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(A)(51) 。 Int. Cl. ⁷
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(43) 2002 10 28(21) 10 - 2002 - 0021024
(22) 2002 04 17(30) JP - P - 2001 - 00118115 2001 04 17 (JP)
JP - P - 2001 - 00230113 2001 07 30 (JP)(71) 가 가
5 7 1(72) 가 5 7 1 가 가
5 7 1 가 가
5 7 1 가 가
5 7 1 가 가

(74)

:

(54)

CD . 1 , L
1 2 , . 2 1
25% , . .
가

1		LCD		,	5	a
2	1	LCD		,	5	b
3	1	LCD		,	5	c
4	3	IV - IV		.		
5		1	LCD	,		
6	5	VI - VI	5	1	LCD	.
7	5	1	LCD		a	.
8	5	1	LCD		b	.
9	5	1	LCD		c	.
10	7	9		.		
11	5	1	LCD			.
12	9	XII - XII		.		
13		2	LCD	9	XII - XII	.
14		3	LCD	9	XII - XII	.
15		LCD	UV			.
16a		LCD	UV		(L)	
16b	16a			.		
17		4	LCD	.		
18		5	LCD	.		

19		6	LCD	.
20		7	LCD	.
21	20	7	LCD	(X)
22		8	LCD	.
23		9	LCD	.
24		10	LCD	.

(LCD) . ,

LCD , " " " (dripping and coupling)"

$$" \qquad " \qquad , \qquad \left(\quad , \quad \right)$$

(vacant cell) , 가 가 , LCD

D

"LCD 가 가

, LCD (ii) , (i) (iii)

, (i) (iii) " " , LCD 가

1 3 LDC . 4 3 IV - IV

$$(1101) \quad \quad \quad (1401), \quad \quad \quad (1401) \\ - \quad - \quad \quad (1402) \quad \quad \quad (1402) \quad \quad \quad (1403)$$

(1401), (1109)
 (1103), (1105), (1106) . (1402), (1201),
 2), (1104) (1110) . (1403), (110
 (110)

104) (1103) (1102) (1109)
 (1109) (1401) 가 (1106) (110) (1105)
 가 (1402) (1106) . (1301) (1303) (1106)
 (1103,1105)

4
 201) (1301) , (1101) (1203) (1101,1301)
 107) (1101) . (1101,1301)

LCD (1201) , (101 103) UV (1201) UV , (1501)
 , UV (1101) , UV (1502) (1501)
 , (1106) , (1201) UV , (1201) (1201) UV
 (1203) (1201) , 3 (1201) UV (1106)
 (1201) (1201)

, (1201) UV (1106), (1601), (1103,1105)
 , (1201) UV (1103,1105) LCD 가 (1103,1105)
 , (1106) (1201) UV
 (1201) 가 (1103,1105)

(1106) , (1201) (1401), (1103) 가 (1401)
 (1301) , (1303) 가 (1106)

, LCD

LCD

LCD

1 , LCD 가 :

(a)

1 ;

, ;

(b) 1 2 ;

(c) 1 2 ,

1 , 2 ,

가 25%

1 LCD , , , 가
25% , , ,

1 ,
80 μ m

1 ,

1 , ,

1 , , 가

1 1 1 , 2 1 1 , 2 1 2 2

1 , , 2

1 , (vernier)

2 , LCD

(a)

1 ;

(b) 1 ;
 (c) 1 ;
 (d) 1 , 2 ; 1
 2 ;
 (e) , 가 25%

2 LCD , 1 LCD 가

2 , 1

2 , 2
2

3 , LCD 가 . :

(a) 1 ;

, ;

(b) 1 2 ;

(c) 1 2 ;

1 , 2 ;

, 가 ;

$80\mu m$

3 LCD , 가 ,

, ;

4 , LCD 가 . :

(a) 1 ;

;

(b) 1 2 ;

(c) 1 2 ;

1 , 2 ;

; ;

80 μ m

4 LCD , 가,

,

80 μ m

3 4 , 2

3 4 , 2

3 4 , 2

3 4 , 2 , , 2
 a 1 2 X) . X a X 2a(,

5 , LCD 가

(a) 1 ;

;

(b) 1 2 ;

2 ;

(c) 1 2 ;

1 , 2 ;

가

2

;

80 μ m

5

LCD

2

가

80 μ m

6

LCD

가

(a)

1 ;

;

(b)

1

2

;

(c)

1

2

;

1 , 2

;

가

2

;

80 μ m

6

LCD

2

가

가,

80 μ m

5 6

, 1

가

5 6

;

7 , LCD 가

(a)

1 ;

;

(b)

1

2

;

(c)

1

2

1 , 2 ;

2

7 LCD , 2

8 , LCD 가 . ;

(a) 1 ;

;

(b) 1 2 ;

;

(c) 1 2 ;

;

1 , 2 ;

X

2

;

)

8 LCD , 2 , a X 2a (, a 1 2) . a X 2a X

7 8

,

7 8

1

7 8

,

9 , LCD

:

(a) 1 ;

;

(b) 1 ;

;

(c) 1 ;

;

(d) 1 , 2 ;

1

(e) ,

,
;

가

$80\mu\text{m}$

9 LCD , 3 LCD 가
 9 ,
 1
 10 , LCD

(a)

1

;

(b) 1

;

(c) 1

;

(d) 2

;

(e) 1 , 2
2 ;

1

(f)

,

가

$80\mu\text{m}$

10 LCD , 5 LCD 가
 10 ,
 2
 11 , LCD

(a)

1

;

(b) 1

;

(c) 1

;

(d) 2

;

(e) 1 , 2
2 ;

1

(f)

		2			;	
2		.	.			
11	LCD	,	,	7	LCD	가
1		.	.	.	.	.
1	LCD	,	TN(Twisted Nematic)	LCD	1	8
5	6	,	1	LCD	LCD	,
(301)	(101 301)	(101 301)	(203)	(201)	(101),	6
.	(101 301)	(201) 가	(203)	.	(101),	(301)
(101)	,	.	.	(401), (401)	.	(101)
(403)	.	(201)	(402)	.	.	.
.	.	.	(402), (402)	.	.	.
(401)	,	7	9	,	(109)	(111)
(101)	(112)	(7	9	)	( 7	(pitch) 9)
(112)	.	(101)	.	.	.	.
10	(124)	,	(109)	(121)	,	(122), (123),
21)	(111)	(125)	.	.	.	(1)
.	.	(112)	.	.	.	.
.	.	(123)	.	(123)	(111)	(122)
.	.	(121)	.	(125)	(122)	(124)
.	.	(122)	.	.	.	(112)
106c)	(402)	,	(201)	(103),	(105),	(106a, 106b)
.	.	,	(202; transfers)	.	.	.
02)	(403)	,	(102),	(104)	(110)	(1)
(101)	(101)	.	.	(101)	.	(110)
.	.	.	7	8	.	(102)
.	.	.	.	.	(103)	(112)
.	.	.	.	.	(104)	.
6	(106a, 106b 106c)	,	.	(107)	(101)	(103), (1)
05)	.	.	.	.	(301),	(302) (
201)	.	.	,	(302)	.	(303) (

302) (301) . () , (301) , (302)
 (101) (401) . . (302) (101)
 (106a, 106b 106c)

(101 301) (201) (202) (204) (101 103)
 202) (203) . . (101) (106a, 106b 106c) , (101 301) (301)
 . (303) . (202) (303)
 . (202) (402) (201)

(103) (105) 가 . , (103 105), (103 105) 가
 UV (103 105) (402) (102)

7 , (101) (104) (), a) (106a) (102)
 (110) . (201) UV (照射) (110) . (601) (106a)
 06a) . (202) (601) (201) (201) L- (202)
 . (201)

8 , (106b) (104) (104)
 (104) (110) (, b) . (106b) (106b) (201) UV (201)
 , (601) . (106b) . . (601) (201) (201)
 (201) . (202) (201)

8 (106b) (101) ; (101)
 (101) . , (106b) 3 .

