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(12) (B1)

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(24) 2002 06 03

(21) 10 - 2000 - 0025986
(22) 2000 05 16

(65) 2000 - 0077277
(43) 2000 12 26

(30) 99 - 135260 1999 05 17 (JP)

(73) 가 가
가 가
가 4 6

(72) 3550
3550
1539 - 3

(74)
:

(54)

1 2 1 (GL),
1 (GP) 가 (GI) (AR) 1
(GP) 1 (GL) 가 2 (SH) (GI) (AR) (

1

, . , (TFT),

- 1 . 1 ,
- 2 1 - ,
- 3 1 - ,
- 4 ,
- 5 (端部) (seal) ,
- 6 . ,
- 7 (AR) ,
- 8 7 ,
- 9 1 2 ,
- 10 2 ,
- 11 10 - ,
- 12 10 - ,
- 13 10 - ,
- 14 3 7 - .

, , .

2 2 (, ()) 가 가 , , () / .

, (TFT) .

1 () , 1 가 2 () 가 , 가

2 가

5,432,626 (,) (,) 5-257142 ,

2,708,098 , 5,754,266) . (

(In Plane Switching : IPS) ,

IPS , 5,754,266 (TFT)가 (TFT) , TFT

2 5,598,285 , 1 2

1 (,) 7 - 191994

가 .

IPS , (In₂O₃) 1 ~ 5 % (SnO₂) 가

ITO(. .) .

ITO 가 .

ITO () 2 (:) ,

() ,

ITO , ITO (狹額緣化) 가 .

ITO 가 ,

)가 (1)가 . (

(18) 18 LCD : 17 LCD , 2 3 1 3 1
 2 3 1 2 3 1
 1 2 .

(19) 19 LCD : 13 LCD 3 4 , ITO SnO₂
 .

10 19 LCD , CVD()
 , 가
 , 가 , 가 .

< 3

(20) 20 LCD : 1 2
 ,
 1 2 ,
 , 1 1 ,
 1 1 ,
 2 1 , 1 2
 2 1 2 ,
 2 2 ,
 2 가 3 ,
 1 2 , ,
 1 1 2 2 3 ,
 5 1 4 1 2
 1 2 4 1 가 , 2
 1 2 5 가 ,
 2 1 2 , 1 2
 6 ,
 3 6 , 4 5 .

- (21) 21 LCD : 20 LCD 1 6 2
6 2 .
- (22) 22 LCD : 20 LCD 4 5 1 ~
3 .
- (23) 23 LCD : 20 LCD 3 6 , ITO SnO₂
20 23 LCD , 가가가 .
, 1 3 ,
- (24) 24 LCD : 1 2 , 2 4 .
- (25) 25 LCD : 1 2 2
, 2 1 , 2 .
- (26) : 1 4 가 가
(邊) , 가 가 가 .
- (27) : 3 1 2 , 1 2
2 4 .
, 가 가 , (逸脫)
, , ,
, , IPS .
- < ()
1 , (BM) , 1 .
2 , ((GL) , (CL) ,
(DL) , 4)
(GL), (TFT), (Cstg), (PX) (CT) .
(PX) , 가 (TFT) , (CT)
(CL) .

C) (PX) (CT) , (PX) (CT) (L
 (2) (PX) (CT) (CT)
 , 1 .
 1 (GL) (DL) ,
 (GL) (DL)
 <
 2 1 - 3 1 -
 (LC) (SUB1) (TFT), (Cstg)
 , (SUB2) (FIL),
 (BM)
 , (SUB1, SUB2) ((LC) ,) , (OR
 I1, ORI2) (SUB1, SUB2) (()
) (POL1, POL2) (()
 (TFT) (Cstg) , 5,598,285
 1 2 (GL) (g1) (GT) (g1) (GL) (g1)
 (GL) (GL) (GL) (Vg) (GT)
 2 , (GL) (AI) , (AOF)
 , (GL) (AI) (Cr) (Cr - Mo)
 (GL) (GL) , (AOF) (TFT)
 (GT)
 () (CT) (GT) (GL) (g1)
 , (CT) (AI) (AOF) , , (CT)
 , (AOF) , (DL) ,
 . ,
 (g1) (CL) (g1) (CL)
 (GT), (GL) (CT) (g1) ,
 (CT)
 (CL) ,
 , (CL) (AI) (AOF) ,

(GI) , (TFT) (GT) (AS) (GI) (GT)
 (GL) . , .

