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(A)

(51) 。 Int. Cl. <sup>7</sup>  
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(43)

2002 - 0065333  
2002 08 13

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(22) 2001 12 14

(30) JP - P - 2001 - 00028982 2001 02 06 (JP)  
JP - P - 2001 - 00229099 2001 07 30 (JP)

(71) 997

(72) 997

가 997

997

가 997

997

(74) :

(54)

( ) 가 , , 가 가

( ) , TFT ,  
 (14,16), (24), (26) ,  
 (16) , (16) (14) 2 ,  
 (16) (14) (16)

1

, , , ,

1	1	.
2	1	.
3	1	.
4	2	.
5	2	.
6	3	.
7	3	.
8	4	.
9	5	.
10	6	.
11	6	.
12	6	.
13		1 2
14	7	.
15	7	.
16	가	.

17 TFT - LCD TFT - 가 .

18 TFT - LCD .

19 TFT - LCD .

20 TFT - LCD , .  
V - T , V - T .

21 TFT - LCD V - T  
V - T .

22 .

23 .

24 .

25 .

26 .

\*

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1 : 2 :

2a : 3 :

4 :

5 : i n

7 : 8 :

9 : 11 : Cs

14 : 2

15 :

16 : 1

17 : 18 :

21 : 22 :

23 : 24 :

25 : 26 :

101 : 102 :

103 : 2

가 , TFT ) ( , TFT ) 2 가

TFT 가 17 . 17 , G1, G2, G3 ( , ) . S1, S2, S3 ( , ) . Cs1, Cs2, Cs3 ( , ) Cs ) . 111 133 TFT . TFT . 211 233 ( , Cs ) , Cs . 311 333 ITO (Indium Tin Oxide) (Clc) .

, TFT ON OFF , TFT 가

가 , Cs (211 233) 가 . Cs

- A' TFT 18 . , 18 A 19 .

18 , 2 , 4 , 7 , 8 , 9 , 11 Cs , 14 , 8 , 9 , 19 , 1 , 2 TFT , 3 , 5 , 8 , 9 , 11 Cs , 14 , 103 .

, 19 TFT (1) (2) , 1

9 (3), i n (5) ITO (5) ITO (14) (8) (9) TFT n i ( ) (103)

TFT (8) 9 V TFT (14) 가 , (2) 20 V (9) (14) 9 V 가 , TFT (2) -5 V 가 , TFT 가

n Plane Switching) TN (Twisted Nematic) 가 IPS (I VA (Vertical Alignment) 가 가 TN (V-T ) (Vth)) , (Vsat)) 1 2 V 가 TFT Vth Vsat

TN 가 가

1 가 가 가 19 (14) (103) TFT (14) (103) (A) (B) 가 ,

(14) (103) (A) (14) 가 가 (14) 가 (103) (B) 가 (14) 가 (14) (V-T ) (A,B) 1 가

20a (103) (A) V-T , 20b (103) (B) V-T 가 가 가 20a, 20b 20c 가 , Vth Vsat 가

Vth Vsat 가 21 V-T 가 21a 가 21b 18 가

가 TN , 가 , 가 , 21a , 가 , 21b , 가 , V-T , 가 , 가 , 1 , 가 , 가 , 가 .

, TN , 가 , 가 , 1 , 가 , 가 , 가 , 가 , 가 .

, TN , 22 , TN , 100 %, 75 %, 50 %, 25 % , -20 , 가 , 가 , 가 .

, 1 , 가 , 가 , 가 , V-T , 가 , 가 .

, 가 , 가 , 가 , 가 , 가 , 가 , 가 , 가 .

, TV , 가 , 가 , 가 , 가 , 가 , 가 , 가 .

가 , 가 , 가 , 가 , 가 , 가 , 가 , 1 .





2, 1, 3, 5 (i), n  
n, 101, 1

3, 21, 22, 23, 24 ITO  
, 25, 26, 1, 2, 3  
(14), (16), (14), (16)  
(101), (14), (14), (16)  
(16), (14), (9)

1, 2, 3 (1)  
, ITO, (2) Cs (11)  
(3), ITO (16)  
, TFT (5)  
(7), (8), (9)  
FT, n, i, T

(101), (14), (9), (15), (14)  
(16), (17), ITO

3, (14), (14)  
(18), (25), 90 (18,  
25), 3, (26)  
1, 3, 90 가  
(3), (101), (14), (16), (17) 가  
(21), (22), (17)

(14,16) ITO, 30 150 nm  
(101) (, 500 nm )

2

2, 4, 5, 1, 2, 4, 5, 2a, 4, 5, 4, 5, 4 TFT  
, 1, 2, 1, 2, 2, (2a)

