

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷
G02F 1/136

(11)
(43)

2003 - 0021792
2003 03 15

(21) 10 - 2001 - 0055211
(22) 2001 09 07

(71) . 20

(72) 1027 - 15

1 1015 - 1

501 - 105

LCD

PANEL1Gr.

(74)
:

(54)

가

가

(align key)

7e

1 ,

2 ,

3 ,

4a 4c 3 - ' - ' - ' ,

5 3 - ' - ' ,

6a 6c 3 - ' - ' ,

7a 7e 3 - ' - ' - ' - ' , 1

8 7e K ,

9a 9d 3 - ' - ' - ' 2

10a 10d 3 - ' - ' - ' , 3

< >

111 : 123 :

125 : 129 : 1

131 : 135 :

137 : 139 :

141 : 143 : 2

149 : 151 : 3

153 : 155 :

157 : 159 :

161 : 163 :

165 :

(liquid crystal display device)
(Transflective liquid crystal display device)

(backlight)
(power consumption)

1

(13) (15) (11) (16) (17)
(21) (P) (T) (25,39)

(D) (A) (2 49) (2 61) (B)

(15) (21) (14)

2

(21) (49) (61) (11) (13) (21) (15) (A)
(14) (21) (41) (15)

(11) (reflective mode)

5) (F2) (49) (13) (1)
(14) (14) (F2) (Image)

1) (F1) (Transmission mode) (21) (4)
(41) (61) (13) (61) (14) (14)
(41)

3

(21) (T) 가 (T)가 (matrix type)
(25) (39)

가 (25) (27)가 , (27) (25)

가 (39) (41)가 , (41) (39)

3) (27) (41) 가 (65) . (6)

, (25) (39) (25) (39) (align key)(80)가 , (21)

(align key)(80) (25)

, (25) (39) (P)

(25) (C)가 ,

(31) (T) (23) (35) (37)

, (P) (49,61) (61) (49)

, (B) (D)

, 4a 4c , 3

4a 4c 3 - - -

, 4a (21) (23) (25) (25) (21) 1

(29) (27) , (25)

4000 (29) (SiN_x) (SiO₂)

, (23) (29) (31)(active layer)

(33)(ohmic contact layer)

(39) (33) (35) (37) , (35)

(41)

, (P) (25) / (43)

, 4b (39) (21) 2

(45)

(45) (BCB) (acryl) (resin)

3 (45)

3 (47) PECVD (SiN_x) (SiO₂)

(45) 3 (47) (49)

(ion) (45) (sputtering) (45)

(chamber)가

(AlNd) 3 (47) (21) (Al) (P) (A)

(49)

4c (SiO₂) (49) (21) 4 (SiN_x) (51)

4 (51) (37) (53)

(43) (57) (55) (27) (41)

(59)

(21) (ITO) (IZO)

(P) (61) (37) (43)

(27) (63) (41)

(65)

(25) (align key) (3 80)

(80) (21)

5

5 3 가 .(- ')

(21) 4a (25) (23)

(25) (23) (80)

(80) (21)

(80) 1 (29) 2 (45) (4)

9) 3 (47) 3 (47) 4 (51)

6a 6c

6a (47) , (AI) (4c 49) (AINd) (48) , 3
 , (80) (48) (G) PR (82) , PR (82)
 (84) .
 , 6b (develop) ,
 (48) .
 (80) (48) (H) ,
 (48) (misalign) .
 (6a 84) (21) (misalign) .
 , (4c 49) () (21) 가
 (80) ,
 () (80)가
 가
 (80) ,
 (80) () (80)
 (80) (80)
 , (80)
 , (80)
 , (4c 49) (47)
 (48) , (48) (80) .
 , 6b , (80)가 .
 1 (29) 2 (45) , (80) (80)
 , 6c (H) (80)
 (48) , (I) (86) (8
 7) (21) (80) .((4b A)
 (J) .)
 , PR (82) , (P)
 (A) 가 (49) .
 , 4c .

(leakage current)가

가

가

가

가

가

가

1

1

2

3

2

3

2

1

2

(SiN_x)

(SiO_x)

3

(BCB)

(acryl)

(resin)

1

1

1

2

3

2

3

1, 2, 3 , . ;

1 ; 1 ;

2 ; 2 ;

3 ; 3 ;

3

2 (SiN_x) (SiO_x)

-- 1 --

7a 7e .(100 .)

