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(22) 2003 01 30

(30) JP-P-2002-00024864 2002 01 31 (JP)

(71) 가 가 가 , . 1753

(72) 5 7 1 가 가

5 7 1 가 가

5 7 1 가 가

(74)
:

(54)

LCD , LCD Cr
1 (Cr) 2 , (Cr) , .
가 , .

1

LCD,

1 LCD .

2	1	A-A	.
3	1	B-B	.
4a	4b	LCD	.
5a	5b	LCD	.
6a	6b	LCD	.
7a	7b	LCD	.
8a	8b	LCD	.
9		LCD	.
10	9	C-C	.
11	9	D-D	.
12		LCD	.
13a	13b	LCD	.
14a	14b	LCD	.
15a	15b	LCD	.
16a	16b	LCD	.

* * *

- 1, 101 : TFT
- 2, 102 :
- 3, 103 :
- 6, 106 : 1
- 7, 107 : 1
- 8, 108 :
- 9, 109 :
- 10, 110 :
- 13, 113 :
- 17, 117 :
- 21, 121 :
- 22, 122 :
- 25, 125 :

27, 127 : 1
 31, 131 : 2
 32, 132 :
 33, 133 : 2
 34, 134 :
 36, 136 :
 37, 137 : 2
 140 :

LCD (; liquid crystal display device)
 , TFT (thin film transistor) TFT (picture element)
 IPS (in-phase switching) LCD

, 2002 1 31

2002-024861

LCD LCD
 TFT가 TFT , LCD
 TN (twisted neumatic) LCD IPC (in-phase switching) LCD LCD

TN LCD , TFT
 가 , 가 , TFT
 , IPS LCD TFT 2
 , TFT
 , TN LCD LCD TFT
 D , IPS LCD H10-46870

9 LCD , 11 TFT . 9 11
 , TFT (101) LCD TFT (101) (102) (103) ,
 1 (glass) 1 (106), 1 (106)
 (polarizing plate; 107), Cr, Al, Mo 1 (106)
 (; scanning line, 108), 1 (106)
 (109), SiO₂, SiN
 (108) (109) (110), a-Si
 (110) (108) (113), n+ a-Si (113)
 (ohmic) (113A, 113B), Cr, Al, Mo (113A, 113B)
 (drain) (116) (source) (117), (110) (116)
 (117) (121) (121) (data line, 122), SiO₂, SiN
 (121) (122) (; passivation film,

125), (polyimide) (125) (121) (122)
) 1 (oriented film, 127) (108), (113),
 (116), (117) TFT (126) (108) (113)
 , (109) (121) (122) (109A)
 , (102) 2 (131), (132)
 2 (131) 2 (133), 2 (131)
 Cr, Ti (black matrix) (134),
 2 (134) (136), 1 (127) (134),
 (137) (136) (rubbing)
 (139) TFT (101) (102) (103) (twisting)
 가 ((112))
 12 (78) (rubbing ha
 ir, 79) (77) (80) 1 (127)
 TFT (101) (80) (79) 1 (127)
 , 13a-13b 16a-16b LCD 13a, 14
 a, 15a, 16a 9 C-C , 13b, 14b, 15b, 16b 9
 D-D
 , 13a 13b 1 (106) (sputte
 ring) , Cr, Al, Mo 200-400nm (108) ,
 (109) (109A) (109A) 13a 13b
 , 14a 14b , CVD () , SiO₂ , SiN
 (113) (113) (110) (110) a-Si
 n+ a-Si (113A, 113B)
 Cr, Al, Mo 200-400nm
 (117), (122) (121), (116),
 , 15a 15b , CVD SiO₂ , SiN
 (125) (125) (80) 1 (127) 1 (127)
 , 12
 , 16a 16b , (131)
 Cr, Ti (134), (136), 2
 (137) (102) TFT (101) (103) 2
 , TFT (101) 1 (107) , (102)
) (132) 2 9 11 (102)
 D 가 LC
 LCD LCD 가 (comb-teeth) ()
 109) (131) , (109) (108) (109A)
 , (121) (116), (117),
 (122) 가

, LCD , (109) (121)
 , 1 (127) , 1 (127) 가 .