2 (1)  
 (2 2a) , ITO  
 (16) (3)  
 TFT (5)  
 (7), (8), (9)  
 n i TFT

(101) (14) (9) (15) (14)  
 (16) (17) , ITO  
 (14) (14) (2a) 가

1) (14,16) ITO ( 30 150 nm ) (10)  
 ( , 500 nm )

3

3 6 7 6 TFT  
 , 7 6 A - A'

6, 7 1, 2 , 1, 2  
 6, 7 , 2a 3  
 (2a) (14) Cs (11) (14)

3 (1)  
 (2 2a) , ITO  
 (3) 1 ITO (16)  
 TFT (5)  
 (7), (8), (9)  
 n i TFT

(101) (14) (9) (15) (14)  
 (16) (17) , ITO  
 (14) (14) Cs (11) (2a) 가

4

4 8

8 1, 2, 3 8 , 102 , 1, 2, 3 4 (2)  
 (102) (102) (16) (101) 300 nm  
 (102) 200 nm, (3) 400 nm,

4 (1) ITO  
 1 ITO (16) (102)  
 (11) (3) (2) Cs  
 (5) (8), TFT  
 (9) TFT n i

(101) (14) (9) (15) (14)  
 (16) (17) , ITO  
 (14)

5

5 9

9 1, 2, 3 5 , 1, 2, 3 (16) (8) (9)

5 (1) (11)  
 (3) (2) Cs TFT  
 ITO 1 ITO (8), (9) (5) (16)  
 n i TFT

(101) (14) (9) (15) (14)  
 (16) (17) , ITO  
 (14)

2 ITO (14) 1 ITO (16)  
 (17) 10 1 ITO  
 (16) (8) (9) 1 ITO  
 (16) (9) (16)

(14) 10 (9) , 11  
 (16) (14) (9) (16)

6

6

12

12 1, 2, 3 , 1, 2, 3 (3)  
 , (103) , 가 (3) 6 , (16) (2) (16) (3)  
 , (101) (14) (103) (101)

6 (1)  
 (2) Cs (11) 1 ITO 1  
 (3) , ITO (16) (103) , ITO  
 TFT (5) ,  
 (8), (9) TFT  
 n i

(101) (14) (9) (15) (14)  
 (16) (17) , 2 ITO  
 (14)  
 ITO (Al)

(14) (18) (18)

2 , 1 , 2 , 1  
 FT) , , 1 2 가 (T  
 , 1 2

2 , 1 , 2 , 1 , 1  
 가 , 가 1  
 V - T 가 1  
 , 가 ,  
 가 ,

13a , 1 2  
 , 400 nm 500 nm 600 nm , 80  
 0 nm 13a ,  
 , TN , 2  
 (24) , 1  
 , 13a 400 nm (24) 가  
 0.5 : 1.0 가 , 0.9 : 1.0 ,

가 ,  
 가 가 , 1  
 2 가 ,  
 % , 13b 가 가 ,  
 가 가 , % 10 %  
 % 75 %

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

7  
 302b 7 14 , 301a 301b , 302a  
 , 303a 303b , 304 , 305a 305b  
 , 306 .

, (302a 302b) 가  
 0 , 8 - 95034 , 8 - 50204 , 8 - 50270 , 8 - 9503  
 , 9 - 5524 , (302a 302b)  
 , 가 가 , 가  
 5 50 ( 24 ) . , 25  
 , (nr) (nd) nr > nd  
 , 26b x ,

26a x, y, z nx, ny, nz (nx, ny) (n  
 z) nx > ny > nz . , (304) ( n) 14 (   
 302a, 302b) . , (d) 0.30 μm (   
 n · d 0.50 μm . 0.34 μm n · d   
 0.42 μm .

7 , 1 6  
 , 가 , 18  
 19 , 가 2 , 가 ,  
 가 「Active - Matrix LCDs Using Gray - Scale in Half one M  
 ethods」 (Kalluri R. Sarma , Phoenix Technology Center, Honeywell, Inc. Phoenix, AZ SID 89 DIGEST  
 P148 P150) .

7 (303b) ( ) (303a) , 200 30  
 , 90 가 가 70 100 . , 90  
 가 , 가 3  
 9 . 3  
 , 9 가  
 가 4.3 μm 가  
 (303a 303b) (304) ( n) = 0.089 , (303a 303b)  
 14 (301a 301b) ( ) 301a 301b (302a 302  
 b) 90 .

15 가 100 %, 75 %, 50 %, 25 %

가 -50

16 TN 가  
 -25 가

23 TN  
 -45 가

가

, 1 가 가 ,

2

가

가

2, 7, 1, 6, 13a, 400 nm, 500 nm, 600 nm, 800 nm, 1

가, 가, 가

(57)

1.

1, 1, 1, 2, 1, 2

2.

1, 2, 2

3.

1, 1

4.

1, 1

5.

1

1 2 , 1 2 1  
1 2 2

6.