7) 가 7a (125) , (111) (123) (12

(111) (180)

(Al) RC (delay) (hillock) (Al/Mo)가

(125) (111) (SiN_x) (SiO_x)

(129)

(123) (129) (n+a - Si:H) (a - Si:H)

(131)(active layer) (133)(ohmic cont

act layer)

, (133) (Cr), (Mo), (Sb), (Ti)
 (141) (135) (137) (135)
 (138)

, (125) (139)

, 7b (SiO₂) (138) (111) (SiN_x)
 2 (143) (143)

, 2 (143) (align key)(180)

, (143)

Al) , 7c , 2 (148)

, (149) 2000 (148)
 2 (143) ()

180) , (148) (

, 7d (P)
 (A) (149)

3 (149) 7e (149) (111)
 (BCB) (photo acryl) (resin)
 (151) (151) 1 2 (129,143)
 (155) (137) (153) (139)
 (159) (127) (157) (141)

, (111) - - (ITO) - - (IZO)

(P) , (137) (139)
 (161)

, (127) (141) (163)
 (165)

, 1

, 1 2 3

8

2

8 7e K .

가 , SF₆/O₂ 3 (151) 2 (143)

(2 (143) , 2 (143) 가 3 (151)) (under cut) .

, 2 (143) 3 (151) (L)가 .

, , 2 .

2 .

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2 . (2 , 1

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, 9a 9d .

9a 9d 3 - \ , - \ , - \ .

, 9a , (222) (223) , (227) 가

(225) .

, (222) 가 ()

act layer) .

(Al) , RC (delay) (hillock)

, (225) (222) (SiN_x) (SiO_x)

(229)

, (223) (229) (n+a - Si:H) (a - Si:H)

(231)(active layer) (233)(ohmic cont

, (233) (Cr), (Mo), (Ti), (Sb)

, (235) (237) , (235)

(241) (238)

(215) (239)

SiO_x) , 9b (SiN_x) (

2 (243)

, 2 (align key)

,
 , 2 (243) (Al) (P)
 (A) (249)
 , (249) 2000
 2 (143) ()
 ,
 , (249) (249) (249)
 (photo - resist layer) (251) 1
 , 9c , 1 1 (243)
 (229)
 , 9d (249) 가
 (222) (BCB) (photo acryl) (resin)
 3 (253) (253) 1 2
 (229, 243) (237) (255)
 (239) (257) (227) (257)
 (241) (261)
 , 가
 , 1 1 2 , 2
 (243)
 , (222) - - (ITO) - - (IZO)
 (239) (P) (263) (237)
 , (227) (241) (265)
 (267)
 , 3 1 2
 - - 3 - -
 ell - gap) (dual c
 .(, (dual cell gap) , 가
 .(2 .)

10a 10d 3

10a 10d 3 - \, - \, - \

27) 가 (325) (333) (323) (3)

(333) ()

(325) (322) (SiN_x) (SiO_x)

(329)

(323) (329) (a - Si:H)

(331) (active layer) (n+a - Si:H) (333) (ohmic cont

act layer)

(333) (Cr), (Mo), (Ti), (Sb)

(335) (337) (335) (341)

(338)

10b (335) (337) (338)

(333) (SiN_x) (SiO_x)

2 (343)

2 (align key)

2 (343) (Al) (P)

(A) (349)

(349) 2000 2

(343) ()

(349) (349) (349)

(photo - resist layer) (351) 1

10c 1 1 (343)

(329)

(349)

10d (349) 가

(322) (BCB) (photo acryl) (resin)

43) 3 (353) , (353) 2 (3
(357) (337) (355) (A)

(A) (357) ,
(349)

가

327) (361) (339) (341) (359) (363) (

2 (343) 가 가 , ,

(349)

(333) - - (ITO) - - (IZO)
(339) (P) (365) (337)

(369) (327) (341) (367)

3

가

가

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가

(57)

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(SiN_x)

(SiO_x)

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(BCB)

(acryl)

(resin)

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(SiN_x)

(SiO_x)

8.

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(BCB)

(acryl)

(resin)

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11.

