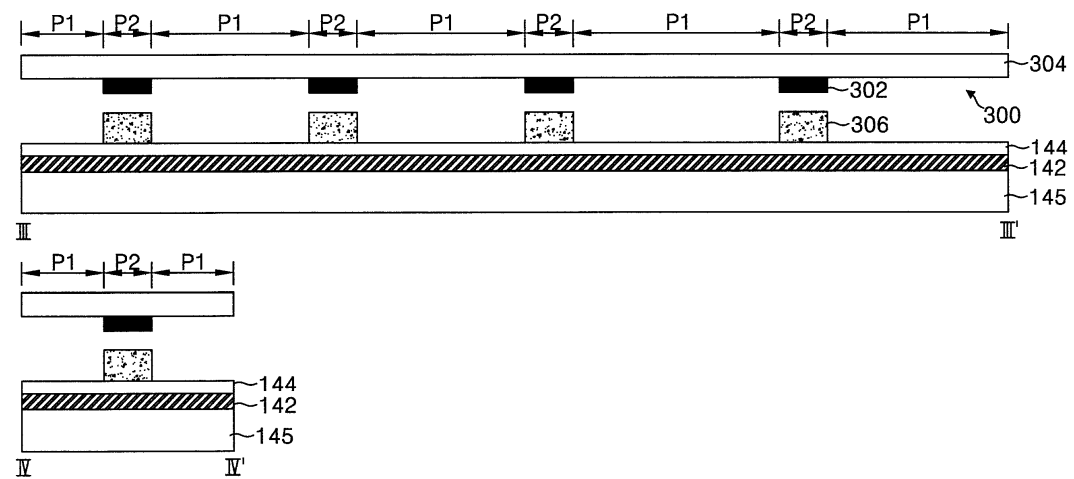
7b



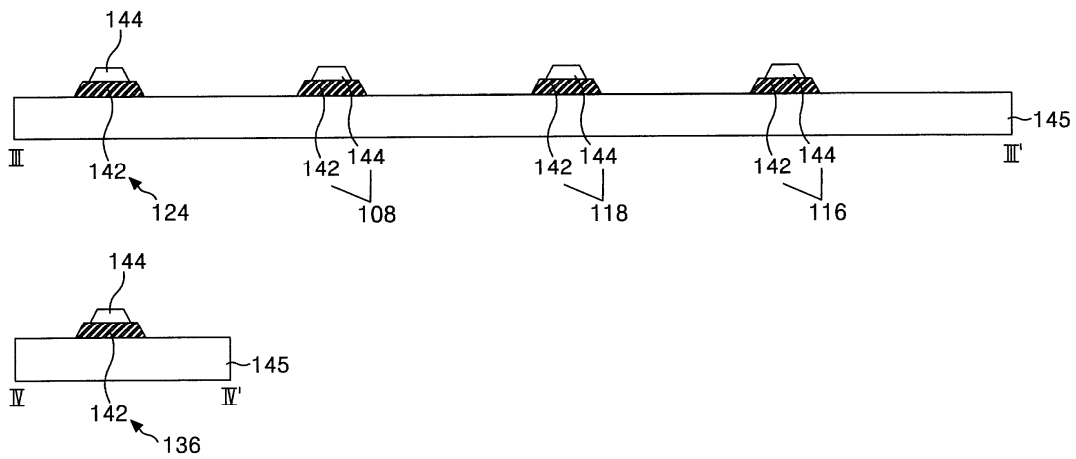
8a

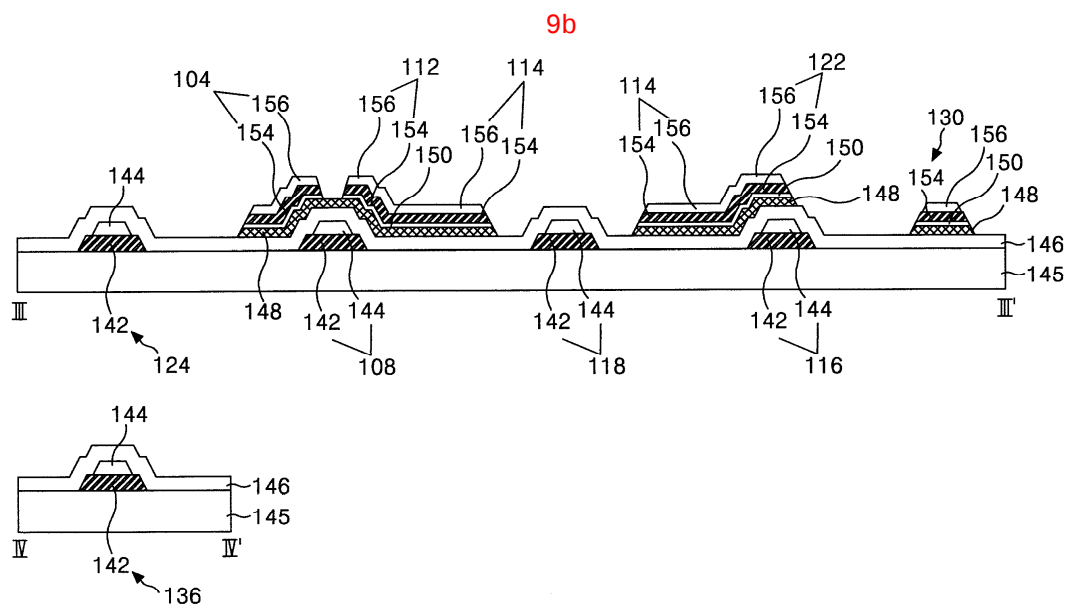
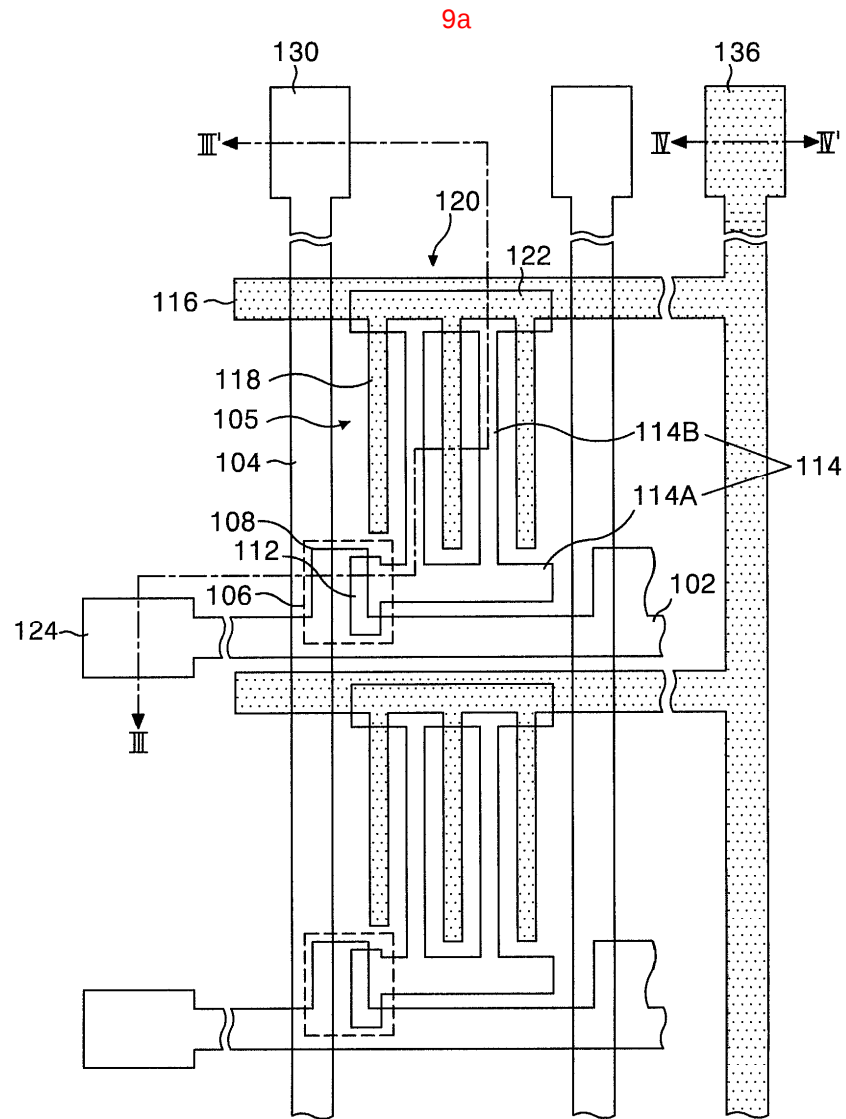