1 ,  
1

7.

6 ,  
1

8.

1 ,  
2 , 1  
1

9.

, , , ,  
1 , 1 1 2 ,

1 2

10.

1 9 ,  
1 % , 2 ,  
% %

11.

1 9 ,  
가 500 nm

12.

1 11 ,

.

13.

1 9 ,

1 2 가 가 0.5 : 1.0 0.9 : 1.0

14.

1 , ,

1 가 ;

, ;

;

,

.

15.

14 ,

( n) (d) 0.30  $\mu\text{m}$  n · d 0.50  $\mu\text{m}$

.

16.

, ,

,

,

1 ;

1 ;

1 , 1

2

17.

, ,

,

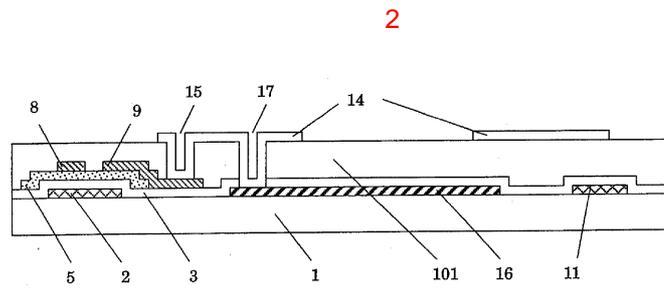
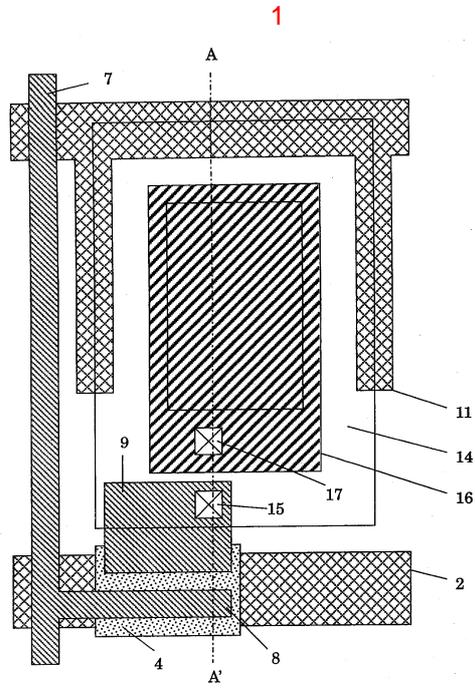
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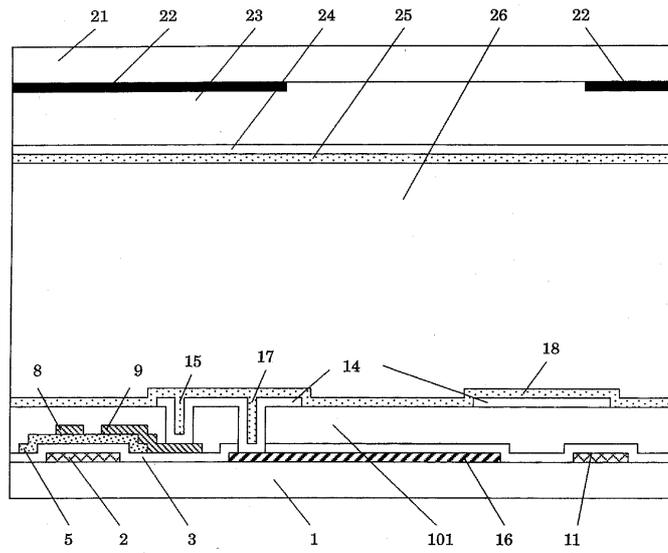