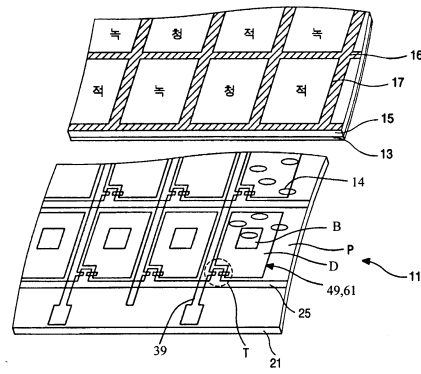
9 ,

2

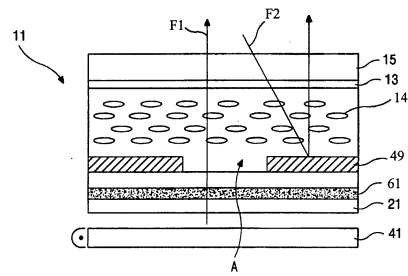
(SiN_x)

(SiO_x)

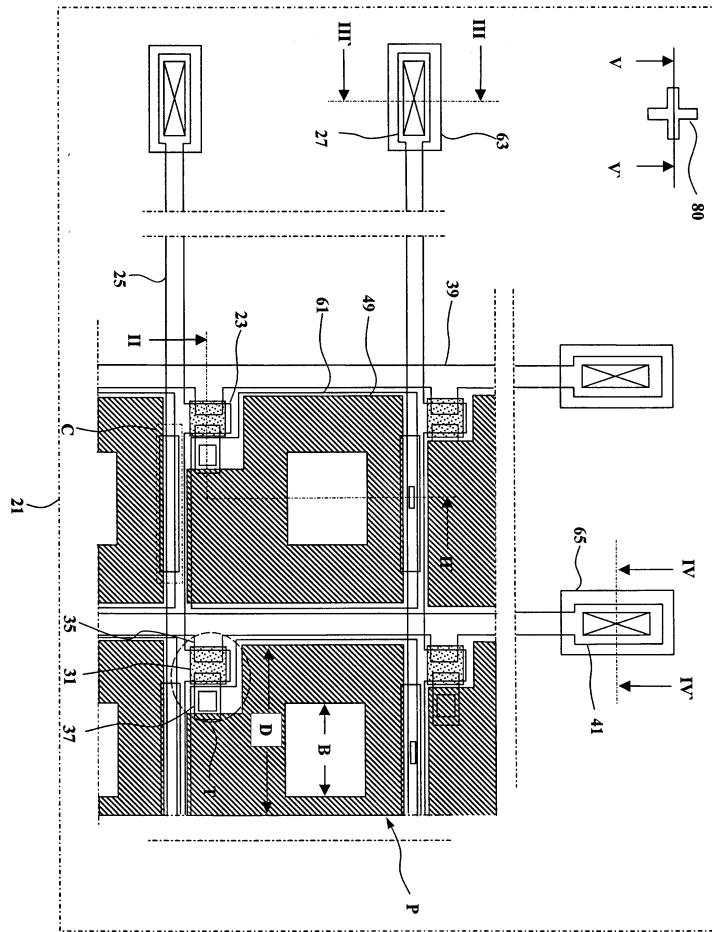
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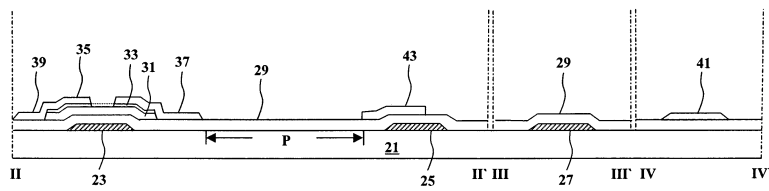
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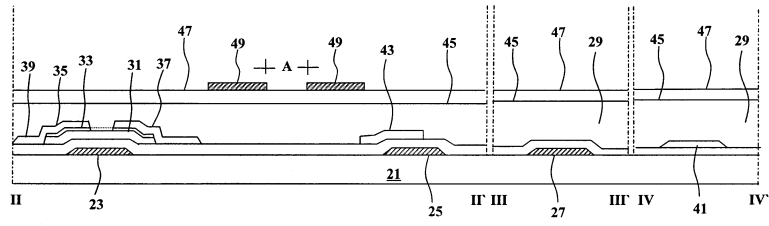
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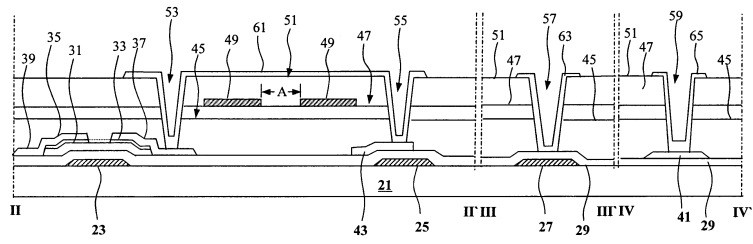
4a



