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G02F 1/133

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(24)

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10 - 0375240
2003 02 25

(21) 10 - 2000 - 0033466
(22) 2000 06 17

(65) 2001 - 0007427
(43) 2001 01 26

(30) 99 - 172080 1999 06 18 (JP)

(73) 가 가 가 4 6

(72) 1236 - 6
1 - 7 - 18
가 가 460

(74)
:

(54)

2

가

1

, , , , ,

1

1 ,

2

1 1 - 1' ,

3

1 A A

,

4

3 A (SP)가 A (SP)가 A((SP)가) ,

5

1 2 2 ,

6

가 5 ,

7

1 3 , (a) 5 , (b) (a)

,

8

1 4 5 ,

9

1 5 ,

10

,

11

6 ,

12

7 ,

13

,

14

,

15

,

16

17

가 가

가

(,)²

가 . 가,
가

(TFT)

, OA

2가 가

2

가

2

, 2

가

5 - 505247

63 - 21907

6 - 160878

(IPS = In Plane Switching type)

17

(PSV) (SUB1) (DL), (CT), (PX) ,
 (LC) (SUB2) 가 (Black Matrix, BM) (OR11) 가
 (FIL),
)(LC)

(OC), (LC) (ORI2) 가 .

(DL) (SUB1) (GI, AOF) (SUB1) (PX)
2 (d1 d2) (CT) (g1) ,

(SUB1) SUB2) ((:) (無機)
(SUB2) (beads),) (POL1, POL2) . (

(SUB2)) (17
spacers) , 9 - 73088 (columnar

9 - 73088 (散布) 가 .

2가 . 1 (design of
pixels)

17 (PX) (CT) 가
(E_L) (LC) (E_N) (DL) (CT) ,
가 (LC) (DL) (CT) (E_N)

(CT, DL) (BM) (displaying q
uality) (contrast) ,
(cross talk)

(DL) (PX) (DL) (CT)

(DL) (CT) 17 (DL) (PX)
가 .

(BM) (optical density) ,
가 (BM)

(BM) (Cr) .
(BM)가 가 (,
9 - 43589).

(BM) , (BM) , 가 가 .

(BM) 가 , (顔料) 가 . () , () , (殘渣)가

(BM))가 , () , (殘渣)가

(BM) 가 .

(BM) , (ORI2) ,

2 , (columnar spacer, or pilla

r spacers)

가 가 (irregularity) , ()

() , TFT , () 가 ,

(最上面) , , 1 μ m (step)가 .

, 2 , 가 가 , (彈性),

(hardness) 가 , (silica)

(比抵抗値) (誘電率)

(solid particle)

()

가, 가 ,

(1) (7)

(1):

2

(誘電)

가

가

가

가

(2):

(1)

(比誘電率)

(1)

(3):

(1)

(2)
)

()

(

()

(,)

(4) :

(3)

(5) :

(1)

(2)

(

,

)

(

)

가

가

(6) :

(3)

(4)

(5)

가

가

(7) :

2

가

가

가

(

(全域)

가

가

(8) :

(7)

(

)

(

)

(9) :

(8)

가

(10) :

(8)

()

(

)

(11) :

(8)

(9)

,

(10)

(8) (10)

(3) (5)

가

가

1

1

17

1

, 2 1 1 - 1'

17

1 2

1

(DL),

(SD2),

(CL),

(CT),

(PX),

(SD1),

(Cstg),

(GL),

(GT),

(

)(BM),

(TFT),

(SP)

, 1

(DL)

(CT)

2

(

(ORI1),

CF

)(SUB2),

(GI),

TFT

(

)(PSV),

(BM)

(LC),

(ORI2),

(

)(OC),

(FIL),

2

(DL)(d1, d2),

(CT)(g1),

(PX)(g2)

(AOF)

d1, d2, g1, g2

(SUB1 SUB2)

(POL1, POL2)

(SP)

(ORI2)

(SUB2)

(SUB1)

2

(既知)

(SP)

(

(SUB2)

(SUB1))

, 1

(SP)

2

(

1)

가

(DL) (CT)

3 1 A A (SP)가 A

3(A) (SP) (LC) 4(A)
A (LC) (SP) (LC)
(SP) (E_N) (LC) (SP) 3)

(SP)가 4 (DL) (CT)
(E_N)