8b

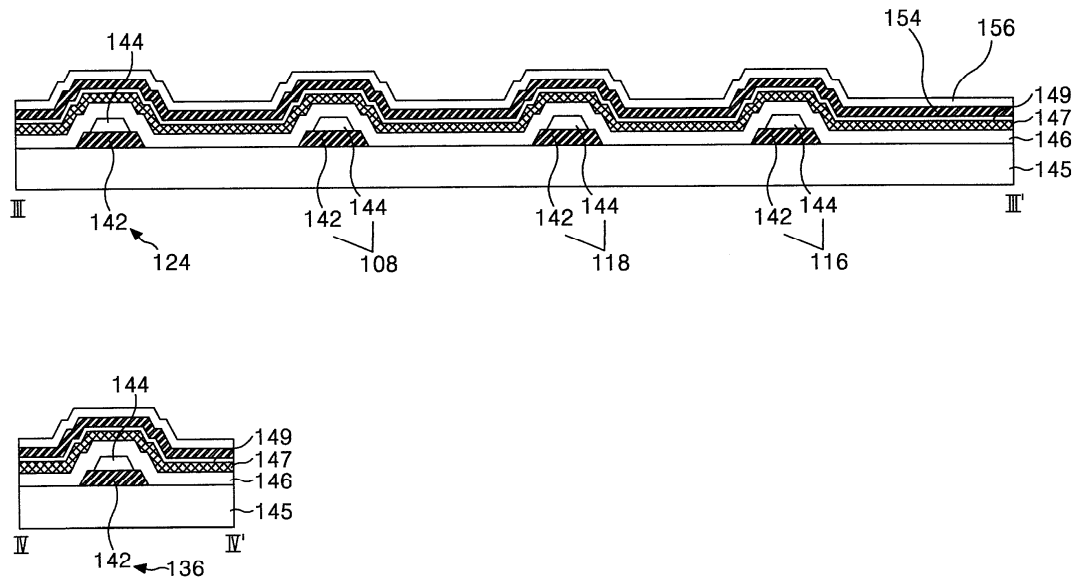


8c

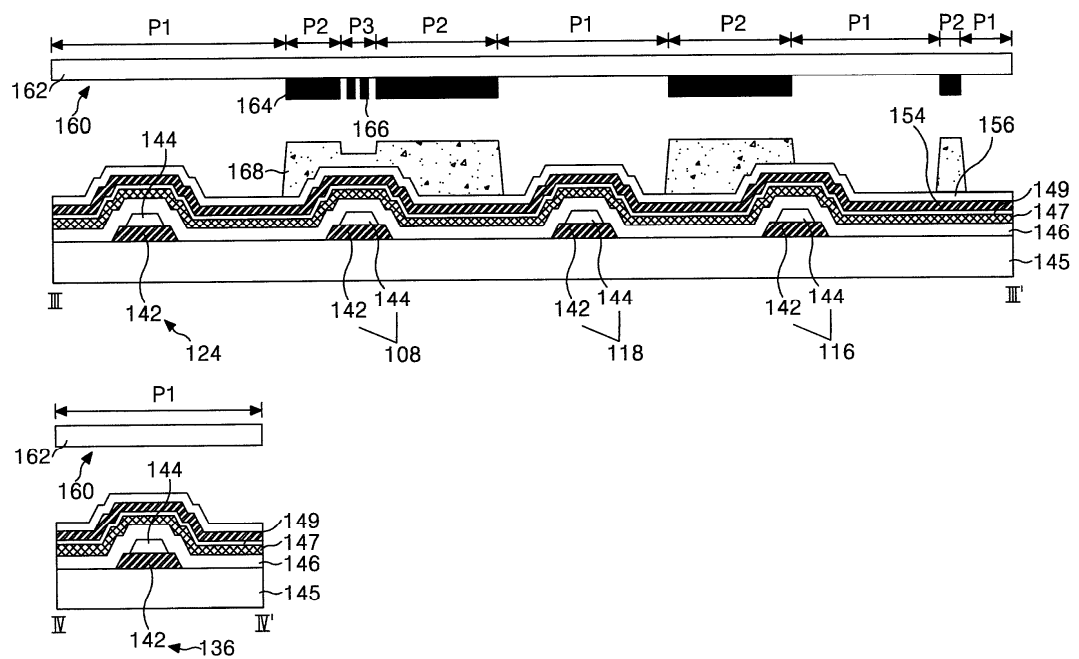


