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10-2004-0065205
2004 07 21

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(22)
(62)

10-2004-0053506 ()
2004 07 09
10-2003-0018218
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JP - P - 1998 - 00027663 1998 02 09 (JP)
JP - P - 1998 - 00046036 1998 02 26 (JP)
JP - P - 1998 - 00046048 1998 02 26 (JP)

(71)

가 가
2 4-1

(72)

가 3-3-5 가 가

가 3-3-5 가 가

(74)

:

(54)

< >

TFT , 가

< >

TFT (3a) (10) , (6a) (5) , (6a)
(9a) TFT(30) (7) (9a) . TFT(30)
(8) (嵩上)(lift-up) (13a)

3a: () 3a':
3b: 4: 2
5: 6a: ()
7: 3 8:
9a: 10: TFT
11a: 12: 1
13a: 20:
21: 22: 2
23: 30: TFT
50: 52: (seal)
52: 70:
101: 104:
200, 200': 200a, 200a':
201:

< >
(, TFT)

< >
, 16 가 (縱橫) (3a)
(6a) TFT(30') TFT (8) (1a) (1a')(6
(9a) TFT (3a) (3a') TFT(30') , (9a) (1a)
16 a) (5) (9a) (1a) TFT(30') (6a) (3a) (開
孔) (8) TFT(30') .

, , 가 , 16 (L) 가 , 가 , 가 , TFT , TFT 가 . 가 . 가 . 가 . 가 . TFT(30') (8) , (1a) , (6a) , (5) , (9a) , TFT(30') , (1e) , (2) , (4) , (8) , 17a , 17d , 16 D-D' , 17a , (302) , (302) , (4) , (303) , (302)가 , 가 , (3a') , (8) , 가 , (303) , (304) , 17c , (8) , 가 , 가 , (303) , 가 , 가 , (22) , 16 , 가 , 가 , 가 , 가 , < > 1 , 1 , 1 , 1 , < > 1 , 1 , 3 , 2 , 1 , TFT , TFT , 3 , 3 , 2 , A-A' , 가 ,

[illegible]

(11a) TFT(30)

(定)

, TFT

3 2 A-A' , TFT(30) (70) 3 . TFT(30)

LDD(Lightly Doped Drain) (3a)(), (3a)

(1a) (1a'), (3a) (1a) (2), (1a)

(1b)(LDD) (1c)(LDD), (1a)

(1d) (1e) (9a) 1 가 (1b) 1d

(1c) 1e) (1a) n p 가

n p (dopant) . n TFT

가 (6a)() Al

(3a)(), (2) 1 (12) (1d)

(5) (1e) (8) 2 (4) (1d)

(1d) (5) (6a)() (1e) (8)

(8) 3 (7) (1e) (9a) (1a)

3 (1e) (7) (8) (13a) (8)

(1a) (1e) (13a) (8)

(3a) (3b) (13a) (13a) (3a) (3b)

(9a) 가 가 가

가

TFT(30) LDD 가 , (3a) (1b) (1c)

가 , TFT

3 TFT(30) , TFT(30) (1d) (1e)

(2) 가 2 TFT(30) TFT(30)

() TFT LDD

TFT(30) (1d) 가 (1e)

(3a) 3

(1a) (1a'), (1b) 가 TFT(30) (1c)

(3a)() (1a) (1a') LDD (1b, 1c) Al

(, 3) (1a) (1a') LDD TFT(30) (,

3 (11a)) (9a) (70) (70)

1 (1a) (1e) 1

(1f), (2) , (3a)()

(3b)(2), 2 3 (4 7) 2 3 (4 7)
 (3b) (9a) 가 가 (3b)(2) (70) 2
 (duty) TFT 가 (10) (3a)()
 1 (12) (1f) 1 (12) (11a)
 , 1 가 , .
 < >
 , 4 6 TFT TFT 4 7a 7d
 . , 7a 7d 2 A-A'
 , 6 (17) , 4 7a 7d
 가
 .
 4 6 2 A-A' TFT(30)
 .
 4 (1) , , TFT (10) .
 N₂ () 가 , 900 1300
 TFT (10) ,
 TFT (10) .
 TFT (10) Ti(), Cr(), W(), Ta() Mo() Pd(
) 2000 (11) 1000 5000
 (crosstalk)가
 (11) 가 .
 , (2) (11) (11a)
 , (11) (11a)
 . , (11a) , (11a)
 . 2 (11a)
 (3) (11a) CVD TEOS(
) 가 , TEB() 가 , TMOP(
 , NSG(), PSG(
 BSG(), BPSG())
 (12) , 8000 15000 . 1 (12) 1
 (4) CVD (13) (13)
 W(), Ti(), Cr(), Mo(), Ta() , 가
 (13) .
 (5) , , (13a) (13a)
 (9a) (1a) (9a)
 (5) 가 (6a)
 (6) (13a) 450 550 500
 , 400 600cc /min 가 , 가 CVD(
 20 40Pa CVD) (amorphous) . 600
 700 1 10 4 6 (1) 500
 2000 , 1000 가 (固相) , n TFT(30)