9 , (106c) (101) (101) (101) "L"
 (106c) (106c) (c) (102) (110) (106c) (104) (1)
 10) . (201) UV (201) (201) (201) L- (601) (106c)
 . (601) . (201)
 . 6 (202) (201) (201) (106c) . .

(106a, 106b 106c) , 6 , (202), (202) (202)
 (303) . . (303) . (106a, 106b 106c) (301)
 (110) . .

, (201)가 (105), (110) (10)
6a, 106b 106c)

1 LCD , (103), (105) (106a, 106b 106
c) , UV (201) 25%
. 가, (601) 80μm . .

, UV (201) 가 (201) UV 1,500mJ/cm²
2,000mJ/cm²,

(201) UV , (201) UV , (601)

(201) , (201) UV 2,00
 0mJ/cm² . , UV 가
 . , (201) UV ,
 (101 301) 8,000mJ/cm² . ,
 (601) 25% , 15

, (201) (solidity) 16b
 , (701) 2 (704 705) (702) (703)
 . (L) , 25% L/3
 . 16b , (702) (703)
 .
 16a 16a (L) 80µm
 . 25%

, 1 LCD LCD 11
 (201) (1), UV , (dispenser) (101)
 가 , 5 (101) (402) , (101)
 (201) (writing) . , 0.2 0.6mm 10 50μm

, (101 301) (2) 가 , (301)
 , (201) (204) 가 ,
 (101) (101 301) ,
 200 3,000N (101 301) (101 301) (3)

, UV (201) (3) 가 . . UV , UV (101) 5,000
 8,000mJ/cm² (101 301) (201) (201) 가 . . , 12

, (502) UV (501) 가 . (502) (403) (201) UV
 , (101) (401) . (502) (502) , 가
 (402) UV (502)

UV (501) (201) , (401)
 UV

b 106c) (501) (601) UV , (201) (102 104) (201) (302) (201) UV (106a, 106
 , (201) UV (201) (301) (201) , (201) (201)

, (201) (201) (4) 가 . 1 LCD LCD 120

1 LCD , , , (111 112) (103)
 (102 104) (105) (103 105) (201) , UV

(601) , (201) (106a, 106b 106c) (201) (106a, 106b 106c) (601) , UV (201) U
 106a, 106b 106c) V (201) LCD

(601) (106a, 106b 106c) (303) , (106a, 106b 106c) (601) 1 (106a, 106b 106c)
 CD (106a, 106b 106c) , (201) , (401) L (106a, 106b 106c) (106a, 106b 106c) 10
 6c)

, (101 301) UV , (201) 가 , 가

ITO(Indium Tin Oxide) , 1 , ,

2

13 2 LCD , 1

13 , (601A) (302A) . (601) (101)
(106a, 106b 106c) .

2 LCD , 1 , UV (201) 25%
, (601A) 80μm .

2 LCD LCD 13

, (101 301) 1 . , UV , (101
 301) (502) (501) (301)
 . , UV (301) (201) , (201)
 , 13 , (101) (403) (401) UV
 , (402) UV (502) .

(501)	UV	,	(302A)	(601A)	(201)
, (201) UV . , (201) UV (201)	(201)	(201) UV (201)	(101)		
(106)	(3), (201)	.	.	.	.

, (4) 1 . , (201)
2 LCD LCD .

2 LCD , 1

3

14 3 LCD , 1

14 9 . 9 , (108; vernier)
 (106) (108a, 108b) . (108a, 108b) (201) . (108)
 a) (scale) . (108b) ()
 0 1) (, + -) . (108a, 108b) , (106)
 (201) UV .

(108) , (101) . (201) UV / (101)
 201) (108a, 108b) (106a, 106b) / 106c)

3 LCD , 1
08) , (101) (201) UV / (101) (201)
가,

4 6

17 19 , LCD 4 6 LCD

LCD 가 가 가 , " (cell gap)"
 , (101 301) , (203)
 , 4μm 3μm , (3/4)² = (9/16)

5 가 . , 1/2

1

, (601) (fabrication lot) . (601)
 (201) UV , (201)
 , (601) , (106a, 106b 106c) 가
 (106a, 106b 106c) () 가

, LCD 가 (201) , (103 105) (106a, 106b 106c) (201) 가 (103 105)
 (106a, 106b 106c) 25% , (201)

가, 2 . UV (301)
, 가 . , (, (601))

4 6 LCD

17. 18. 19. 4. 6. LCD. (301) (302)

17 4 , (601d) (106d), (107a), (107b)
(304) (101) . (106d) (101)
(107a) (106d) . (107b) (107a) (304) (107b)
) () , (304)

(106d) (601d) (201) . (601d) , UV (20
1) 25% .

(302) (301) (401) (302) (403)
 (403) (302) (301) (LCD 가), 1 3
 (403)
 (403) (303) .

17 19 , (orientation layers) (101 (40
 301) (203) (401) (402) (201)
 1) .

17 19 , (301) (401) (302)
 , (302) .

17 19 , (101 301) , (203) (101 301)
 (201) 6 (303) (202) .

18 5 , (302), (402) (201)

19 6 , (302), (402) (201)

, 17, 18 19 4 6 LCD ,
 , UV , 17, 18 19 (106d) (601d) (201)

(1) (106d) 가 (201) (301) , 19
 ,

(2) (106d) 가 (201) (301) (1) , 18

(3) (106d) 가 (201) (301) , 17
 ,

(1) (3) , () () .

() (301) (302) 1μm , , (101) (10
 (106d) 0.2μm (201) , , (10

() (201) (302) 가 , (301) (302) 가, 19 (201)
 (201) 19 6 , (201) (201) (302) 가

() (301) (302) 가 18 (201),
() . , (302) (201) , (302) 가
가 가 . . , (201)
(302) 가 , 18 (302) 가 (201)
., . , 17 19

() (302) 가 (201) . , 1 3 가 , 가
 106c) (601) . , (201) (302) 80 μ m (106a 106b)

(A) (301) , (302) , 17 4 , (201) (301)
가 . , UV (101) ,
(301)

(B) 가 , UV (101) (201) , 18 5
 (302) (201) (301) .

