

(19) (KR)  
(12) (A)

(51) 。 Int. Cl.<sup>7</sup> (11) 10-2004-0087069  
G02F 1/1343 (43) 2004 10 13

(21) 10-2003-0021313  
(22) 2003 04 04

(71) 416

(72) 1167 523 1305

1 1035-10

(74) :

(54)

가 가

가 1 2 2 1

1

1 1 ,

2 1 II-III ,

3 1 III-III' III'-III'' ,

4a	4b	1	
	,		
5a	5b	4a	4b
			,
6	2		,
7	6	VII - VII'	,
8	6	VIII - VIII'	VIII' - VIII''
			,
9a	9b	2	
	,		
10a	10b	9a	9b
			,
11a	11b	10a	10b
			,
12	13	3	,
14	15	4	,
16	17	5	,
18	19	6	.
	121,	131,	
	123,	133a, 133b, 133c, 133d,	
	171,	190,	
	173,	91,	
	175,	191,	
	271		

(color filter)

가 ,

가 . ,

, 가 .

가

가 1 ,

1  
가 2 , 1 2  
1 , 2

가 1 2  
가

2 , 1 1 45 2 1  
-45

1 3 , 3 2 2  
2 ,

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

, 1 45 , 2 -45

1

1

1

가

가

1

1

가

[illegible]

(121, 123, 125) (131, 133a, 133b, 133c, 133d) (140)

(140) (151, 154) (15) (154) (171)

(151) (151, 154)  $n$   $n+$  (161, 163, 165) (163)

(161) (173) (175) (161, 163, 165)

(165) (161, 163, 165) (140) (171, 173, 175, 179)

(171, 173, 175, 179) (121) (171), (171),

(171) (163) (173), (173)

(123) (173) (165)

(175) (171) (179)

(171) 5 4 가

4 5 4

2 ( ' + ' .) (121) 45 ' 2 ( ' - ' 4

.) (121) -45 , + 2 가 - 2 가

가 - 2 , (171) + 2

가 - 2

(121) (171)

(133a, 133b) (171)

(171, 173, 175, 179) (180) (1) (180) (180)

(180) (180)

(180) (183b)가 (181b) (179) (179) (182b)

(180) (140)

(181b, 182b, 183b) (181a, 182a, 183a) 30 85

가 , (profile) 가 .

(181b, 182b, 183b) 가 , 2mm×60μm

, 0.5mm×15μm

(180)

(180) (181b) (175) 가

(191) (190) 2 (190)

(180) (182b, 183b) (125) (179)

(95, 97)가

(180) (121) (133a) (131) (183,  
 (91)가 (133a) (91) (180) (140) (91)  
 184) ( ) (131) (91) (110) (171)  
 (121) (121)  
 (91)  
 (190), (95, 97) (91) ITO(indium tin oxide) IZO(indi  
 um zinc oxide)  
 (210) (220)  
 (230)가 (230) (250) (271) 가  
 (270) ITO IZO  
 (230) (220)  
 (270) (271) (<) (191)  
 (190) (271)  
 (171)  
 (3)  
 1  
 (3) (190) (270) 가 가  
 가 (110) (210) 가  
 (110) (210) (190) (230) (191)  
 (191, 271) (271) 4  
 (121)  
 (191, 271)  
 (121)  
 45  
 (171) 가 가 (171) 50%  
 20% 가 (171) 가 가  
 가 (171) 가 (180)  
 4a 4b 1 4a 4b  
 , 5a 5b  
 4a 4b , Cr Mo 1 (211, 231, 251, 331a, 33  
 1b) Al Ag 2 (212, 232, 252, 331a, 331b)  
 (121, 125) (123) (131) (110)  
 (133a, 133b, 133c,

133d) .( 1 )

, (140), 1,500 (P) n 5,000 , 500 2,000 , 300 600

가 (151, 154) .( 2 )

, Cr Mo 1 (711, 731, 751, 791) , Al Ag 2 (712, 732, 752, 792) 1,500 3,000 (171, 179), (173), (175) .( 3 )

, (173) (175) 가 (173) (175) (154) (163, 165) .

1) , 7a 7b , (180) , (50) 가 (500) .

, (501) (181b, 182b, 183b) 가 (181a, 182a, 183a) a, 182a, 183a) . (181

(180) (501) 가 (180) 5a 5b (181b, 182b, 183b)가 (181a, 182a, 183a) , 가 .

, (180) (181b, 182b, 183b) (181a, 182a, 183a) .( 4 )

, 4 5 (181b, 182b, 183b) 2 (252, 7 52, 792) , ITO IZO 400 500 (95, 97) (91) .( 5 )

5 , 4 6 11b .

6 6 VIII'-VIII' VIII'-VIII' , 7 6 VII-VII' ,

2 4 가 5

(171, 179), (173) (175) (173) (175) 가 가 (161, 163, 165, 169) (151, 154, 159) 가 .

가 .

9a 9b 2 9a 9b , 11a 11b 10a 10b , 10a 10b .