TFT(30) Sb(), As(), P() B(), Ga(), In() CVD

(1) () , (1) ,

1a) (7) , 가 , (

(8) , 100 (1a) 900 1300 , 1000 CV

D (HTO) 500 100 1000 , 200 1500 , 30

0 350 500 , (2) , (1a) 200 1500 8 ,

(2) , (2) (1) (耐壓) ,

(2) , (2) ,

5 (9) CVD (3) , (P)

(3) P (3) ,

(10) (3a)() (3b)(2) , (

8 3a)() 1000 8000 (13a) ,

, (3a)() W Mo

, (3a)() 3 2 (22)

가 , (20) TFT (10) 2 (22)

(11) TFT(30) LDD n TFT , (1a)

(1b) (300) [P 1 $3 \times 10^{13} / \text{cm}^2$ (dosage)]

2 (1f)) (3a)() (1a) (2) (1a) (1a') (3b)(

(1f) 1 (1f) P (70) 1

(12) (1b) (1c) (

3a)() (302) P 1 $3 \times 10^{15} / \text{cm}^2$) , 가

P TFT(30) p (301) , n (TFT(30) (1b) (1c) , (11 12)

(1e) (1a) , B (1b) (1c) , (1d)

TFT , (3a)() P , B LDD

TFT ,

n TFT p TFT (相補) TFT

(10) , TFT(30) ,

(13) (3a)() (3b)(2)

CVD TEOS 가 NSG, PSG, BSG, BPSG ,
 가 2 (4) 2 (4)
 , 5000 15000 .
 (14) 20 (31)((1d) (1e)
 1000 (5) , (5) ,
 (5) , (5) ,
 (3a)((4) (5)
 2 (4) .
 6 (15) 2 (4) 1000 8000 , Al
 00 (6) 30
 (16) , (6a)()
 , ,
 (17) (6a)() CVD
 TEOS 가 NSG, PSG, BSG, BPSG ,
 3 (7) 3 (7) (6a)
 가 , 5000 15000 , 3
 TFT(30) SOG()
 (7) ,
 CMP ,
 가 , 가 .
 (18) (9a) (1e)
 (8) , (8) ,
 (8) (8)
 (1e) (13a) (8)
 (13a) (1a) (1a')
 (19) 3 (7) ITO
 (9) 500 2000 (20) ,
 (9a) (100)
 , Al (9a) 3 (7)
 CMP , (9a) 가 .
 , (9a) (pre-tilt)
 (rubbing) 3 (23) .
 , 3 (20) , 2 (22)
 , 2 (22) Cr, Ni, Al
 Ti , TFT (10) (20) TFT 2
 (22) (10) , TFT (10) (20) ,
 , (20) (全面) ITO 500 2000
 (21) , (21)
 , (23)

(cap) (材)가 1 $6\mu\text{m}$ TFT (10) , (20) (19 22) (bead) (50)
 (nematic)
 (3a) (3b) (8) 6
 7a 7d 2 B-B' 7a 7d (a) 17a 17d
 (17)
 7a 7d (a) 3 (7) (8) (3a) (3b)
 (13a)
 , 7a 7d (b) , (303) (303) (302) (8) (304)
 (, (302)가) 3 (7) (303) (302) (304) 17b 가
 가
 7a 7d (c) (8) (8) , 가
 , (8)
 7a 7d (d) (9a) TFT
 < 2 >
 TFT 2 8 9 , 9 8 C-C' 8
 , TFT 9 가 , 2 7a 7d , 8
 2 (11a') TFT(30) 2 3 1 , 8
 가 (11a') 가
 , 9 (11a') (12) , 1 (12) 가 , TFT (10) (11a') 가
 , 1 (12) 가 , 4 (1) (3)
 2 3 (7) , 3 CMP (13a) (3a) (
 3b) (8)
 < 3 >
 3 10 . 10 TF
 T

