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(73) 가 가 2 4-1

(72) 가 3 3-5 가 가

(74)

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(54) ,

(30) (31) , (31) (32) , (31)  
(32) (34) (32) (34) (70) (72)  
2 (32) (72) (70)

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1  
2 1  
3 1  
4 1

5 4 1  
6a 5 F-F , 6b 5 G-G  
7a 7e  
8a 8c 8a , 8b  
, 8c  
9 4 1  
10 9 G-G  
11  
12  
13 12  
14 12 1 TFD  
15 12  
16 12  
17  
18 17  
19 17  
20 17 1H  
21 TFT

22  
\* \*  
1: 2a, 2b: ( )  
3: 6a, 6b:  
10: 14:  
20, 30, 80: ( )  
21, 31: 22, 32, 82:  
24, 34, 36: 63:  
70: 72:  
74: 1 76: 2  
82: 84:  
88: ( ) 92: ( )  
96: ( ) L:

가

2

(Thin Film Diode: TFD)

TFD , TFD

가

가

가

STN(Super Twisted Nematic)

가  
ITO(Indium Tin O

xide)

가

가

가

가

1

(  
(1)

가

가

가

가  
가

(2) (1)

가

(3) 가  
(2)

(4) (1) (2)  
가

(5) (1) 가 (4)

가 가

가

가

(6)  
1) (5)

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가

가

가

가

가

(7) , (4) ,  
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 가 ,  
 가 , 가 ,  
 , 가 , (6) (7) 가 ,  
 (8) , 가 , (1) (5) ,  
 (9) , (1) (5) ,  
 , 1 ,  
 (10) , (1) (5) ,  
 , 1 1 ,  
 2 2 , 1 2 , 1 1  
 2 , 1 1 ,  
 2 , 2 , 1 1  
 , 1 ,  
 가 2 ,  
 1  
 (11) (10) ,  
 2 ,  
 (12) (10) ,  
 2 , (4) ,  
 (13) , 2  
 , 가 , 가 ,  
 , 2  
 TFD(Thin Film Diode) ,  
 (14) , 3  
 , 가 , 가 ,  
 , 3  
 TFT(Thin Film Transistor) ,  
 ( ) ,  
 ( 1 ) ,

1 (10) , 2 1  
(10) (10) (14) , (14) (44)  
(40) (10) (14) (40)  
2 (14) 1 (20) 2 (30)  
( )  
1 (20) , (21)  
(22)  
, 2 (30) , (31)  
) 2 (32) 1 (20) (22)  
(30) (32)  
(20 30) 가 (19)가 2 A (19)  
, 2 (26)가 , 2 (30) (19) (36) (26) 1 (20)  
(22) (24) , (39) (22)  
가 (19) 1 (20) 2 (30) (19)  
( ) STN (18)  
1 (20) 1 (16) , 2 (30) 2 (17)  
(17) 2 1 (16) 1 (20) 1 (12) 2 (12) 2  
(30) 1 (20) 2 (30)  
, (14) 2 (30) 1 (20) (38) (39)  
(64) (39) 1 (64), 가 IC( 가 )가  
(64) IC (14) (22, 32)( 2 ) (64) , 2 (30) (39)가  
(22, 32) 가 (22) , 2 (30)  
(32) (14) 1 (20) (18) 가 , 가  
(20) 2 (30) IC , IC 1 IC  
(20) 2 (30) COG(Chip On Glass) , 가 IC  
, 2 (20, 30)  
, (12) 1 (20, 30) μm μm , 1 (16)  
(20) , 2 (17) 2 (30)  
(30) , (12) 1 (20) , 2 (17) 2  
, (22, 32)  
1 , (40) (50), (44), (42),  
(56) (60) (50) (50) (51) ( )  
가 (50) 가 (45)  
(44) (50) (45) (44) 가 ,  
(50) (14) (14) (44)  
(14) (38) 가 (14) (44)  
(44) (50) (44) 가 (44)  
(50) (44) (14) (50)  
(50) (42) (44) , (44)  
(14) (50) (44) (60) (50) (44)  
, (50) (44) , 1 (50) (60)  
(40) (50) (50) (60) 가 (50) (60)  
, 5V 250V, 100kHz (50)

(50) LED (56) (57) (44) LED (40) (58) (58)

(44) (56) (57) (46, 47) 가 , 가 (44) (46, 47)

(58) (44) (57) (50) (46, 47)

(58) (57) (44)

(56) (60)가 가 (22)

3 1 (20) (30)

1 (14) 3 2 1 (20) 4

(30) (38) 1

(20) 2 3

4 S-S

3 (20) (21) (22) (22)

(24) (26)( 2 )가 (25) (32)

4 (30) (32), (34) (36) (32) (32)

(31) (34) (32) (31) 가 (38)

(36) 2 (30) (38) (39) (38)

1 (20) (26) (25) (37)가 (26) 1 (2

0) (24) (26) 2 (19) (37)가 (26) (36)

(26) (38) (39) (22, 32) 1

(39) (34, 36) (22) 1 (20) (24) (26) 2 (30)

(20) (36) (22) (39) (21) (22)

3 (32) (31) (32) 4

(32) (30) (32) (32) (34)

5 2 (30) (32) , 6a 5 F-F (32) (34)

(32) (72) (70)

5 (32) (34) (32) (70)

ITO(Indium Tin Oxide)

6a 6b (34) (32) ITO (70) ,

(70) (72) (72) (70) (32) , 가

(34) (70) (72) (34) (34) ,

(32) 가 (34)

(30) (36) 6a

(34) (70) (72)

4 2 6a (30) 3 1 (20) (24)

(22) 5 6b (34) (32) 가 , ITO

(70) 1 (20) 2 (30), 3

(24) 4 (34) (36) (70) (72)

(24, 34, 36) (70) (20, 30) (24, 34, 36)

(10) (24, 34, 36)

가 (70) 가

(22, 23) (70) 가

(22, 32) (22, 32) (70)

(22), (72), (72), (70), (22, 32)

, 3 1 (20), (24) 가 (24) (22) ITO  
(70) (70) 4 (36) , 가 , ITO

, 3 가 (22) (70) (24) (70) (34) (36)  
(70) 가 (32) (70) (24, 34, 36) (70) (70)