, 9a 9b , Cr Mo 1 (211, 231, 251, 331a, 331b) ) Al Ag 2 (212, 232, 252, 331a, 331b) , (110) (121, 125) (123) (131) (133a, 133b, 133c, 133d) .( 1 )

, (160) (140), (150), n  
 600 Ag 2 Cr Mo 1,500 5,000 1,500 2,000 , 300 Al  
 1 $\mu$ m 2 $\mu$ m (702) (701) (PR)  
 , (PR) , 9a 9b , 가  
 가 (PR) (PR) .  
 (PR) , (173) (175)  
 ( ) 가 ,  
 , 4,000 .( 2 ) 1/2 ,  
 , 가 가 , 9a 9b  
 (slit) .  
 , , 가 가 .  
 , 가 가 .  
 , 가 가 .  
 , 가 가 .  
 , 가 가 .  
 , (PR) , 1 2 (701, 702), (160) (150)  
 , 3 (150, 160, 701, 702) (140)  
 , 1 2 (701, 702) , 1 2 (160)  
 (PR) (PR) 가 (PR) (701, 702)  
 , 2 (702) .  
 , 1 2 (701, 702) 1 2 (701, 702)  
 , 702) (160) .  
 , (160) (PR) (150) (160) (150)(  
 ) (140)  
 (PR) (150) 가 , SF<sub>6</sub> H  
 Cl (PR) (150) O<sub>2</sub> (150) (160)  
 , 2 (702) , (160) (150)  
 (140) , 가  
 (151, 154, 159) .

(ashing) (C) 2 (702) .

, 10a 10b 1 2 (701, 702) (160)

, 1 2 (701, 702) (160) (160)

. 1 2 (701, 702) (160) 가

. 가 (154)

(701, 702) (160)

HCl (160a, 160b) (151a, 151b) CF<sub>4</sub> O<sub>2</sub>

(154) , CF<sub>4</sub> O<sub>2</sub>

, (173) (175) (171, 173, 175, 179)

(161, 163, 165, 169) .

, 13a 13b (180) , (

501) 가 (500) .

, (501) (181b, 182b, 183b) 가 (181

(181a, 182a, 183a) a, 182a, 183a) .

, (501) 가 (180) 11a 11b

, (180) (181b, 182b, 183b)가 (181a, 182a, 183a)

, (180) (181b, 182b, 183b) (181a, 182a, 183a) .( 3 )

(180) 4 ,

(181b, 182b, 183b) .

, 6 8 (181b, 182b, 183b) 2 (252,

752, 792) , ITO IZO 400 500 (19

0) (95, 97) (91) .( 4 )

, (190), (95, 97) (91) IZO

. (HNO<sub>3</sub>)/(NH<sub>4</sub>)<sub>2</sub>Ce(NO<sub>3</sub>)<sub>6</sub>/H

2 O) , IZO (target) In<sub>2</sub>O<sub>3</sub> 200 ZnO ,

ZnO 15-20 at% .

, ITO IZO (pre-heating)

, (181b, 182b, 183b)

. 1 2 가 3 6 .

3 1

가

12 13 3 .

, .

23) (110) 가 (121) (125) , (121) (1

(110) (121) (131) (131)  
 (133a, 133b) (133a, 133b) 가 (133c)  
 (133a, 133b) (133d)가 .

(121, 123, 125) (131, 133a, 133b, 133c, 133d) Cr  
 Mo 1 (211, 231, 251, 331a, 331b) Al Ag  
 2 (212, 232, 252, 332a, 332b) (121, 123, 125)  
 (131, 133a, 133b, 133c, 133d) 3

(121, 123, 125) (131, 133a, 133b, 133c, 133d) (140)

(140) (151, 154) (15)  
 1, 154) (154) (171)  
 (151)

(151, 154) n n+  
 (161, 163, 165) (161, 163, 165)  
 (161) (173) (175) (163)  
 (165)

(161, 163, 165) (140) (171, 173, 175, 179)  
 (171, 173, 175, 179) (121) (171),  
 (171) (163) (173), (173)  
 (123) (173) (165)  
 (175) (171) (179)

(171) 5 4 가  
 4 5  
 2 ( ' + ' .) (121) 45 , ' 4  
 (121) -45 + 2 가  
 (171) + 2  
 가 - 2

(121) (171)

(133a, 133b) (171)

(171, 173, 175, 179) 1 (801)

1 (801) (230R, 230G, 230B)가 (230R, 230G, 2  
 30B) (171)  
 (230R, 230G, 230B) (230R, 230G, 230B)가 (171)  
 (171)

(230R, 230G, 230B) 2 (802) 2 (80  
 2) (230R, 230G, 230B)

(175) (179) 1 2 (801, 802)  
 (175) (179) (179) (181b, 183b)가  
 (179) 1 2 (801, 802) (140)

(179) (182b)가 .

(181b, 182b, 183b) (181a, 182a, 183a) 30 85  
가 , (profile) 가 .

(181b, 182b, 183b) 가 , 2mm×60μm  
, 0.5mm×15μm .