4 3 (SP) (LC) (E_N)
(SP)가 3 (LC)

(BM) 가 (BM) 3 가
(SP)가 (BM)

5 2 2 (ultraviolet ray hardening type) ()
1 (SP))가 (RU) (spherical
beads)(RU) (SP)

(SP) (SP) (RU) (RU) 2
(SP) (E_N) (RU)

6 가 5 (RU)()
(SP) (SP) ()가
(RU) ()

7 3 5 , (b) (a)
1 , (a)

(SP) 가 (SP)
(SP)

(SP)

7(b)

(RU)(

(AG)

(SP)

(SP)

(SP)

8

4

1

5

3

(SP)

가

(SP)

(

(RU)

(CU)

(CU)

(carbon black)

(CU)

(RU)

(RU)

(CU)

(SP)

(CU)

가

(RU)

가

가

(SP)

(RU)

(CU)

9

5

1

1

, 1

(DL)

(SP)

(DL)

(CT)

(

(SP)

(SP)

10

(SP)

10^{10} · cm

10^{14} · cm

10

(SP)

가

L1)

(POL2)

(PO

(BM)

(BM)

가

9 , (C) (R)
(C · R)

10 (BM) (DL) (CT)
(DL) (C) (DL) (CT) (C1) (PSV)
(DL) (CT) (C2)

(SP)가 9 (C1) (SP)
(PSV) (C2) (SP) (PSV)
(DL) (SP) (C1)

, 가 가

11 6 (seal)
(sealing material))(SL), (SL) (INJ) (A)
(), 가 (B)

5 (DL)
(CT) (INJ) (SP)

, (SP) 가 (A)
가 (INJ) (B) 2

, (SP) 1 2, 5, 7, 8
, (SP)

12 7 11 11
(SP)

(SP) 1 (GL), (CL)
(SP)

(Moire) (fringe) 가

(SP) 1 2, 5, 7, 8
, (SP)

가, 11 (SP) 1, 9
가 .

가

1, 2

1

가

「 」

(1)

(SUB2) 0.7mm 1.1mm (BM)

(成) (FIL)(G), (FIL)(B) (FIL) (FIL)(FIL)(BM)

(OC) 가 (OC)

(2)

(OC) (SP)

(3)

(SP) 가 (negative - type)() 가 (positive - type)()

(4)

(SP) 가 (SUB2) (Liquid crystals aligning property) (ORI2)

(PSV) (SP) (2) (4) (SUB1) (SP)

「 」

(SUB1)
 (SUB1) 0.7mm 1.1mm
 (AS) (TFT), (Cstg) (PX), (SD)
 1) 가 (CT) 가, (TFT) (TFT) (CL) (TFT)
 (DL), (SD2), (CL)
 (GL) (GT)
 (TFT), (GI) (PSV) (ORI1)
 11, 12) () (SL) , 2 (INJ)(
 2 가
 13 가
 (背部)
 , y () (SUB1) (AR) x ()
 , x (DL) (GL) (CL) y
 , 가 (GL), (CL), (DL)
 (V) (H)가 (V)
 (DL) (GL) () 가 (H) (H)
 , 가 (V) (H) (3) , CPU(1)
 14 가
 VCH VCL 2 (VG(i - 1), VG(i)) 1
 , VCH VCL 2
 (PX) 가 가 1/2
) 가
 15 (, 2 (SUB
 1, SUB2) , , , :MD
 L)

SHD (), WD , INS1 3 , PCB1
 3 (PCB1 : , PCB2
 , PCB3), JN1 3 (PCB1 3) (joiner),
 TCP1, TCP2 , PNL , GC , ILS , PRS ,
 SPS , GLB , RFS , MCA (), M
 O MCA , LP , LPC , GB (LP) (rubber bush), BAT
 , BL
 (MDL)

(MDL) (MCA) (shield case) (SHD) 2 가 ,
 (INS1 3), (PCB1 3), (PNL) (SHD) ,
 (LP), (GLB), (PRS) (BL) (MCA)

(PCB1) (PNL) ,
 (PCB3) 가 (receiving),
 (CL) (PCB3) (PCB1) (TCON)
 (PCB3) (PCB1) (PCB1)
 (PCB3) (PCB1) (PCB1) (CLL)

(PNL) TFT (PCB1), (PCB2)
 (PCB3)가 (TCP1, TCP2) , (JN1, 2, 3)
 (PNL) , 2

16

(가 (可搬型)) () ,
 () , CPU (PNL)
 가 , (PCB1, PCB2), (TCON) PCB3,

(PNL), (PCB1, PCB2, PCB3),
 11

가

가

가

(57)

1.