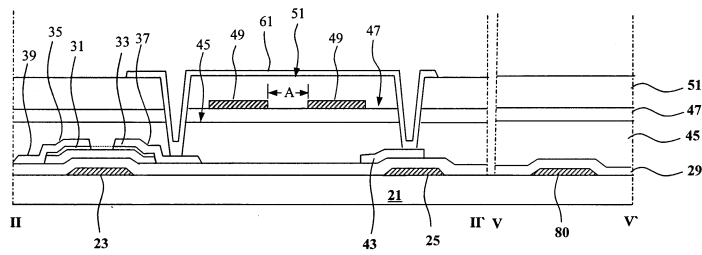
4b



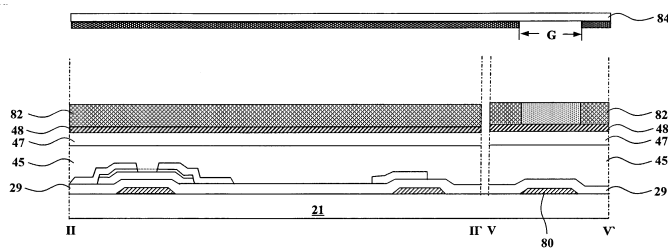
4c



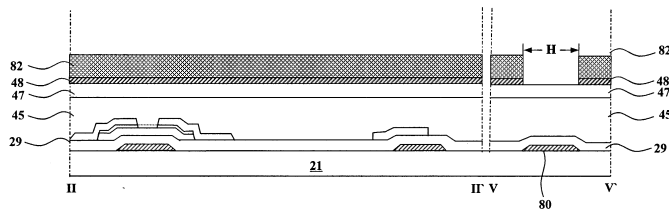
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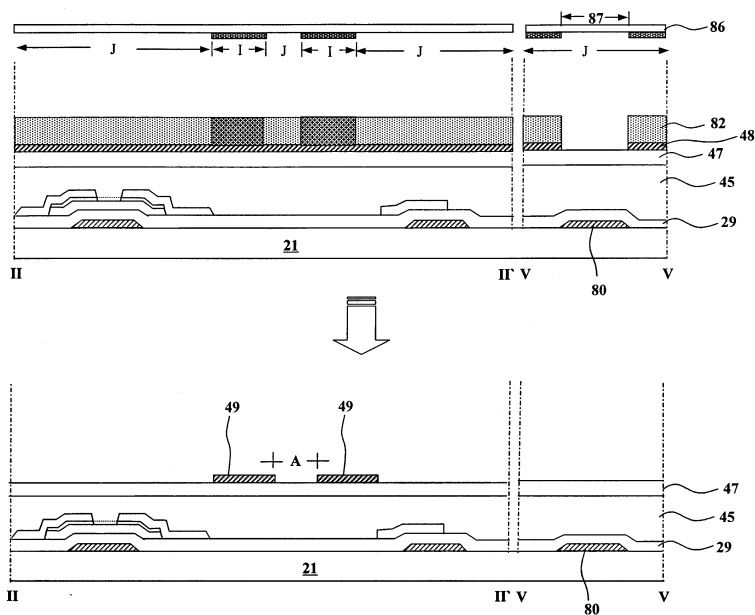
6a