(230R, 230G, 230B) (175) (175)  
(181b) 1 2 (801, 802) , (125)  
(179) (230R, 230G, 230B) .

, 2 (802) .

2 (802) (181b) (175)  
(190) .

(180) (182b, 183b) (125) (179)  
(95, 97)가 , (190) (95, 97) ITO(indi  
um tin oxide) IZO(indium zinc oxide) .

, .

(220) (210) ITO IZO (220)가 , (27  
(271) 가 (27  
0) .

(3) (3)  
3 .

(3) 가 (110) (210) (190) (270) 가 가 가 .  
가 , , (121) .

1 (230R, 230G, 230B)가  
, (250) 가 .

1 (180) , 1 (181b, 182b, 183b)  
, 1 (801) , 가 가 , 3  
(230R, 230G, 230B) , 2 (802) 1  
, 2 (802) 2 (802) 1  
(801) .

14 15 4 .

4 2  
가 .

4 3 가 .

(171, 179), (173) (175)  
(161, 163, 165, 169) , (173) (175) 가  
(151, 154, 159) 가 .

[illegible]

(57)

1.

,

가 1,

1  
가 2 ,

1 2 ,

1 , 2

$\frac{1}{2}$ ,  $\frac{1}{2}$ ,  $\frac{1}{2}$  가 .

2.

1 ,

1                      1                      45                      2                      1

-45                      .

**3.**

1 ,

$$1 \quad 3 \quad , \quad 3 \quad 2$$

4.

1 ,

$$2 \qquad 2 \qquad .$$

**5.**

,

,

,

,

1 ,

$$1, \quad \text{가} \quad 1 \quad \text{가} \quad 2, \quad 2$$

**6.**

5 ,

1 45 , 2 -45

7.  
5 ,

8.  
5 ,

1

9.  
8 ,

1

10.  
5 ,

1 , 1

11.  
10 ,

가

12.  
10 ,

가 1

13.  
12 ,

1 가

14.  
10 ,

2 1

15.  
10 ,

2

16.  
15 ,

1 2 30 85 가 .

15                      17.

1. 2가 .

5 18.

가

19.

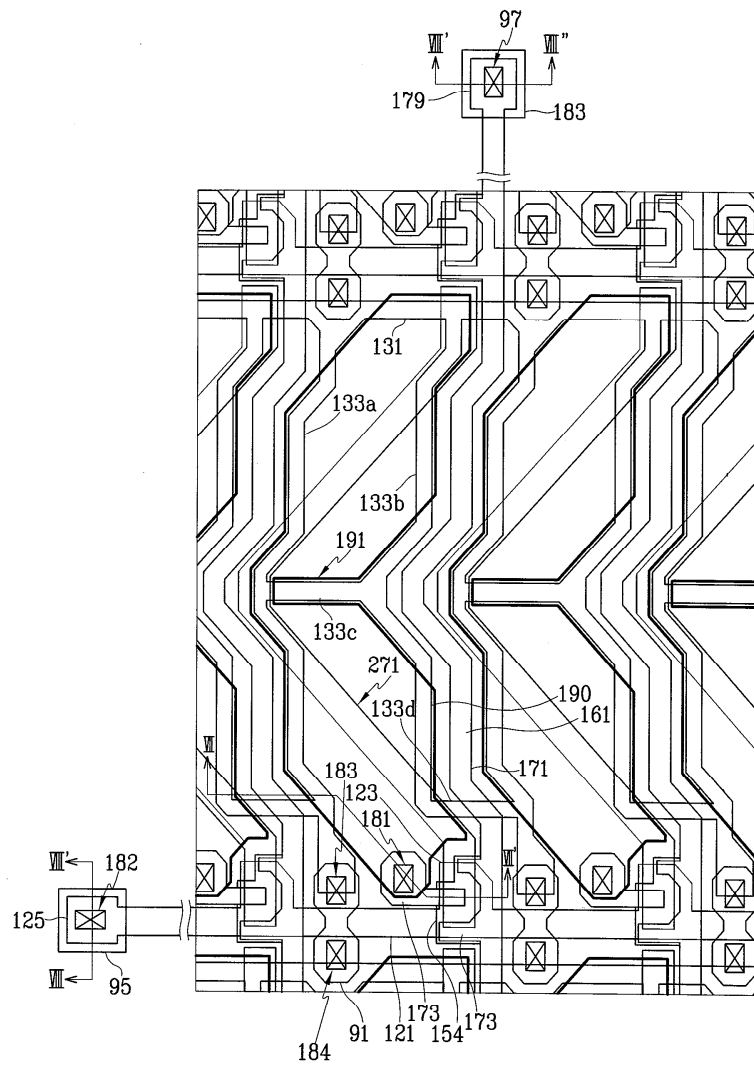
19                      20.