(C) 가 , (302) 가, (201) (301)
 , 80 μm (302) (301) . , UV
 (101) (301) (201) (701) . 24
 . (302) 가 (201)

		(101)				
,	300nm MoW	(MoW)		(,)		
,	MoW G -					(106d)
,	350nm G -	(SiO _x)	50nm SiO _x	(SiN _x)	CVD(chemical vapor deposition (TFT)	
n) (107a) TFT		(107a)	, 50nm 310nm SiN _x	(a - Si)	CVD	a - Si
,	50nm n ⁺ a - Si		CVD			
n ⁺ a - Si				40nm ITO		

450nm (Al)

, ,
 , 200nm SiN_x, (107b) CVD, (304), SiN_x
 , (101) (101) (401)
 (121) (101) (401)
 17 19 4 6 , (304)

, (201), 18 5 , (201)
 (403) (302;) (201) (201)
 , (304), 17 19 4 6 (302)
 , (304) (201) (101)

17 4 , (302) (301) (201) 20
 , (401) 17
 20 (302) , ,
 20 (301) (201) , ,
 X 21 ,
 21 , 1, 3, 4, 5μm (X)
 , (L1; 5) , , (L2;
 12) ,
 21 , 가 , (X)가 , (X)가 a (, X a) ,
 , (X)가 a 2 (, X 2a) ,
 UV (101) (201) (301) (302) , , (301)
 (302) (301) (201) , , (302) a X 2a , , (X)
 7 LCD , (301) (302) a X 2a (X) (302) 가 (201)
 , , (201) a 2a (X) 1 2mm ,
 (201) 가 (401) (301) , , (302) 가, 20
 (201) 가

8

UV	(301)	(201)	17	4
	8	LCD	22	.
	,	UV	(301)	,
	(601d)			(106d) (601d)

9

9 (106d) (601d) 23 . , 17 4 (106d) , (106e)가

, (106e)가, (101) (201) ,
(201) UV 22 8 (106e)
(201)가 22 8 가 .

10

(301)	(302a)	(701)		18	5
	10	LCD	24	.	
(302a)가	(701)	, UV	(301)	(201)	

4 10 , 가 가 () LCD (high) , 가 () LCD (low)
LCD .
2 .
가 . , 가

가

2

가

, , TN - LCD , LCD () .

4 10 , (203) , (101)
(101) (301) (121) . , (202)
101) , (106a, 106b / 106c) (101) .

, 1 3 , LCD
 (301) (101) , LCD

(57)

1.

LCD

(a)

1 ;

(b)

1 2 ;

(c)

1 2 ;

1 , 2

↗

5%

2

2.

1 , ;

$80\mu\text{m}$

3.

1 , ;

4.

1 , ;

5.

1 , ;

6.

1 , ;

1 1 1 . , 2 1 2
1 2

7.

1 , 2 ;

8.

1 , (vernier)

9.

LCD ,

(a) 1 ;

;

(b) 1 ;

(c) 1 ;

(d) 1 , 2 ; 1
2

(e) , ;

, 25%

10.

9 , ;

1

11.

9 , 2 ;
 2

12.

LCD ,

(a) 1 ;
 1 ;

(b) 1 2 ;
 1 2 ;

(c) 1 2 ;
 1 , 2 ;

†

80 μ m

13.

12 , 2 ;
 2

14.

12 , 2 ,
 2 ,

15.

12 , 2 ;
 2 ;

16.

12 , 2 ;
 2

X a X 2a(, a 1 2) ;
 X a X 2a(, a 1 2)

17.

LCD ,

(a) 1 ;

;

(b) 1 2 ;

(c) 1 2 ;

1 , 2 ,

,

$80\mu\text{m}$

18.

17 , 2 ;

19.

17 , 2 ,

20.

17 , 2 ;

21.

17 , 2 ;

X 2

X a X $2a(, a 1 2)$

22.

LCD ,

(a) 1 ;

;

(b) 1 2 ;

2

;

(c) 1 2 ;

1 , 2 ,

가

;

;

 $80\mu\text{m}$

23.

22 , 1 ;

;

가

24.

22 , .

25.

LCD , .

(a) 1 ;

;

(b) 1 2 ;

;

(c) 1 2 ;

1 , 2 ,

가

;

;

 $80\mu\text{m}$

26.

25 , 1 ;

;

가

27.

25

,

28.

LCD

,

(a)

1 ;

;

(b)

1

2 ;

;

(c)

1

2

;

,

29.

28

,

30.

28

,

1

31.

28

,

32.

LCD

,

(a)

1 ;

;

(b)

1

2 ;

;

(c)

1

2

;

1 , 2 ,

X 2

X a X 2a(, a 1 2) .

33.

32 ,

34.

32 , 1 .

35.

32 , .

36.

LCD ,

(a) 1 ;

;

(b) 1 ;

;

(c) 1 ;

(d) 1 , 2 ; 1

(e) ,

†

,
;

$80\mu m$

37.

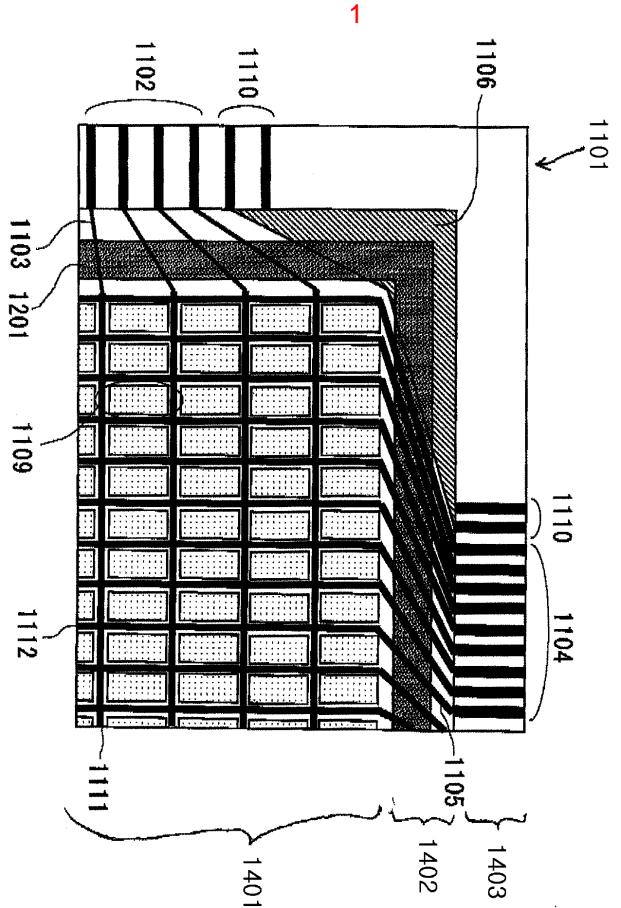
36 , ;