, LCD (121) , , (109)
 (109) (121) 가 , ,
 1 (127) (140) 가
 , (140) 12 .

, LCD (103) LCD , TFT (101) (contrast) 1 (127) LCD ,
 ,

(109) (121) (109, 121) (109A)
 (122) , LCD (display) 가
 , 가 (122), (109)
 (121) LCD (109A) (109A) (兩配線) 가 , (109)
 (121) (122) (兩電極) (109A) (122) (109) (121) , (109)
 가 .

, (109) (121) (127) LCD (140)
 , , - (normal b
 lack) LCD , 가 .

가 , LCD ,

1 ,

1 ;

1 2 ;

1 2 ;

1 , , ;

1 , (branch off) ,

2 ,

1 ;

1 2 ;

1 2 ;

1 , ;

1 , (branch off) ,

1 2 , (mode) ,

1 2

1 2

2 1

3 , ; ;
(branch off) , ,

1 , 1 ,

1 ;

2 , 2 ,

2 ;

3 , 3 ,

3 ;

4 , 4 , 4 ;

5 , , , ,

3 , 1 2 .

1, 2, 3, 4 .

1 2 , ()

3 , 1 2 ,

LCD .

1 3 , LCD TFT (1) (2) (3)

TFT (1) 1 (6), 1 (6) (9), SiO₂

(7), Cr (8), 1 (6) (9) (8)

(10), a-Si (10) (8)

(13), n+ a-Si (13) (13A, 13B), (17)

Cr (13A, 13B) (16) (17) (21)

(16) (17) (10) (16) (21) (22)

(22), SiO₂, SiN (21) (22) (21)

(22) (25), (21) (9)

6) (17) TFT (29) 가 (8), (13), (13), (1)

(22) (9) (21)

(9A)

1 3 , LCD (9) (21)

(50-100nm) Cr (2) (8) , (8) , (200

-400nm) Cr (1) (8A) (50-100nm) Cr (2) (9)

(9A) 200nm 400nm Cr (1)

(9a) 50nm 100nm Cr (2)

(9b) Cr (1) (22) 200nm 400nm

Cr (2) (22A) 50nm 100nm , TFT

(29) (16) , 200nm 400nm Cr (1)

(16A) , 50nm 100nm Cr (2)

(16B) , TFT (29) (16) , 200nm 400nm

Cr (1) (17A) 50nm 100nm

Cr (2) (17B)

(9) (21) 2

(; 25) (27) , 1 (27)

8), (9A), (27) (22) 1 2 (16) (17) 1
 , TFT (29) (16) (17) 1
 2 2
 , (8) (1 ; 8A)
 (8B) (2 ; 8B) (8A)
 (8A) (8B)
 (8A) (8B)
 (8A), (8B)
 (9A), (16), (17),
 (22)
 , 1 2
 (21) (22) (; 22A) (; 22B) 2
 (34) (27) 가 (2)
 , 가
 (2) 2 (31), (32)
 2 (31) 2 (33), Cr, Ti 2
 (31) (34), (34)
 (36), (36) 2 (37)
 1 (27) 가 (39)
 , 4a 4b, 5a 5b, 6a 6b, 7a 7b, 8a 8b , LCD
 , 4a, 5a, 6a, 7a 8a 1 A-A
 , 4b, 5b, 6b, 7b, 8b 1 B-B
 , 4a 4b 1 (6)
 , Cr 200-400nm (1)
 (8A) (8A) , Cr 50-200nm
 (9a; 1)
 (2)
 (8B) Cr (1) (9) Cr (2)
 (8) (8A) (8)
 (8B)
 , 1 (8A) 2 (8A)
 (8B) (8B) 2 (8A)
 (8A) 2 (8A)
 , 2
 가 (8A) (8A)
 (8A) (8B)
 1 , 2
 , 5a 5b , CVD , SiO₂ , SiN
 (13) (10) (10) a-Si (13A, 13B)
 , n+ a-Si
 , Cr 200-400nm