가	1	2
---	---	---

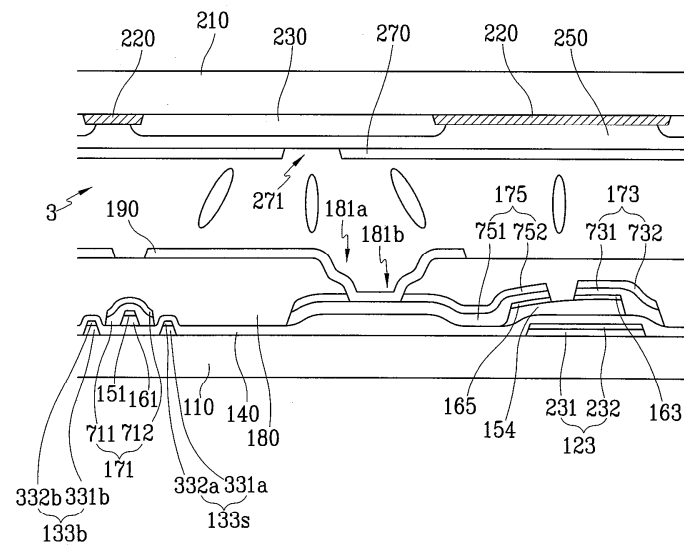
19                      21.

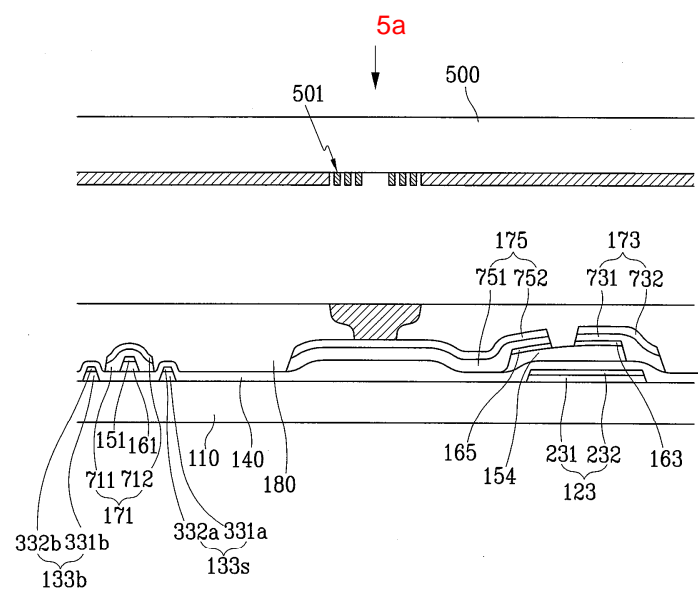
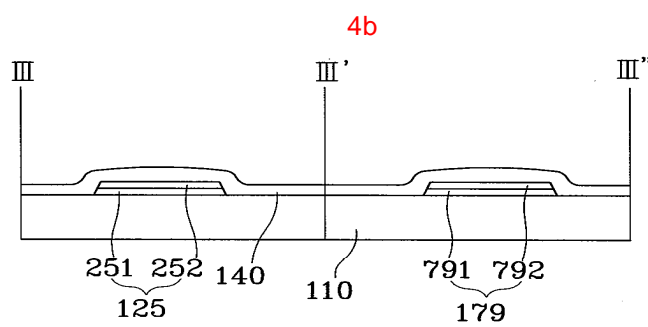
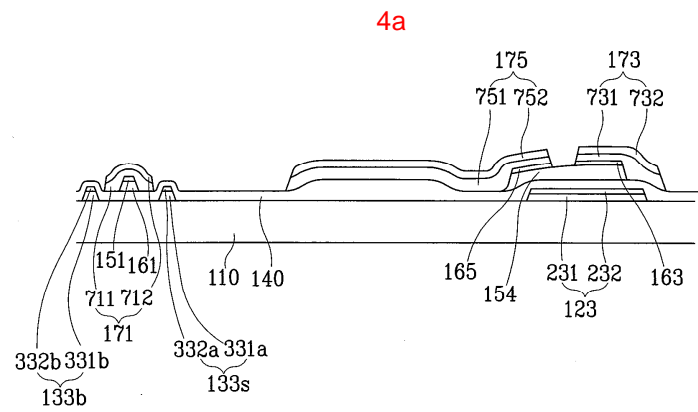
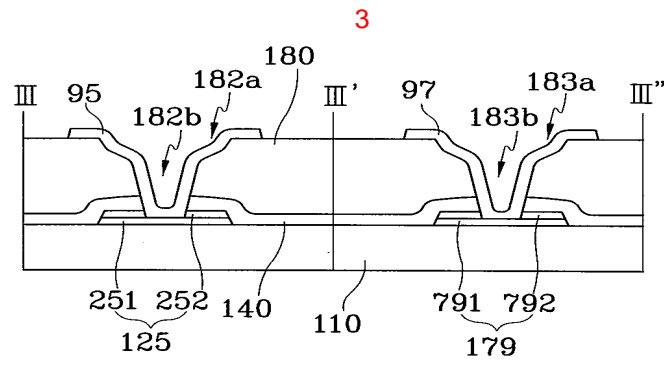
가 .

