

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.7
G02F 1/136

(11)
(43)

10-2005-0002140
2005 01 07

(21) 10-2003-0043466
(22) 2003 06 30

(71) . 20

(72) 899-2 203-903
1145 640-1204

(74)
:

(54)

, 1 , 1 2 1 , 2 , 1 1
1 , 2 2 , 2 , 2 ,
COT , 1, 2
가 .

4c

1

2a, 2b , 2a , 2b

3 2a, 2b III-III

4a 4c 1 , 4a

, 4b , 4c 4a, 4b IVc-IVc

5a 5f, 6a 6f 1 , 6a 6f 5a 5f VI-VI

7a, 7b , 2 7a VIIb-VIIb , 7a COT

8a 8e, 9a 9e , 8a 2 8e COT , 9a 9e 8a 8e IX-I

X

< >

110 : 1 114 :

116 : 118 :

122 : 124 :

124a : 124b :

126 : 128 :

132 : 1 34 :

136 : 1 138 : 1

142 : 2 144 :

146 : 148 :

150 : 170 : 2

174 : 176 :

180 :

T :

(Liquid Crystal Display Device)

(IPS ; In-Plane Switching)

가가 가

(Thin Film Transistor ; TFT)가
(AM-LCD ; Active Matrix Liquid Crystal Display)가

가

() -

가 가

1 , 1, 2 (10, 20) , 1, 2 (10, 20)

1, 2 (12, 14) , 2 (20) , 1 (10)

1 (12) , 2 (14)

1, 2 (12, 14) (16)가 , (16) (30) (32)

가

/ / / 80 ~ 85 ° 가

2a, 2b , 2a , 2b

2a (58) , 1 (42) , 1 (42) , 2 (58) (T)가 (P)

(42) (58)

1 (46) (42) (46) , (46)

2 (66) (69) (P) (T) (69)

(68) (70) 2 (70) (66)

(66) (68) , (69) (70)

2b , 2a (2a P) (81) , ()

(82)가 , (82)

(84a, 84b, 84c)가 (84)

(84) (84)

(86)

3 2a, 2b III-III

1 (40) (44) (46) , (44)

(46) (48) (44) (50)

(54) (50) (56) (54) (56)

(50) (54) (56) ,

(56) (50) (52)

(T) (44), (50), (54), (56) (T) , (46)
 (60) , (64)
 (48) (56) (62) 가 (64) .
 66) (64) , (60) (56) (66) , ()
 (68) , (68) (62) (46)
 (69) (69) ,
 (80) , (T), (56), (46)
 84) (82)가 , (82) (82) , ()
 (84a, 84c)가
 (84) , (84) (86) .
 , 1, 2 (40, 80) , (70) (68) (88)
 (89) 가 (90) .
 (90) .
 가
 가 가 , 가
 (mis-align) 가 (cross-
 talk) .

1, 2 가 ,
 1 , 1 ; 1 2 ;
 ; ; , 가 , ,
 1 ; 1 ; ,
 1 1 ; 1 1 ;
 , 1 1 ; 2 1
 ; 2 2 , 2 2 ; 2 1 2
 ; 2 2 , 1 2 2 ; 1 2
 ; 2 ; 2 , , 가
 ; , 1, 2 , ,

-- 1 --

4a 4c 1 , 4c 4a, 4b , 4a ,
 , 4b , 4c , 4a, 4b IVc-IVc

2 , 1 (110) 1 (112) , 1
 (130) (112) (130)
 (T)가 .

1 (112) (116) , (112)
 (130) (P) (116) , (138) ,
 (116) 1 (island pattern) 1 (138) (134)
 , 1 (138) 1 (138) (145)
 2 (145) , 2 (P)
 (146) 가 (130)

(T) 1 (136) , 1
 (143) 2 (143) (144) , 2
 (146) 2 (144)

2 (145) (146), 2 (143) (144)
 , (T)
 ITO(indium tin oxide) .

1, 2 (138, 145) (150) , 1, 2 (136, 143)
 (148) , 1, 2 (136, 143) 1, 2 (132, 142) 1, 2
 (138, 145) 1, 2

1 (132) 11.0 / ,
 / (coupling) .

2 (142) , (146)
 (130) 가 가 ,
 (146) (130) ,
 (146), (144) , 2 (142)

4b , 2 (170) (4a P) (172) (174)가
 , (172) , (176a, 176b, 176c)가 (176)
 , (176) (180)
 , (180) 가 .
 (172) 가 ,

4c , 1 (110) (114) (116) , (114)
 (116) (134) 가 (118) (128)
 , (118) (114) (126) (128)
 , (126) (130) (128) (124)
 , (130) (124)

(122)

(124) (124a ; active layer) (124b ; ohmic contact layer)
 (126) (128) (124b)
 (124a) (carrier) (ch ; chan
 nel)
 (114), (124), (126), (128) (T) ,
 (T) (116) (134) 1 (132) 가 1 (132
) (128) (132) (128) 1 (136) ,
 1 (134) (116) 1 (138)
 , ,
 , 1 (136) 1 (138) 1 (132)
 ,
 1 (136) 1 (138) (Al), (Cu), (Cr), (, AlTa, Al
 Mo), (Ti), (Ta), (W), ITO ,
 Si, AlTi, AlNd, CuCr, CuMg, MoW, MoTa 1×10^6 가 가 ,
) 1 (132) 1 (136) 1 (138)
 , 1 (132) 1 (132) 2 (142) 1 (136) 2 (143)
 , 1 (138) 2 (145) 2 (146)
 2 2 (145) (146) ,
 2 (143) (144) ,
 , (144) 2 (145) (146) , 2 (143)
 , ITO
 (146) (146) (130) ,
 (146) (144)
 43) 1, 2 (138, 145) (150) , 1, 2 (136, 1
) (148)
 , 1 (132) (T) , (T)
 , (SiOx)
 , 1 (132) (SiNx), BCB(benzocyclobutene), (photo acryl)
 가 , 11.0 가 ,
 , (coupling)
 2 (142) 가 , 1×10^{11} . cm , B
 CB

, 2 (170) (130) (T), (116)
 (174)가 , 1, 2 (132, 142)
 , (146) (130)
 (174)가 가
 (174) (176)
 (176a, 176c) (176) (176)
 (180)
 , 1, 2 (110, 170) (166)
 (166)

5a 5f, 6a 6f 1 , 6a 6f 5a 5f VI-VI
 5a, 6a (110) 1 , (112) (116) 1
 1
 (112) (114)

1
 5b, 6b , (112), (114), (116) 1 , (118)
 , 2 , 2 , 1 , 2 (126)
 130) , (128) (130) (126) , (126) (130), (126),
 (128) 가 , (122) (124) (124) (126) (128)
 (122) (124)

1 , (124) (124a) ,
 (124b)
 , 가 , (126) (128)
 (ch) (124b) , (124a) (124a)

(114), (124), (126), (128) (T)
 , (112) (130) (P)