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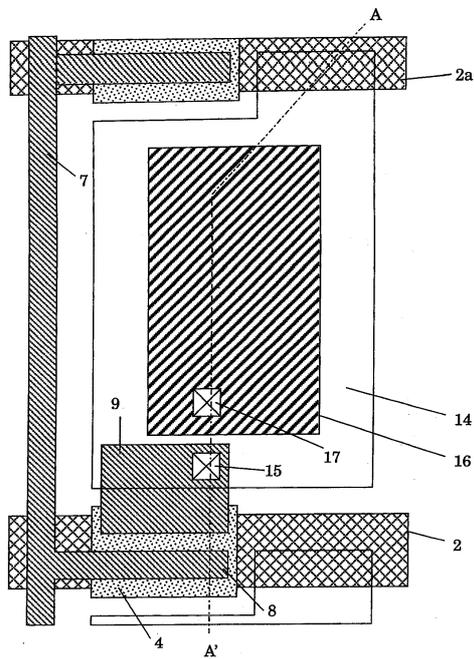
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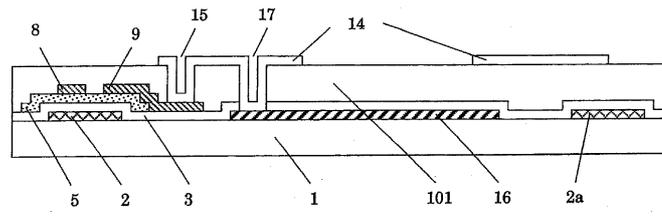
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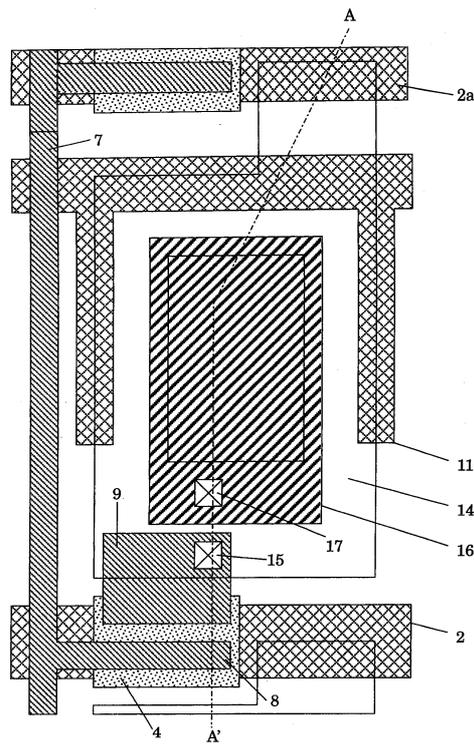
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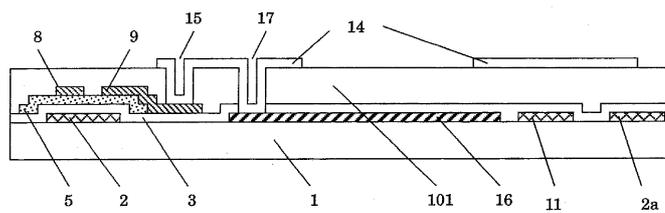
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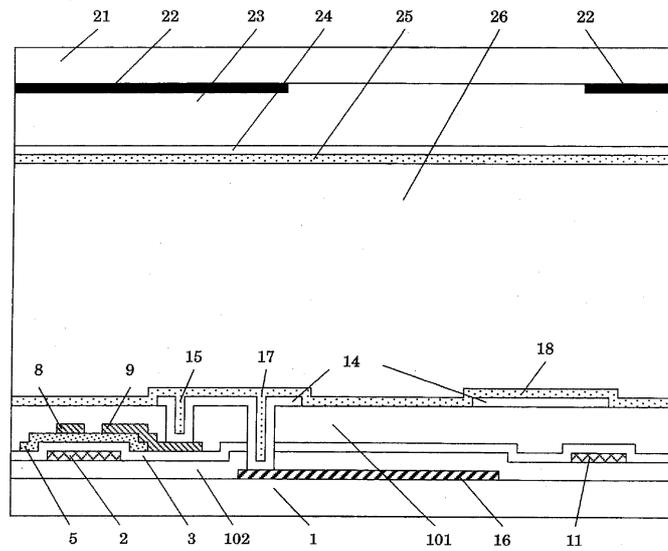