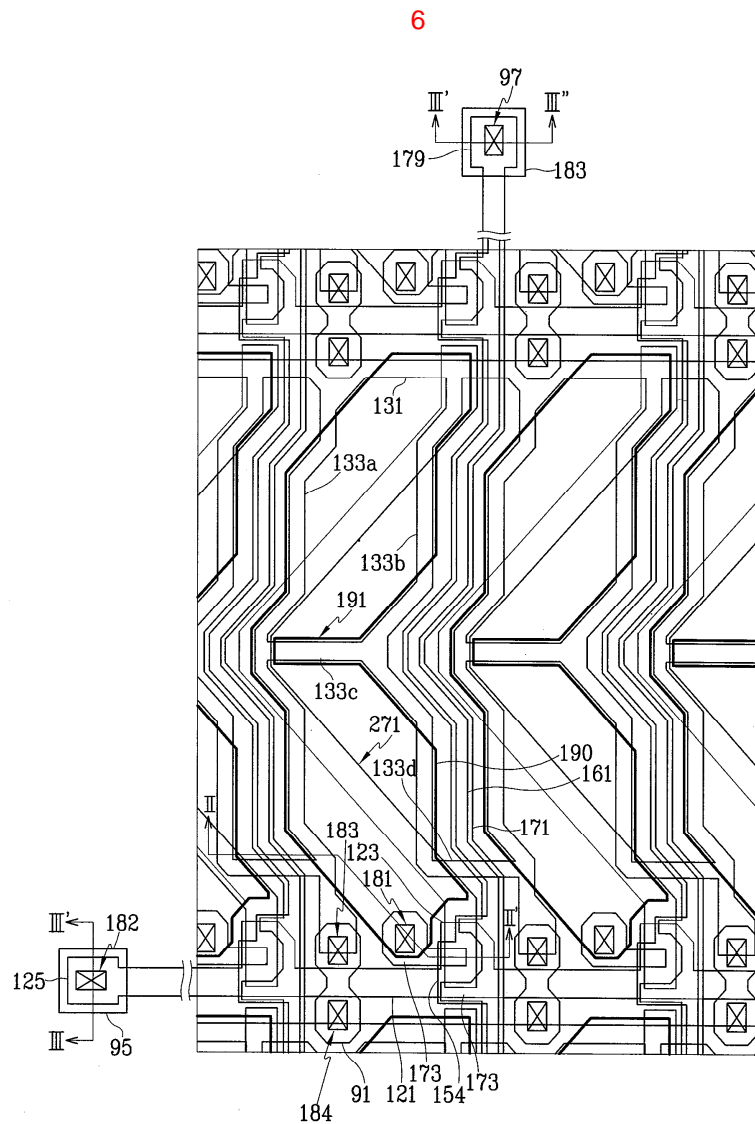
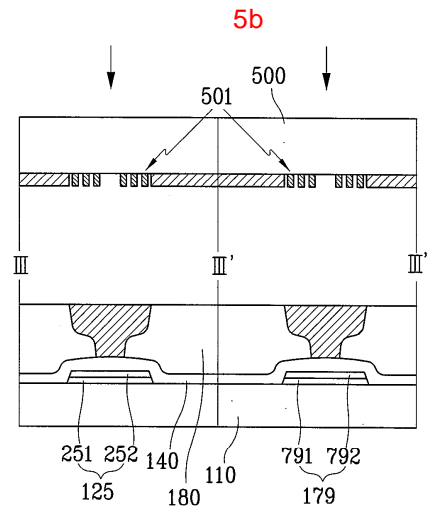
1

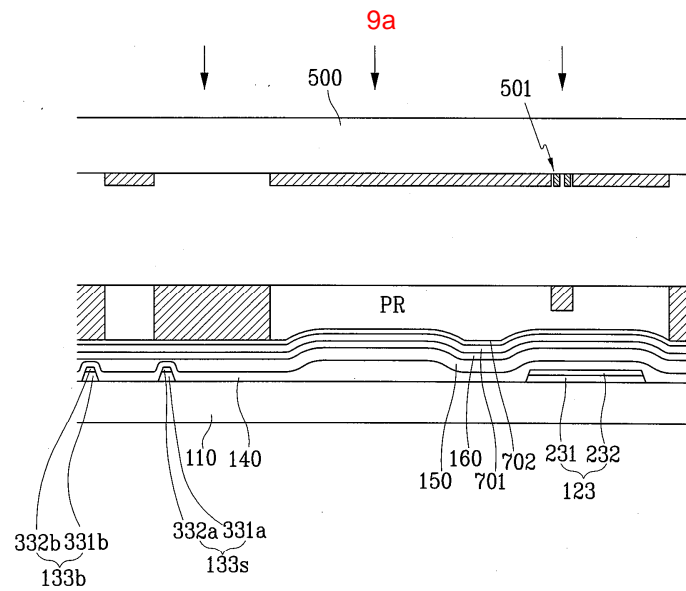
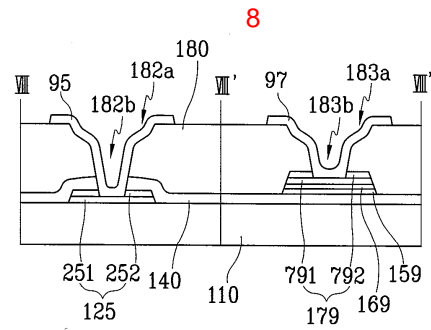
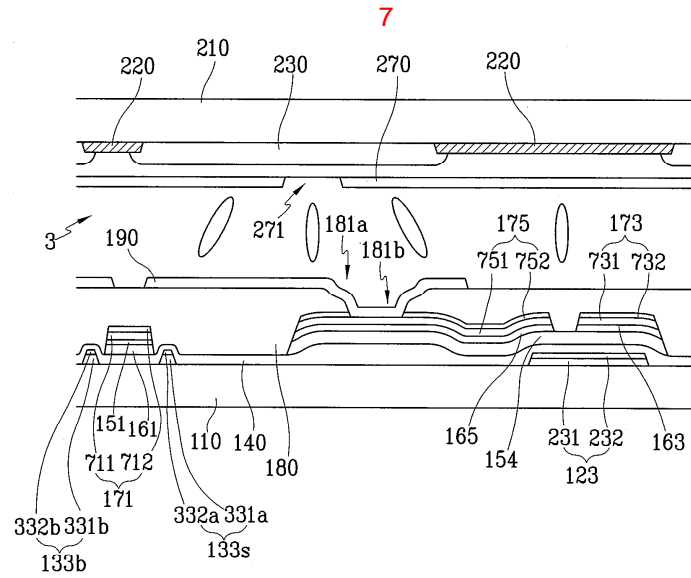