5c, 6c , (T) 2 , 3 (112)
 (116) (130) , (T) (134) 가 1 , (132) (118)
 (T) 1 (132) (128)

2 , 가 (SiNx), BCB(benzocyclobutene), (photo acryl)
 가 , 가 11.0 가
 (coupling)

(134) , (118) 1 (132)

(T) 1 (132) , (T)
가

5d, 6d , 1 (132) 3 4 ,
1 (132) (T) 1 (136) , (116)
1 (138)

1 (136) 1 (136) (138) (134) (128)
(138) (138) 1 (132) (116)

3 , (Al), (Cu), (Cr), (Mo), (Ti), (Ta), (W), ITO
 1×10^6 가 , AITa, AlSi, AlTi, AlNd, CuCr, CuMg, MoW, MoTa
가 ,

1 (136) 1 (138)

5e, 6e , 1 (136) 1 (138) 3
, 5 , 1 (132) , (P) 2 (142)

1 (132) 1, 2 (132, 142) 가 , 2 (142) ,
(136) 1 (138)

3 , 가 , 1×10^{11} cm , BCB

5f, 6f , 2 (142) 4 , 6 , 1
(136) (145) , 2 (143) , (143) 2 (138) 2 (144)
, 2 (145) , (144)

(146) 1 (130) 1 (132) ,
(132) (130)

1, 2 (136, 143) (148) , 1, 2 (138, 145)
(150)

4 , ITO

-- 2 --

1, 2 2 COT , 1

7a, 7b 2 7a COT
 , 7b 1 VIIb-VIIb , 1

7a (212) (230) (212) (
 230) (214), (224), (226), (228) (216) ,
 (T)가 (212) (230) (P) (T) , (2
 12) (232)가 (230) (228) (T)

(216) (232) (228) 1 (236)
 , (232) (216) (220)
 (238) 1 (238) , 1 (236) 1
 (P) , (242a, 242b, 242c)가 (242)
 1 (242) (232) 1 (236)
 1 (238)

(238) 1 (236) 2 (243) , 1 (243)
 (230) 2 (245) (244) , 2 (243)
 45) (230) (244) , 2 (246)

1, 2 (236, 243) (248) , 1, 2 (238, 245)
 (250)

가 ,

7b , 1 (210) (214) (216) , (214)
 (216) (218) (214) (218) (220) 가
 (214) (224) , (224)
 (226) (228) (226)
 (230) (230) (224)
 (222) , (222) , (226) (228),
 (230)

(214), (224), (226) (228) (T) ,
 (228) (T) (230) (T) ,
 (220) (216) (232)가 ,
 (228) (232) 1 (23
 6) (232) , (220) (216) (216) (232)
 (232) 1 (236) 1 (238) , (238) (232)
 (232)

(P) (232) (232)
 1 (236) 1 (238) (242)
 (242) , (242a, 242c)

(242) , 1 (236) 2 (243)
 (P) 1 (238) 2 (245) , 2
 2 (243) (244) , 2
 (245) (246) , 1, 2

(236, 243) (248) , 1, 2 (238, 245) (250)

, 1 (210) 2 (270) , 1, 2 (210, 270) (266)

COT , 2 , , , ,

8a 8e, 9a 9e , 8a 2 8e COT , 9a 9e 8a 8e IX-I
X , 1

8a, 9a , (210) , 1 (214) 가 (212) , (2 (16) , (212), (214) (216) , (216) (218) , (218) 1 2 가 (218) , (222) , (222) (214) (224) , (222) (222) (230) , (230) (226) , (226) (226) (228) , (224) (224a), (224b) (224b) , (224a) , (228) (224a) (ch) (224b)

(214), (224), (226), (228) (T)

8b, 9b , (228) (T) (212), (2 30) , (220) , (216) (232)

, (232) (212) (230)

(232) 가 , (Cr)

(black resin)

8c, 9c , (228) , (228) (232) 1 (236) , (220) (216) (232) (216) 1 (236) 1 (238) (238) , (232) 1 (236) 1 (238) 1 (236) 1

1 (236) 1 (238) 1

8d, 9d , (232) 1 (236) 1 (238) (242a, 242b, 242c)가 (238) (242) (P) , , , (242) , , 가

(242)

8e, 9e , (242) 1 (236) 2 (243) , (24 3) 1 (238) 2 (244) , 2 (245) , 2 (245) 2 (244) (246)

1, 2 (236, 243) (248) , 1, 2 (238, 245)
 (250) .
 , 1
 , 가 ,
 2 (243) (244), 2 (245) (246)
 , ITO .
 ,
 , 1 가 , 1 , 2
 ,
 , 1, 2 , 2 , 1, 2
 , 1, 2 , COT

(57)

1. 1 , 1 ;
 1 , ;
 1 2 ;
 ;
 , 가 , ,
 1 ;
 1 1 ; 1
 , 1 1 2 1 , 1
 , 2 , 1 2 , 2
 2 2 ;
 2 , 1 2 , 2
 2 2 ;
 1 2 ;

2 , ;

; , , 가

1, 2

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2.

1 , 1 ;

1 , ;

1 2 ;

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1 ;

1

1 1

가

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2 , 1 ;

2 , 2

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1 2 ;

1, 2

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3.

1 , 1 ;

1 , ;

1 2 ;

, , ,

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1 ;

1 1 ; ,

1 2 ; 1 , 1

2 2 , 1 ; 2 , 2

2 2 , 1 2 ; ,

1 2 ;

1, 2

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4.

1 ,

, 1

가

5.

2 ,

, 가

6.

5 ,

1 ,

7.

3 ,

, 1 , 가

8.

4 5 7 ,

9.

1 3 ,

1			11.0	
9	10.			
1			(SiNx), BCB(benzocyclobutene),	(photo acryl)
1	11.	3		
1		1		1×10^{-6}
11	12.			
(Ti),	1 (Ta),	1 (W), ITO		(Cu), (Cr), (Mo), AlTa, AlSi, AlTi, AlNd, CuCr, CuMg, MoW, MoTa
1	13.	3		
1		1		(island pattern)
1	14.	3		
2				1×10^{-11} cm
14	15.			
2			BCB	
1	16.	3		
2				2
1	17.	3		
		1		1
1	18.	3		
2	19.			

20.

1 3 ,

1 ,

21.

1 , 가 , ;

, , ;

;

, 1 2

;

, , ,

, ,

가 , 1

;

1 , 1 ;

1 , 1 ;

, 1 ,

1 1 ;

2 ;

2 , 1 2 , 2

2 ;

2 , 1 2 , 2

2

22.