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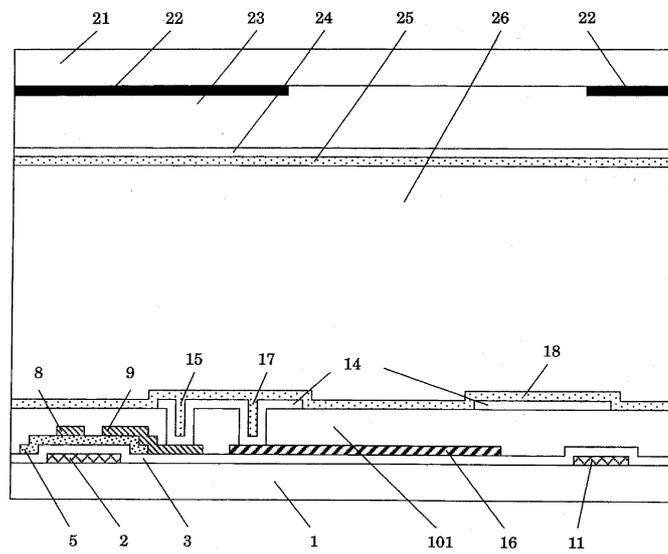
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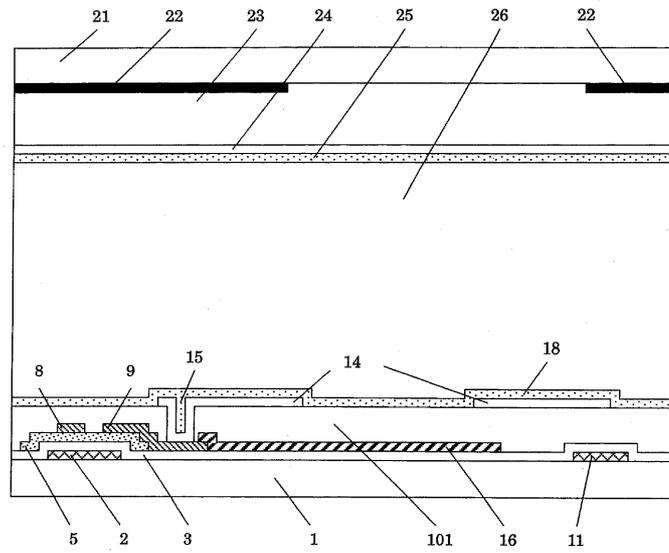
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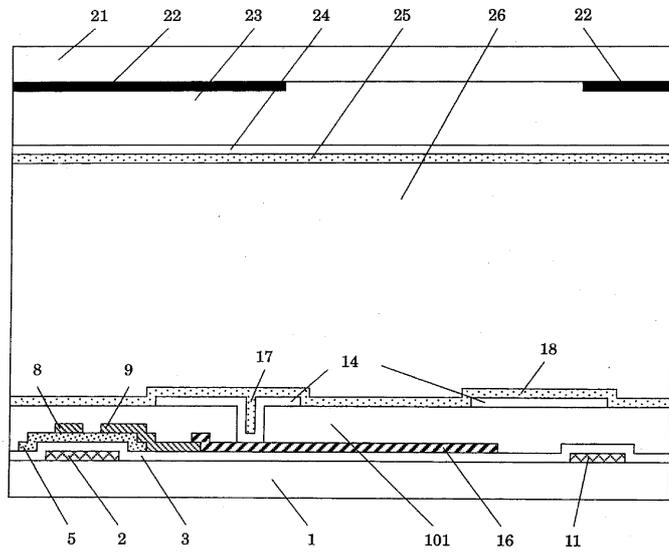
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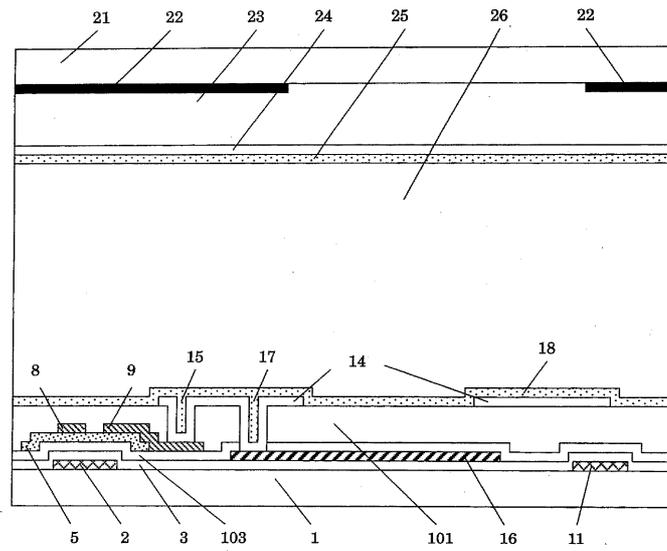
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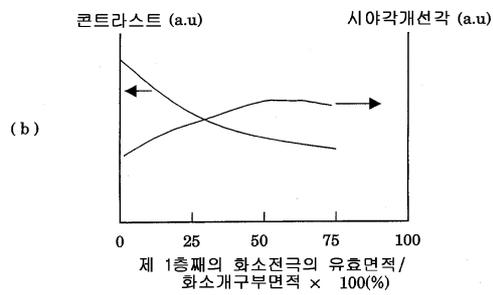
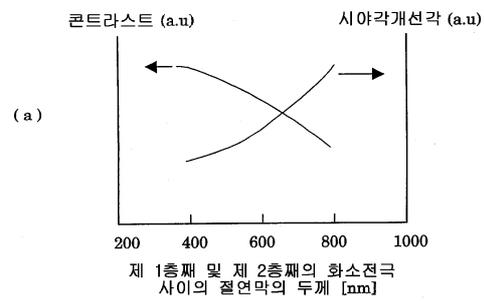