(GI) , CVD (SiN) , 1200 ~ 2700 ((DL) (Td, Tg)) . (GI) (AR) , (GL) (CL)
 (DL)

i (AS) , 200 ~ 2200 (2000)
 (TFT) , i (AS)

i (AS) (P) N(+) (d0) , i (AS) ((DL) . N(+) (d0) , (GT))
 가 가 i (AS) , 2

(GI) , (DL) (TFT) ,
 (TFT) , (TFT) , (DL)

1 ~ 3 (DL), (PX)
 (DL) (GI) i (AS) N(+) (AS) (d0)
 (DL) , i 500 ~ 1000 (Cr) (d1)
 (Al) (d2)

(d1) , Cr (Mo, Ti, Ta, W) , (MoSi₂, TiSi₂, TaSi₂, WSi₂)

(d2) Al 3000 ~ 5000 (4000) . Al Cr
 DL) 가 , (GT) i 가 , (SD1), (SD2) ((GL)) (DL), (PX) ((DL) (GL) Cr (d1) , 5 (TFT) (SD)

(CL) (PX) (CL) (GI) (PX)
 (CL) , () (Cstg)

5 (DL)(d1), (PX) , ((PSV1) , (PSV1) , (OR11)

<

4 ((SUB1,
SUB2) (PNL) (AR)
, 5 , (GP) (CT)
(CB2) TFTSUB, 5
(TFT) (SUB1) (FIL) (BM)
(SUB2) OPSUB

가 , 1 ()
, , 가

4 5 (SUB1, SUB2)
, (GL) (DL) (Tg, Td)
, (CT) (TC1, TC2)가 ()
, (SUB2) 가 (SUB1)

(Tg, Td) ,
, 5,598,285

(PNL) (DL), (GL)

, (CT1, CT2) (CT)
(CL) (AR) (Tg) ()
(CB(CB1, CB2)) (CMT)

(SUB1, SUB2) 가 (INJ)
(SL) 가 () (LC) (5
). , (ORI1, ORI2)
(ORI1) (SUB1) (PSV1)

(POL1, POL2) (SUB1), (SUB2) ()

(SUB1) , (SUB2) 가
(SL) (SUB2) (SUB1)
(SUB2) , (SL) (INJ) , (INJ)
, (SL) 가

<

6 (SUB1) (SUB1) 2 (GL) 2
(DL) (TFT) 가 가
(AR) (AR)
(AR) (GL), (CL) (DL)
(GL) (PNL)
P)가 (TG)가 (G)
(DL) (PNL)
(DP)가 (TD)가
(CB1) (CL) , (AR) (CB2)
(AR) (CB1) (TC1) , (CB2)
L) (CT)(1) (PNL) (PN)
7 (AR) (GL) (GP) 8 7
, 8 (a) 7 a- a , 8 (b) (c) 7 b- b
8 (a) (GP) (GL) (GI) (GI) 가
(GP) (g1) 가 (GI)
GI) (SH) (8 (a)). (GI) (AR) (GP)
1 (SH) 가 (SH)
(SH)
(SH) (GL) (GI) (GP) (GL)
(AR) ()
(SH) (GL) (GP)

(SUB1) (GL) , (CL)
 , 8 (b)
 (GI) , (SH) (SH) (CL) (GL) (SH)
 (SH)
 8 (a) (GP) (GL) (DL)
 (GL) (DL) , (SH)
 (GL) (GP) 가
 (GL) (CL) IPS 8 (b)
 가
 (GL) (GP) (AR) ((5 L1) 4 , 1 3 ((5 L2)
 (GL)
 L) (AR) , (AR) (BM) 가 가 가 (D
 ()
 (GL) (DL) (AR) (GP) (GL) (DL)
 (AR) (GP) 가 , (7 GL)
 (AR) (AR) (GL)
 (SH)
 (GL) (AR) 4 (GL)
 (GP) (SH) 가 (ITO,) 가
 (AR) (CL) (CL)
 (GI) (PSV1) (AR) (GI) (CB2), (CL)
 BC2(CBC2a, CBC2b)) (CL) (CB2) (PSV1) (CLC, C
 가 (CC2) 가 (PSV1)