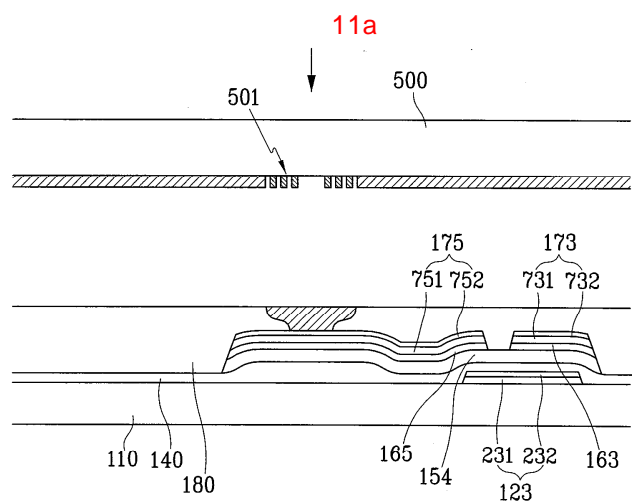
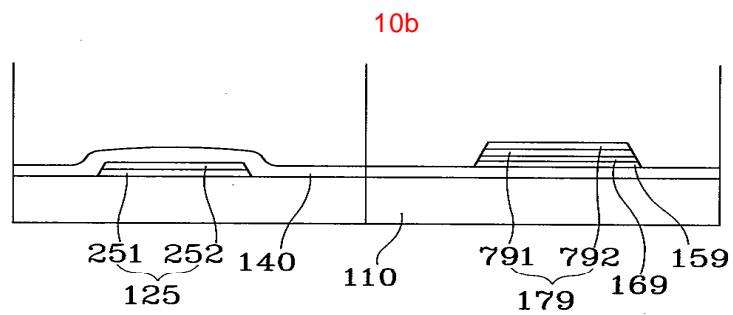
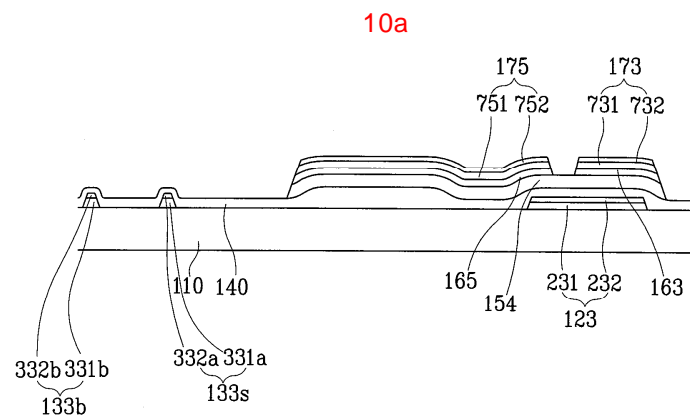
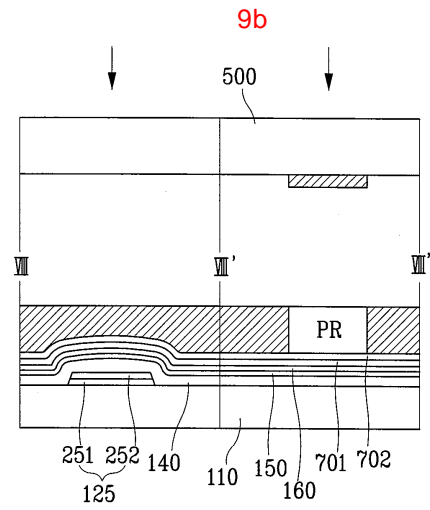
2