(1) (16A), (17A) (22A),
 , 6a 6b , , Cr 50-100nm
 (22B) (2) , , (21), (16B), (1
 7B) Cr (2) (22B) Cr (1) (1
 가 (22A) (22) (22)
 , Cr (1) (16A) Cr (2)
 B) (16B) (16) Cr (1
) (17A) Cr (2) (17
 2 2 (17) (16) (17) 1 가
 ,
 , 7a 7b , CVD , SiO₂ , SiN
 (25;) , 12 , (25) (80) , 1 (27
) (27)
 , 8a 8b , 2 (31)
 Cr, Ti (34), (36) 2 (1
 37) (2) TFT (1) (3) , TFT (1
) 2 (33) 1 (7) , 1 3 (2) LCD (32)
 (50-100nm) LCD (2) (9) (9) (21) (21) (27)
 , 1 (27) Cr (2) (27) 가
 , LCD (27)
 , LCD (3) , 1 (27)
 LCD , 가
 , LCD , 1 2 (9A)
 LCD (22) , (9) 가 (21)
 (21) , LCD (9) (21) (9) (9A), (9)
 (22) 1 2 (27) , (9)
 , 1 (27) , 가
 , 가
 , TFT , TFT
 LCD LCD LCD ,
 , 가 Cr

, Cr Al Mo
TFT
2
TFT

LCD

LCD

, LCD 가,

가

가

(57)

1.

1 ;

1

2 ;

1

2

;

1

;

1

(branch off)

2.

1

1

2

3.

2

1

2

4.

1

5.

2

2

1

6.

1 ;

1 2 ;

1 2 ;

1 ,

, ;

1 , (branch off)

7.

6 , , ,

8.

6 ,

9.

6 , 1 2

10.

9 , 1 2

11.

6 ,

12.

9 , 2 1

13.