(GI) (PSV1) (CL) (CB2) (GI) (PSV1) (CL) (CB2) (PSV1) (CL) (CC2)

() (CB2) (GI) (PSV1) (CL)

n) (CB2) 가 CVD(Chemical Vapor Depositi (GI) (PSV1) (CL), (CB2)

8 (b) (CB2) (GI) 1 (CB2a) (GI) (PSV1) 2 (CB2b) 2 (CB2a) (PSV1) (GI) , 2 (CB2b) (SV1) 1 (CB2a) 2 (CB2b) (CC2)

(CL) (CB2) (CC2) (TC2)(4) 가

(TC2) (CB2) 2 (推奨) (CC2)

9 (CB2) 1 (CB2a) 2 (CB2b)

9 1) (TC2) (CB2a) (GI) (PSV (PSV1) 2 (CB2b) (PSV1) 1 (CB2a) (TER) ,

(AR) (SH) (CB2) (PSV1) (SHC) (CL)

(SH) (CL) (CB2) 2 (SH) (PNL) (CB2) (AR) (SH)

1 (SH)

R) (SH) 8 (c) (CL) (CC2) (SH) (SH) (A (GI) (PSV1) (SH) (PSV1) (SH) (GI) (SH)

(PSV1) 가 .

2 가 , CVD 가 ,
(CB2) . ,

B2) , (GI) (PSV1) (CL) (CL) (C
(CL) (GI)) (CB2)
(CL)

8 (c) , (CL) (AR) (GI) , (C
(CB2) (GI) (PSV1) (AR) (CL)
(AR) (CB2) .

(SH) , (CL) (SHC) (CL)
(SH) (CL)
(SH)

(CL) (CB2) , 7
(CL) 2 (CB2 ')
2 (CB2) (CB2 ') IPS (CB2 ') (CL)
(TC2)

(CB2) (CB2) , 2 (CB2 ')
(CB2 ') (CL) (GI) (PSV1) 2
(7) . (CL)

(CB2) (CC2) (CBC2) (CB2)
(CL) (CC2) () (CLC) (CL)
(CB2) (CC2) (CL)
() 가 (7) .

(CL) , (CB2) 가 ,
(CL) (CC2) () (CLC) (CB2) (CC2) , (CBC2)
(CLC) (CL)

(CC2) (SH) 가 (ITO,) .

10 2 (CB1)
11 ~ 13 10 , 11 10 - , 12

가 (ITO,)

가가 가 , ITO CVD()
 (溶斷) , , 가 , 가

(57)

1.

1 2

1 2

1 2
1

1

1

2

2 1 가

2.

1

2 가 1 1 2 1

3.

1

1 2 3

1
가

4.

3 ,
1 가 2 , 1 가

5.

4 ,
가 1
가 ,

1 2 , (一端)
4 ,

1 4 1 4 1 2
,
(他端) ,

1 1 가

6.

5 ,
3 가

7.

6 ,
4 (離間) (端部)가, 1 .

8.

6 ,
1 , 2 ,
1 1 2 가

9.

8 ,

1 1 가 , 1 2

1 4 .

10.

1 2

,

1 2 ,

1 2 1 ,

2 , 1 , 1

1 2 ,

2 , 가 3 1 .

11.

10 ,

, 1 1 2 2 , 2 2 1 가 ,

3 , 1 2 1

, 2 2 .

12.

11 ,

2 , 1 2 1 2

2 2 2 가 2

.

13.

11 ,

2 1

4 ,

4 , 1

14.

13 ,

, 1 2 ,

1 2 , 3 1 2 1 4 1
2 , 2 ,

1 1 1 2 4
1 1

15.