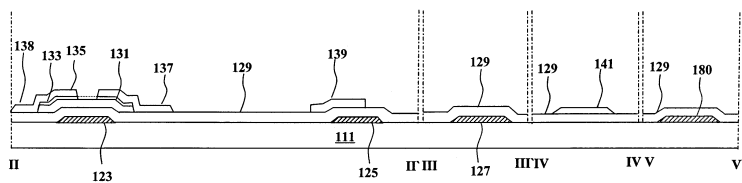
6b



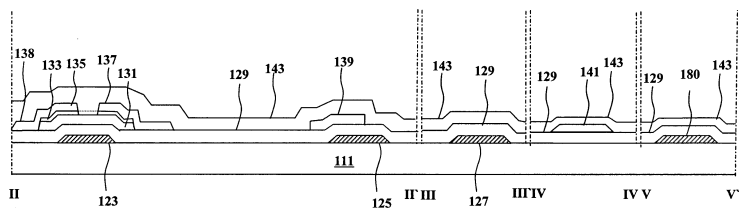
6c



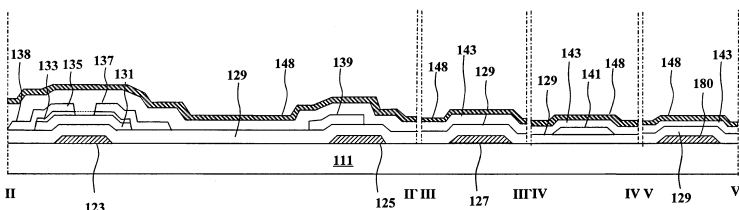
7a



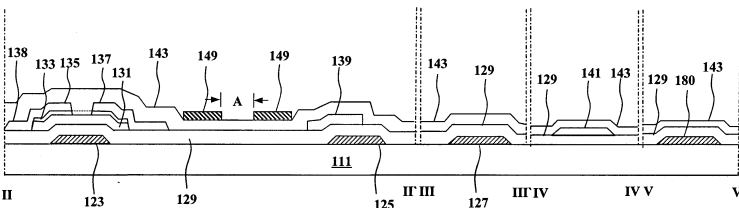
7b



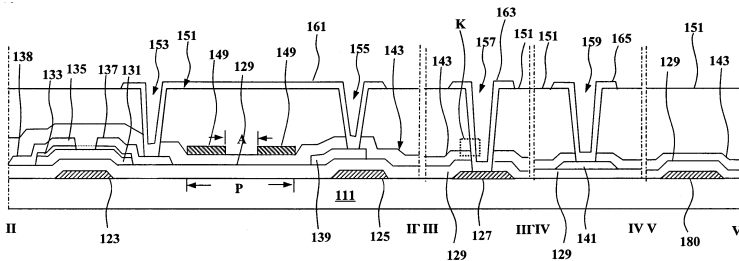
7c



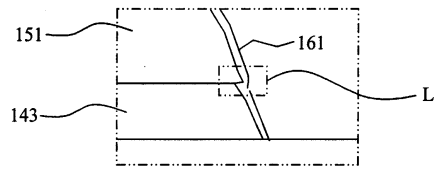
7d



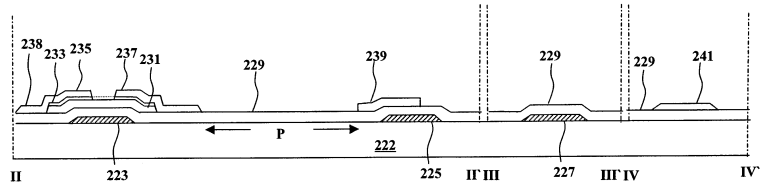
7e



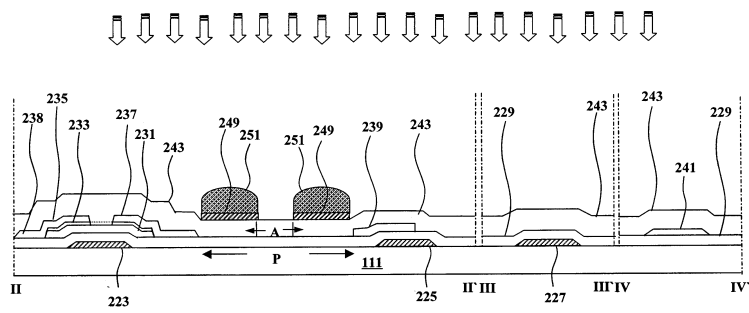
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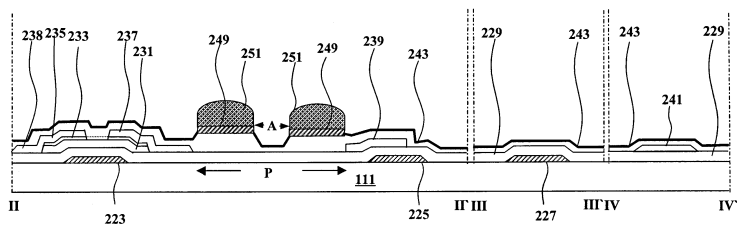
9a