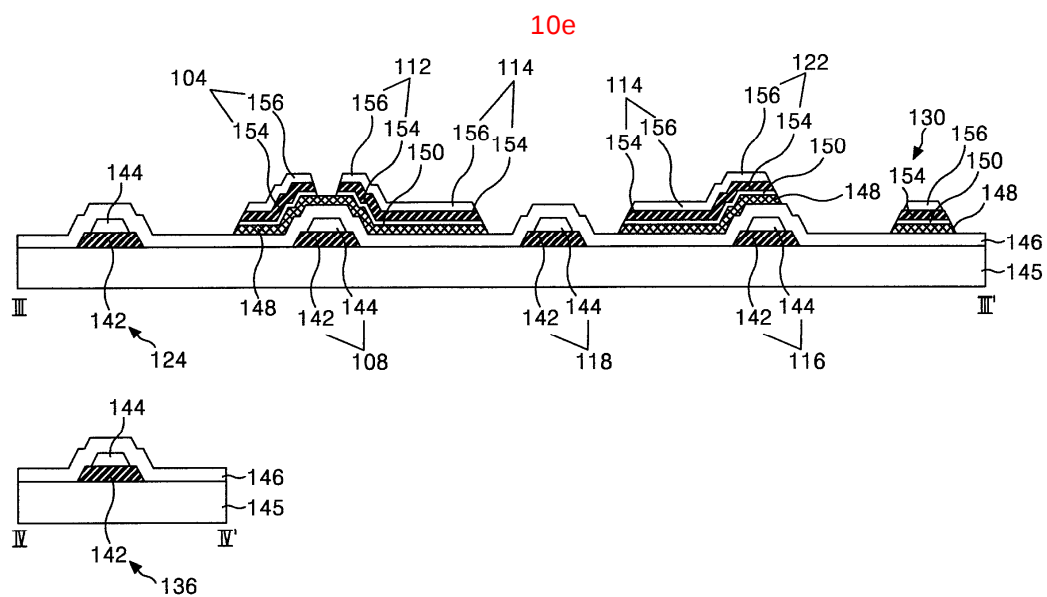
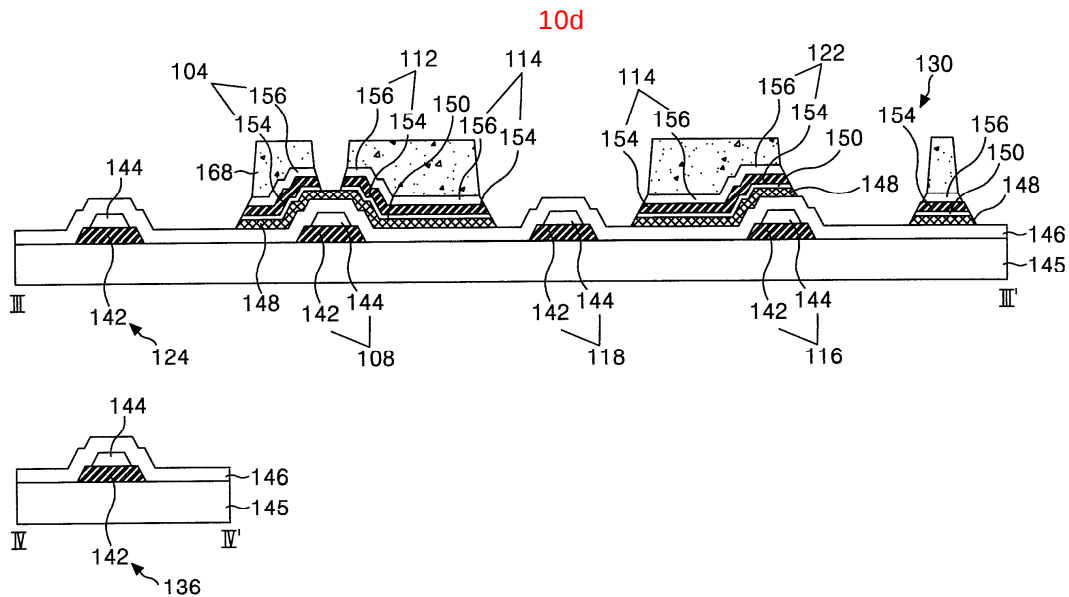
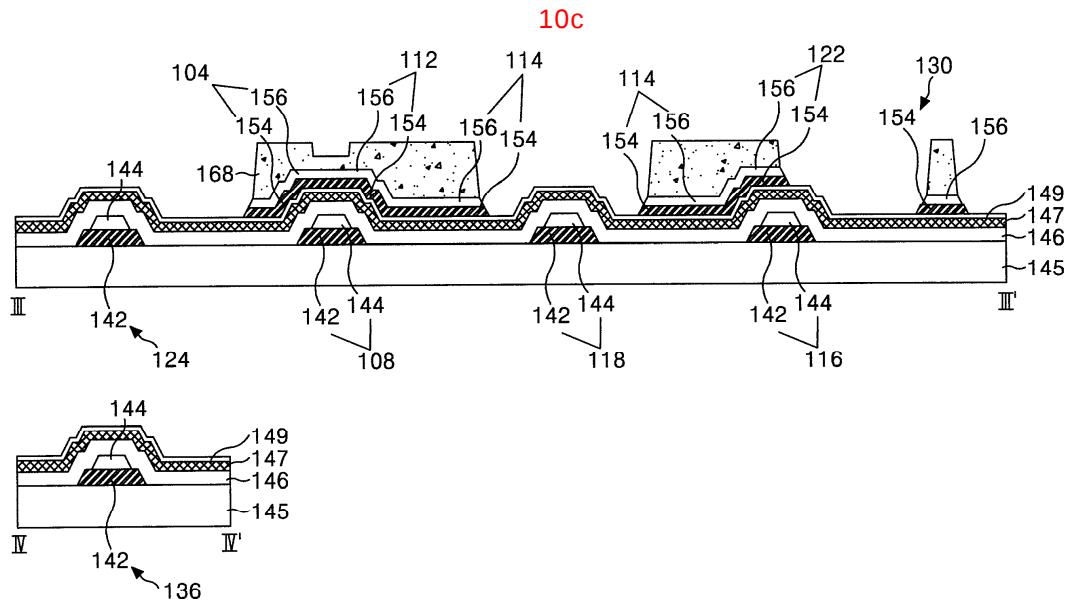