3 (L)가 1 2 3 1 (L) 3 1 , X
 1 3 (單板) 1 ,
 X (L)가 (6a) 가 (6a) (8)
 (9a) Al 가 (6a) Al()
 (8) 3 (7) 가
 (8) 3 (7)
 (13a) (1a)
 가 ,
 11 (8) 2 μ m , 11 (a) (6a) 5 μ m (L) 11 (b)
 μ m 가 (a) 10 μ m 가 20
 가 , (6a) (3a) (3b) (9a) (1a)
 (9a) (8)
 , 3 (8) (6a) 가 가 (13a)
 (6a) (6a) (8)
 가 가
 , (8) (9c)(2, 8, 10)
 (9a) (3)가
 TN (50)
 , 가 (50)
 (8) (9a) TFT 16
 가 , 가 ,
 12 , 8 , 6 , 10 X 2
 (6a) 2, 8, 10 (3a) (3b) (3b)
 , Y (8) (3a) (3b)
 2
 < >
) , TFT (10) TFT(30)가 (p-Si) TFT TFT(30
 (100) 12 13 12
 TFT 12 H-H'
 12 , TFT (10) (53)가
 1) (102)가 TFT (52)가 (52) (10)
 2 TFT (10) (104)가

가 (104) (105) , (101) T
 FT (10) (20) (106)(導電材)가 (20)
 (52) 13 TFT (10) 12 (52)
 (101) (104) (6a)() (3a)(
) 가 (101) (101) 가 (104) (3a) (6a)
 (6a) (3a) (101) TFT(30)가
 (53)
 (101)
 13 (50) 1 , (()
 52) 2 (10 20) (20) (50) 2 (22) (20)
 ()가 (21) TFT (10) TN((20)
 ITO) , STN(TN) , D-STN(STN) /
 (100) (50) (23)
 () , 가 (10)
 가 , COG IC TFT
 가 ,
 < >
 (200) 6-194502 14
 (20) 가 凸 가
 (20) 凸
 (200)가 (200) 凸
 (22), (200) (201) (202)가 2
 (21)() (23) , 2 (22)
 (200) (200a) (200)
 14 , (21) ITO (20) (21)
 500 2000
 (23)
 (23) 2 (22) TFT(30)
 2 (22) Cr Ni , 2 (22) T
 FT(30) 가, (1a) Ti (色材) 1

5 (200') (20) (20) (50) (20) (20)

(9b) 2, 8, 10 (9a) (8) (9b) (9b)

(200a)(200a') (200)(200') (9b)

(20) (中心点)(9b)(重心)

(9b) (200a)(200a') (9a) (200)(200') (200)(200') (8)

(9c) (9b) (9c)

(9b) (9b)

TFT (9a) TFT TF

D(thin film diode:) 가 , 가 ,

< >

18

21

18 ,

18 , (1000), (1002), (1004), (1008) (1010) (1000) ROM(read only memory), RAM(random access memory), (1008)

(1002) (1002) , , ,

(CLK) (1004) (1004) (100) (1010) (1004) (100) TFT (1004) (1002)

19 21

19 , (100) 3 (1100) (1004)가 TFT (100R, 100G 100B) (1102) RGB 3 , 3 (1100) (halide) (dichroic) (1108) (100R, 100G 100B) 23) (1124) , B , (1121) (1122), (1100B) 100B) 3 (1114) (1120) (1112)

TFT (100)