2

가 가

가

(resistivity)

가

(columnar spacer)

2.

1

(relative dielectric constant) 가

3.

1

4.

3

5.

1

6.

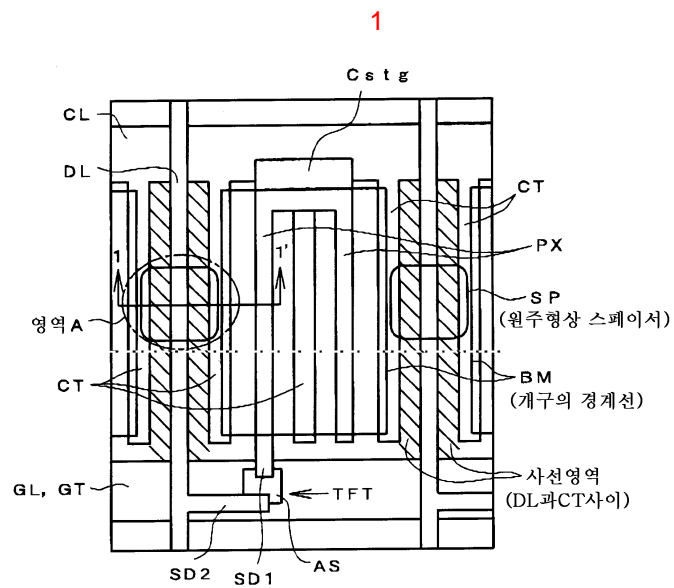
3 ,

7.

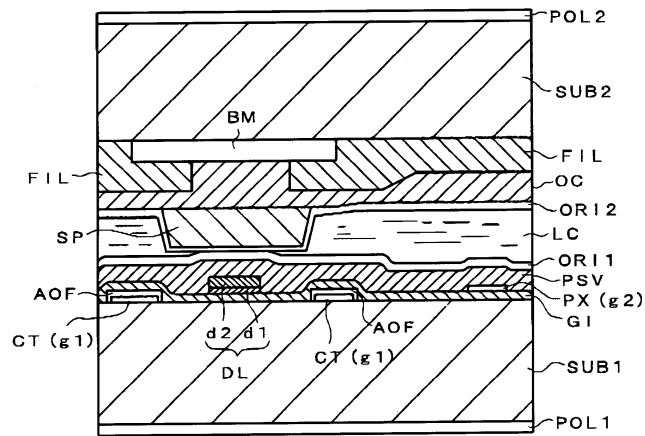
5 ,

8.