10a

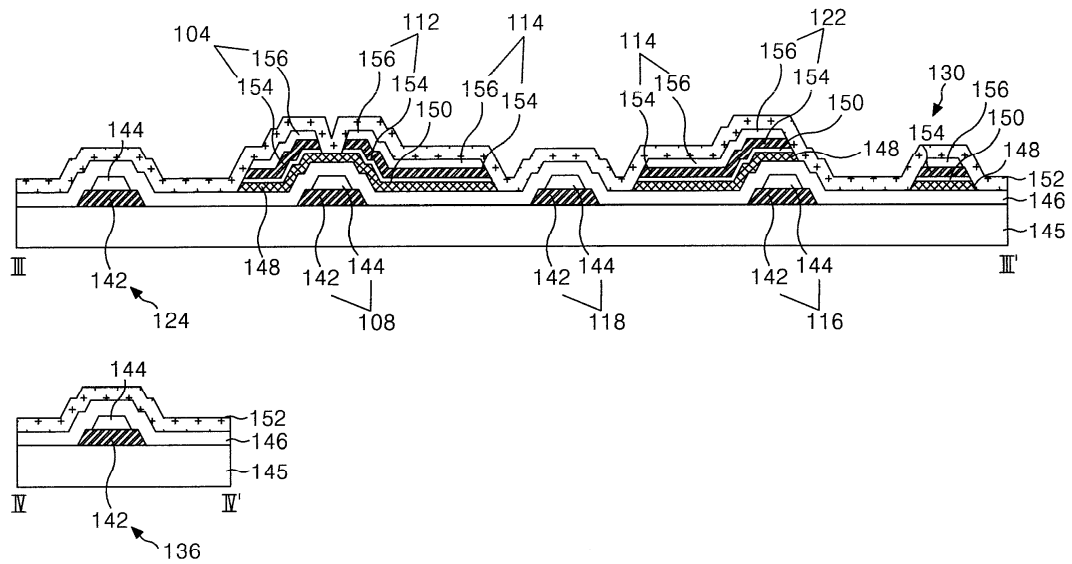


10b

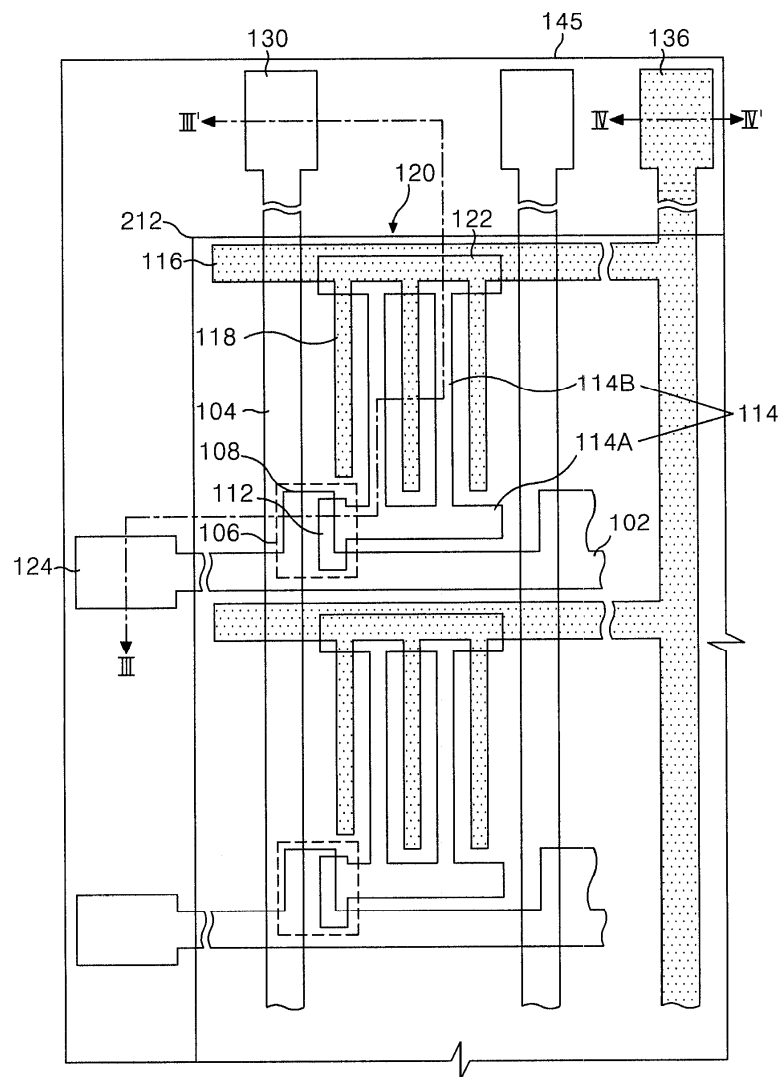




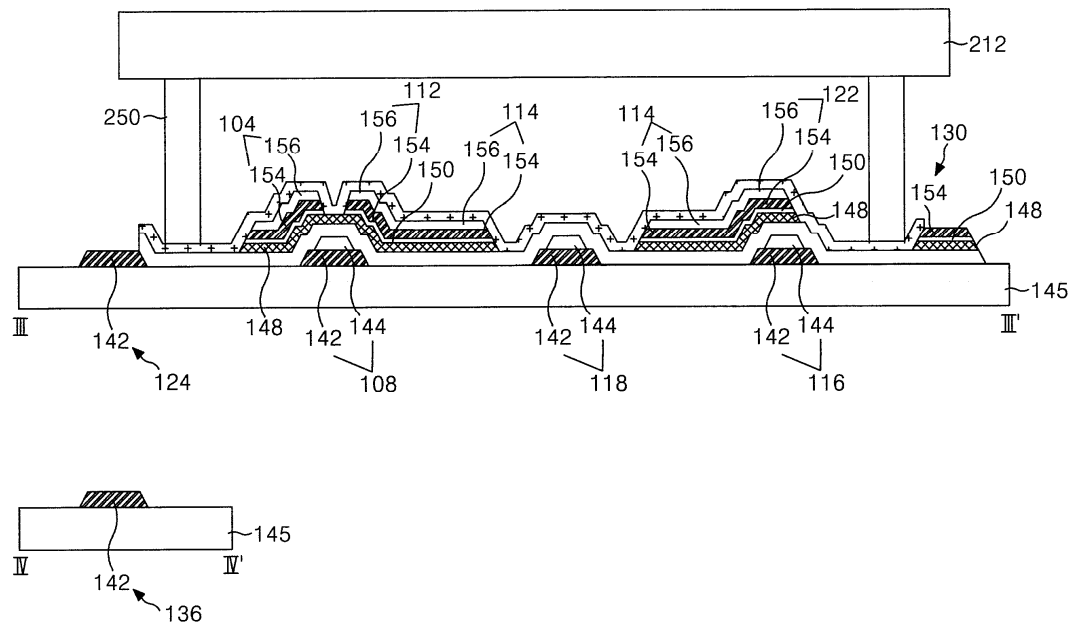