1 , 가 , ;

가 , , ;

;

, 1 2

;

, , ,

, ,

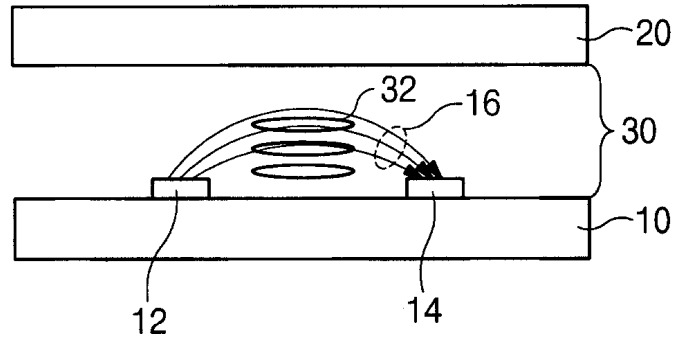
;

1 , 1 ;

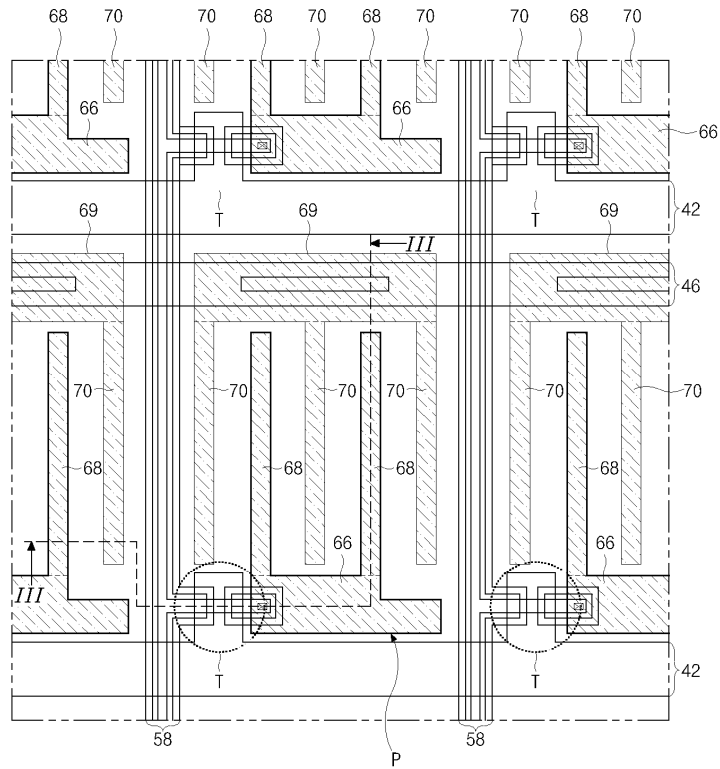
1 ;