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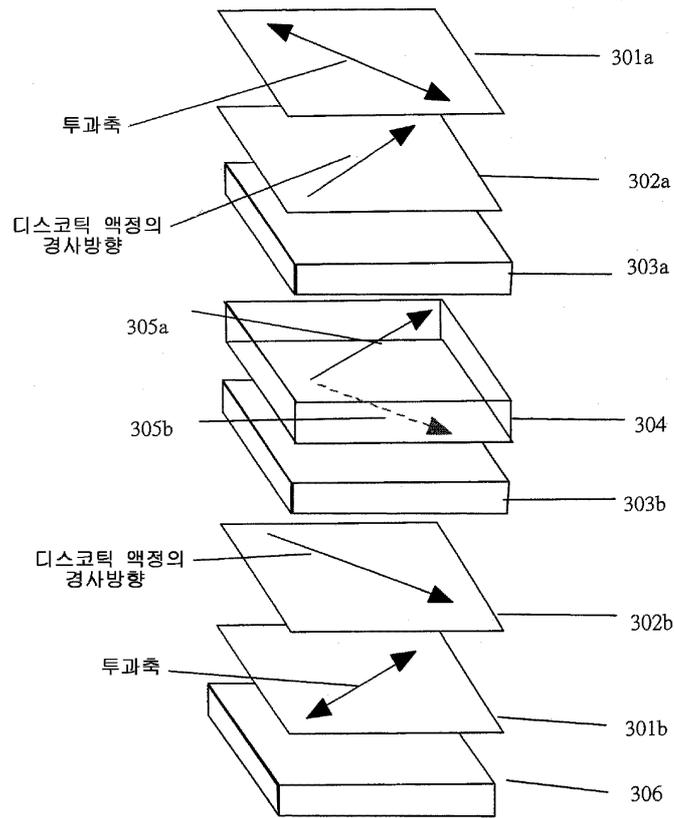
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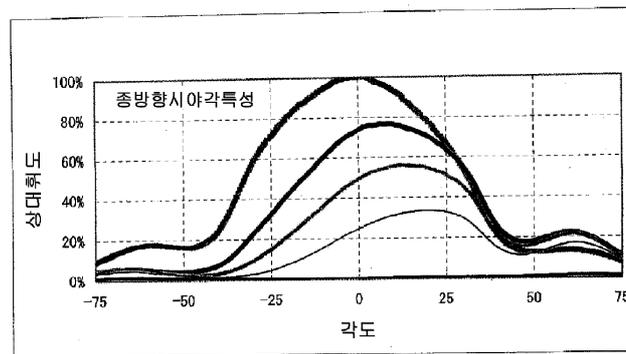
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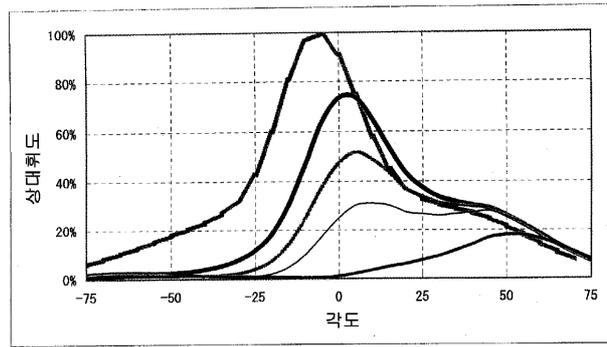
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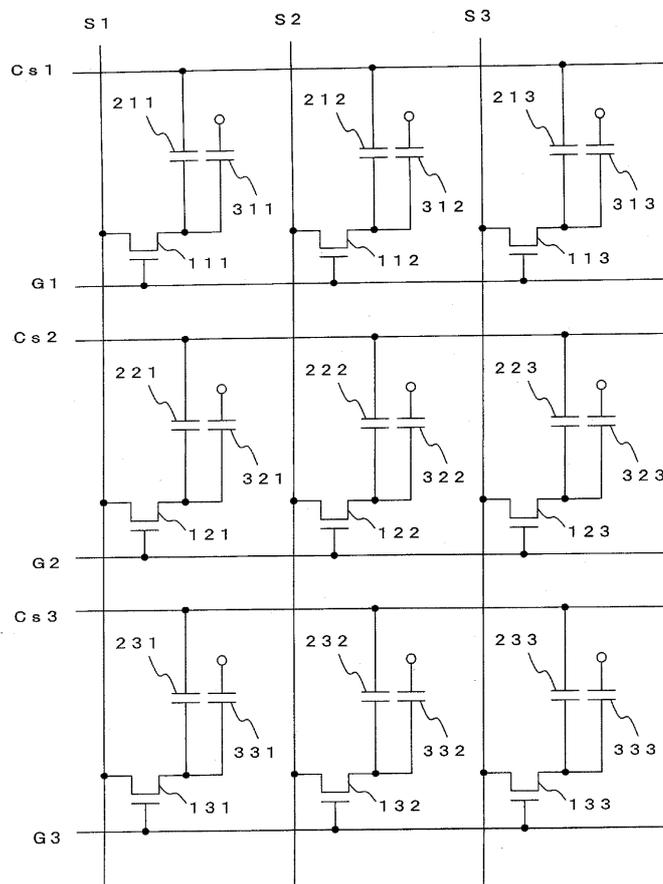
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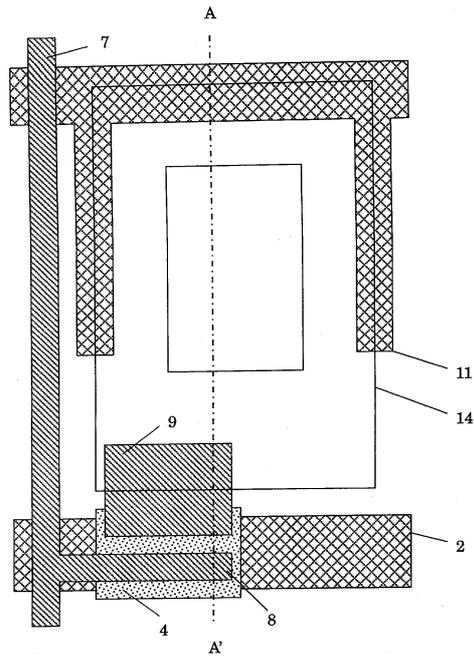