10f



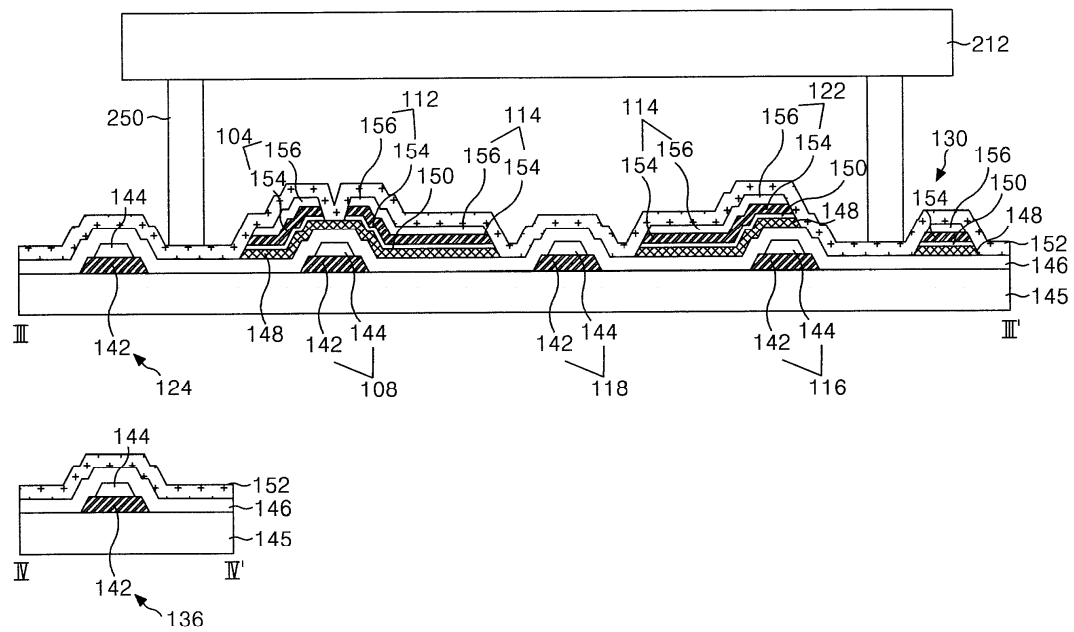
11a



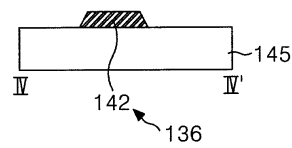
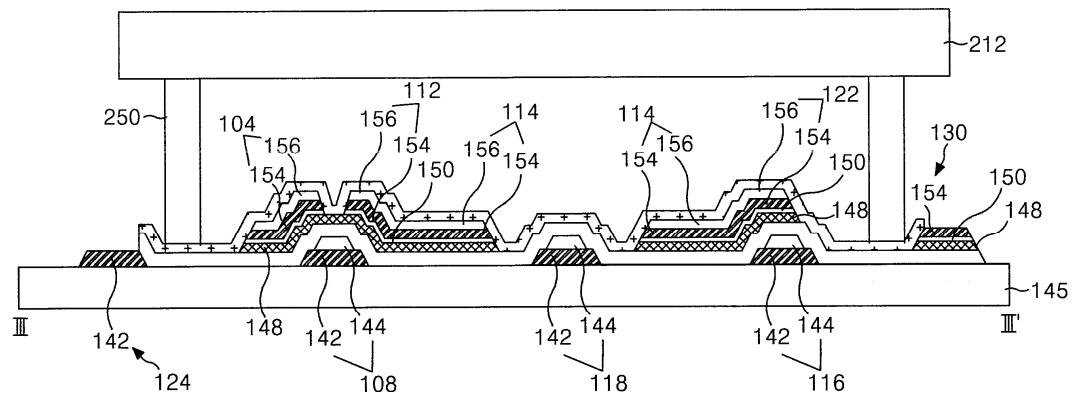
11b