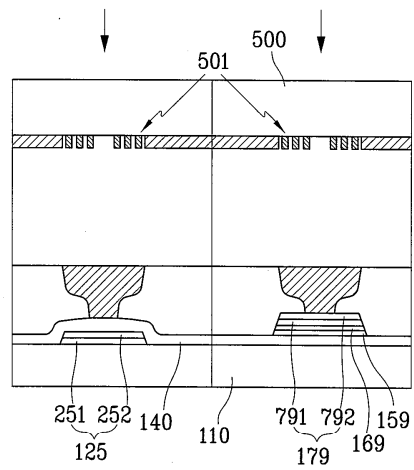




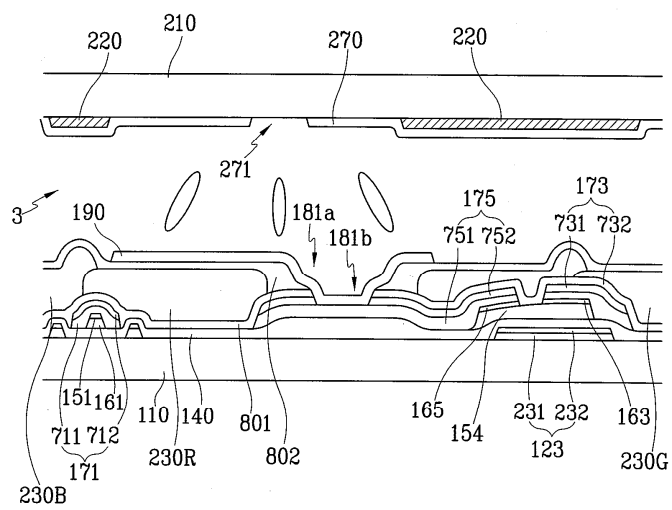




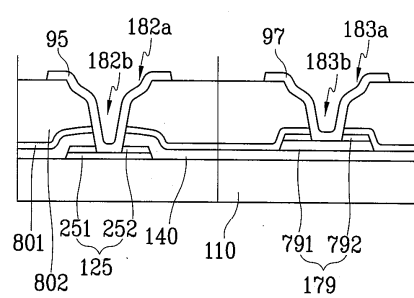
11b

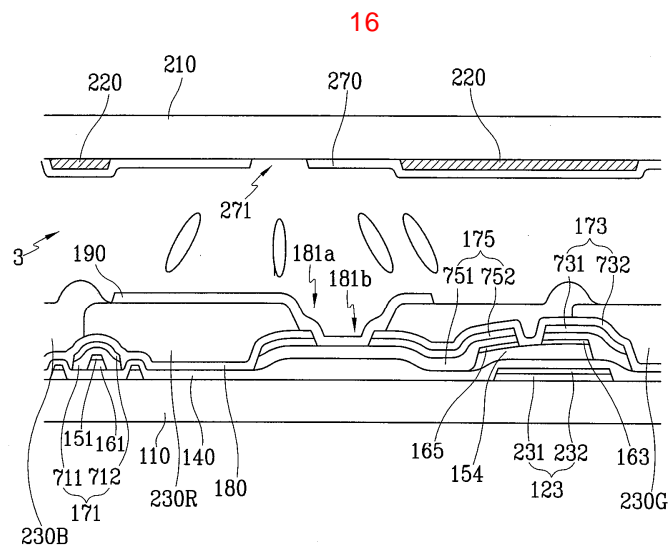
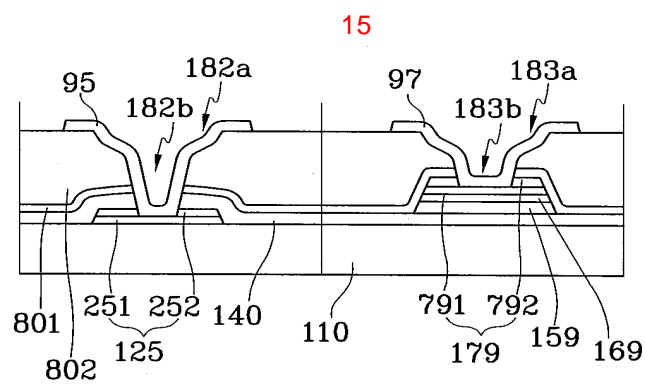
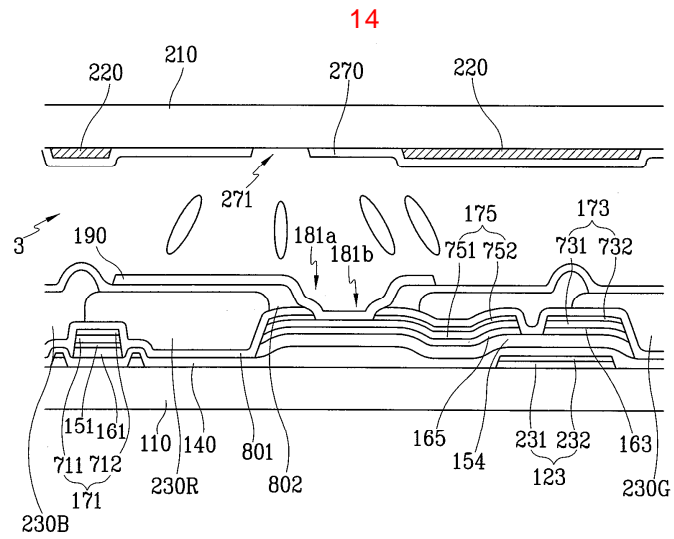