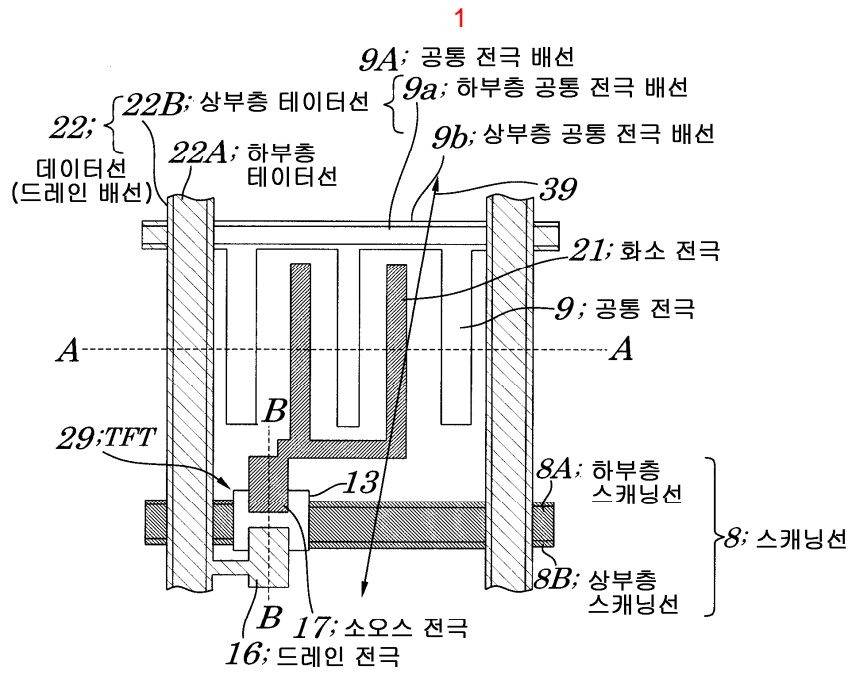
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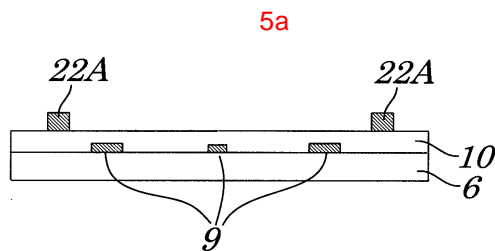
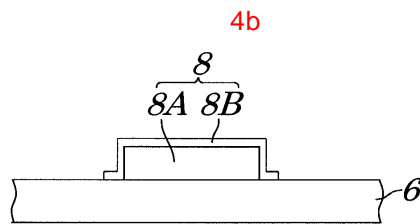
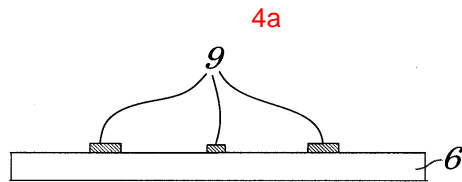
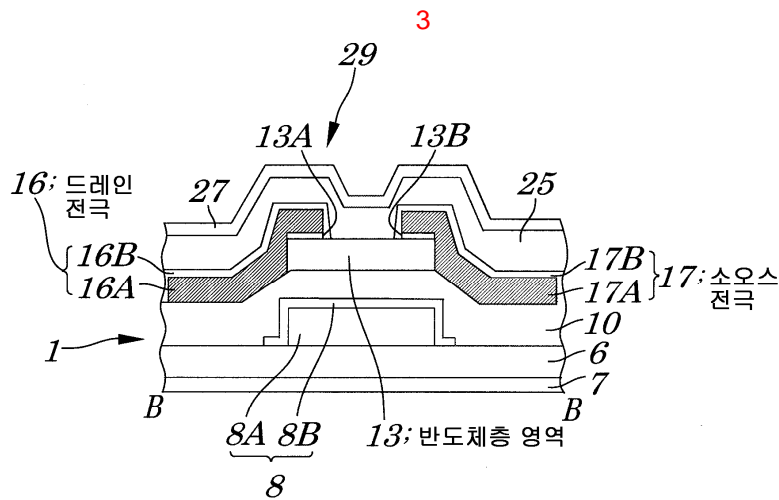
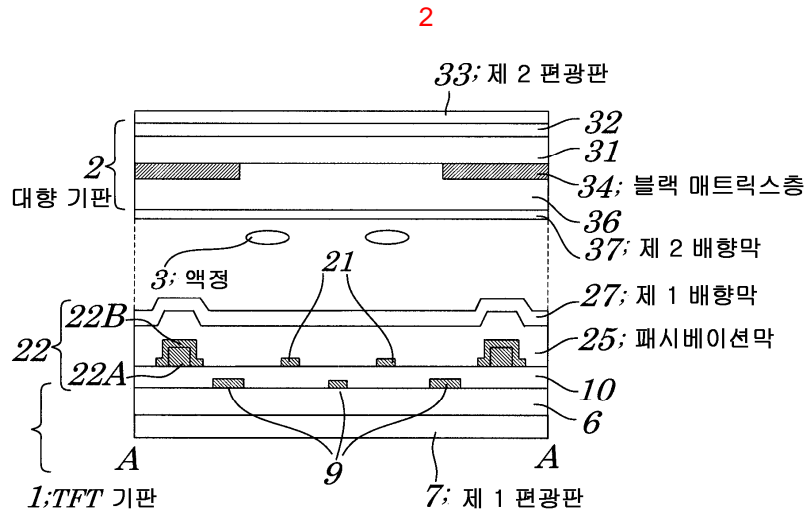
(branch off)