(72) 2 가 (24) (70) (22)  
(70) (34) (36) (70) (32)

, 3 (22) 4 (32) (24, 34, 36) 3 (24) 4 (70)

34, 36), 3 (20, 30) 4 3 (22) (24) (70)  
(32) (34, 36) (70)

, 3 1 (20) 4 2 (30)

1 (20) 2 (30)

, 2 (30) 2 1 1 2  
7a 7e 7a가 7c가

1 7a 7e 7d가 2 7b가 1 7e가 2 (34) 가  
(32) (34) 1 (34)

31) 7a ITO (70) (70) 7a (72)

, 7b (32) 1 (34) 1 (74) (74) (70)  
(72) 7c 1 (32) 1 (34)

, 7d 2 (32) (72) (72)  
1 (74) 2 (76) 2 (76)

(34) 7e 2 (76) (32)  
(72) 1 (72)

, 2 (70) (76) 6a 6b (34)  
(32)

, 1 (74) 7c 1 (76)  
2 7d 2 (76) (32) 가 (72) (72) (32)

(32) 1 (70) (72) 가 (72)

, 가 2 (70) (72) 1

(34) 2 (30) (32) (34)  
(36) (34)



(1) 15, 1 (2a) 2 (2b) (3),  
 1 (2a), 2 (2b) (3) (2b) (38), 1 (IC(4a 4b)가 TFD가)  
 2 (2b) (3) (XX) (YY)  
 1 (2a) 2 (2b) 1 (2a) 2 (3) (2b)  
 1 (2a) 가 (3) IC(4a 4b)  
 (V) 가 (V) (V)  
 12 (1) 13 1 (2a) (6a) (6a)  
 12 (61) (61) (62) (62) (63) (71a) ITO(Indium Tin Oxide)  
 (71a) 가 (63) (71a) (6b) (6b)  
 1 (2a) 2 (2b) TFD(Thin Film Diode)(67) TFD(67)  
 (69) TFD(67) (69) 13 (71b) ITO(Indium Tin Oxide)  
 (71b) 가 (69)  
 1 (2a) (62) 2 (2b) (69) R( ), G( ), (69)  
 B( ) C( ), M( ), Y( ) (62a) 가 (69)  
 (62b)  
 13 (2a) 2 (2b) (L)  
 TFD(67) 13 (54) 가 (65) 1 (65) (66)  
 (66) 2 (68) TFD(67) 1 / / 2  
 1 (65) MIM(Metal Insulator Metal)  
 1 (65) 1 (65)  
 1 6 8 가 가 (79) (79) (69) (69)  
 (65) (79) 1 (79a) (79) (69) (69)  
 (66) 1 (65) (Ta<sub>2</sub>O<sub>3</sub>)  
 가 1 (65) (79) 1 (79a)  
 2 (68) Cr 2 (79b) (69) 가 2 (68)  
 (6b) (6b) 가 1 (65) 1 (79a)  
 가 2 (68)  
 1 (65) 1 (65)  
 12 (6a) (52a) (6b) (52b)  
 (52a) (53a) (52b) (53b) (52b)  
 STN(Super Twisted Nematic) 가 (52a 52b)  
 (53a 53b) TAC(3 ) (53a 53b)



2 (24-1 24-m) (TFT20-11 20-nm) TFT

22 TFT (Vg)=20V (C) C=10pF

(f) 320kHz n (TFT)

1/n (f) TFT "G" , 5V ( ,

10V ( , Vd=10V) 가 "H" 가 TFT

Vd=5V 가 200 5V , Vd=5V 10000 TFT 1V

Vd=10V 가 1V , 가 가 1V ,

TFT TFT 1V , TFT가 가

1000 , 1V 1V 1000 Vd=10V 22 1V

200 가 1V , 1000 2V TFT 5V

1V , , 10000 TFT

5V , TFT , DC 가

22 Vd=10V , Vd=5V 5V , Vd=5V Vg=20V Vg=20V

Vg=15V , Vd=10V 22 "H"

22 "I" , Vd=5V 32kHz TFT TFT , TFT 가가 TF

T 가 TFT n TFT,

TFT 가 TFT TFT

가 TFT TFT 가 TFT

가 TFT TFT TFT

18 , TFT TFT

(130) , (130) (134) (134) (132)

(134) , (136) (134)

(SiO<sub>2</sub>)(140) , (138) (Al) (142)

, ITO (144) , (146) , TFT

TFT (135) μm (L) 가

(135) (L) 3 , (22) ,

6a (22) (24) (25) 가 (24)

(70) (72) 2 ,

(72) (22) 6b (70)  
 17 2 (101) 19 19 (162) TFT  
 (164) (166) TFT (168)  
 (172) (170) TAB(Tape Automated Bonding) (168)  
 (176) (174) TAB (174)  
 19 TFT (160)  
 17 M (162) TFT (164)  
 (L3)  
 (101) TFT  
 TFT 5V  
 가 가  
 21 가 (V<sub>s</sub>) (V<sub>c</sub>) 가 TN ±5V (Vcom) TFT가  
 가 , V<sub>s</sub> 10V , V<sub>s</sub> (V<sub>c</sub>) V  
 , V =V<sub>c</sub> -Vcom 가 , V<sub>s</sub> 10V 가 , TFT  
 21 가 , V<sub>s</sub> 5V 가 , TFT  
 20  
 ( , 1H ). 1  
 21 (V<sub>s</sub> V<sub>c</sub> , 1H , V<sub>s</sub> Vcom  
 1 , V<sub>s</sub> TFT 가 5V , V<sub>s</sub> 가  
 , 5V 가  
 1H , TFT , V =V<sub>s</sub> -Vcom  
 가 , 20  
 (22) 18 (22) (135) 3 (24) 6a (70)  
 (70) (72) , (24) (24) (24)  
 (24) 가 (70) 가 (24)  
 , (24) (70) (63) (70) 가 (24)  
 (70) (24)  
 (63) (70) (24) (63)  
 (24) (70) (2a)  
 ( 5 )  
 8a 8c 1 (10), 15 (1) 17 (88)  
 (101) (10) 8b (92) , 8a (10)  
 (98) 8c (96) , (10)  
 (87), (10) 11 (86),  
 (89) , (91)  
 (93) , 8c (96)  
 (98) (93) 가

(10)

, POS , IC ,

( )

ITO

가

, STN

, TN(Twisted Nematic) ,

TN(Bi-stable Twisted Nematic) ,

1

가 가

가

가  
가

가

(57)

1.