12

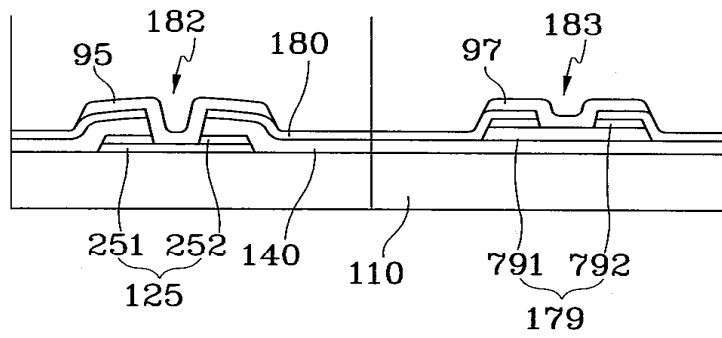


13

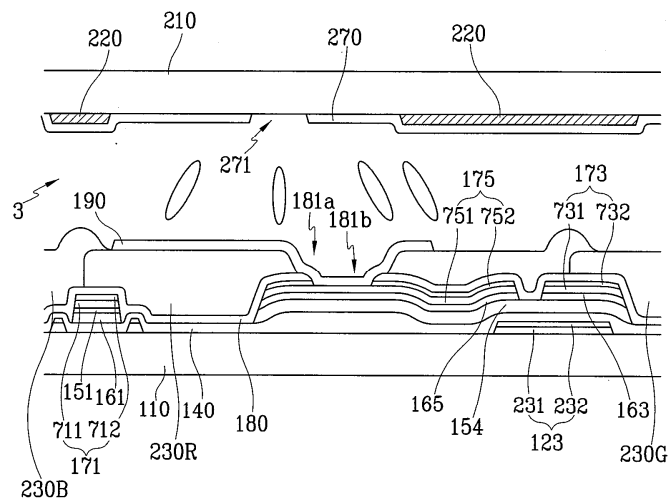




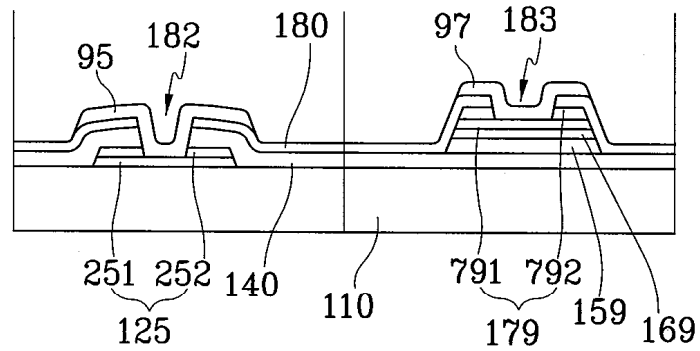
17



18



19



专利名称(译)	多畴液晶显示器件及其薄膜晶体管基板		
公开(公告)号	<a href="#">KR1020040087069A</a>	公开(公告)日	2004-10-13
申请号	KR1020030021313	申请日	2003-04-04
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	KIM DONGGYU 김동규 LEE BACKWON 이백원		
发明人	김동규 이백원		
IPC分类号	G02F1/1368 G02F1/133 G02F1/1343 G02F1/1362 H01L29/786 G02F1/136		
CPC分类号	G02F1/133707 G02F2001/134345 G02F2001/136236 G02F1/1362 G02F1/136286 G02F1/134336 G02F1/136227		
其他公开文献	KR100951348B1		
外部链接	<a href="#">Espacenet</a>		

#### 摘要(译)

包括绝缘基板，栅极线，具有纵向部分的多个倾斜部分和数据线，形成在像素区域处的像素电极，栅极线，以及与数据线和像素电极连接的薄膜晶体管。数据线的倾斜部分连接在纵向部分之间。并且，根据倾斜部分的长度方向，将其分为第一倾斜部分和第二倾斜部分。数据线从直线上的第一倾斜部分脱离并且逐渐疏远，并且准备用直线上的第二倾斜部分逐渐返回的薄膜晶体管基板。栅极线在形成在绝缘基板上的同时朝向横向扩展。具有纵向部分的多个倾斜部分和数据线决定像素的长度到单元并且在其形成在绝缘基板上并与之交叉时与栅极绝缘地显示。关于在像素区域处形成的像素电极，栅极线和数据线交叉并限定。液晶显示器，域，烘焙数据线和薄膜晶体管。