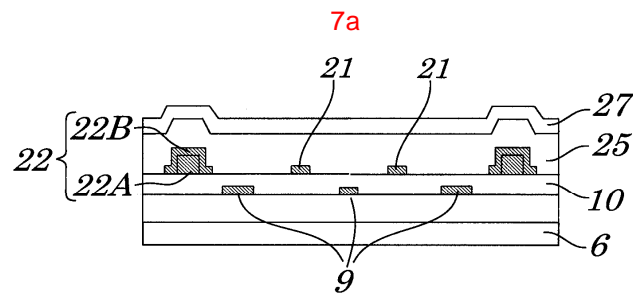
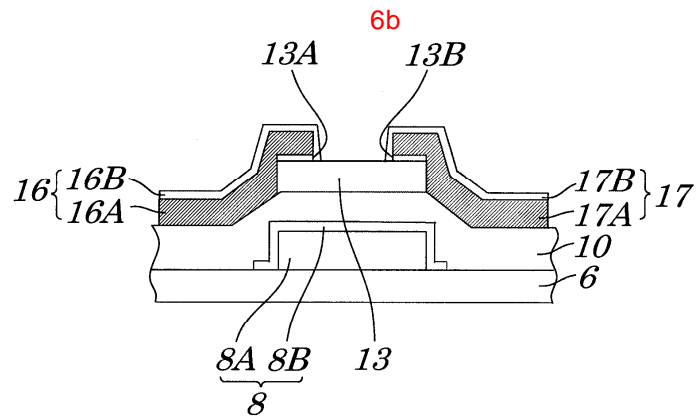
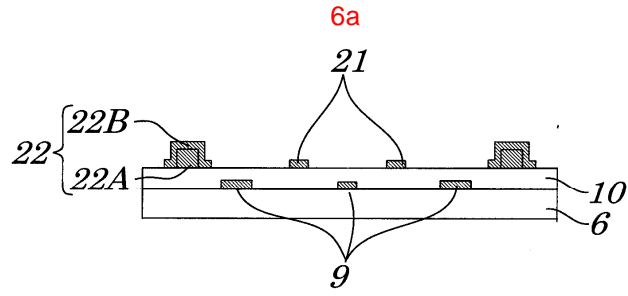
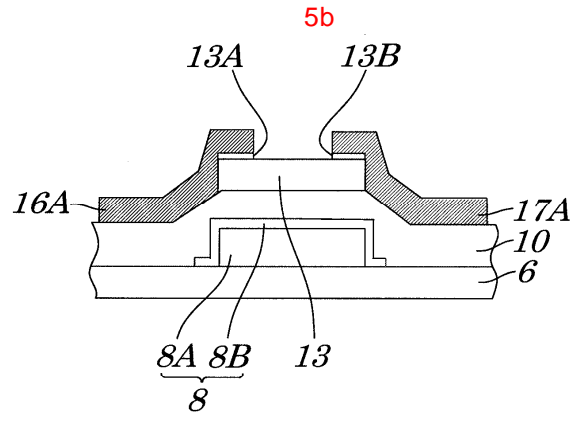
1 , , 1 ,

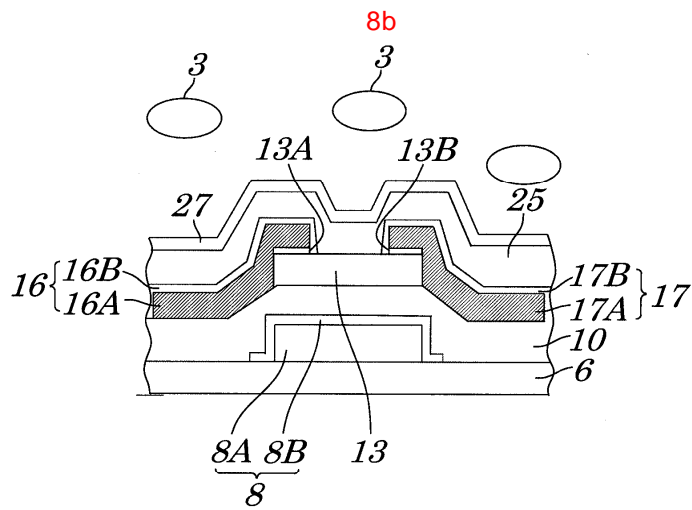
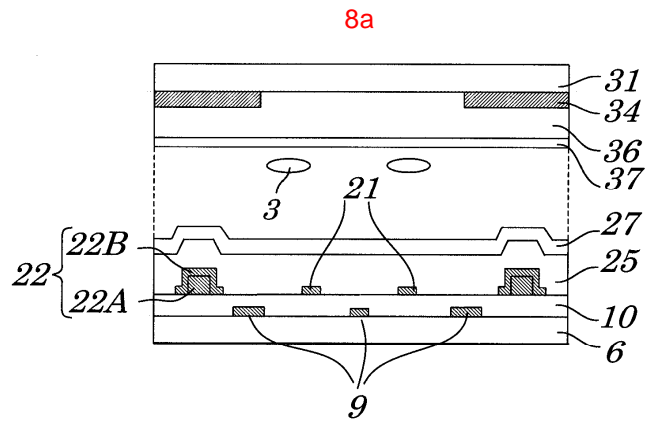
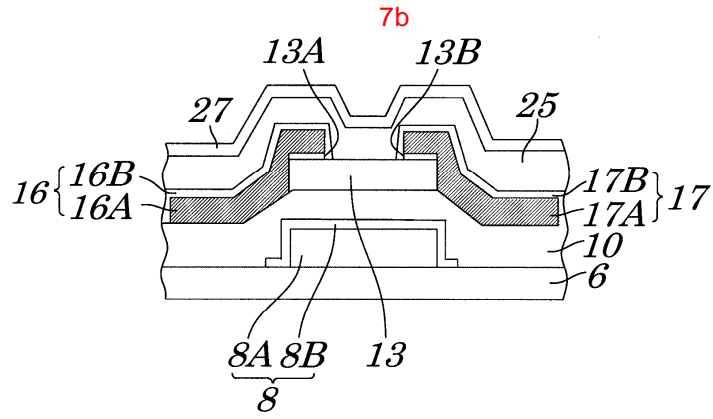
1 ;