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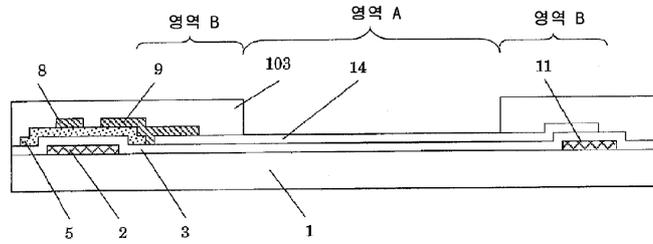
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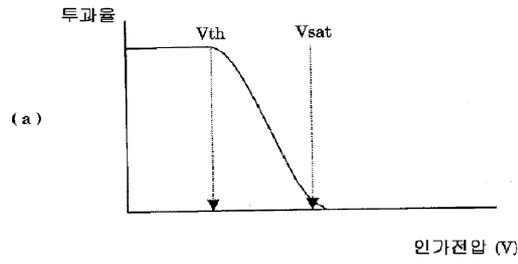
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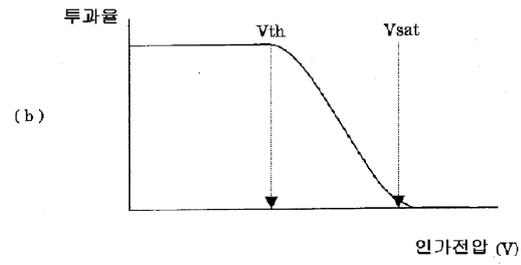
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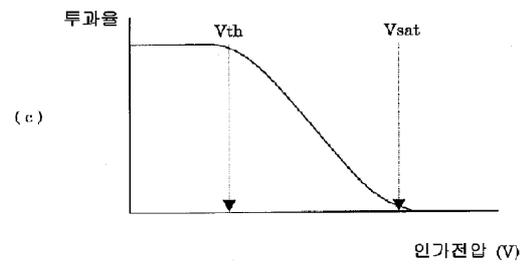
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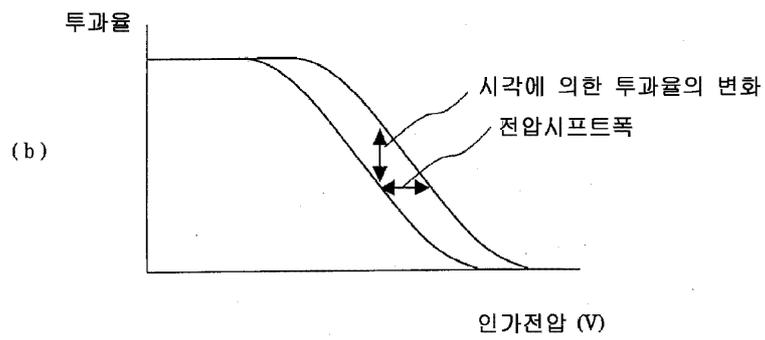
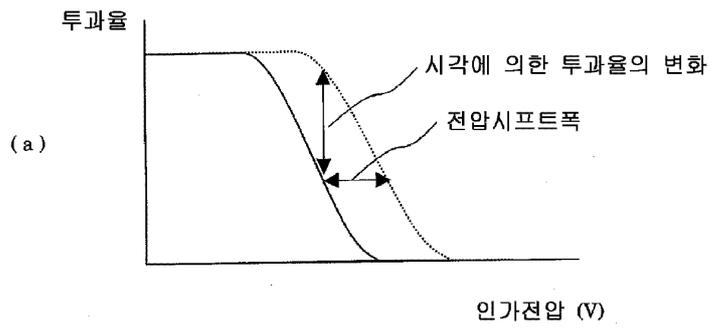
절연막을 남긴 영역 B