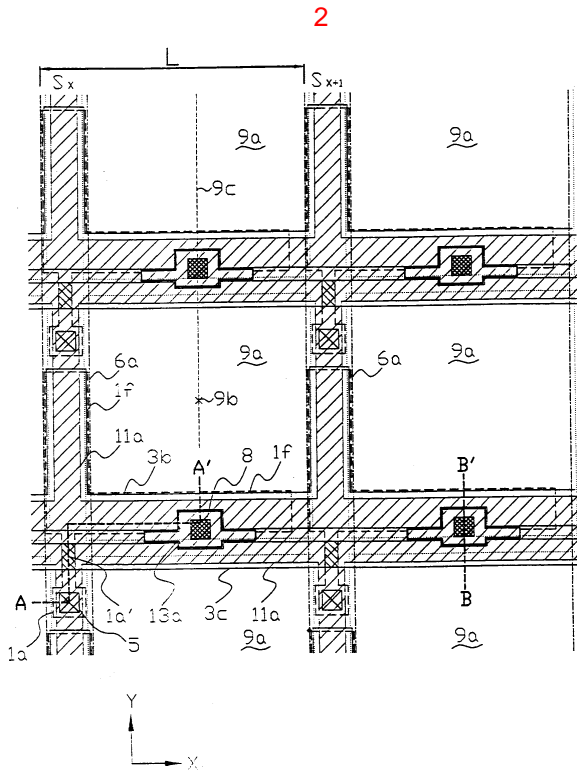
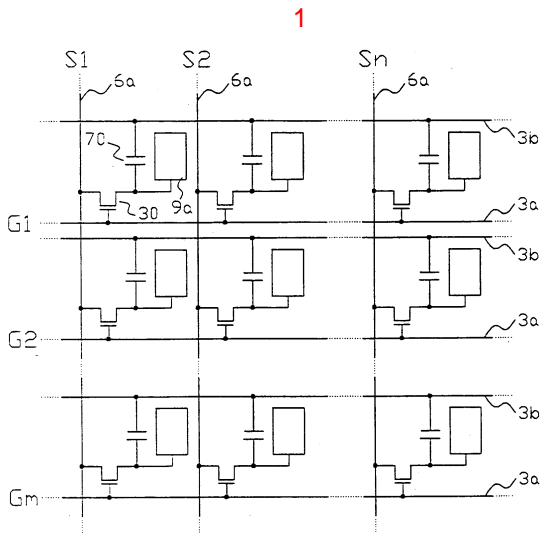
, (100) TFT , (1112) TFT (R
 G) , TFT , AR 가, AR
 TFT ,
 , 3 (100R, 100G, 100B)
 (100G) (100R 100B) TN
 가 , TN
 가
 (100G, 100R 100B)
 ,
 .
 20 , (laptop) (1200)(PC)
 (100) CPU, (1202)가
 (1204)
 21 (1004) (1002) (1002) (100)
 (1004) (1002) IC(1324)가 (1322)
 TCP(1320)(tape carrier package) TFT (10) 가
 ,
 , 19 21 ,
 , POS , 18 (EWS),
 , 가
 ,
 , TFT 가 ,
 ,
 , TFT
 ,
 가 ,

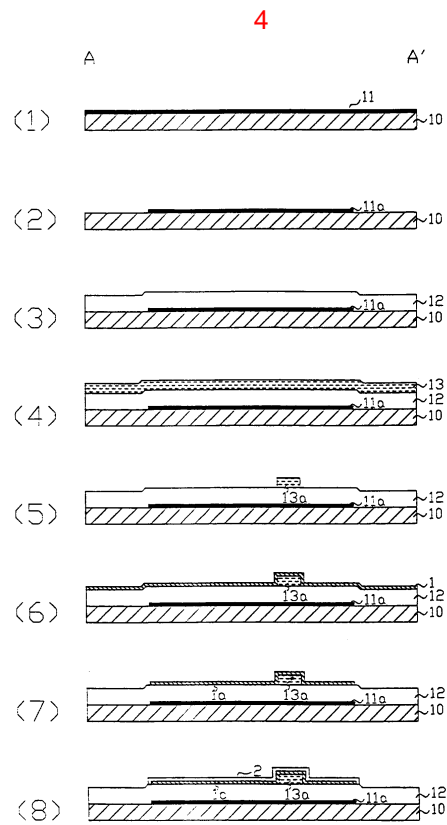
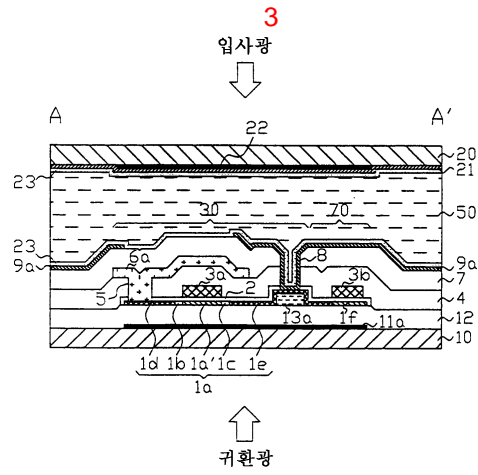
(57)

1.