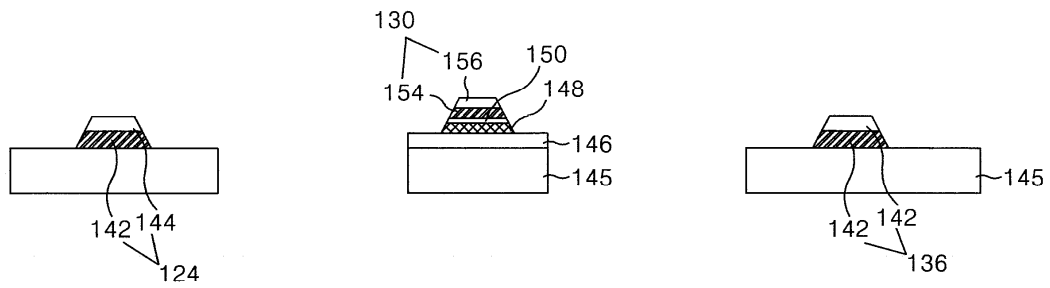
12a



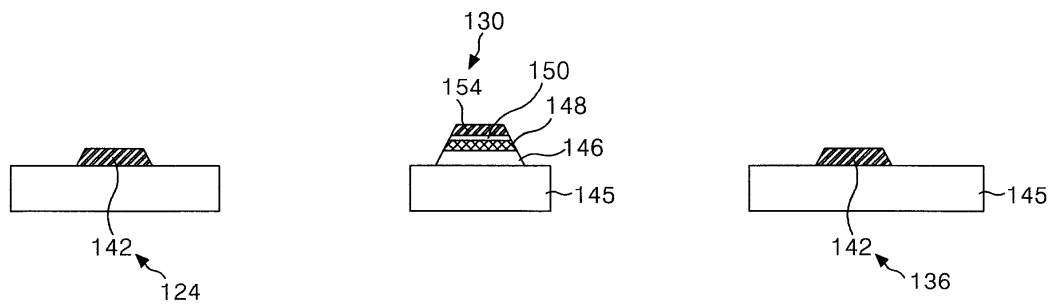
12b



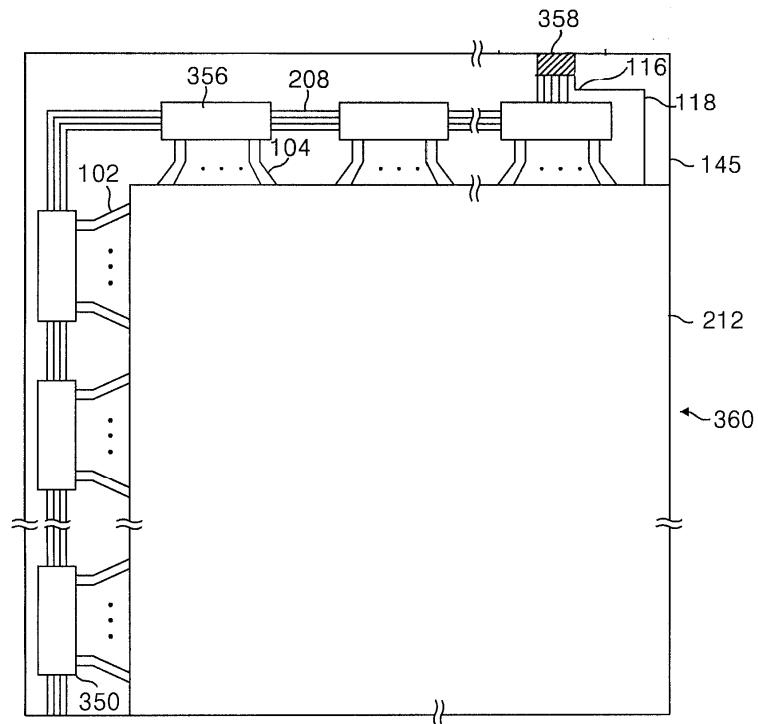
13