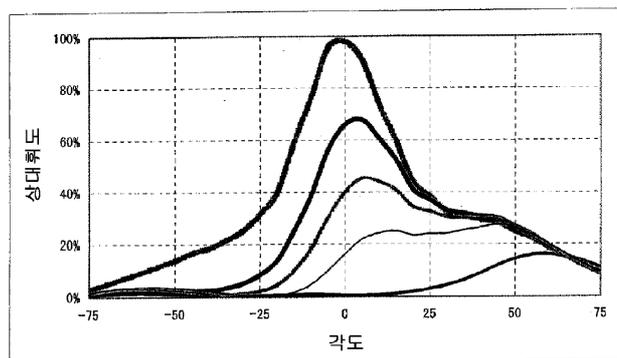
전 체



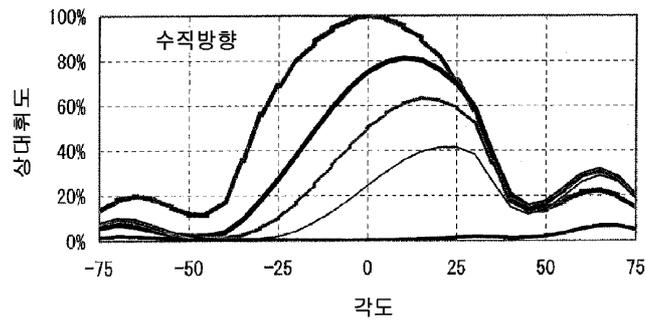
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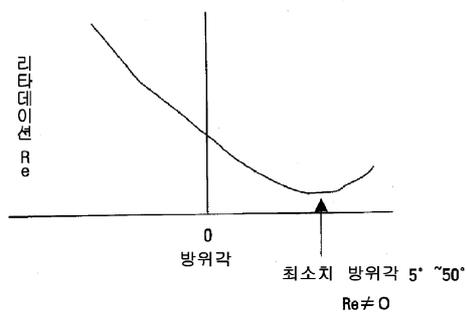
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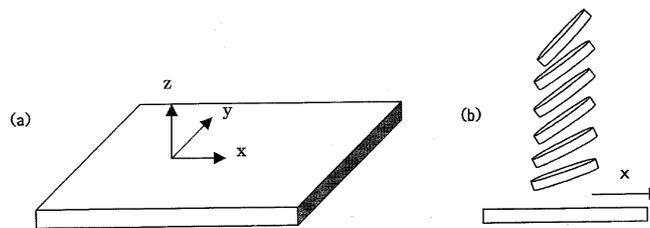
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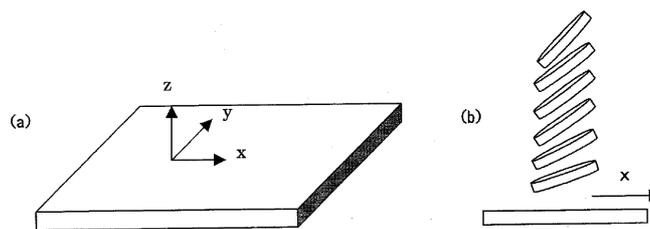
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26



专利名称(译)	液晶显示装置及其制造方法		
公开(公告)号	<a href="#">KR1020020065333A</a>	公开(公告)日	2002-08-13
申请号	KR1020010079364	申请日	2001-12-14
申请(专利权)人(译)	提升者显示的激光炮的鼻子		
当前申请(专利权)人(译)	提升者显示的激光炮的鼻子		
[标]发明人	NAKAYAMA AKIO 나까야마아끼오 NAGANO SHINGO 나가노신고 MIZUNUMA MASAYA 미즈누마마사야 KOBAYASHI KAZUHIRO 고바야시가즈히로 KOYAMA HITOSHI 고야마히또시		
发明人	나까야마아끼오 나가노신고 미즈누마마사야 고바야시가즈히로 고야마히또시		
IPC分类号	G02F1/1368 G02F1/1362 G02F1/1343		
CPC分类号	G02F2001/134345 G02F1/136213 G02F1/136227 G02F2201/123		
优先权	2001028982 2001-02-06 JP 2001229099 2001-07-30 JP		
其他公开文献	KR100479312B1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

用途：提供一种液晶显示装置及其制造方法，以确保宽视角和高对比度。组成：液晶显示器件有TFT（薄膜晶体管），设置在栅极线（2）和源极线（7）的交叉点，像素电极（14,16）连接晶体管，电极与像素电极相对，液晶保持在相对电极和像素电极之间。像素电极包括第一像素电极和第二像素电极。第二像素电极设置在绝缘层上方的层中，该绝缘层设置在第一像素电极上方的层中。第二像素电极具有不与第一像素电极重叠的区域。第二像素电极与第一像素电极电连接。