1

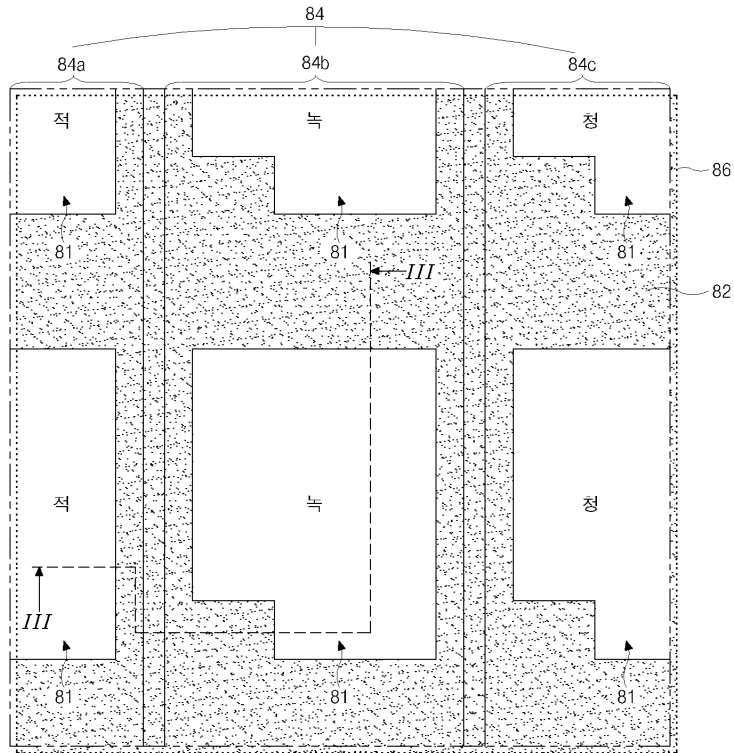
1



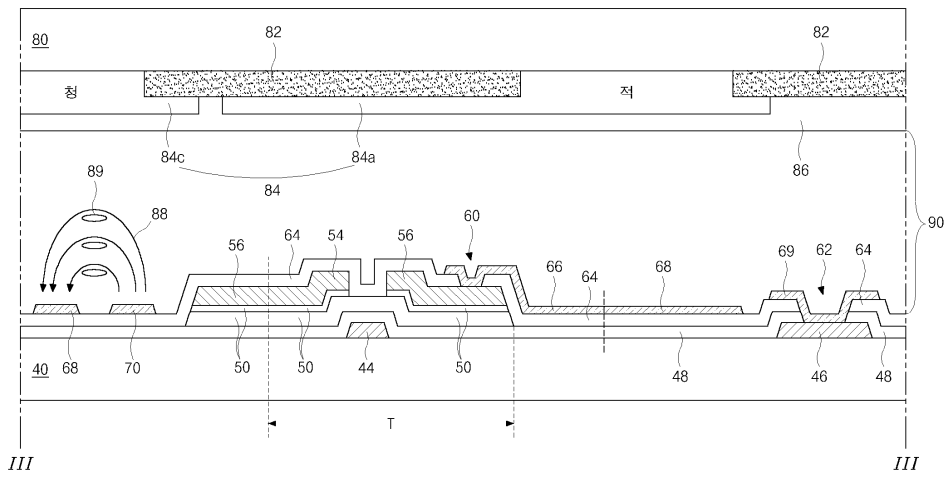
2a



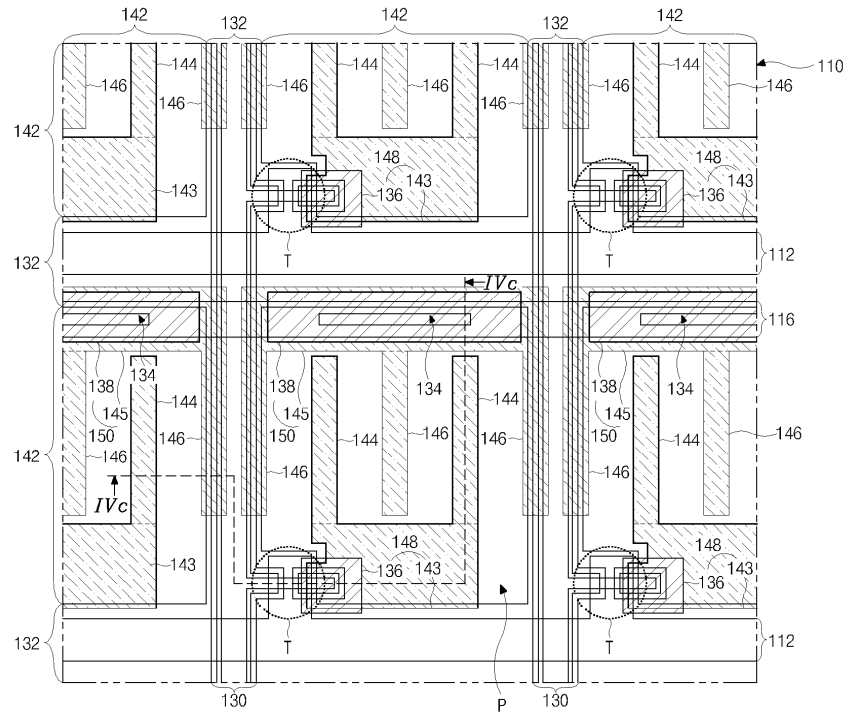
2b



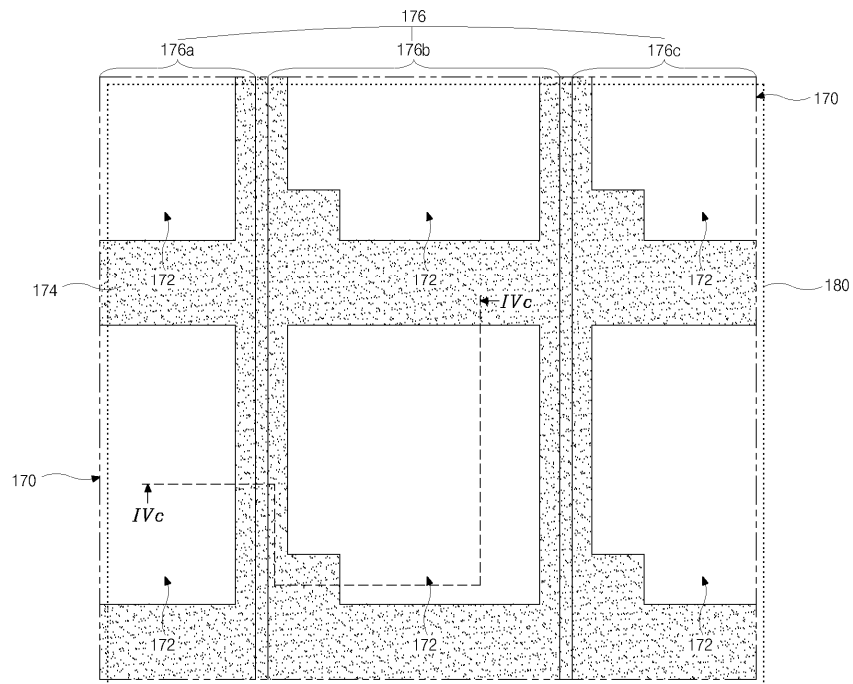
3



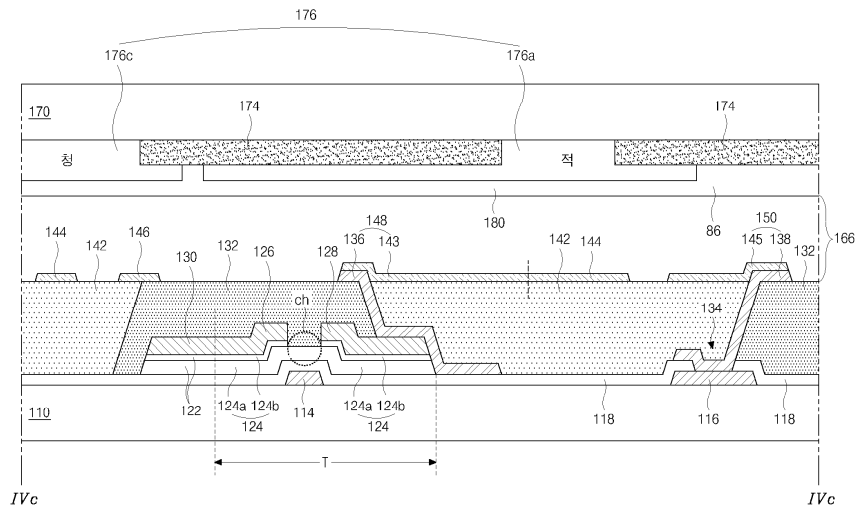
4a



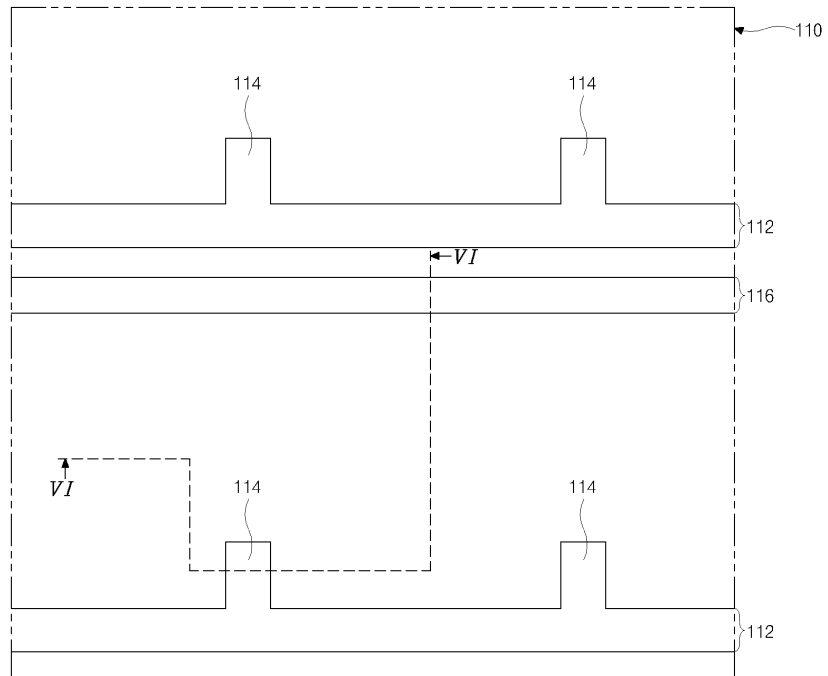
4b



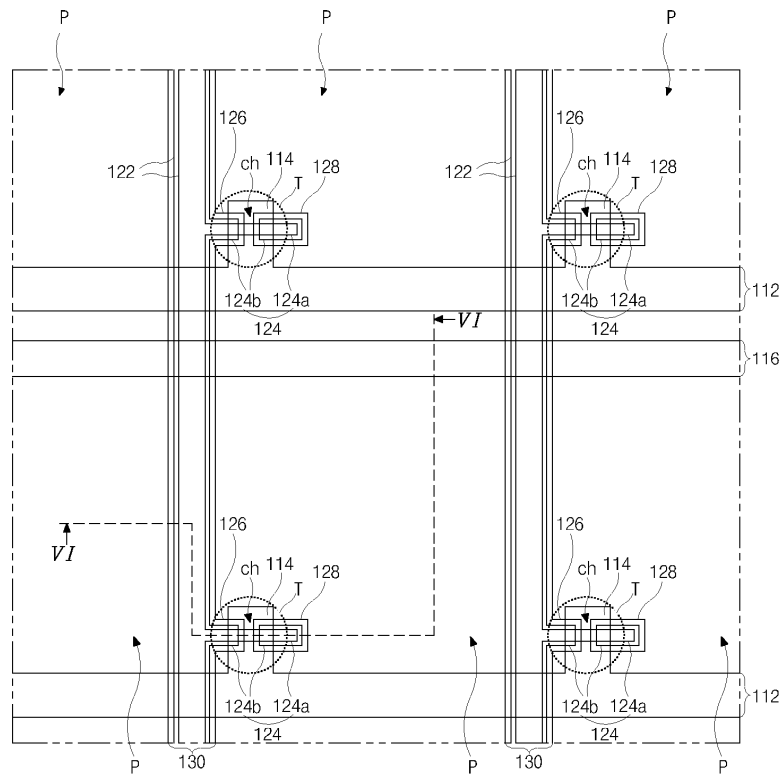
4c



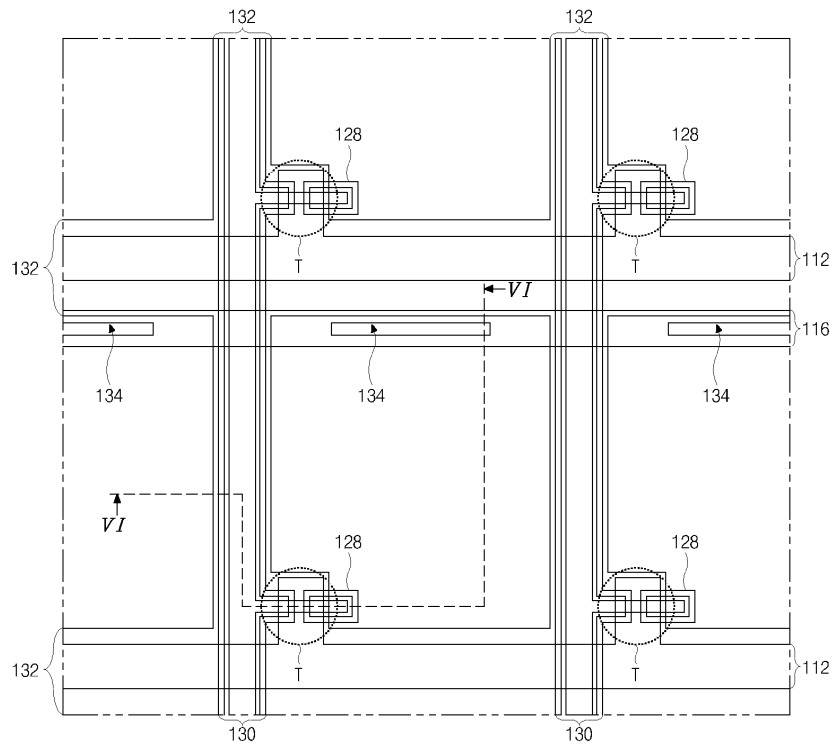