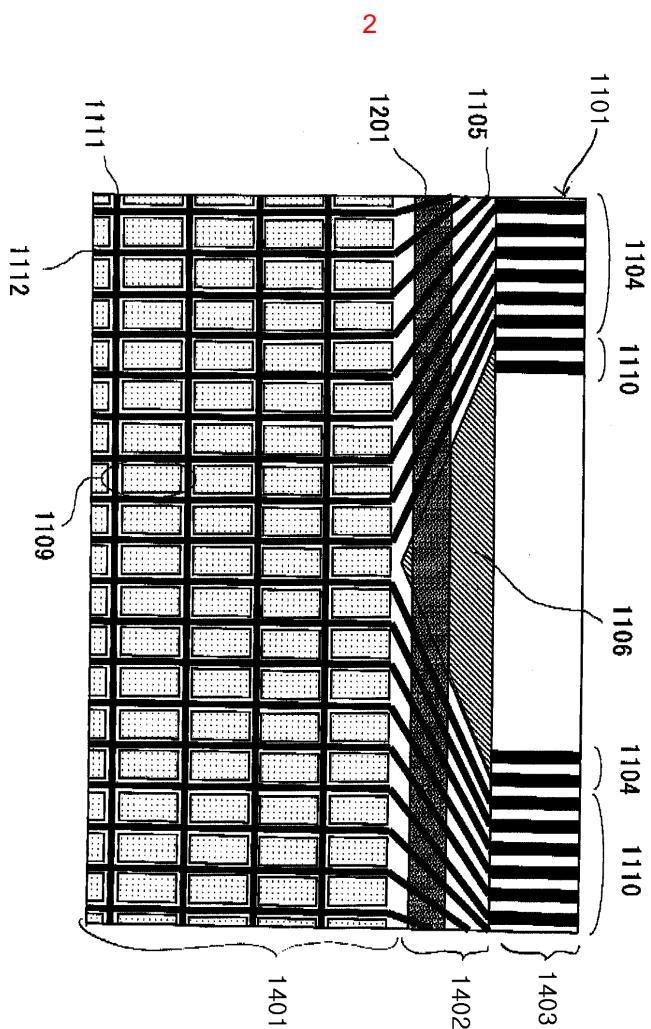
1

38.

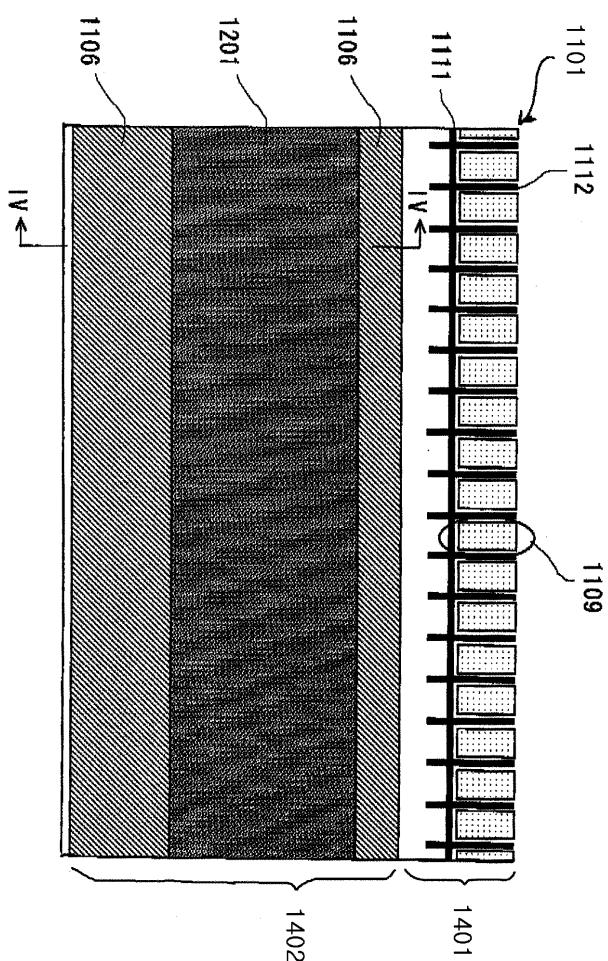
LCD ,

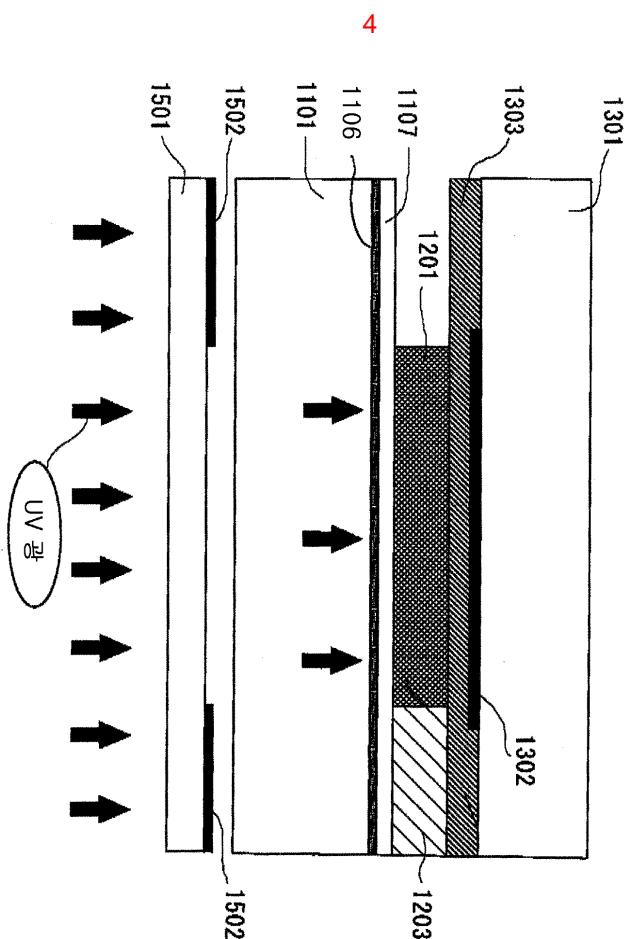
- (a) 1 ;
- (b) 1 ;
- (c) 1 ;
- (d) 2 ;
- (e) 1 , 2 ; 1
- (f) , ;
- , ;
- 80 μ m
- 39.
- 38 , ;
- 2
- 40.
- LCD ,
- (a) 1 ;
- (b) 1 ;
- (c) 1 ;
- (d) 2 ;
- (e) 1 , 2 ; 1
- (f) , ;
- , ;
- 2