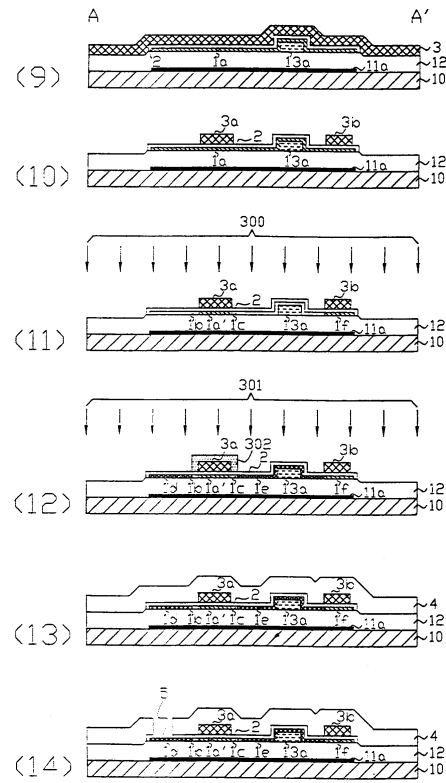
1

1

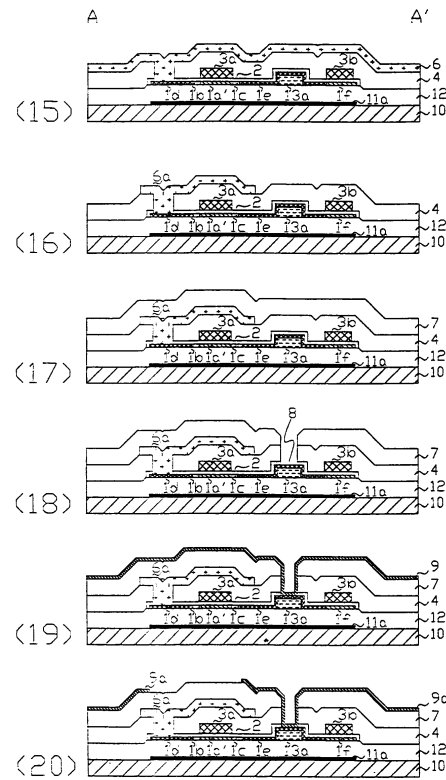




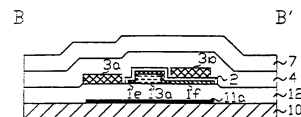
5

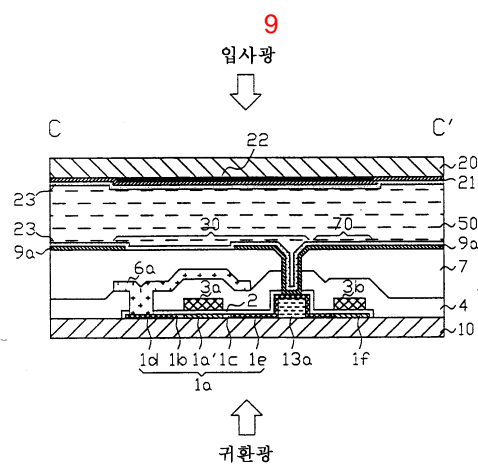
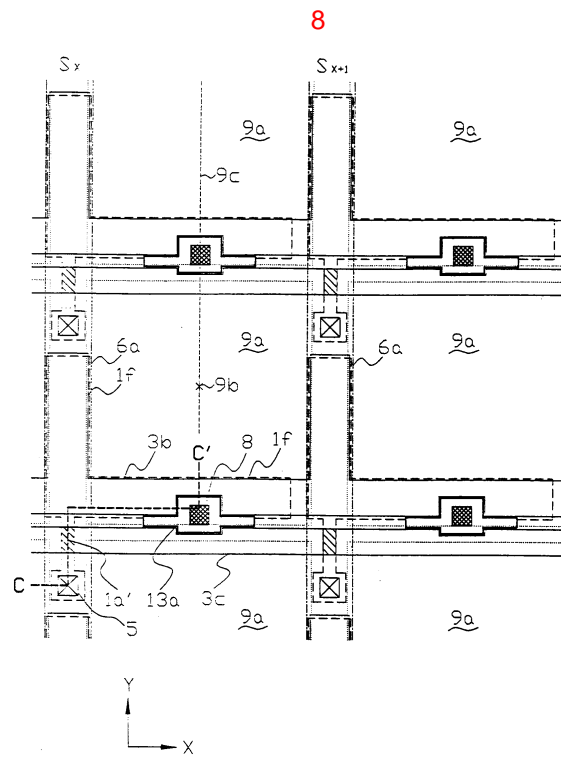
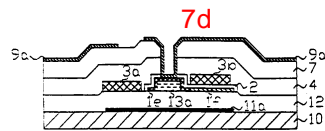
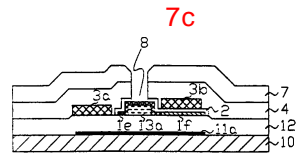
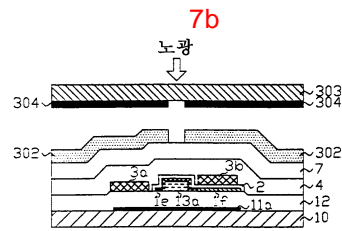