5a



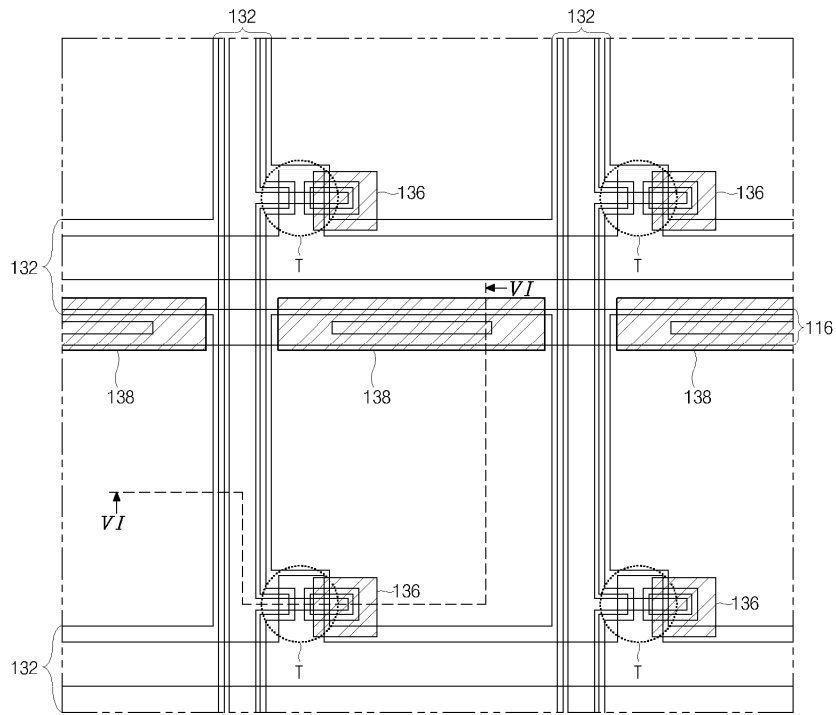
5b



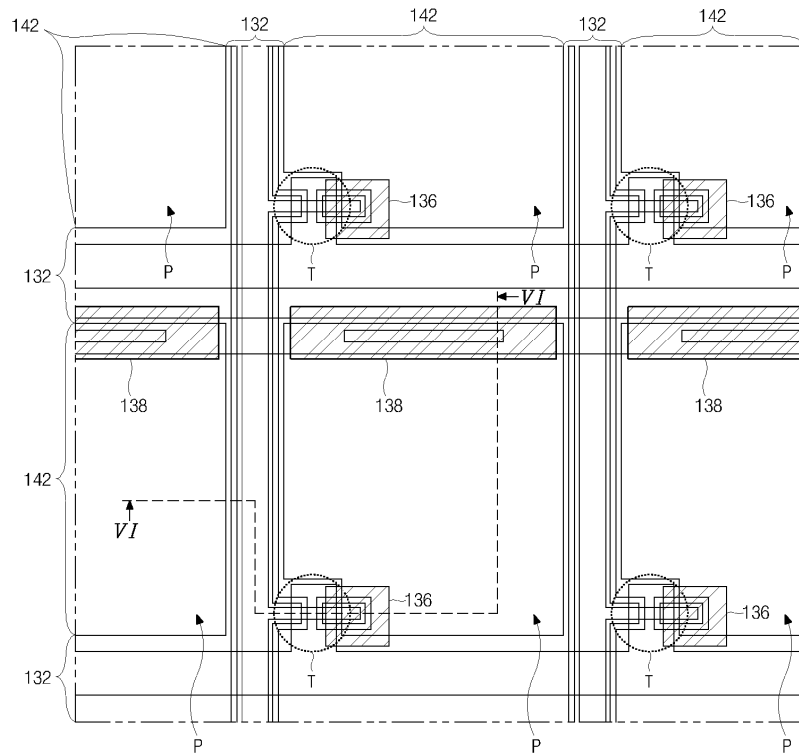
5c



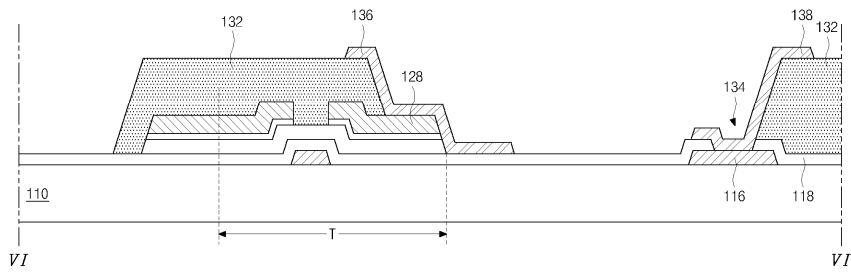
5d



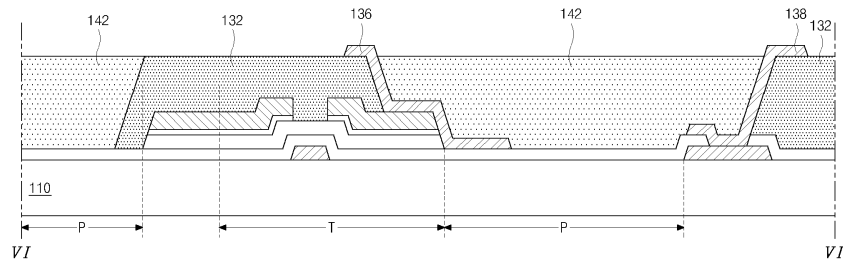
5e



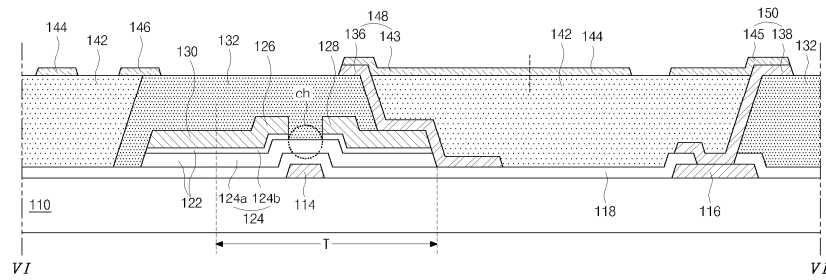
6d



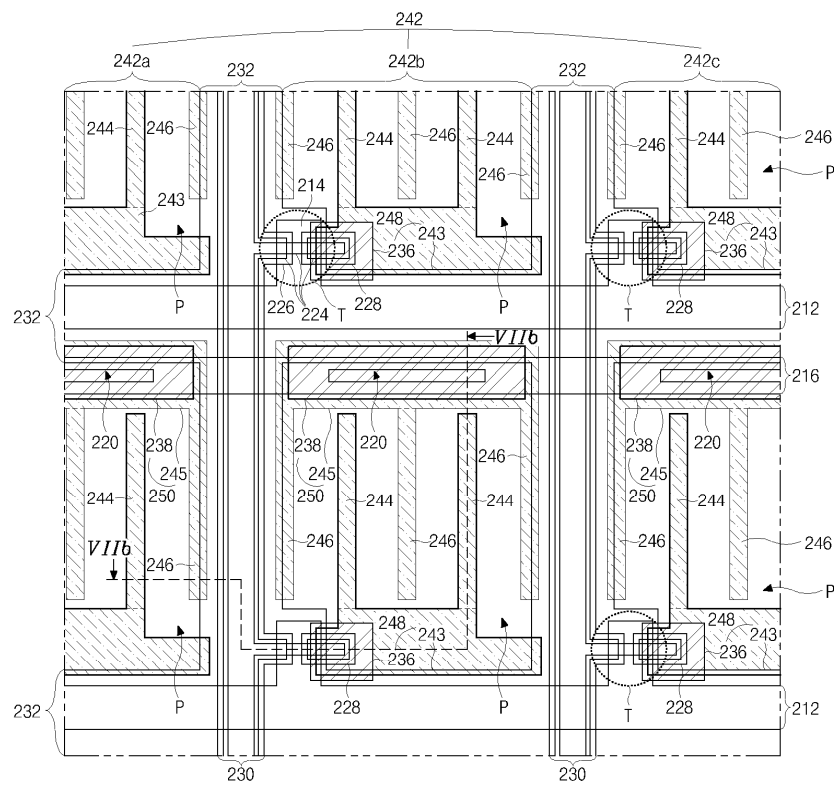
6e



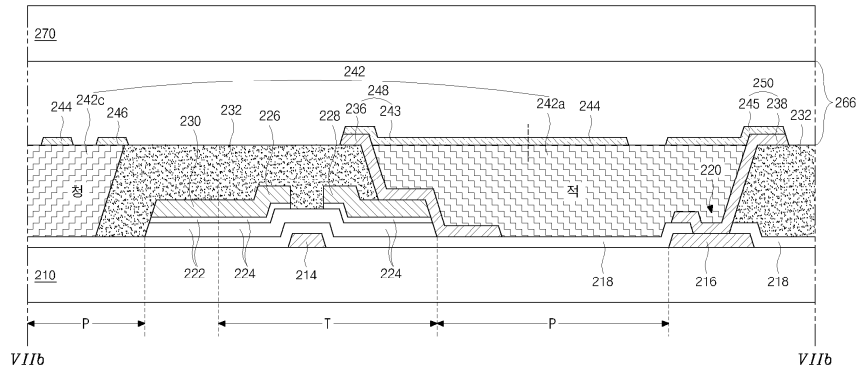
6f



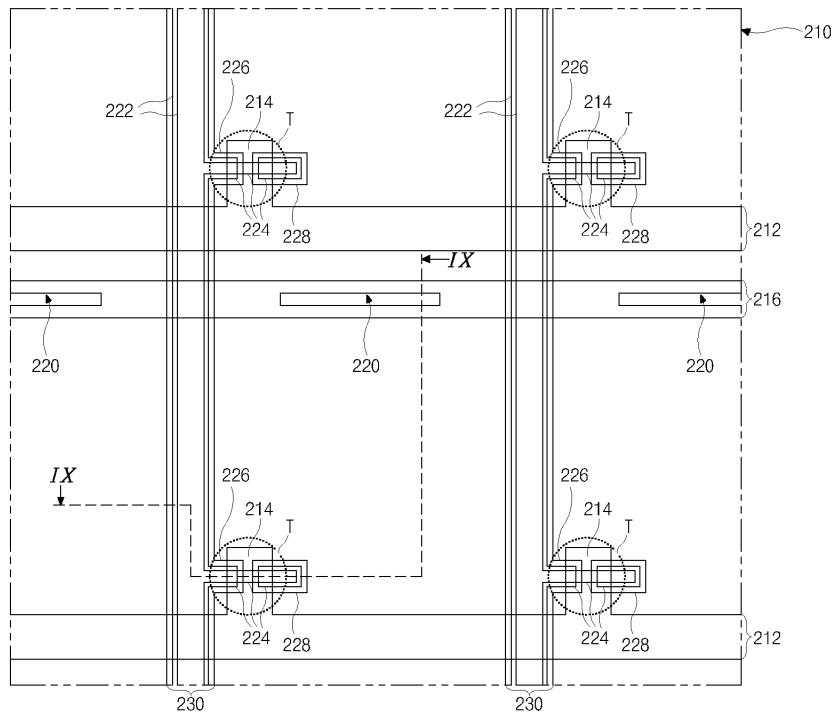