13 ,

4 1 1 가, 4
1

16.

13 ,

1 2 , 1

17.

16 ,

1 1 가,
2 1

18.

17 ,

2 3 2 ,
1 3 1 1 2
3 1 2

19.

13 ,

3 4 , ITO SnO₂

20.

1 2

1 2

, 1 1 ,

1 1 ,

2 , 1 , 1 2

1 2 ,

2 2 ,

2 가 3 ,

1 2 , 1 2 3 ,

5 1 4 1 2

2 1 2 4 1 가 , 2
1 1 2 5 2 가 ,
6 1 2 , 1 2

3 6 , 4 5

21.

20 ,

1 6 2 6 2

22.

20 ,

4 5 1 ~ 3

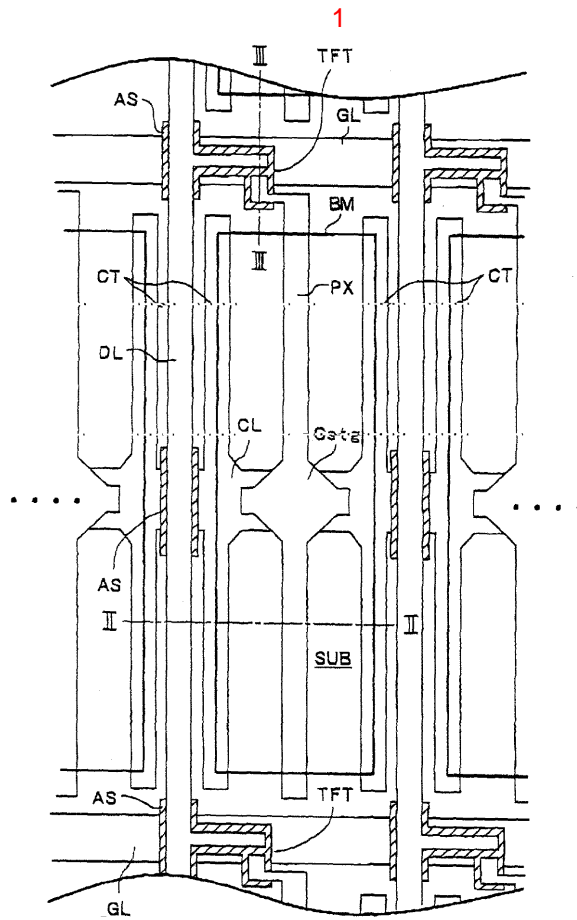
23.