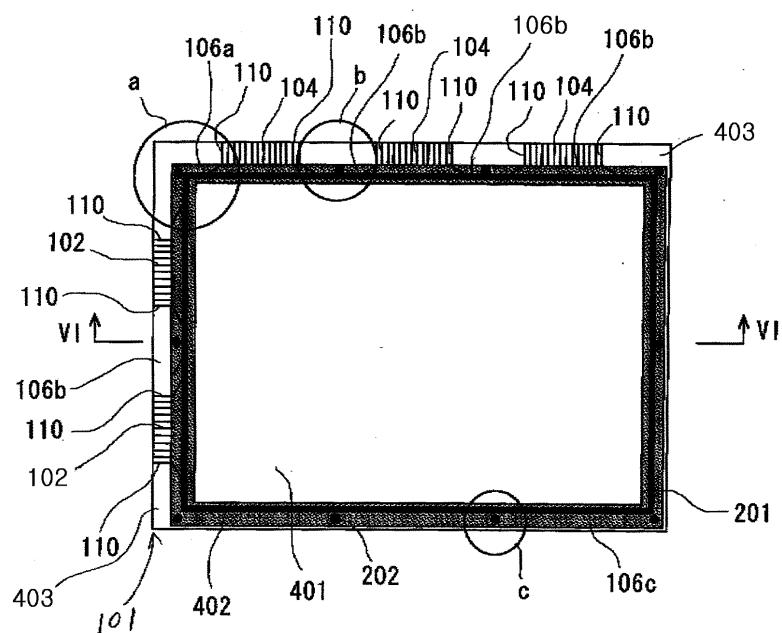


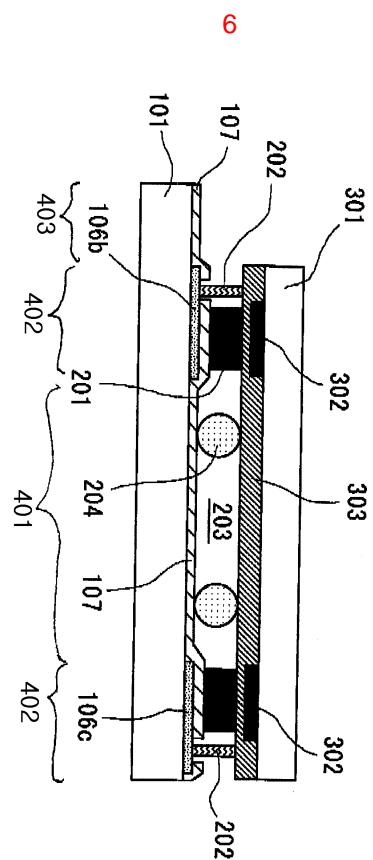


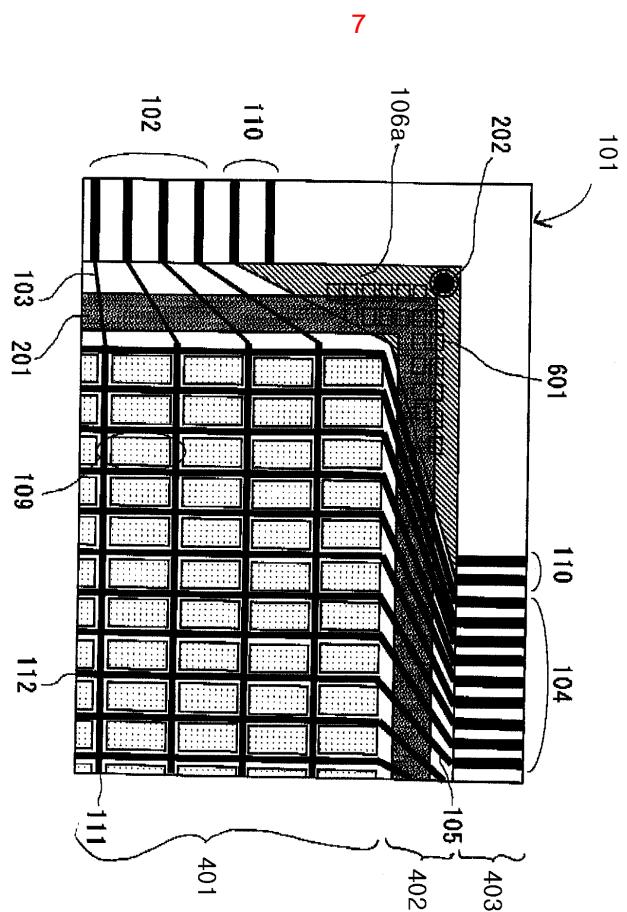
3

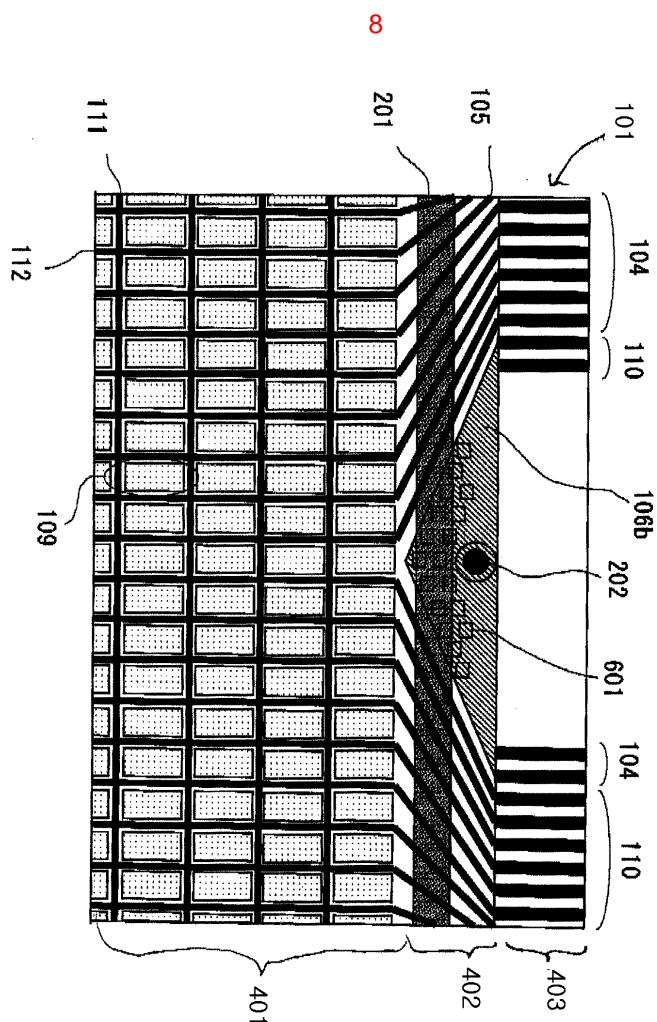


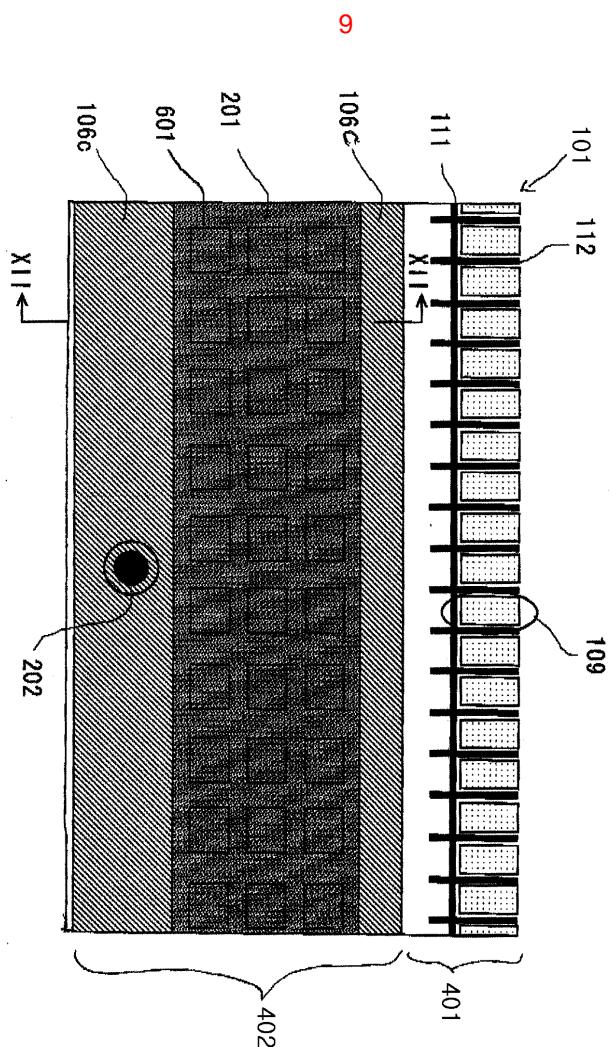




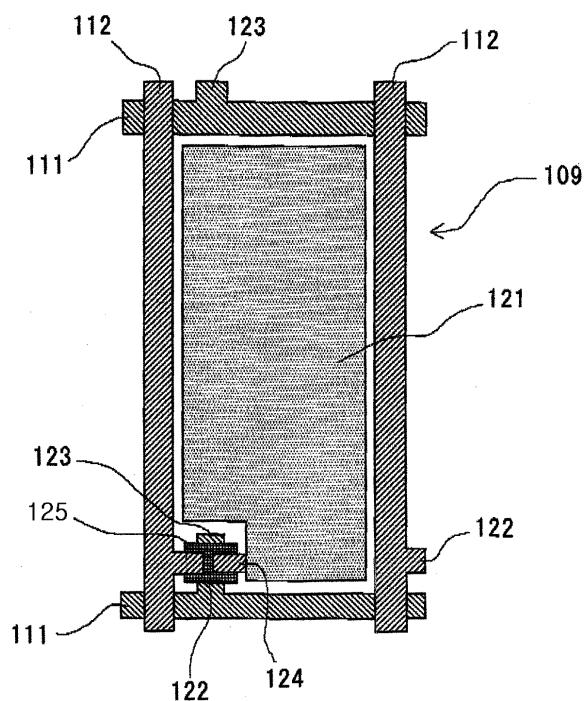