가

(低)

2.

1

3.

1

4.

3

5.

1

4

6.

1 4

7.  
2

8.  
6  
9.  
4

1 1 2 2 1 2  
2 2

10.  
7

1 1 2 2 1  
2 2

11.

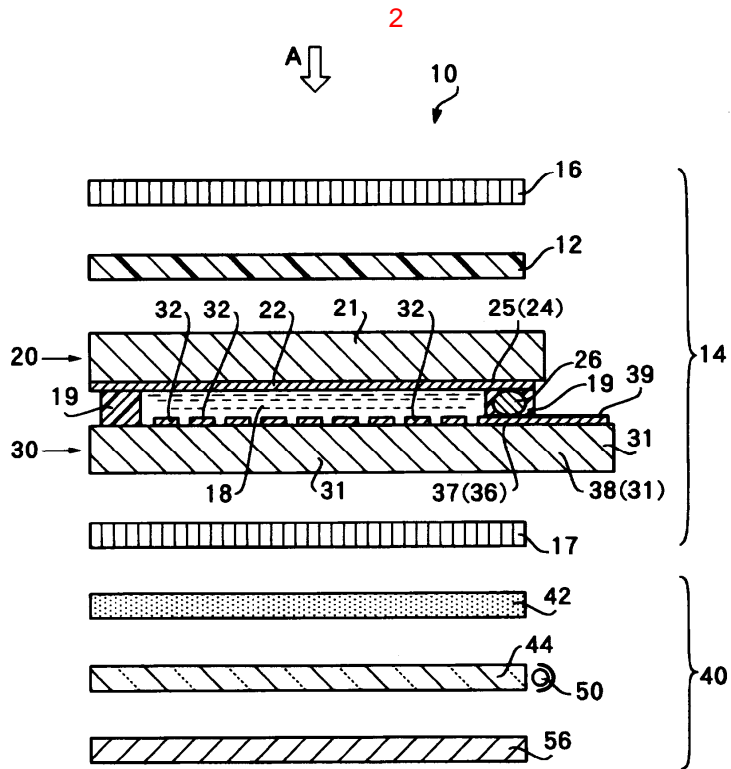
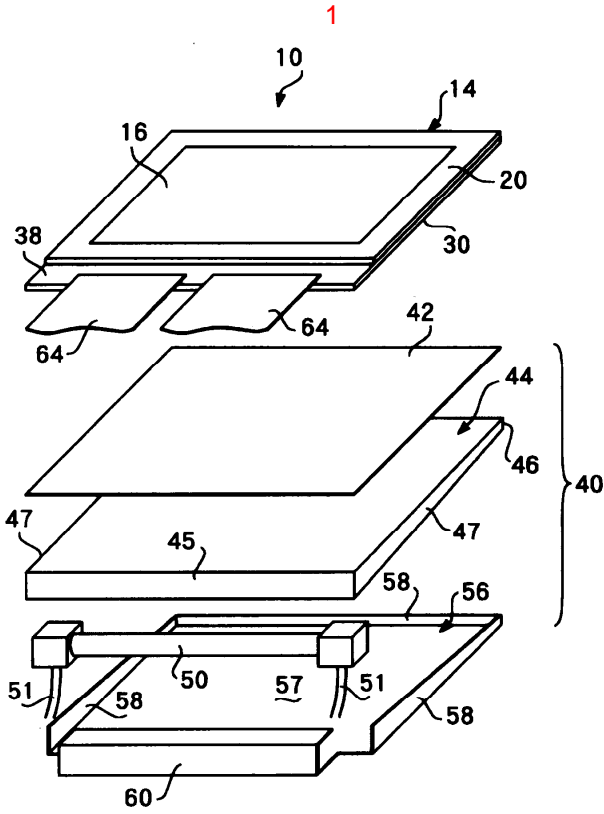
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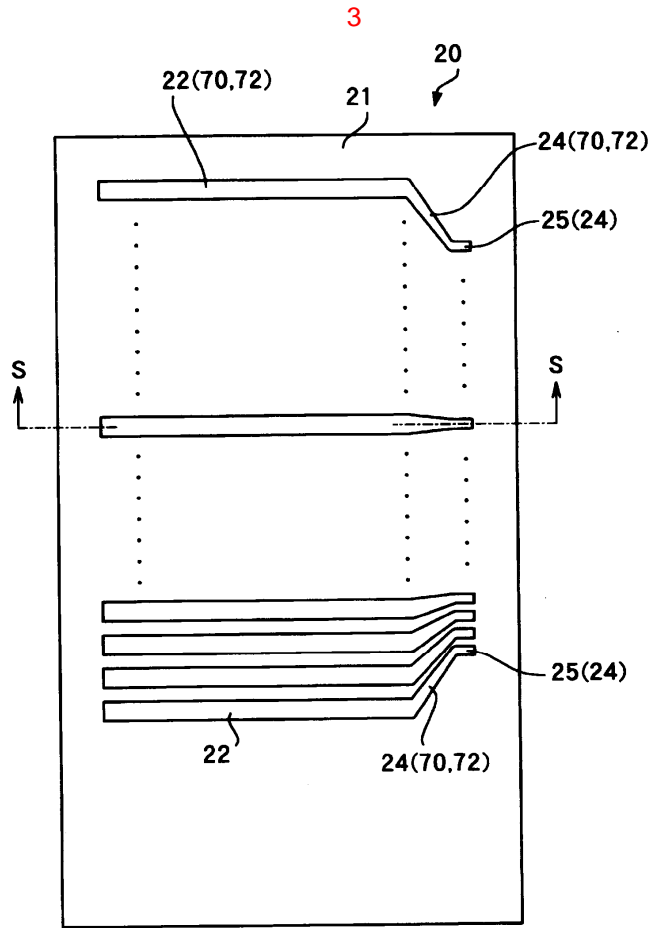
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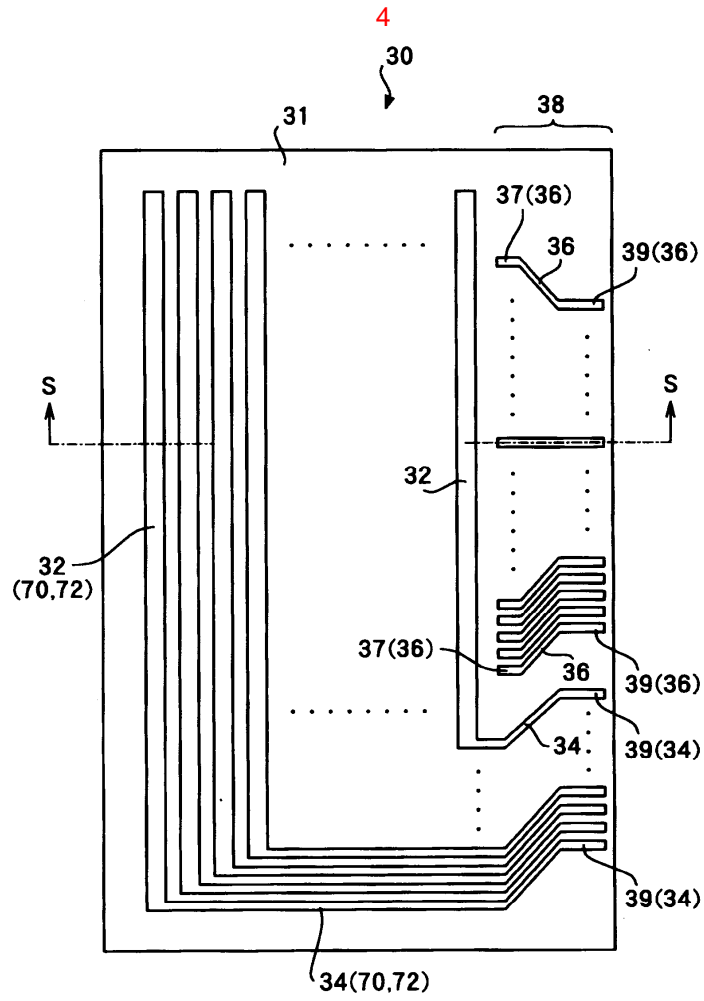
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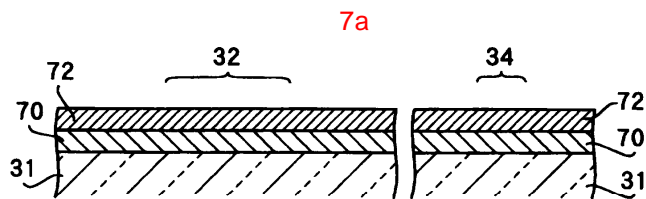
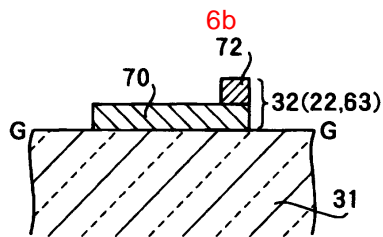