20

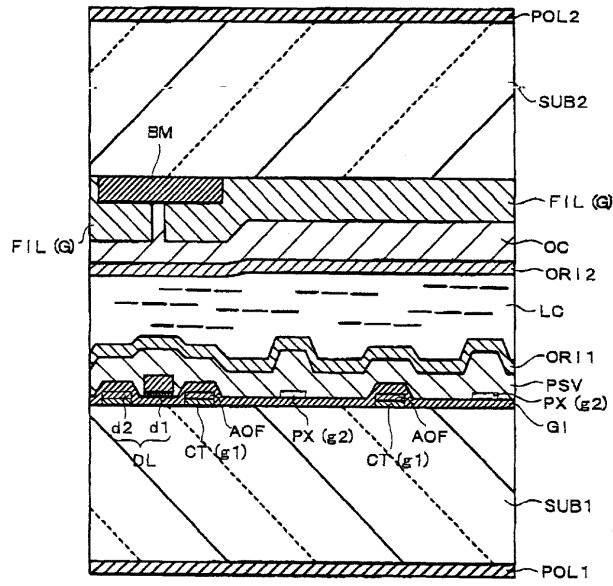
3

6

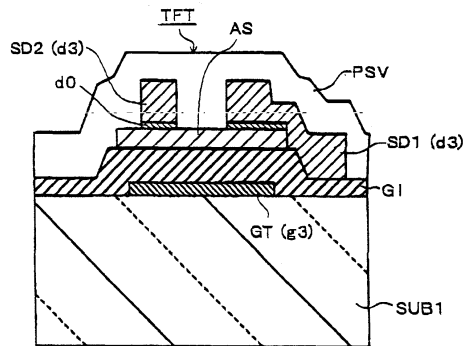
ITO SnO₂



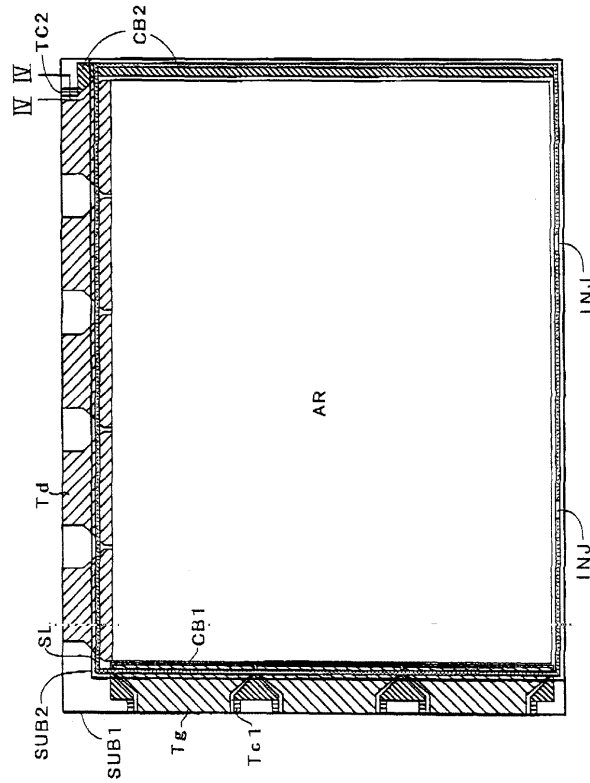
2



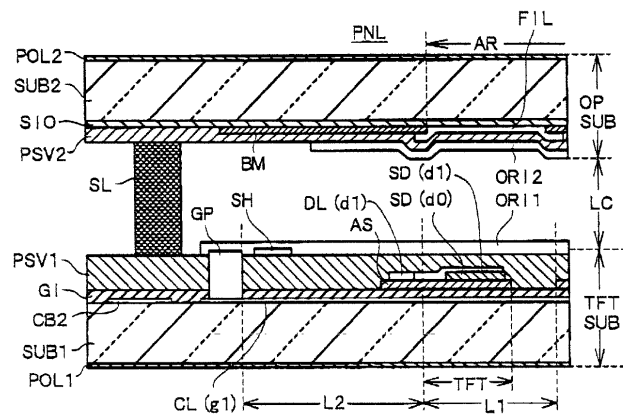
3



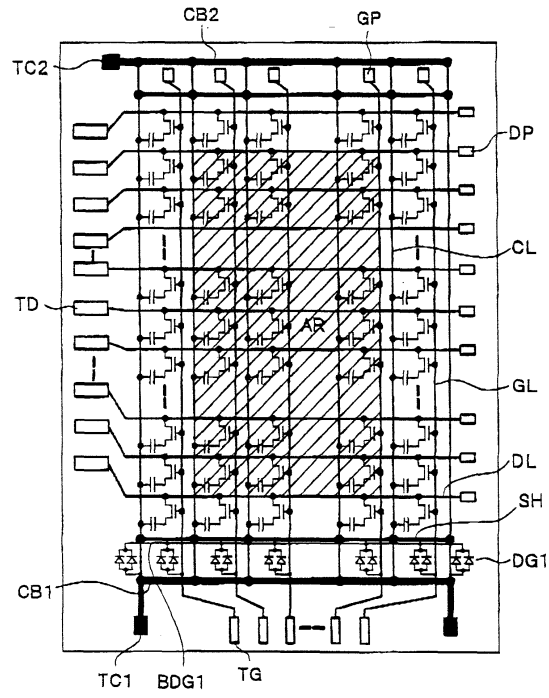
4



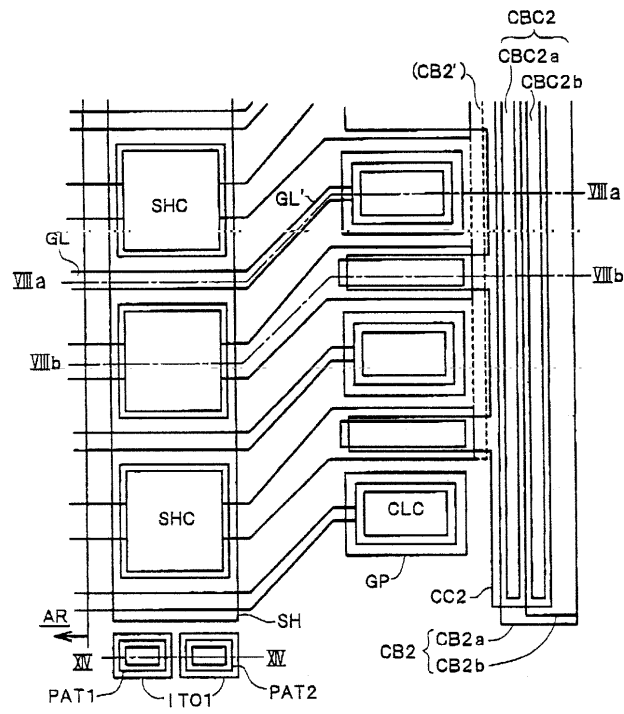
5



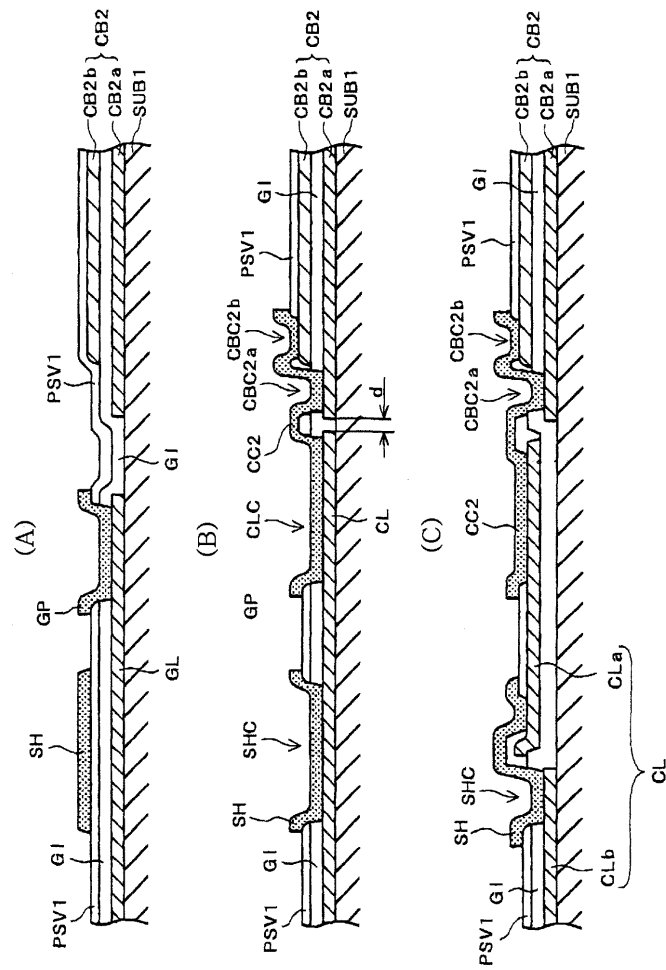
6



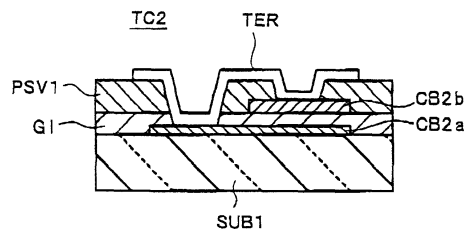
7



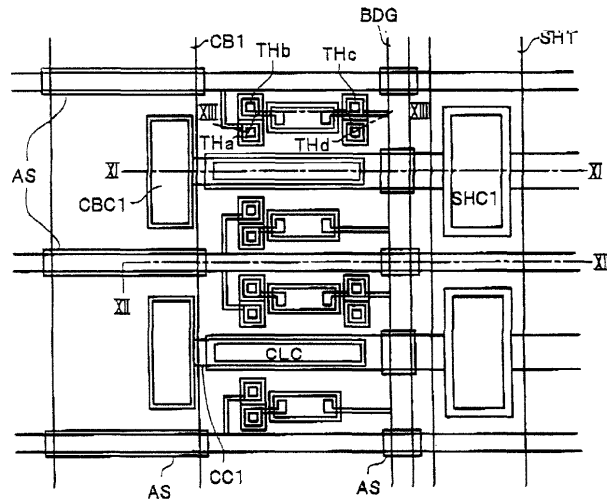
8



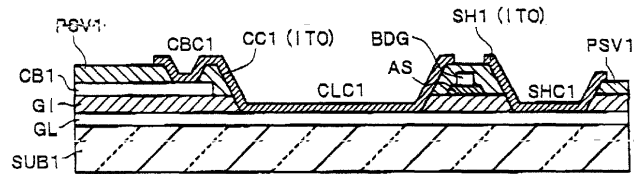