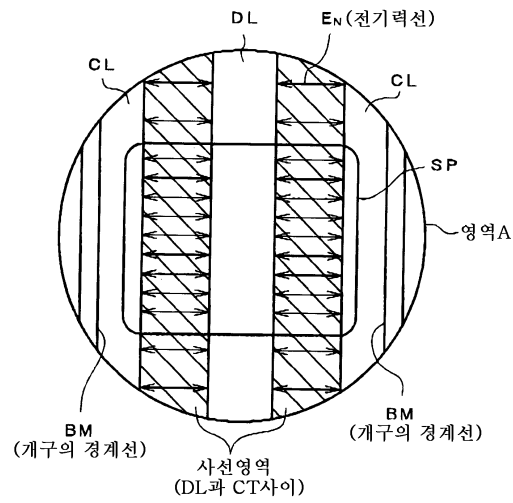
가 , , 2 , ,
 가 , , ,
 가 , , 가 , 가



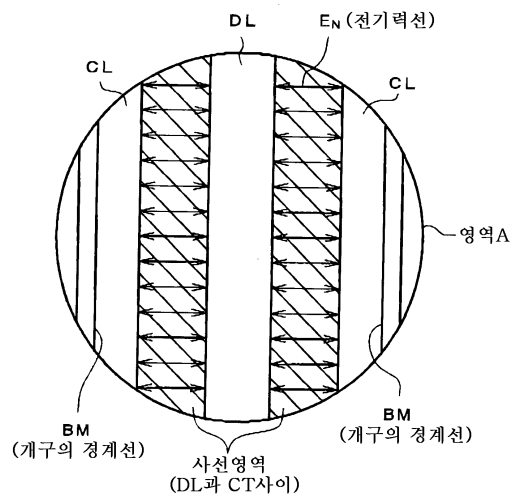
2



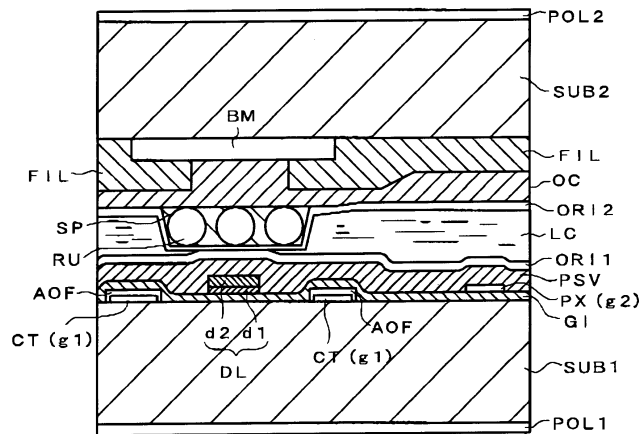
3



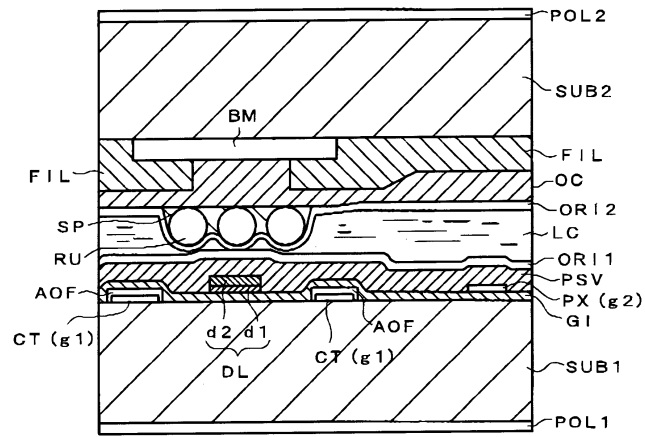
4



5

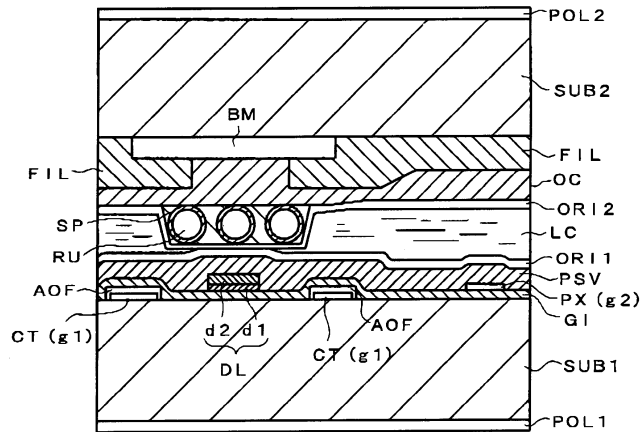


6

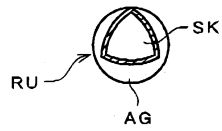


7

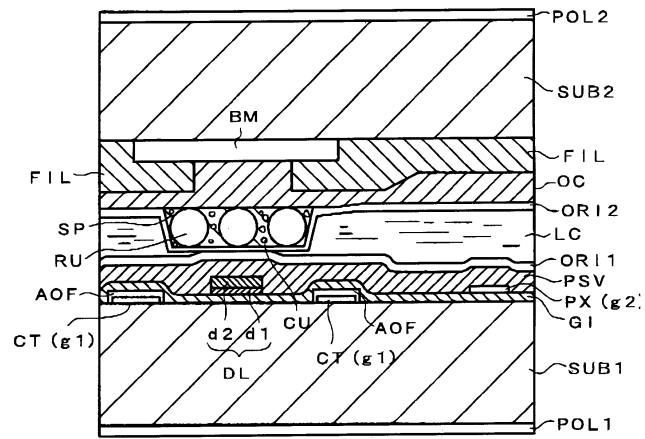
(a)