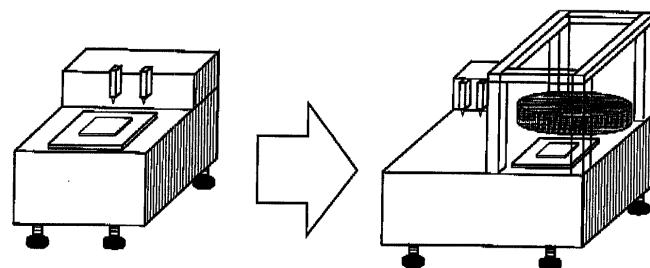




10

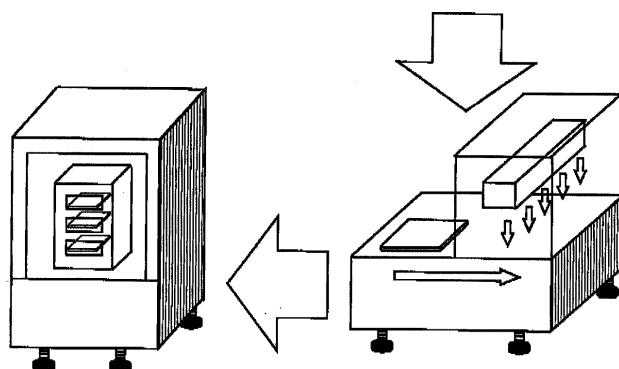


11



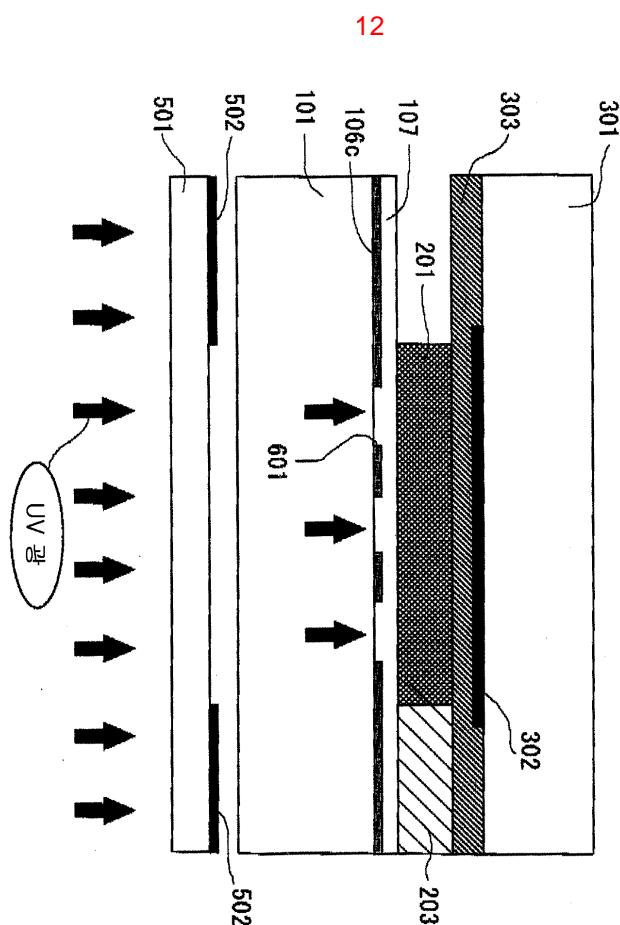
(1)봉합재형성

(2) 액정 적하 및 기판 결합

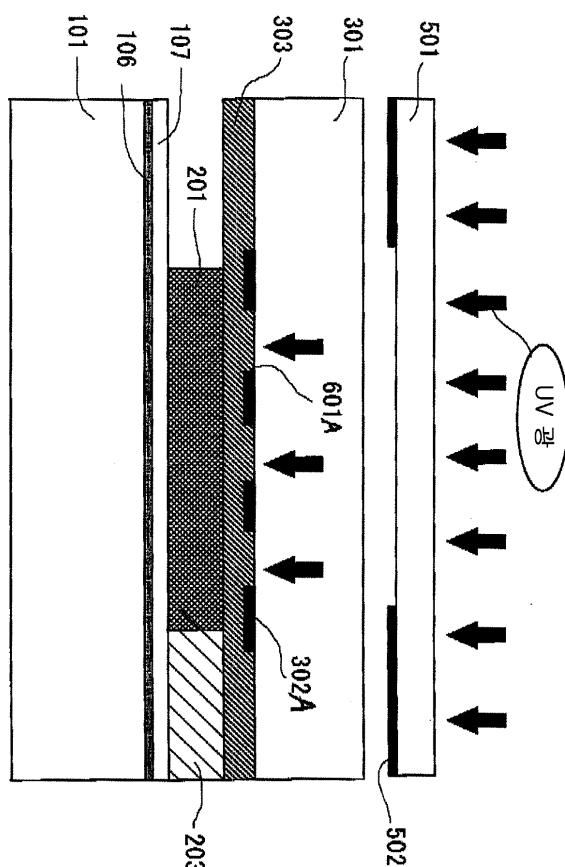


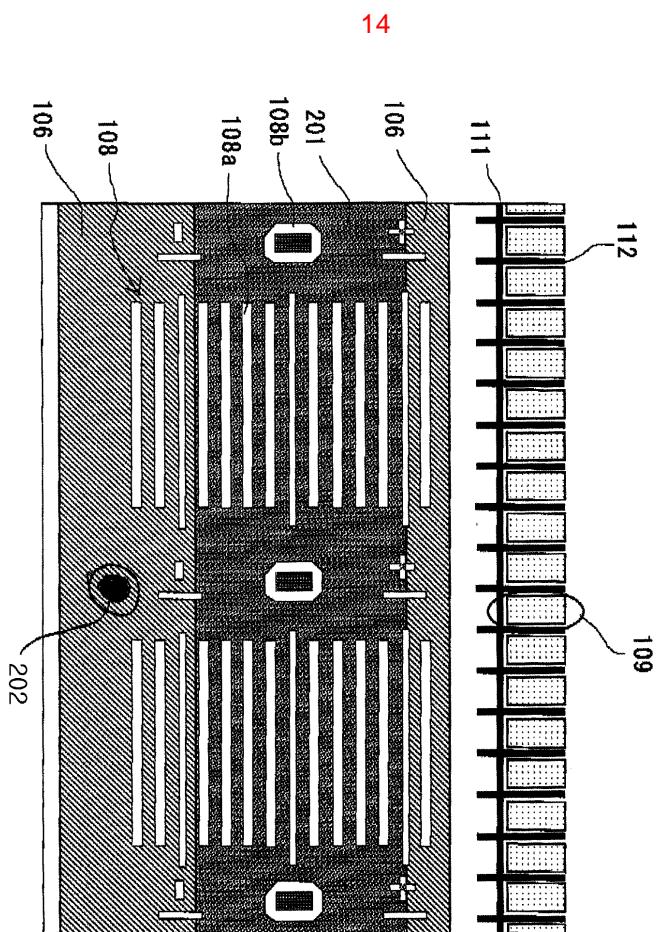