7a



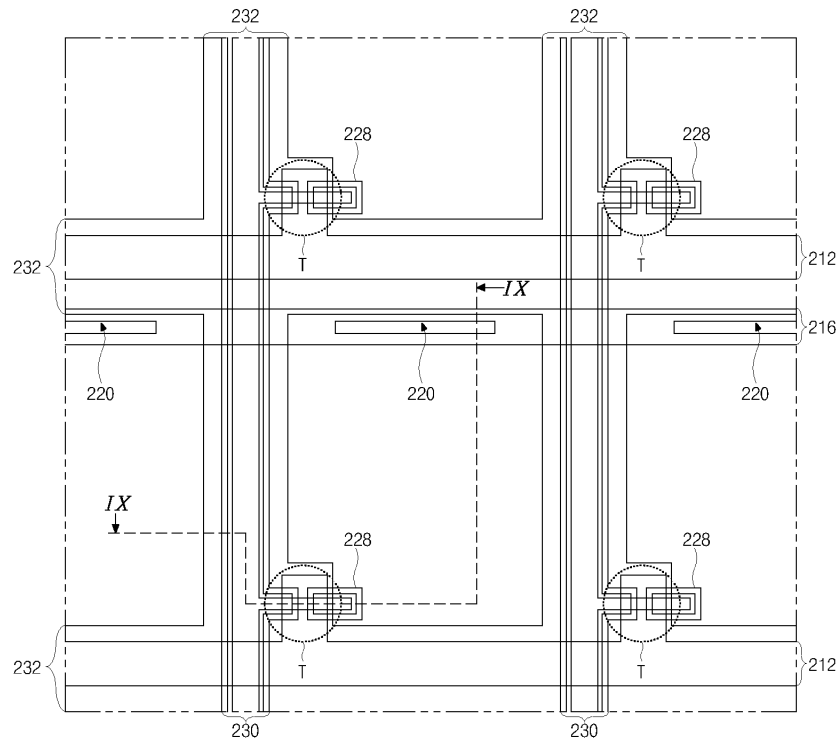
7b



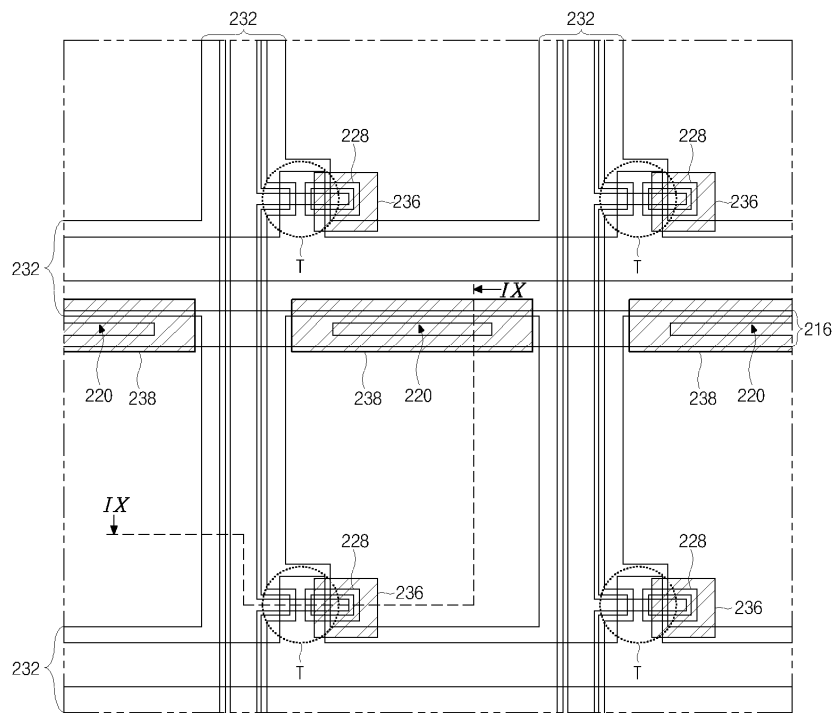
8a



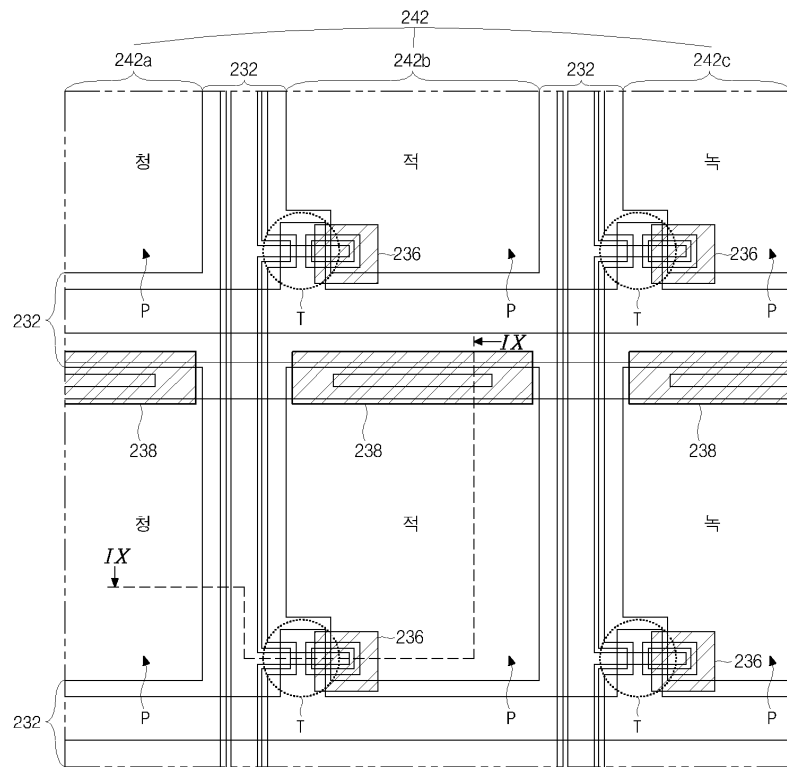
8b



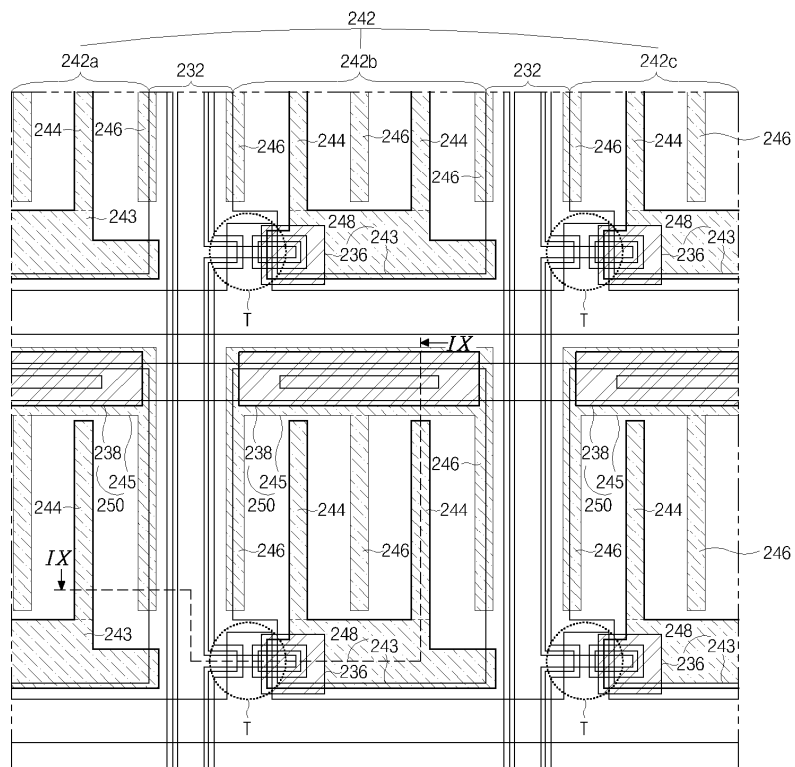
8c



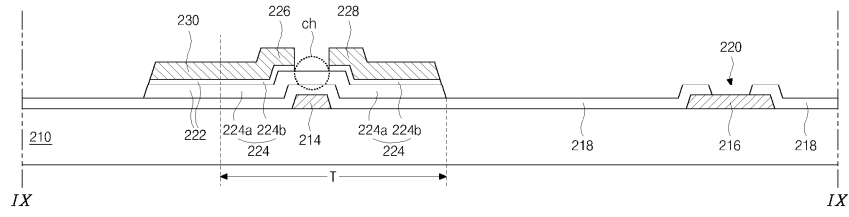
8d



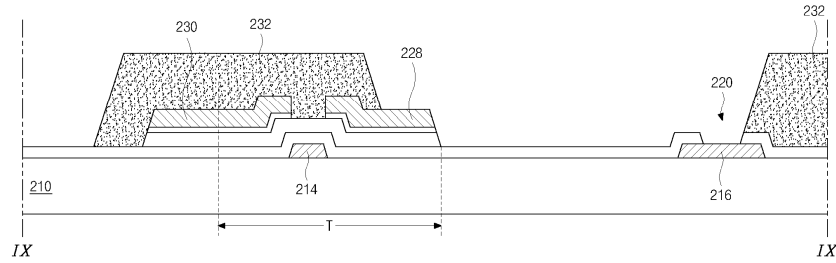
8e



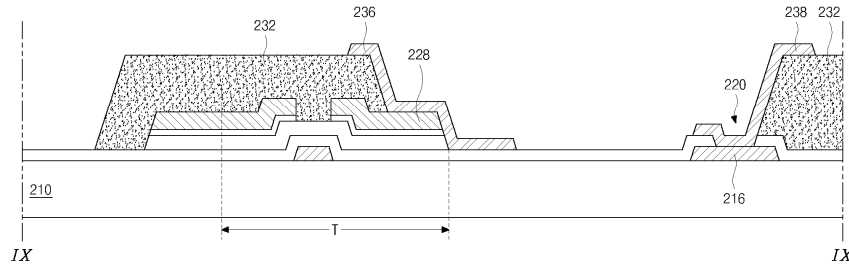
9a