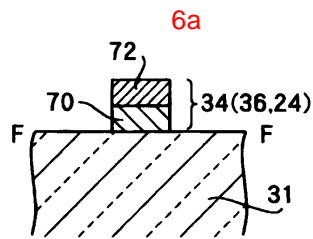
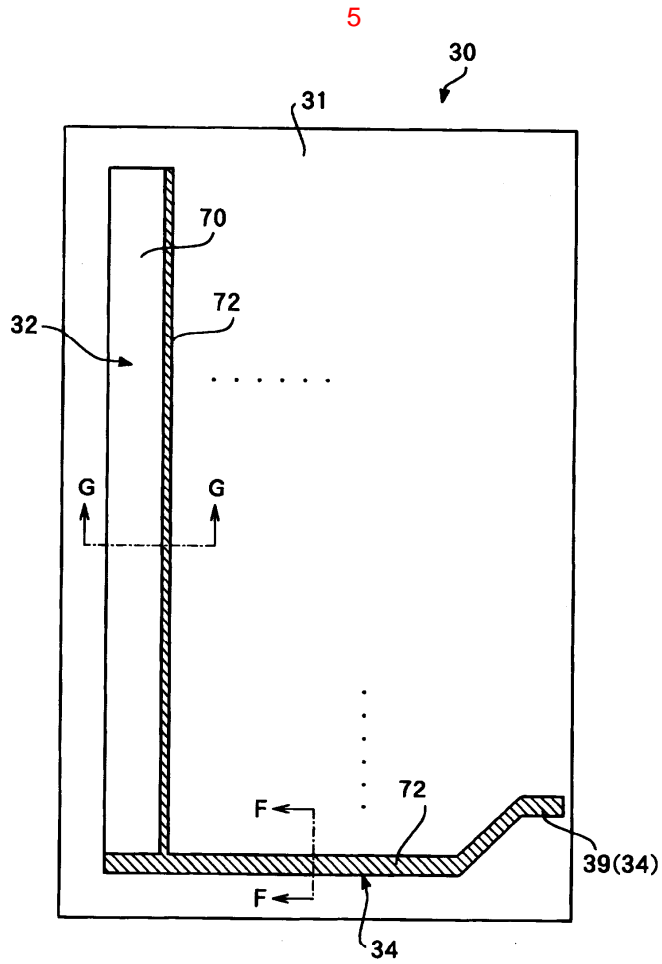
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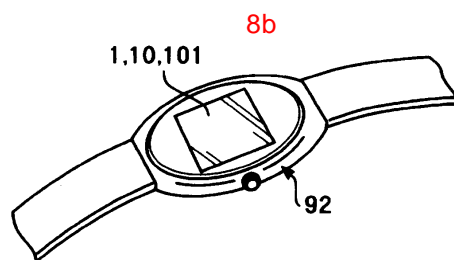
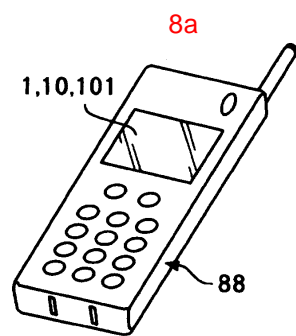
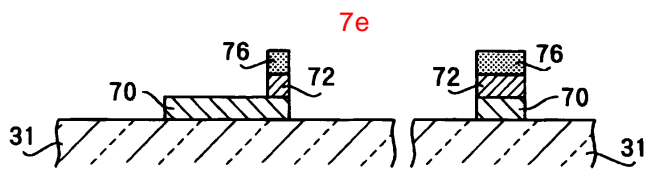
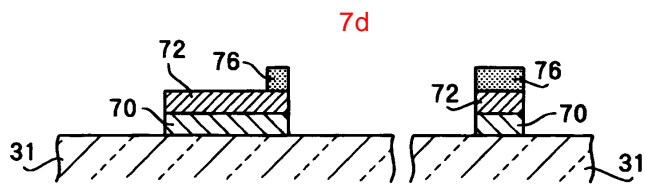
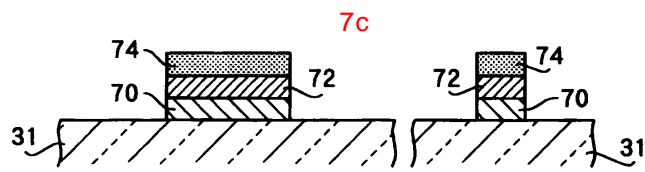
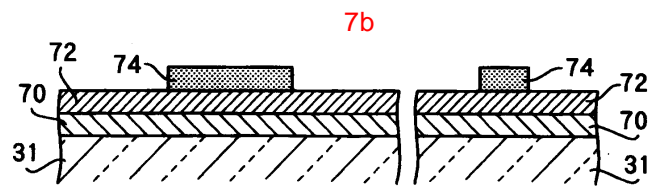
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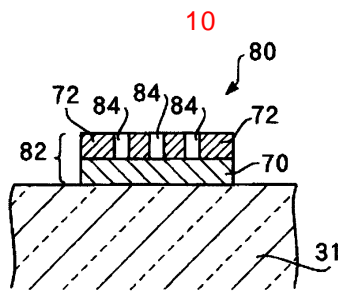
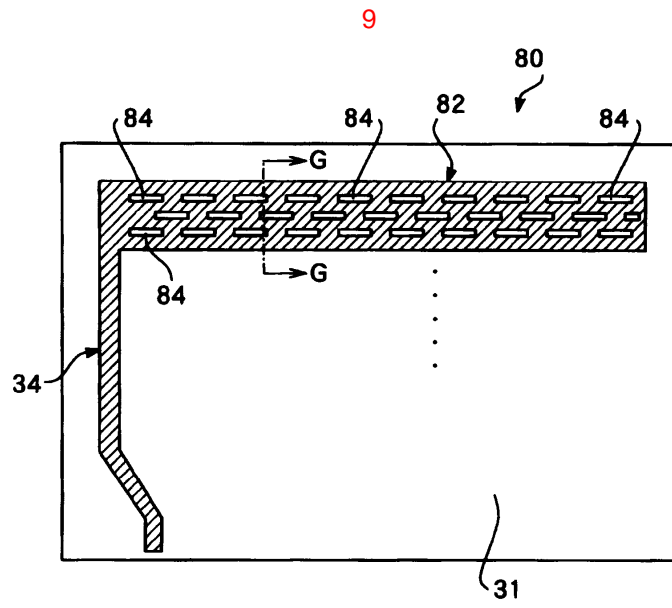
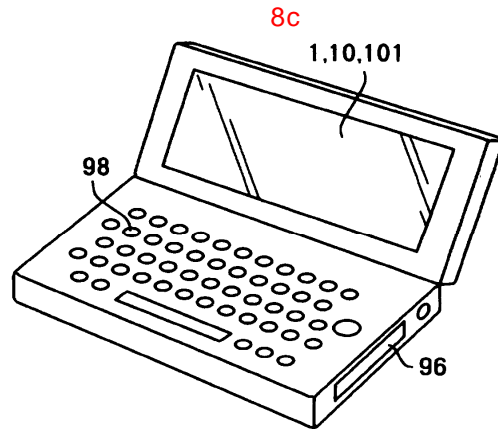