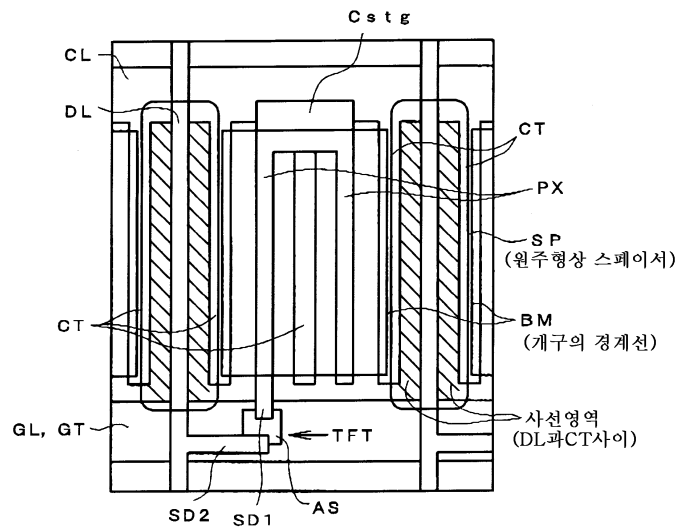
(b)



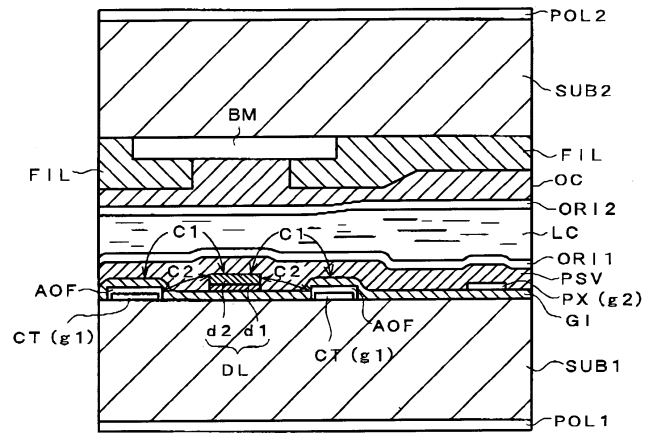
8



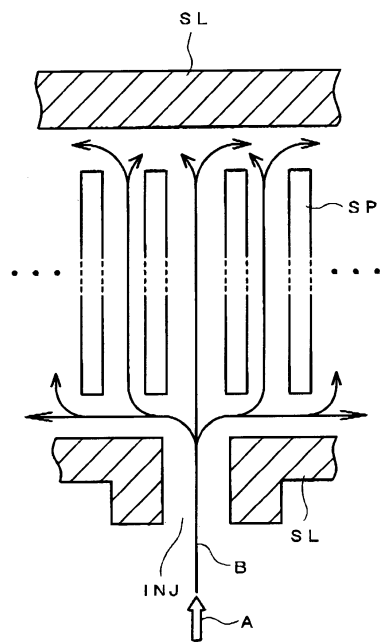
9



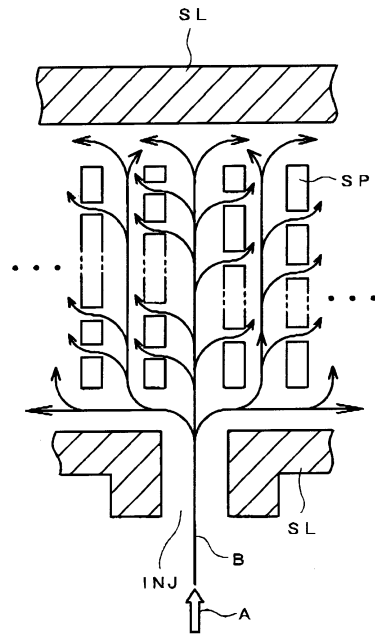
10



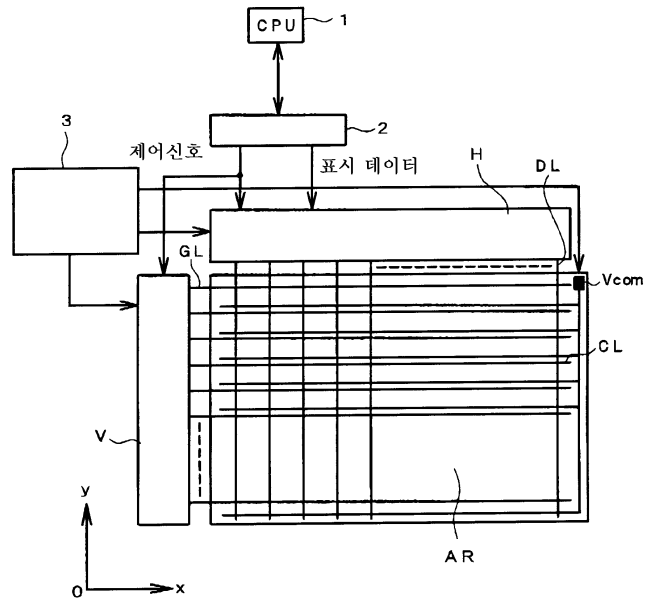
11

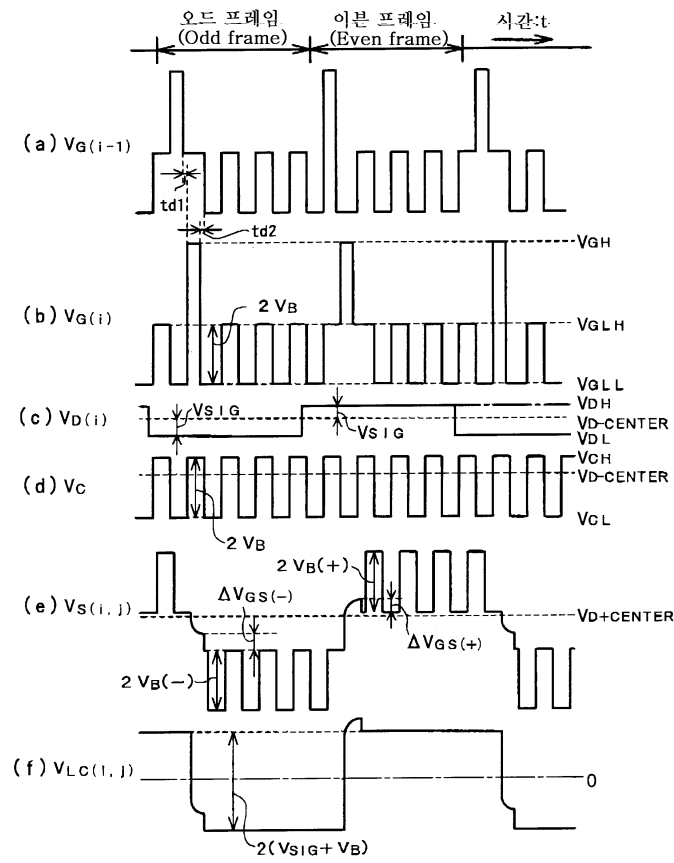


12

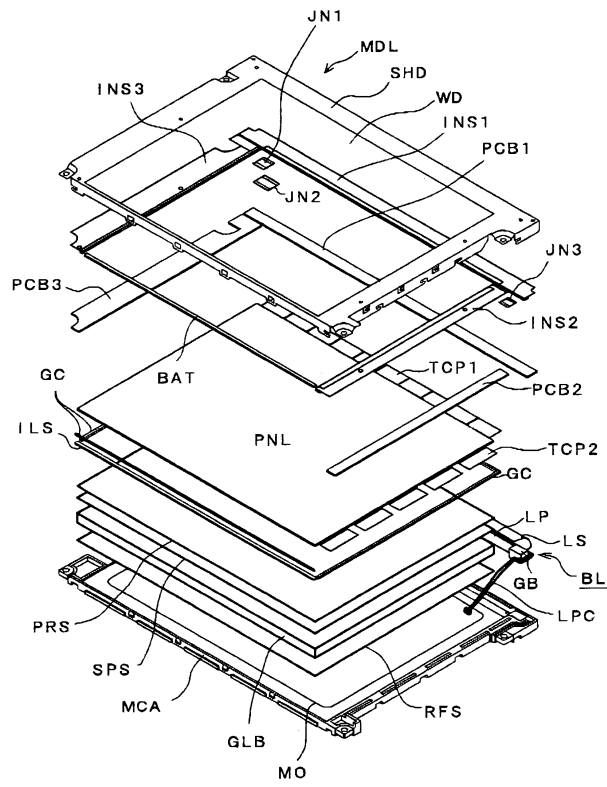


13

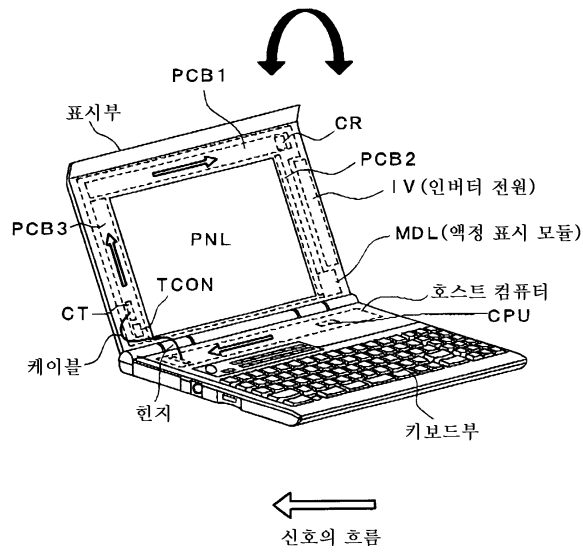




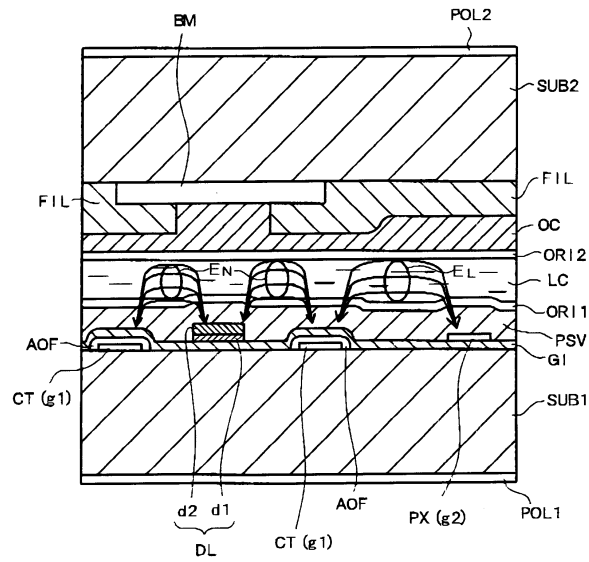
15



16



17



| | | | |