6

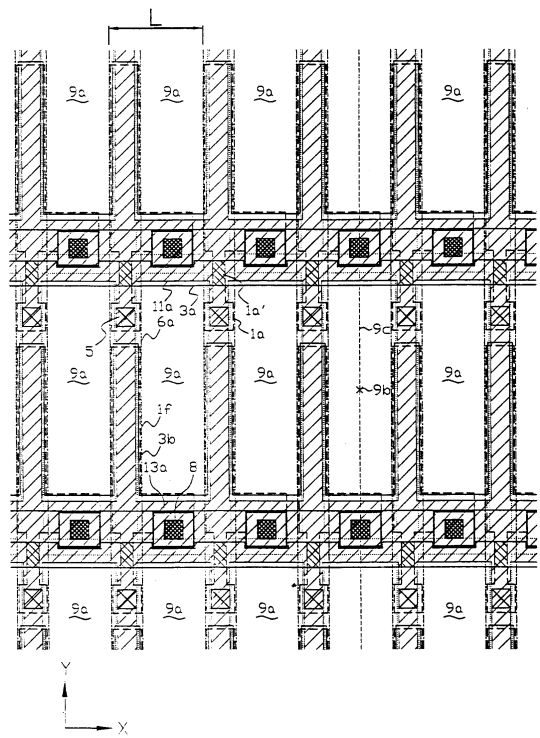


7a

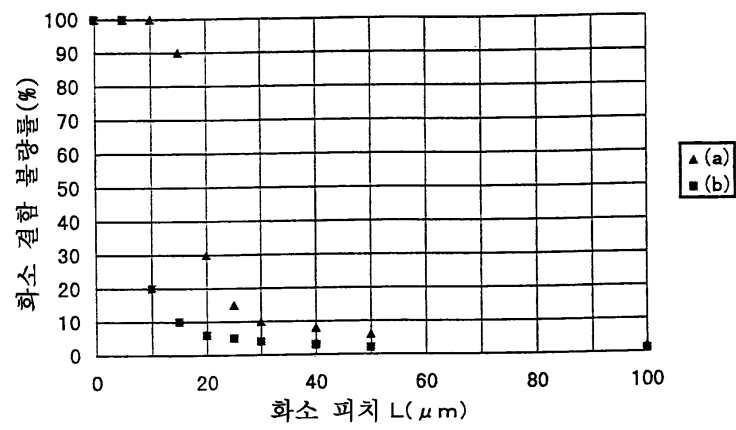


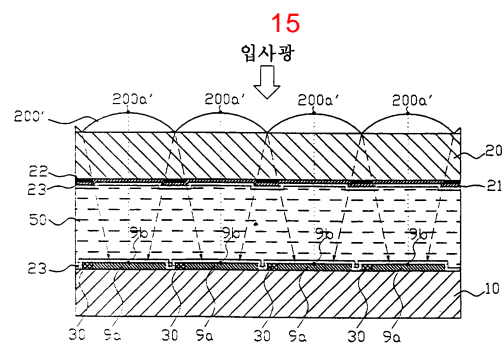
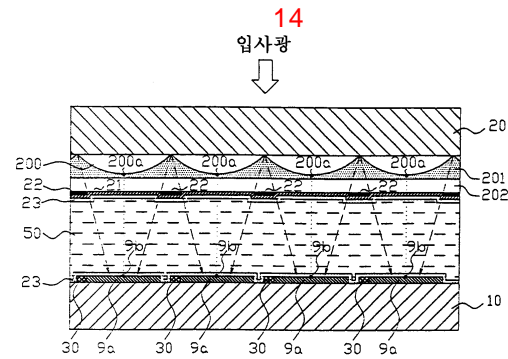
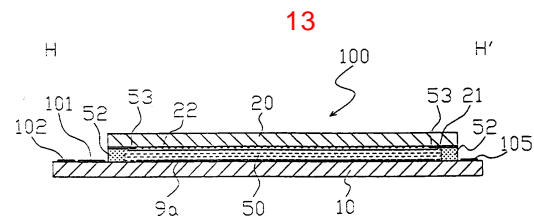