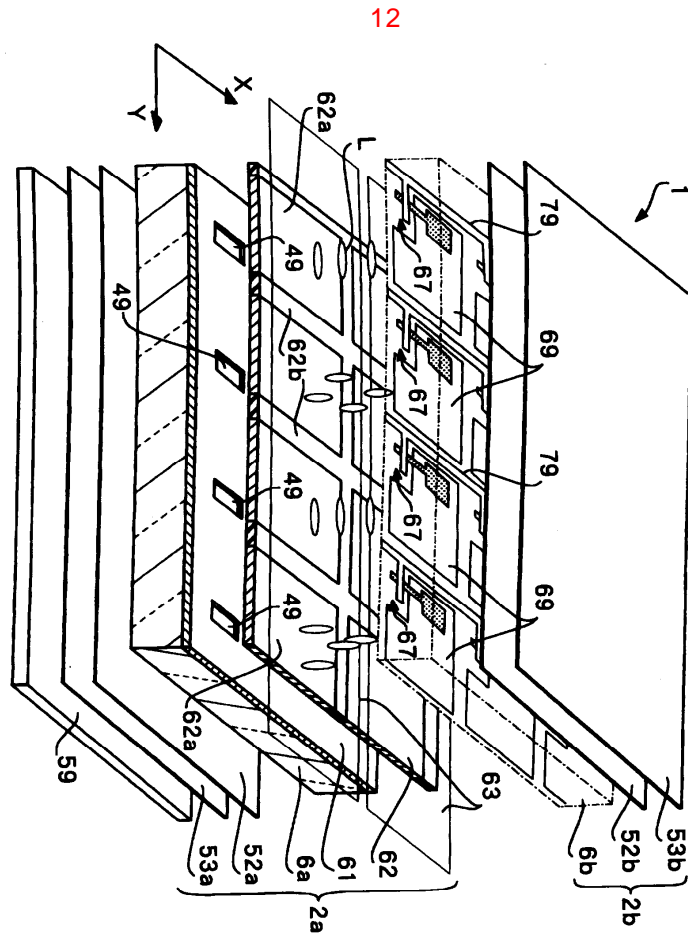
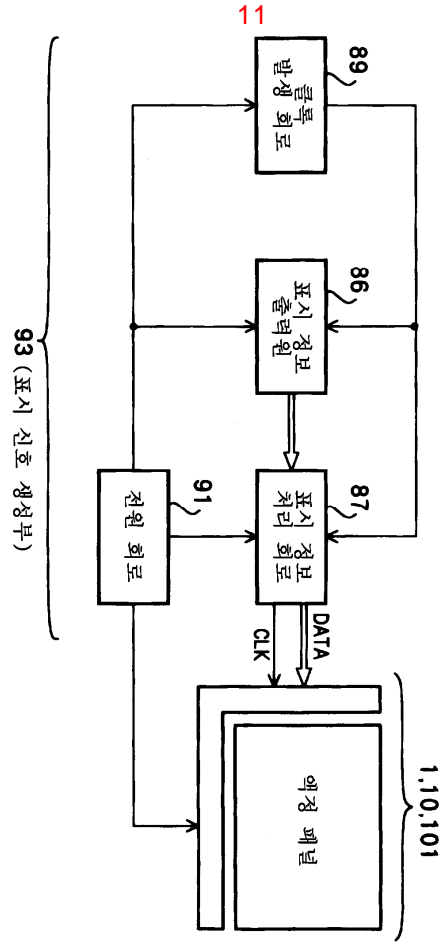