|----------------|-------------------------------------------------------------------------------------------|---------|------------|
| 专利名称(译) | 液晶显示器 | | |
| 公开(公告)号 | KR100375240B1 | 公开(公告)日 | 2003-03-08 |
| 申请号 | KR1020000033466 | 申请日 | 2000-06-17 |
| [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 | MATSUYAMA SHIGERU 마츠야마시게루 ASUMA HIROAKI 아스마히로아키 YANAGAWA KAZUHIKO 야나가와카즈히코 | | |
| 发明人 | 마츠야마시게루 아스마히로아키 야나가와카즈히코 | | |
| IPC分类号 | G02F1/1339 G02F1/1337 G02F1/1341 G02F1/133 G02F1/1343 | | |
| CPC分类号 | G02F1/13394 G02F1/134363 | | |
| 优先权 | 1999172080 1999-06-18 JP | | |
| 其他公开文献 | KR1020010007427A | | |
| 外部链接 | Espacenet | | |

摘要(译)

在所述一对基板的一侧上形成至少两种滤色器，在所述滤色器之间插入黑色矩阵，以及在所述一对基板中的任一个上形成的电极组以及液晶显示装置，其具有密封在所述一对基板之间的液晶组合物层，其中在所述液晶显示装置中产生的噪声电场和所述一对基板之间的单元间隙为了抑制亮度不均匀和对比度的降低在由非均匀的显示区域中，周向本发明具有小的比电阻值比在由黑矩阵中的一个隐蔽的区域的一部分的液晶组合物的电阻率的值，所述一对基板的安装隔板。 - 1 - 1 指数方面 黑矩阵，液晶组合物中，噪声场，单元间隙，比电阻值，圆柱状间隔