2 , , 2 ,
 2 ;
 , , 3 , , 3
 , , 3 ;
 4 , 4 ,
 4 ;
 , , ,
 5 .
 14.
 13 , 1 2
 15.
 13 , 1, 2, 3, 4



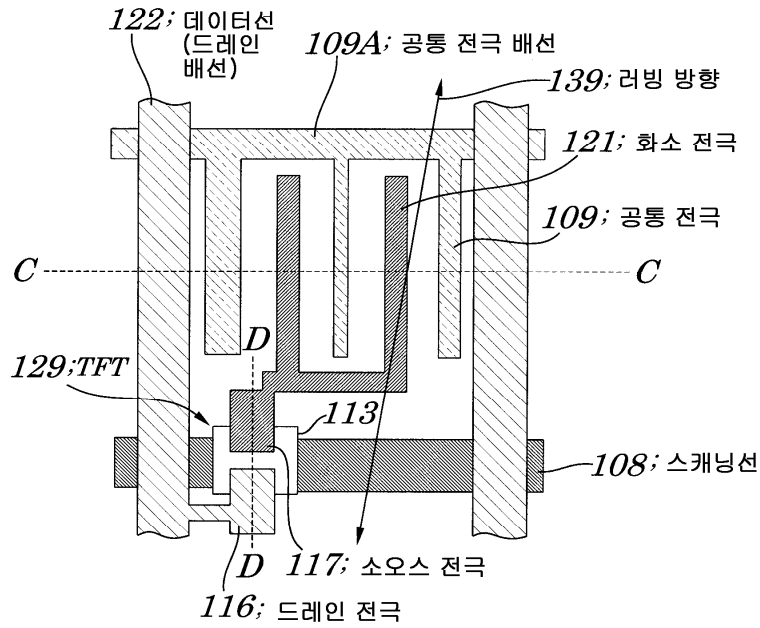






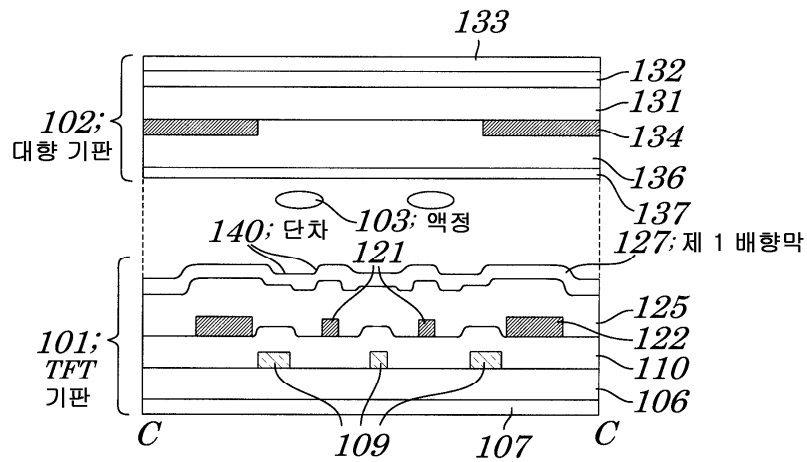
9

종래 기술

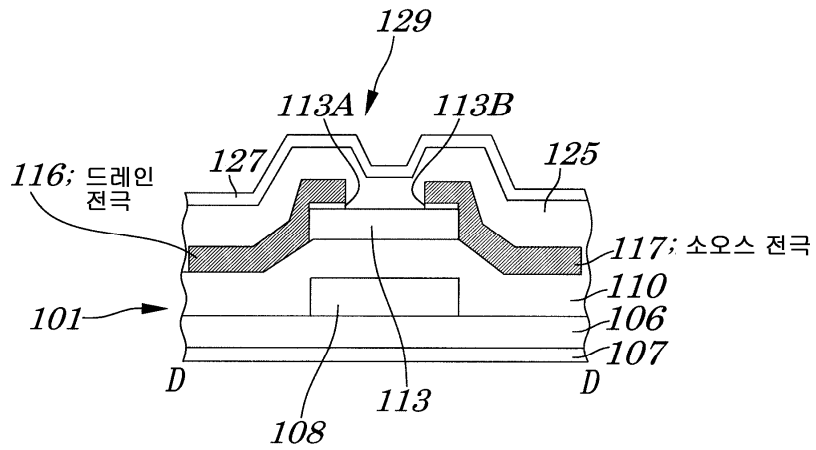


10

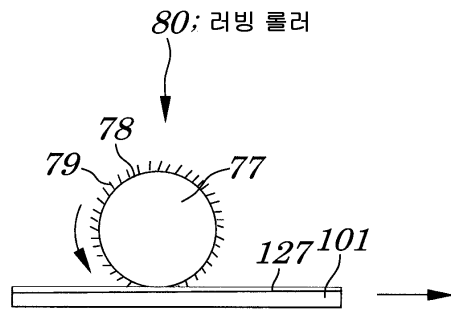
종래 기술



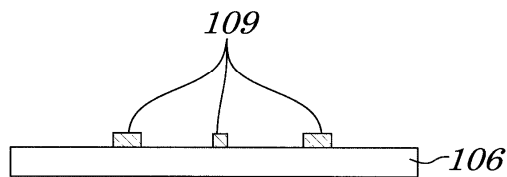
11
종래 기술



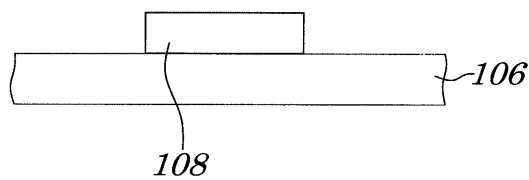
12
종래 기술



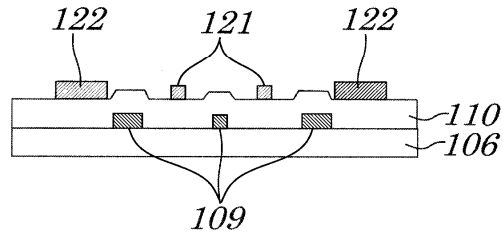