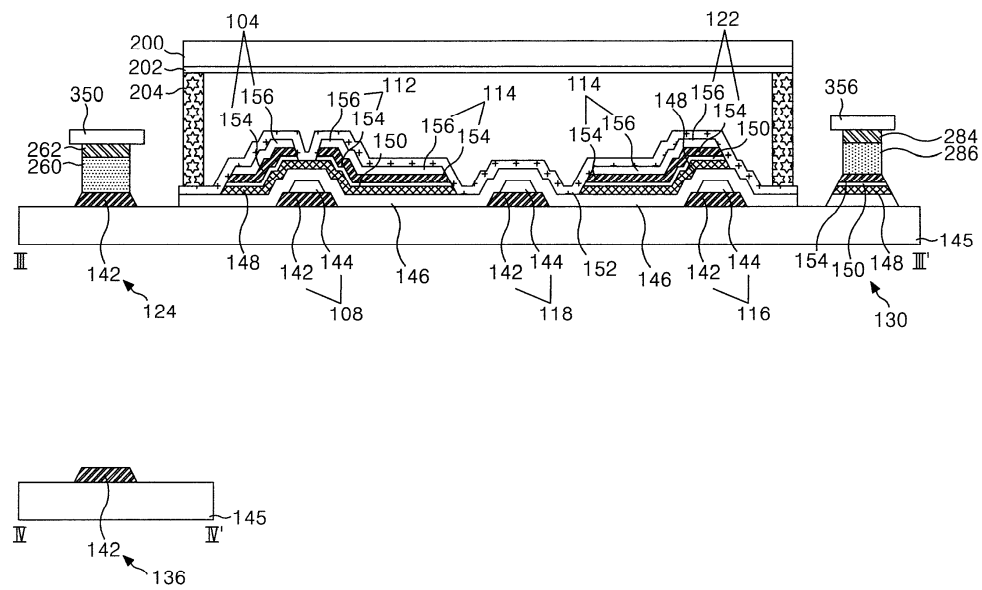
14



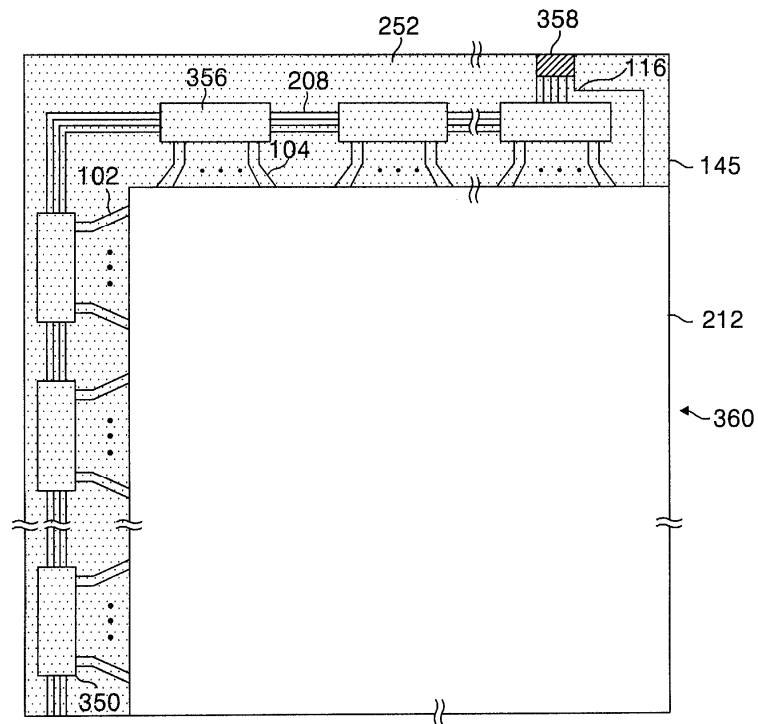
15a



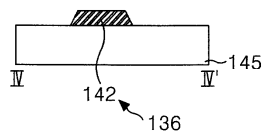
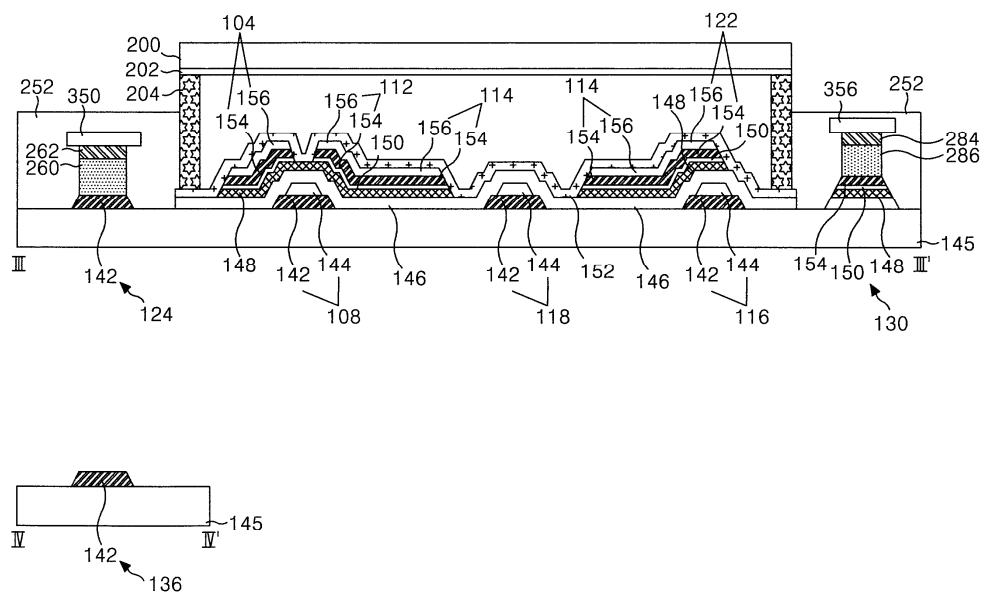
15b