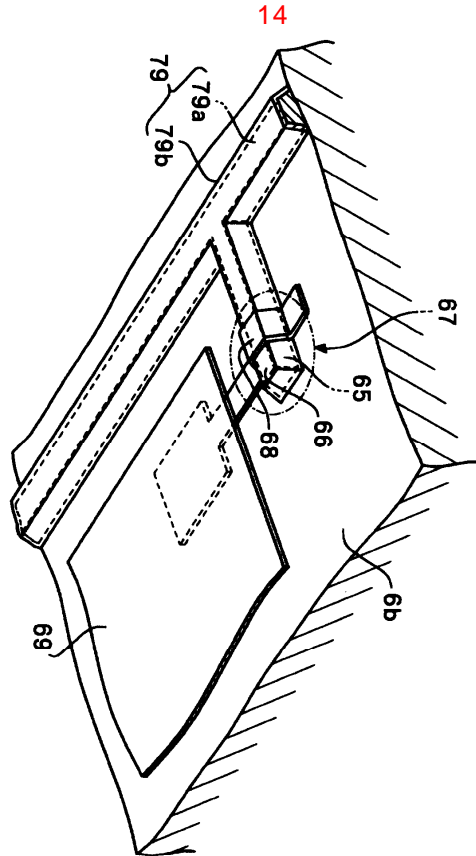
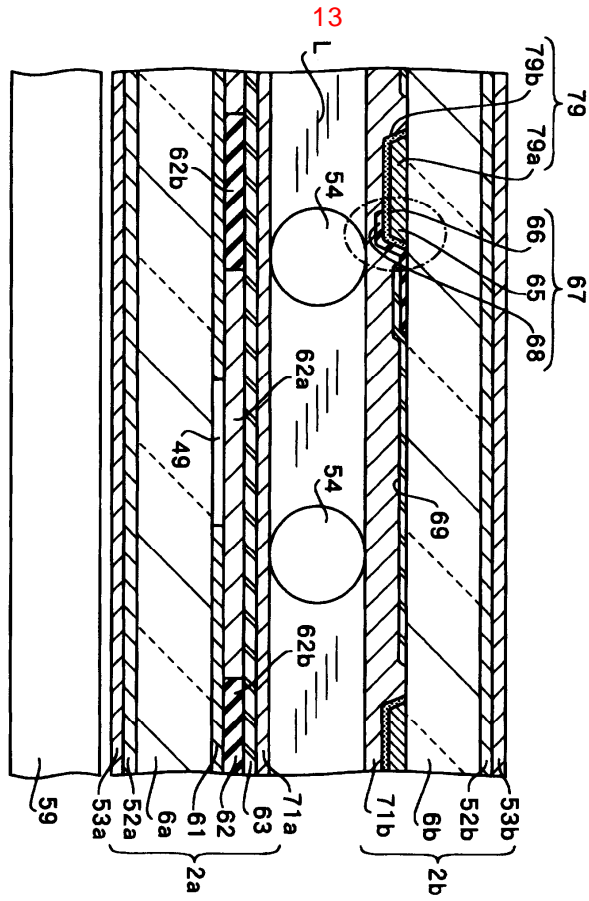