13a
종래 기술



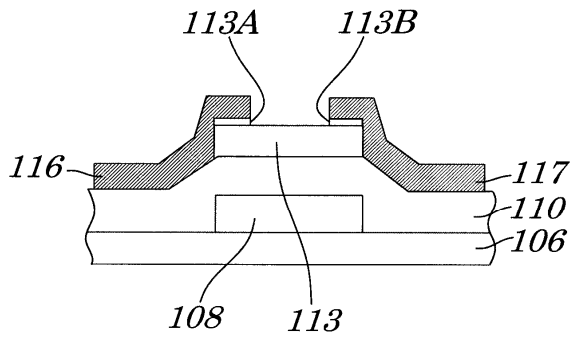
13b
종래 기술



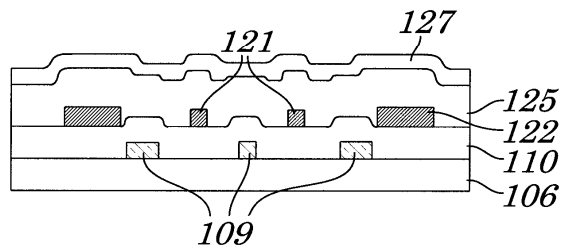
14a
종래 기술



14b
종래 기술

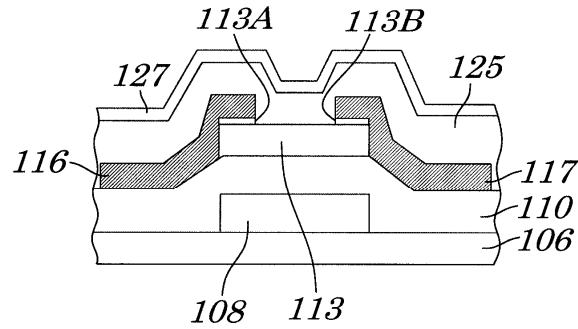


15a
종래 기술



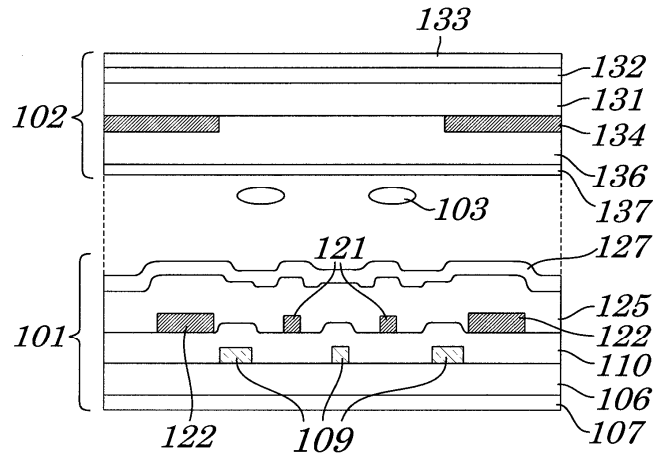
15b

종래 기술



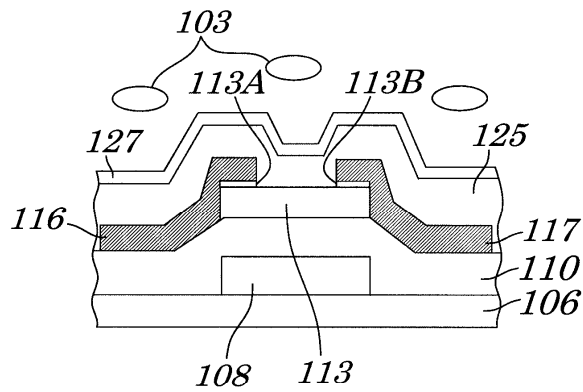
16a

종래 기술



16b

종래 기술



专利名称(译)	液晶显示装置及其制造方法		
公开(公告)号	KR1020030066386A	公开(公告)日	2003-08-09
申请号	KR1020030006091	申请日	2003-01-30
[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	ASAI TAKUYA 아사이다꾸야 KUROHA SYOUICHI 구로하쇼우이찌 SASAKI TAKESHI 사사끼다께시		
发明人	아사이다꾸야 구로하쇼우이찌 사사끼다께시		
IPC分类号	G02F1/1368 G02F1/1343 H01L21/3205 G02F1/1345 G02F1/1337 H01L29/786		
CPC分类号	G02F1/134363		
代理人(译)	韩国专利公司		
优先权	2002024864 2002-01-31 JP		
其他公开文献	KR100581507B1		
外部链接	Espacenet		

摘要(译)

在所提供的LCD设备中形成有形成LCD设备的单位像素的主要部分的公共电极，以及由包括数据线等的相应的第一导电膜（厚Cr层）和第二导电膜组成的层压膜（薄Cr层）。这种配置可以增加包括公共线和数据线等的布线的膜厚度。因此可以减小布线电阻。液晶显示器和摩擦处理。