(4) 최종 경화

(3) UV 조사 및 임시경화

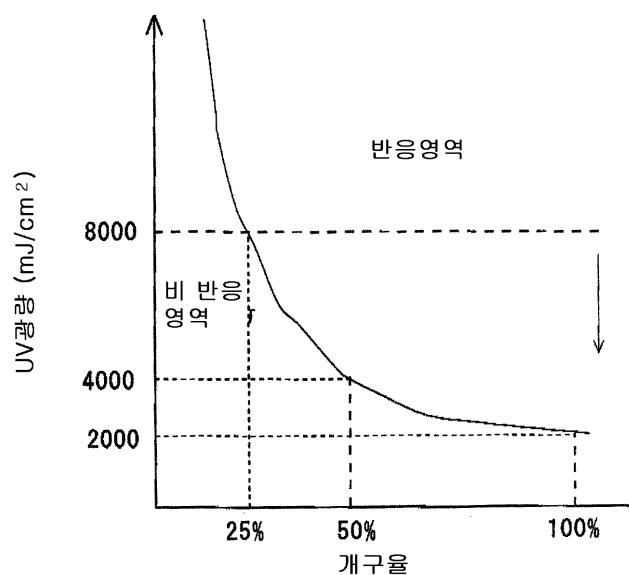


13

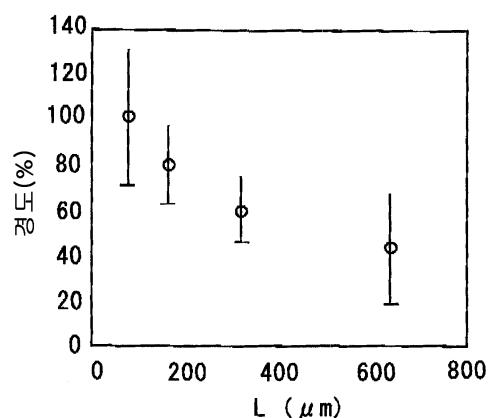




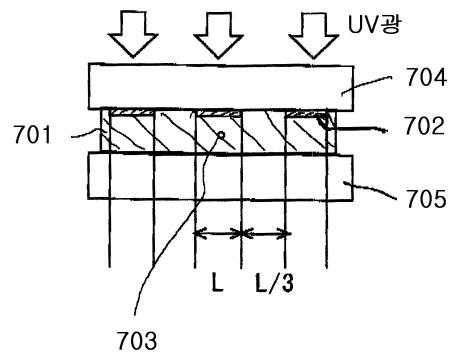
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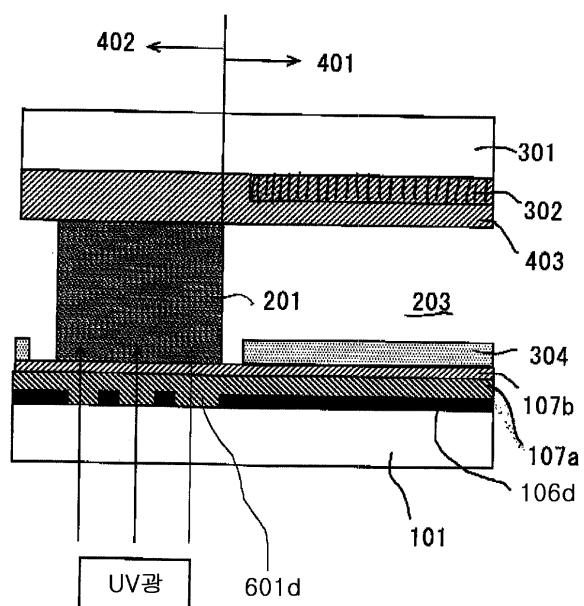
16a