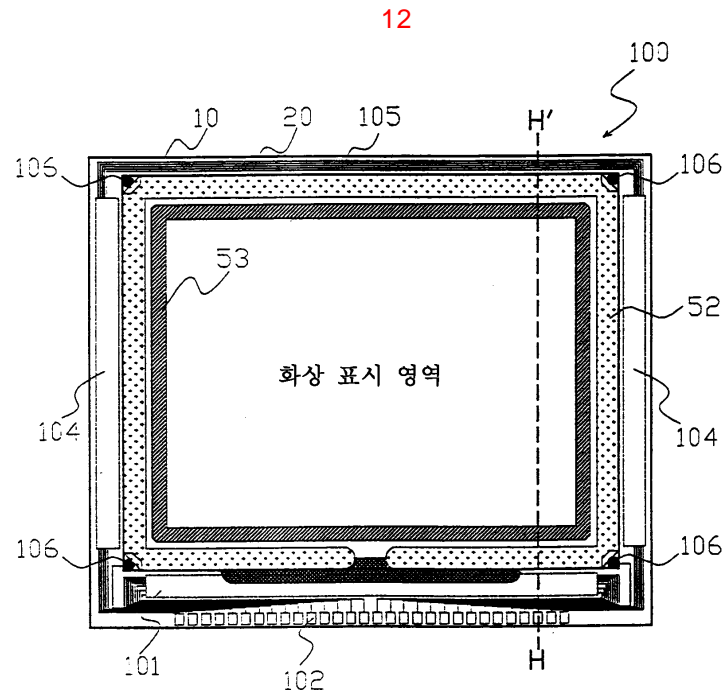


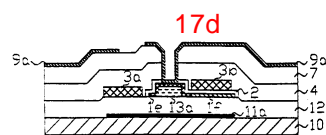
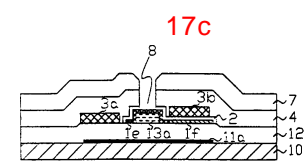
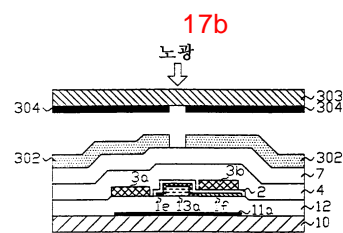
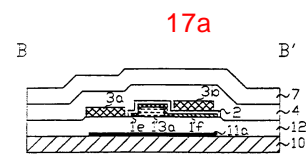
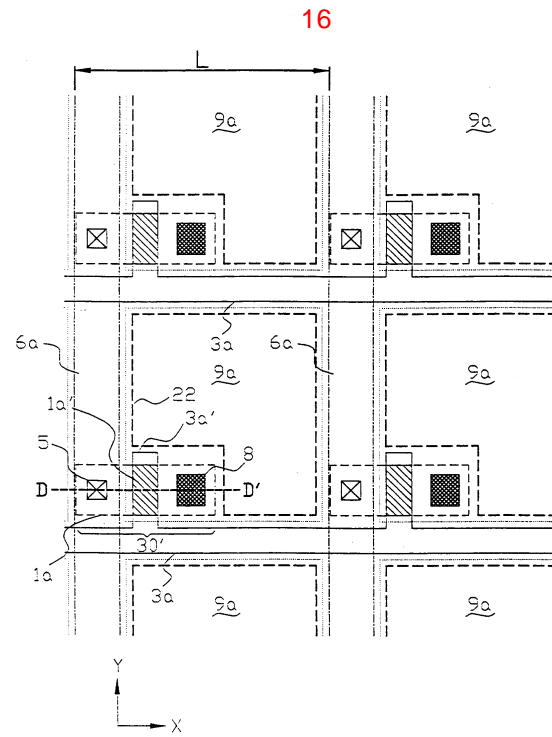
10