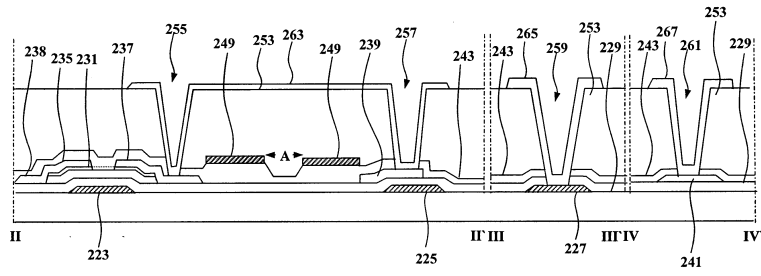
9b



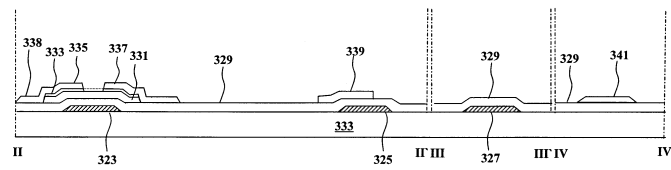
9c



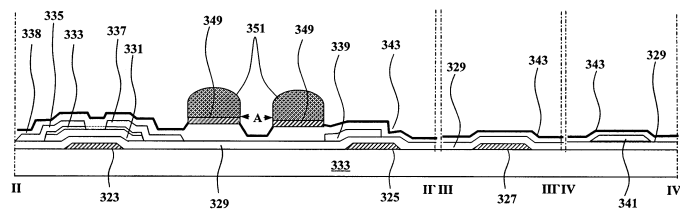
9d



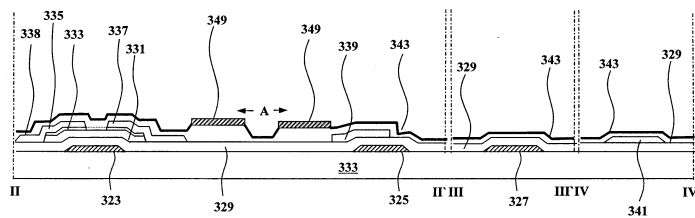
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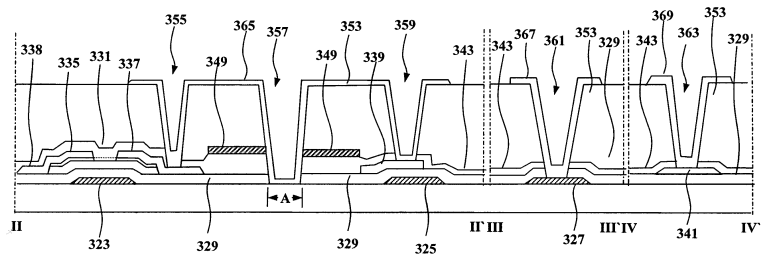
10b



10c



10d



专利名称(译)	反射型透射式液晶显示器的阵列板及其制造方法		
公开(公告)号	KR1020030021792A	公开(公告)日	2003-03-15
申请号	KR1020010055211	申请日	2001-09-07
[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	HA KYOUNGSU 하경수 KANG WONSEOK 강원석 LIM JOOSOO 임주수 KIM SEDUK 김세덕		
发明人	하경수 강원석 임주수 김세덕		
IPC分类号	G02F1/1335 G02F1/136		
CPC分类号	G02F1/133555		
其他公开文献	KR100483358B1		
外部链接	Espacenet		

摘要(译)

本发明涉及一种半透射型液晶显示装置，其中，反射体和透射部分尤其构成单个像素区域的液晶显示器。根据本发明的透射型阵列面板的结构是，在反射器的上部形成透明电极和反射器中的有机绝缘膜，在薄膜晶体管和反射器之间形成无机绝缘膜。此外，在该构造中，蚀刻槽形成在与透射部分对应的区域上，并且透射部分的单元间隙包括成为反射体的两倍。如上所述的配置改善了薄膜晶体管的性能特性。可以省略用于暴露在阵列面板中的反射器的形成中执行的初始金属图案化工艺中形成的对准键的蚀刻工艺。由于省略了单层的绝缘层，因此可以提高产品的产量。此外，其中对应于传输孔的区域被组织在单元间隙上。由于减小了反射体和透射部分的色差，可以提高显示质量。