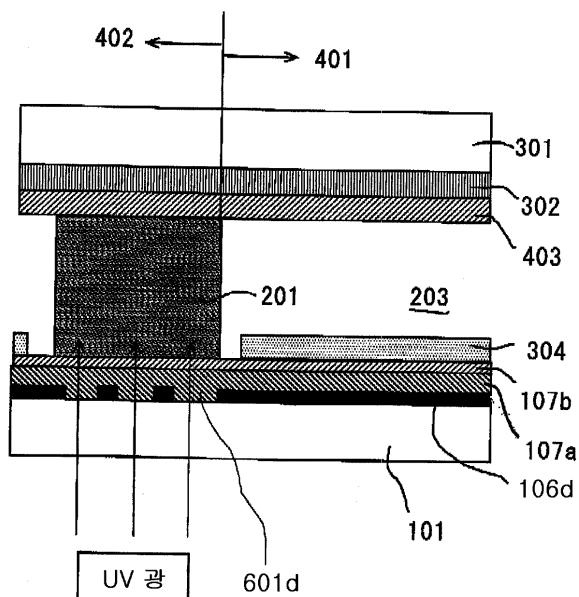
16b



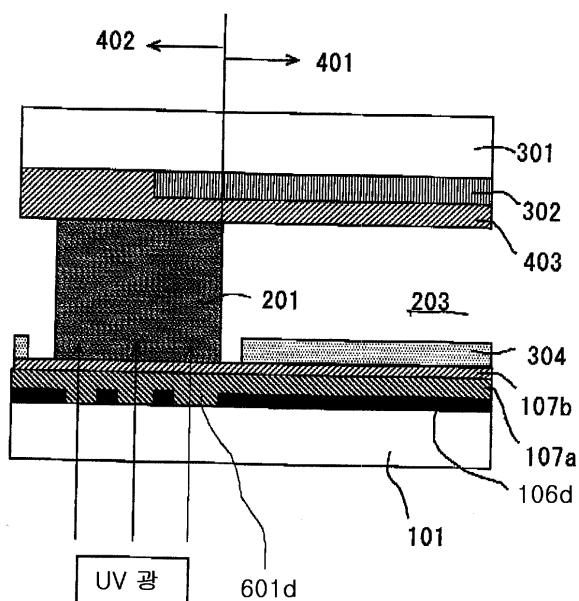
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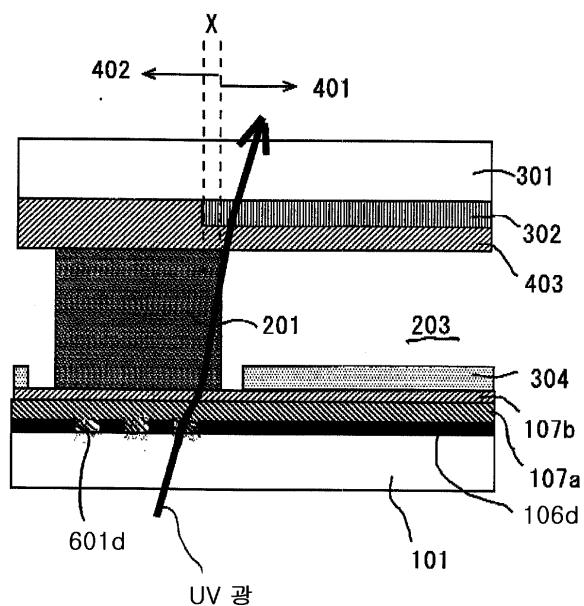
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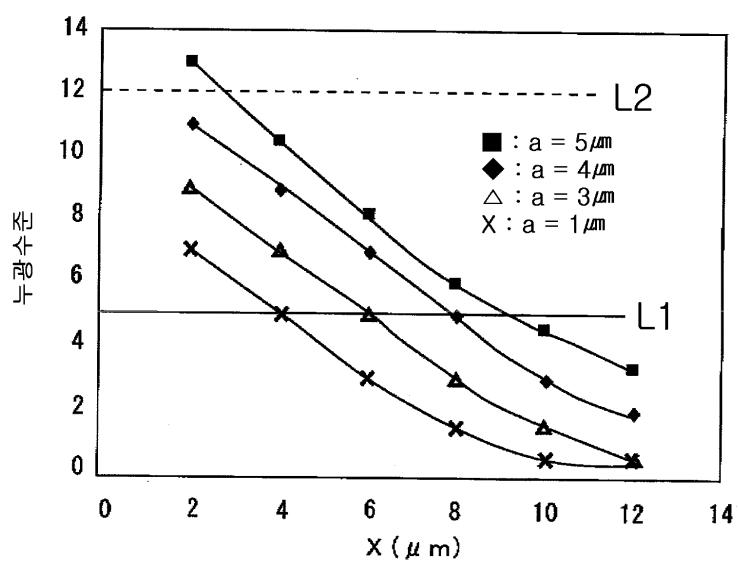
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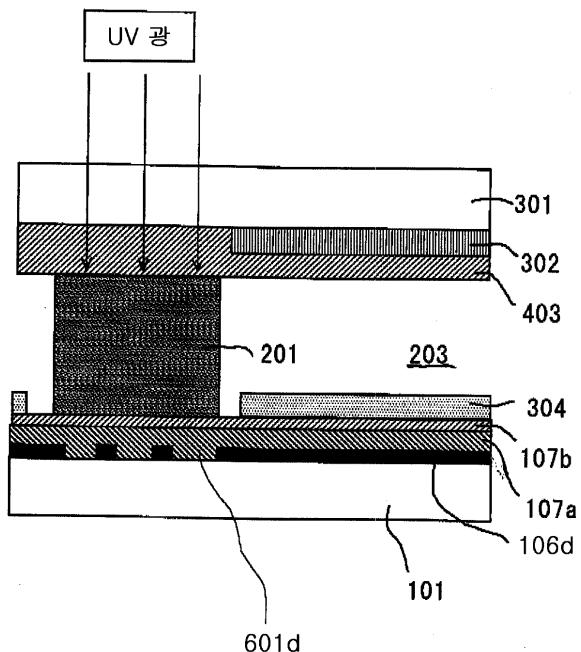
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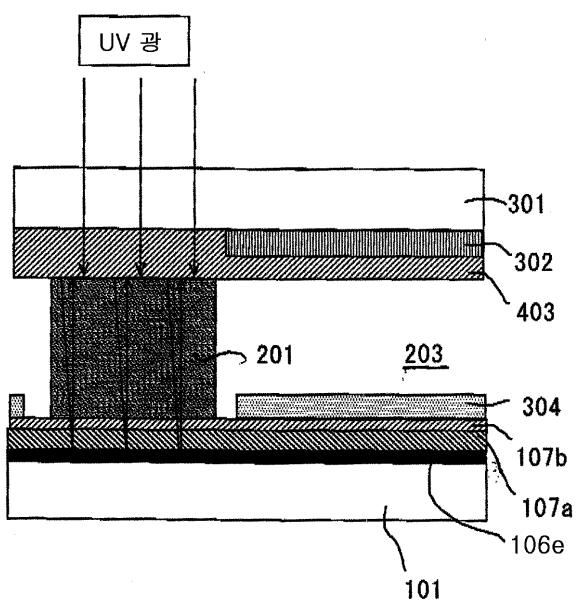
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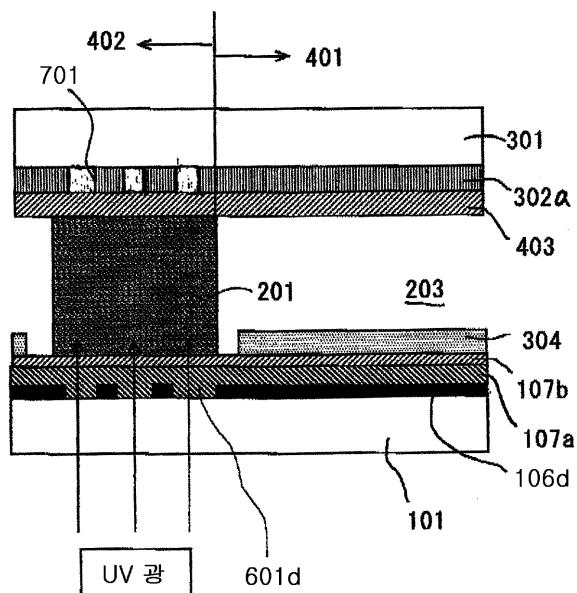
22



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专利名称(译)	液晶显示装置及其制造方法		
公开(公告)号	KR1020020081562A	公开(公告)日	2002-10-28
申请号	KR1020020021024	申请日	2002-04-17
[标]申请(专利权)人(译)	NEC液晶技术株式会社		
申请(专利权)人(译)	日元号技术可否让这个夏		
当前申请(专利权)人(译)	日元号技术可否让这个夏		
[标]发明人	WATANABE MAKOTO 와타나베마코토 KADOTANI TSUTOMU 가도타니쓰토무 SASAKI TAKESHI 사사키다케시 MATSUMOTO KIMIKAZU 마쓰모토기미카즈		
发明人	와타나베마코토 가도타니쓰토무 사사키다케시 마쓰모토기미카즈		
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代理人(译)	JO , EUI JE		
优先权	20011118115 2001-04-17 JP 2001230113 2001-07-30 JP		
外部链接	Espacenet		

摘要(译)

充分地，LCD设备接收固化光并且不能移除导电屏蔽体并且几乎均匀地固化密封剂材料。第一基板具有显示区域和周边区域，其位于包围显示区域的位置。显示区域包括规则排列的像素。外围区域包括密封剂，连接到像素的布线和导电屏蔽体。第二基板与第一基板结合。液晶层形成在第一和第二基板之间。密封剂与布线和屏蔽体重叠，使得它成为布线，屏蔽体和密封剂在密封剂的单位面积上不重叠超过25%的区域。液晶，显示装置，密封剂，屏蔽体，布线，。