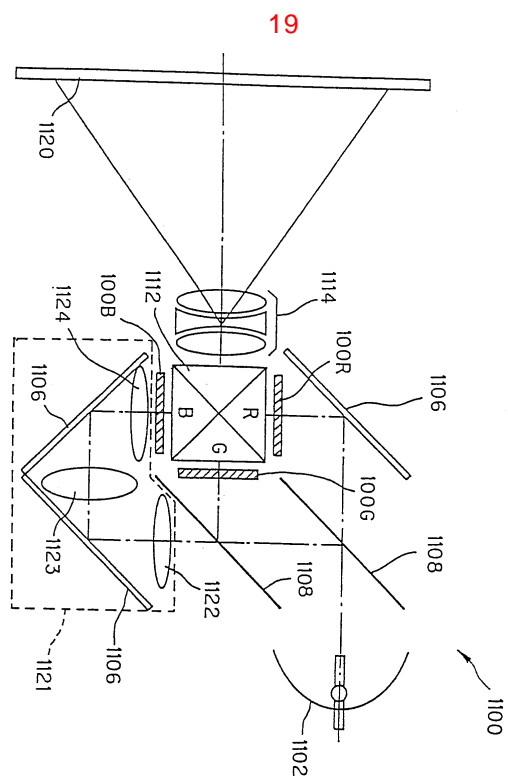
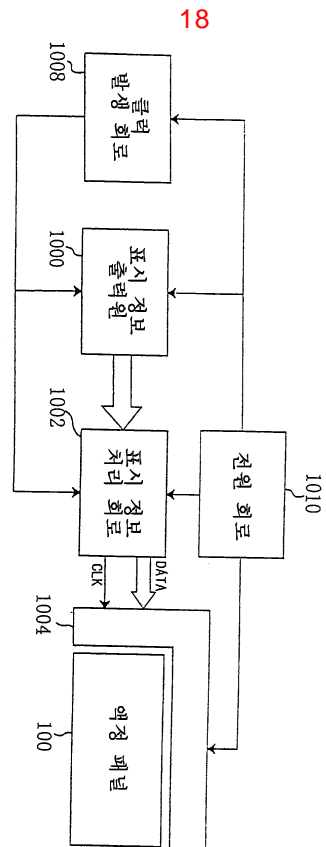


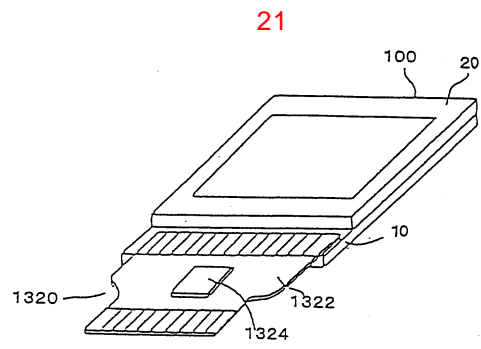
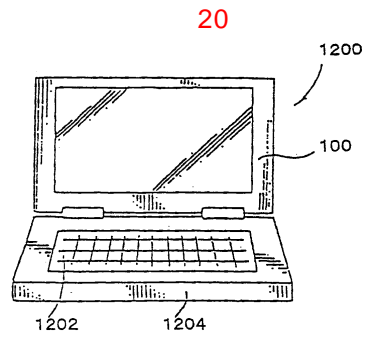
11











专利名称(译)	液晶面板		
公开(公告)号	KR1020040065205A	公开(公告)日	2004-07-21
申请号	KR1020040053506	申请日	2004-07-09
[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	MURADE MASAO 무라데마사오 ISHI KENYA 이시이겐야		
发明人	무라데마사오 이시이겐야		
IPC分类号	G02F1/1362 G02F1/136 G02F1/1368		
CPC分类号	G02F1/136227 G02F1/1368		
代理人(译)	李，何炳 李贝尔 申铉MOON		
优先权	1998027663 1998-02-09 JP 1998046036 1998-02-26 JP 1998046048 1998-02-26 JP		
其他公开文献	KR100506566B1		
外部链接	Espacenet		

摘要(译)

对于包括TFT驱动等的有源矩阵操作方法的液晶面板，提供了即使像素被细化也不会导致处理产量或像素开口率降低的液晶面板。通过数据线（6a）和扫描线（3a）使用TFT（30），使用TFT（30）通过接触孔（5）连接到TFT阵列基板（10）上的多条数据线（6a）通过数据线（6a）和扫描线（3a），通过接触孔（5）连接到TFT阵列基板（10）上的多条数据线（6a），安装驱动的多个像素电极（9a）。为了连接TFT（30）的漏极区域和像素电极（9a），在层间绝缘膜（7）的下方形成尊重（提升）膜（13a），它甚至打开并形成孔。电容线，缺口，接触孔，电容电极区域。