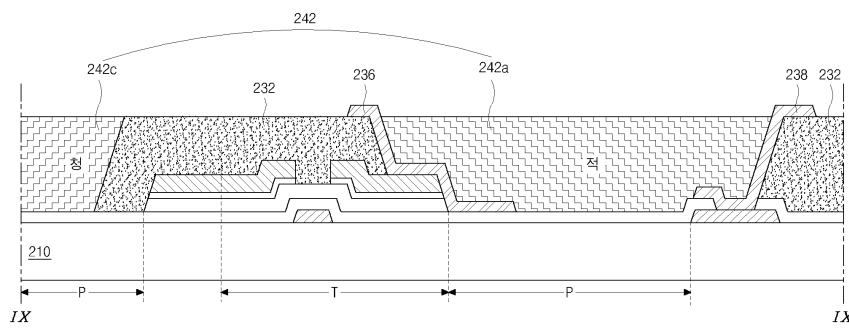
9b



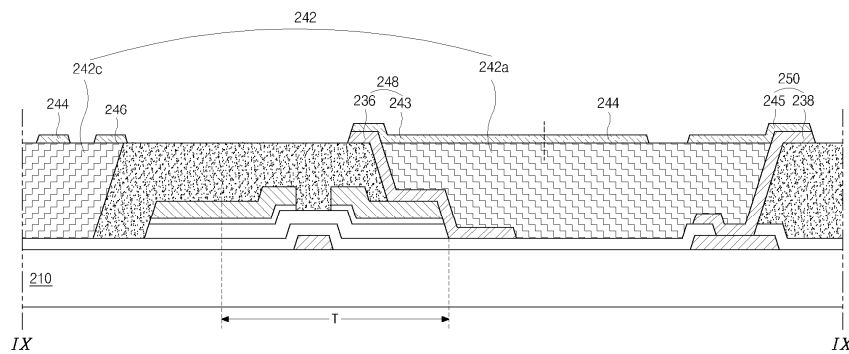
9c



9d



9e



专利名称(译)	横向电场型液晶显示装置及其制造方法		
公开(公告)号	KR1020050002140A	公开(公告)日	2005-01-07
申请号	KR1020030043466	申请日	2003-06-30
[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	AHN BYUNG CHUL 안병철 KIM WOONGKWON 김응권		
发明人	안병철 김응권		
IPC分类号	G02F1/1362 G02F1/1343 G02F1/136		
CPC分类号	G02F1/136227 G02F1/134363		
其他公开文献	KR100930919B1		
外部链接	Espacenet		

摘要(译)

在本发明中，面内切换模式LCD及其制造方法，用于防止开口率下降并改善图像质量第二绝缘层，在形成岛状图案的区域中具有优异的平滑性能，第一电极材料层和覆盖层形成第二电极材料层的第一电极材料层制造步骤和第二绝缘层上部连接到第一电极材料层并且具有实际的电极功能是在具有低电阻值的第一绝缘层上暗示的在它提供的第一种方法中。在第二种方法中包括将第一绝缘层形成第二绝缘层而将黑色矩阵形成滤色器层的制造步骤。以这种方式，可以获得孔径比改善和改善对比度以及串扰最小化效果。此外，还包括形成黑色矩阵和滤色器层的第一和第二绝缘层的COT结构。它具有孔径改善效果和通过去除对准边缘获得改善的对比效果的优点。