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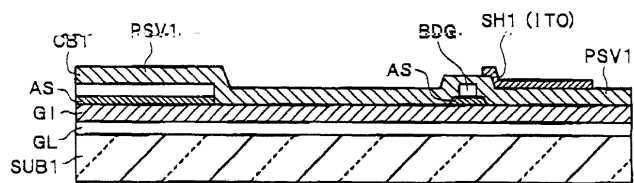
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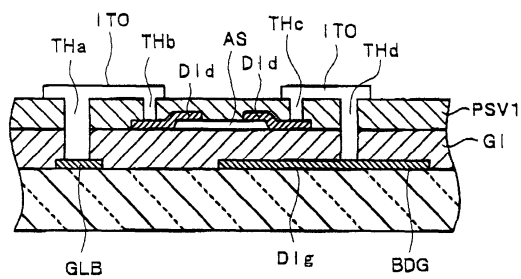
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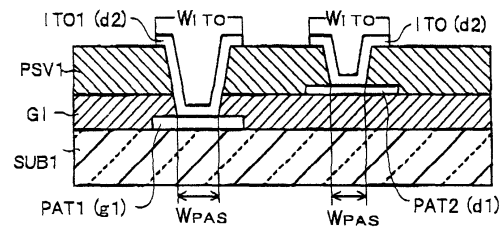
12



13



14



专利名称(译)	液晶显示器		
公开(公告)号	KR100340803B1	公开(公告)日	2002-06-20
申请号	KR1020000025986	申请日	2000-05-16
[标]申请(专利权)人(译)	日立HITACHI SEISAKUSHODBA		
申请(专利权)人(译)	株式会社日立制作所		
当前申请(专利权)人(译)	株式会社日立制作所		
[标]发明人	ASHIZAWA KEIICHIRO 아시자와케이이치로 OHTA MASUYUKI 오오타마스유키 HIKIBA MASAYUKI 히키바마스유키		
发明人	아시자와케이이치로 오오타마스유키 히키바마스유키		
IPC分类号	G02F1/133		
优先权	1999135260 1999-05-17 JP		
其他公开文献	KR1020000077277A		

摘要(译)

从形成在第一基板和第二基板中的至少一个上的液晶密封区域向外延伸的第一导电层GL，覆盖第一导电层的绝缘层GI和显示区域AR，为了避免光在具有端子GP的液晶显示装置中泄漏到位于显示区域周边的像素，所述端子GP与第一导电层接触并在显示区域外的绝缘层上延伸，具有与第一导电层GL的电位不同的电位的第二导电层SH设置在绝缘层GI上的显示区域AR和端子GP之间。 1 指数方面 - 1 - 液晶显示器，有源矩阵，薄膜晶体管 (TFT) ，化学气相沉积