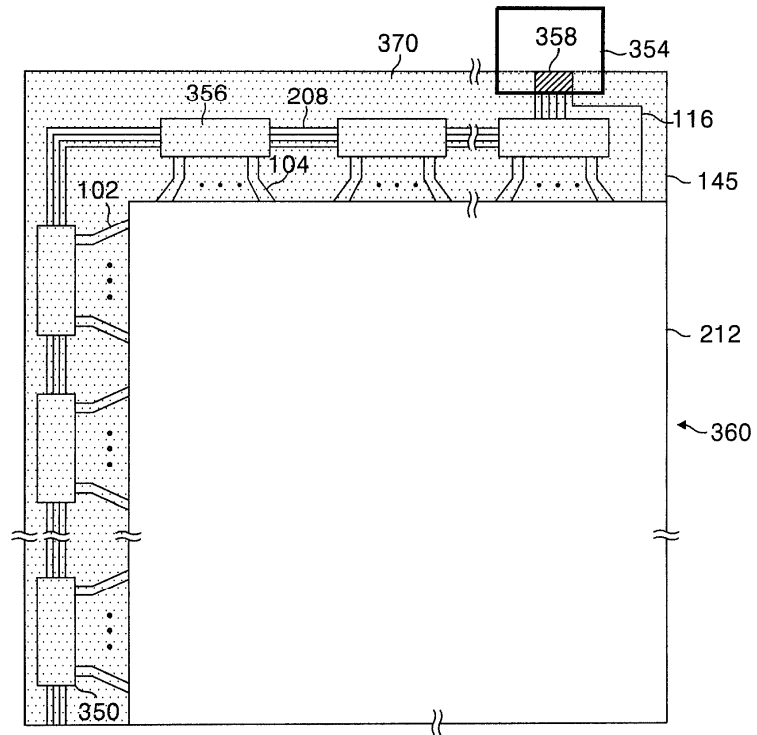
16a



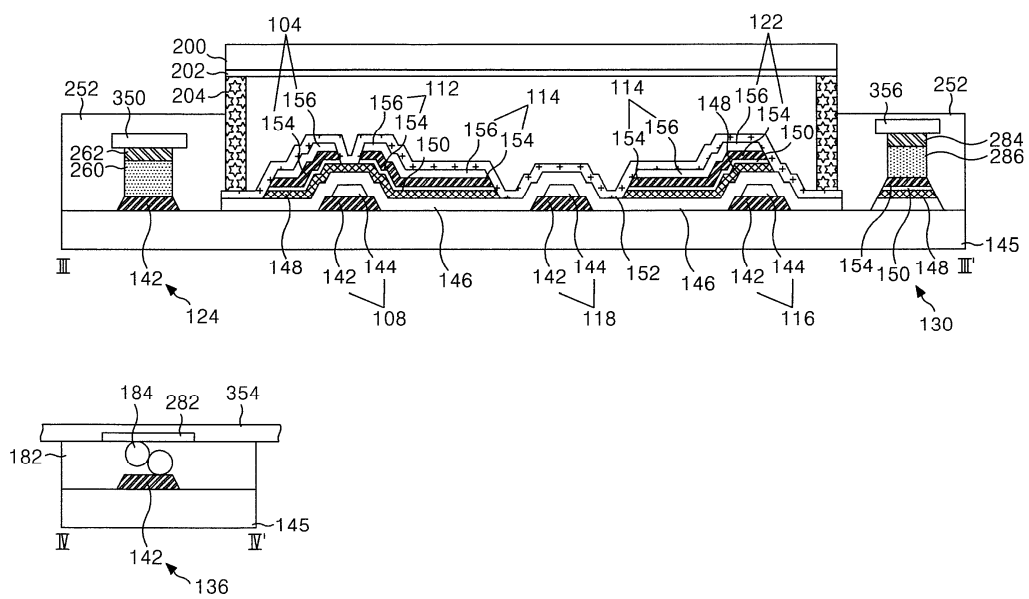
16b



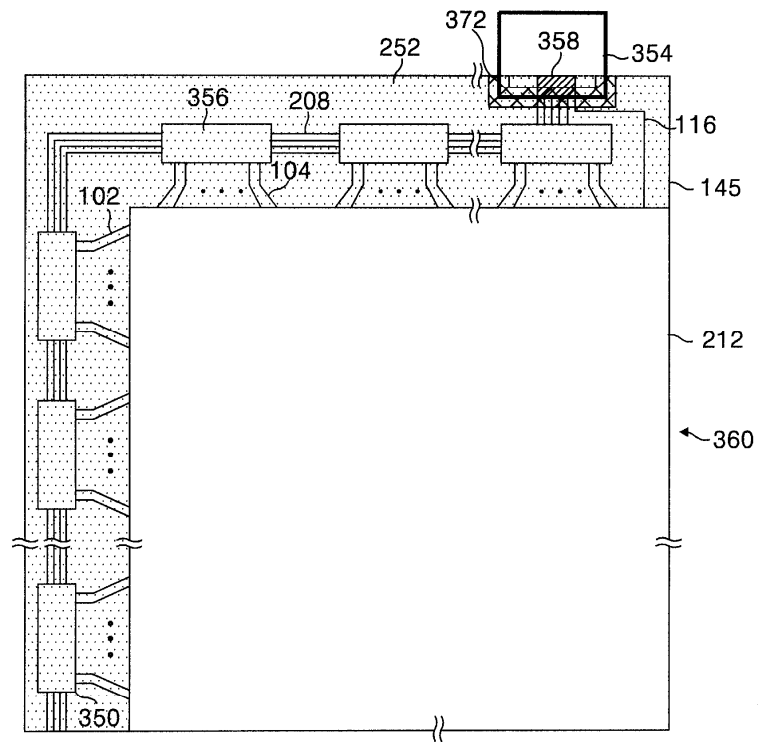
17a



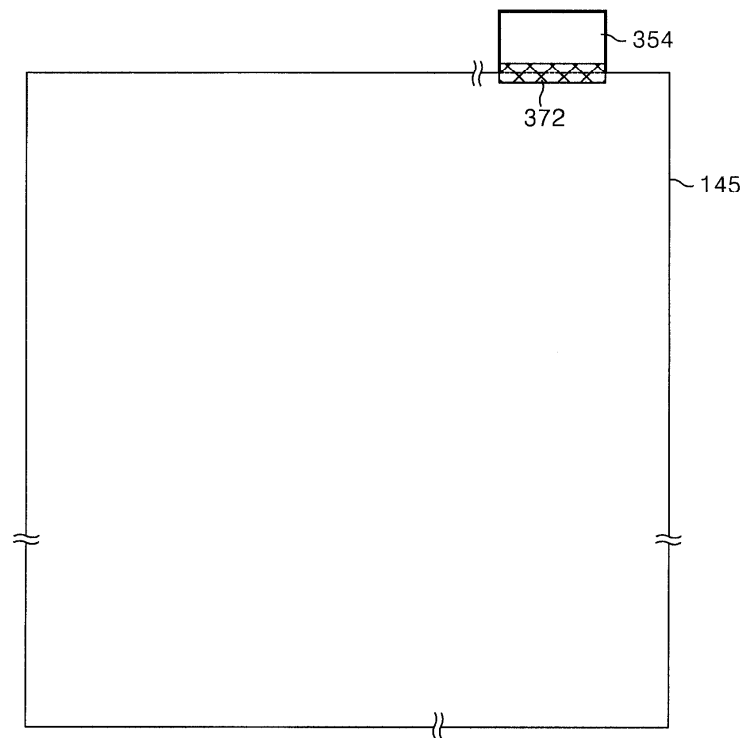
17b



18a



18b



专利名称(译)	水平场施加液晶显示装置及其制造方法		
公开(公告)号	KR1020040086926A	公开(公告)日	2004-10-13
申请号	KR1020030021117	申请日	2003-04-03
[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		
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IPC分类号	G02F1/1345 G02F1/1343 G02F1/1362		
CPC分类号	G02F2001/136231 G02F1/1362 G02F1/134363		
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外部链接	Espacenet		

摘要(译)

技术领域本发明涉及一种能够减少结构数量和掩模工艺的水平电场施加型液晶显示装置及其制造方法。根据本发明的施加有水平电场的液晶显示装置包括形成在下基板上的栅极线，平行于该栅极线形成并在栅极线与该公共线与栅极绝缘层之间交叉绝缘以跨越像素区域的公共线。用于确定的数据线，形成在栅极线和数据线的交点处的薄膜晶体管，用于保护该薄膜晶体管的保护膜，形成在像素区域中并连接至该公共线并连接至该薄膜晶体管的公共电极 有效显示区域，包括：公共电极和在像素区域中形成成为形成水平电场的像素电极；由栅极线中包括的至少一个导电层和数据线中包括的至少一种导电形成的栅极焊盘 分层数据板，在公用线上 薄膜晶体管阵列基板中的至少一个，其具有包括由至少一个导电层形成的公共焊盘的焊盘区域，面对并结合到该薄膜晶体管阵列基板的滤色器阵列基板，以及栅极焊盘和数据焊盘 并且其特征在于，其包括安装在基板上以直接连接到其上的驱动集成电路，以及围绕焊盘和驱动集成电路的封装模制材料。图6