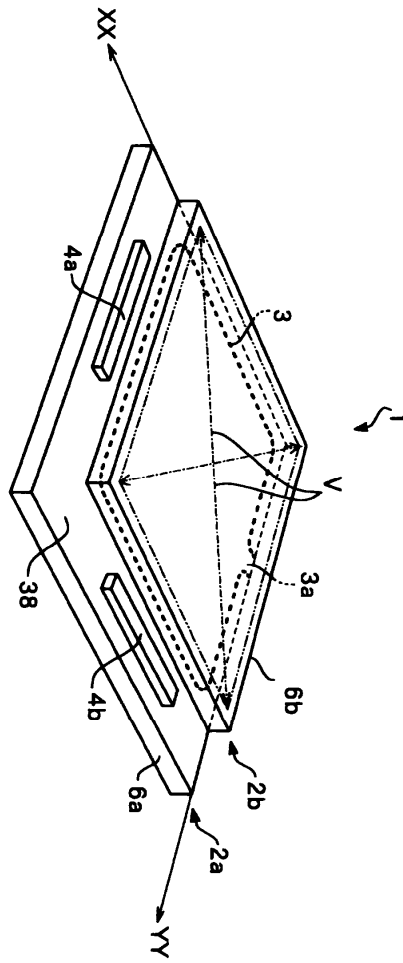




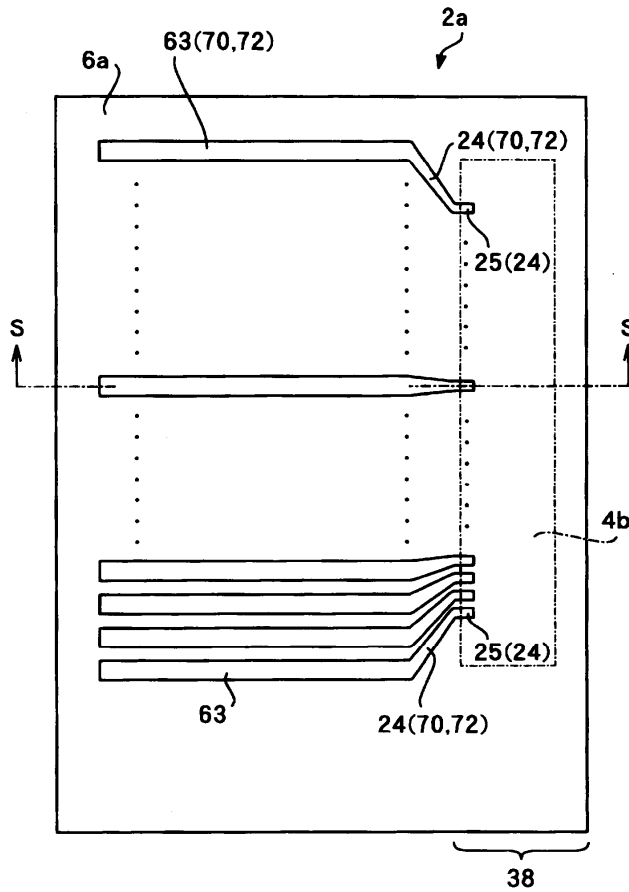




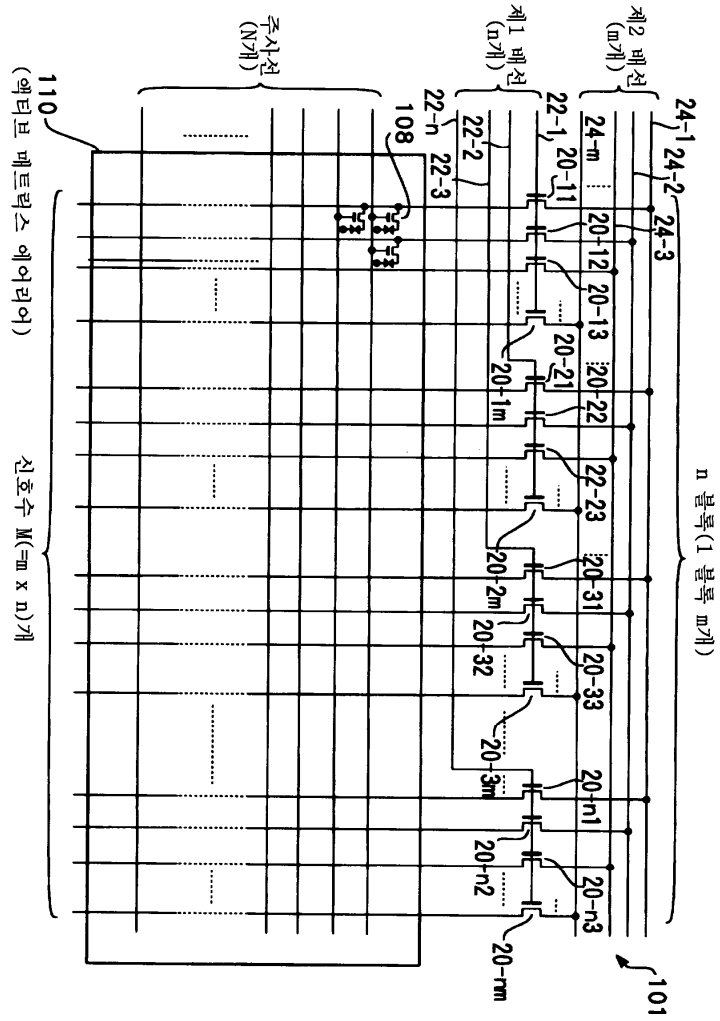
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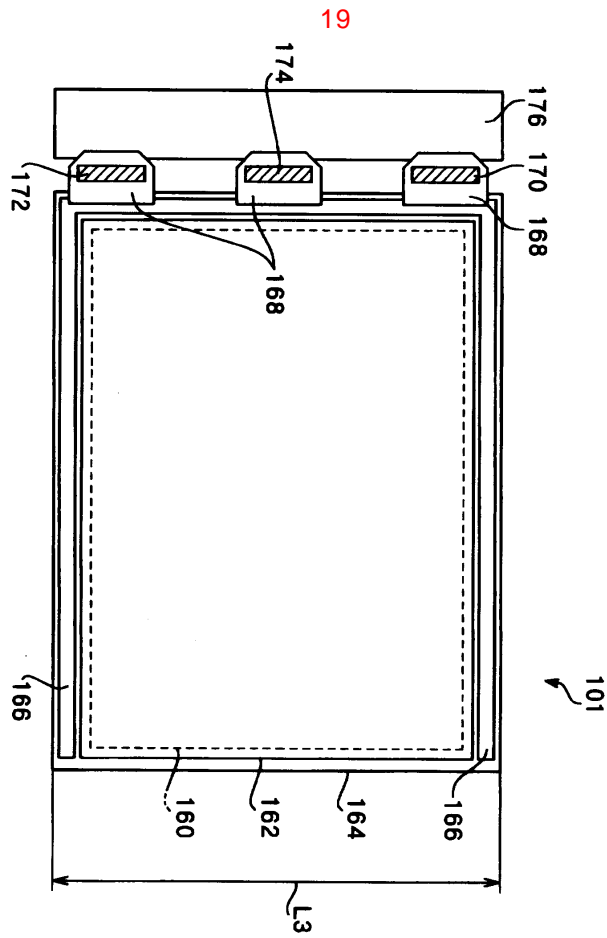
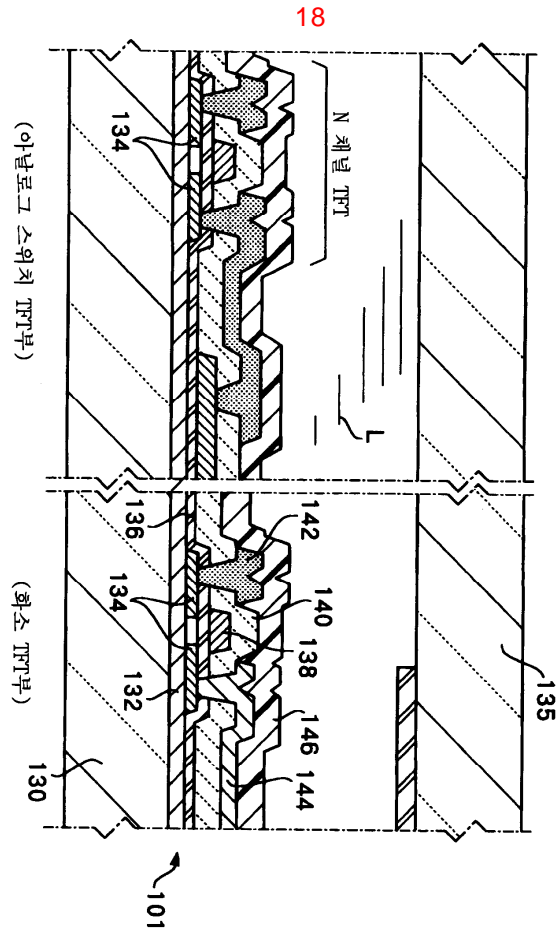


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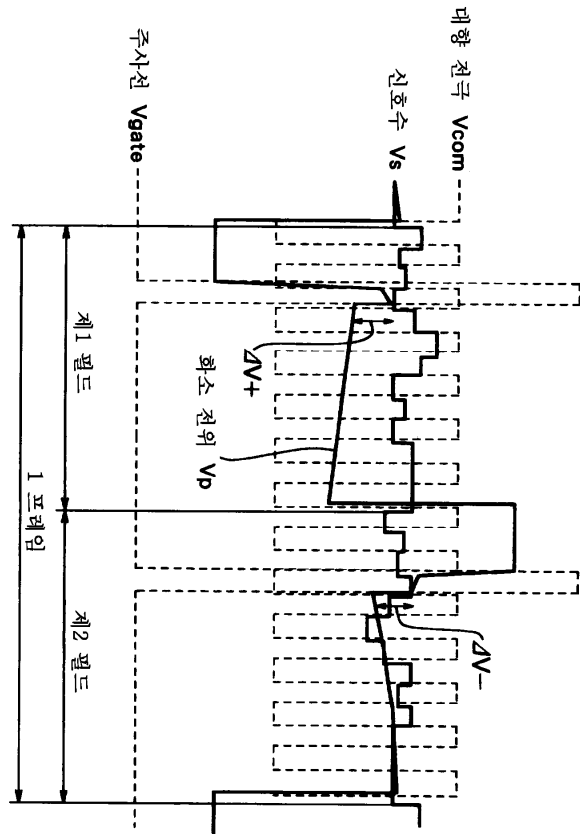


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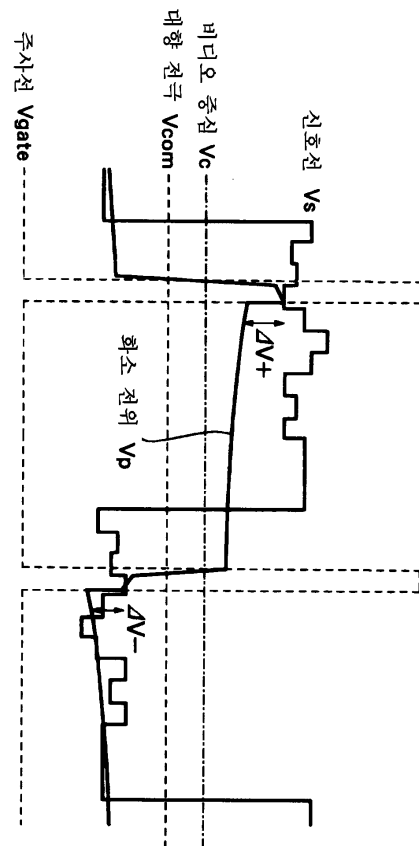


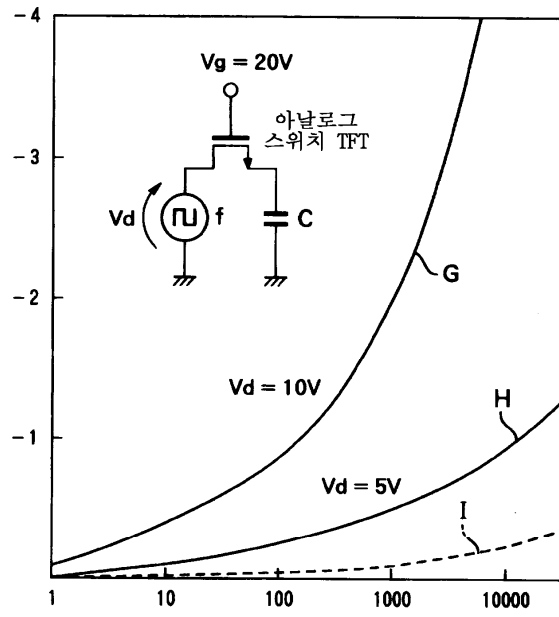


20



21





专利名称(译)	显示装置用基板，其制造方法，液晶装置和电子设备		
公开(公告)号	<a href="#">KR100416173B1</a>	公开(公告)日	2004-01-24
申请号	KR1020010007975	申请日	2001-02-17
[标]申请(专利权)人(译)	精工爱普生株式会社		
申请(专利权)人(译)	精工爱普生株式会社		
当前申请(专利权)人(译)	精工爱普生株式会社		
[标]发明人	HINATA SHOJI		
发明人	HINATA,SHOJI		
IPC分类号	G02F1/1368 G02F1/1362 G02F1/1365 H05K3/06 G09F9/30 G02F1/1335 H05K3/24 G02F1/133 G02F1/1343		
CPC分类号	H05K2203/0361 G02F1/136286 H05K3/24 H05K3/244 H05K3/064 H05K2201/0326 G02F2001/13629 G02F1/133555		
代理人(译)	李，何炳		
优先权	2000041752 2000-02-18 JP 2001016182 2001-01-24 JP		
其他公开文献	KR1020010087191A		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

提供一种面板基板，其具有布线中的小电阻和显示电极的高透光率以及使用该面板基板的液晶装置。面板基板30包括基板31，在基板31上平行形成的多个显示电极32，形成在基板31上并连接到显示电极32的多个显示电极32并且具有布线34。显示电极32和布线34具有由透明导电层70和金属层72组成的双层结构。与透明导电层70的宽度相比，显示电极32的金属层72的宽度非常窄。五 指数方面 显示电极，透明导电层，金属层，层叠结构

