

(19)
(12)

(KR)
(A)

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(71) 가 가 2 4-1

(72) 가 3 3-5 가 가
가 3 3-5 가 가
가 3 3-5 가 가
가 가 3 3-5 가 가

(74)
:

(54) , ,

P (42) , (42) , TFT(30)가 (32~34)
LDD , (42) (1a) (1b, 1c)
) ((15), (6c)

4

1(a) 1 , 1(b) (a) H-H ,

2 ,
 3 1 ,
 4 3 A-A' ,
 5 2 1 ,
 6 5 B-B' ,
 7 3 1 ,
 8 7 C-C' ,
 9 LDD ,
 10 P ,
 11 N ,
 12 .

1a : 1b, 1c : (LDD)
 3a : 6a :
 10 : TFT ()
 30 : TFT()
 31 : 32~34 : ()
 42 : 44 :
 60 : 6c : ()
 15 : () 19 : ()
 29 : ()

가 , , 가 , ,

(extra-high definition)

가
 가
 N , LSI 200ppi-class(25.4mm 200)
 가 LDD , 2 3
 (dark state) 가 P
 (1) 5-313195
 (2) 3-80225

, LDD , 가 , P , N 가

가, P LDD
 P N 가
 가 가 ,
 , I_{ds} N P 10 11 V_{ds}
 10 11 V_{gs} 가 I_{ds},
 I_{ds} , V_{ds}, (暗) (Cd/m²)
 가

P N P 가
 Vds가 0 5V (段數)
 Vds 가 P TFT 1 가 10 11
 Vds가 Vds
 가 , LDD P , P , LDD
 , N P 1
 500ppi , P
 가
 가 가
 가 가
 , P
 P LDD P , P , LDD
 , N P 1

, EL, 500ppi, DMD(),

가

, EL, DMD(),

(1)

1, 1(b), 1(a), H-H, 2

[]

1(a) 1(b) TFT () (10) ,
 (20) (矩形) (52) (52)
 (50) (52)
 (53)가 (11) (52)
 (201) (202)가 TFT (10) ()
 (10) (204, 204)가 TFT
 (205) () (11) (204, 204)
 (20) (20) TFT (10)
 (206)가 () (20)

LSI가 (201) COF(Chip On Film) (204, 204) TFT (10) , , TN(Twisted Nematic) , STN(Super Twisted Nematic) /

TFT(30) 가 (41) , 2 P p-SiTFT(30)가 TFT(30) TFT(30) p-SiTFT(30)

, LDD(Lightly Doped Drain)

TFT(30) (32, 33) (3a) (3a) , TFT(30)
 G1, G2, ..., Gm 가 S1, S2, ..., Sn (selector switch) ,
 (6a) , 1
 (6a) S1, S2, ..., Sn ()
 (6a) (selector switch)

TFT(30) (9) , 1 (6a) (9)
 S1, S2, ..., Sn S1, S2, ..., Sn 1(b) (20) (21)
 S1, S2, ..., Sn (60) 가 (9)

[]

3 TFT (10) 1 , 4
 3 A-A'

3 , TFT (6a) (3a) (6a) (3a) L (31) (42)
 (41) (3a) (41) (31) (32~34) (42) (31) (31) (32~34)
 (32~34)가 (42) (31) (42) (43)
 TFT L (41) (42) (43)
 (6a) (41) (44) (44) (44)
 (42) (31) (48) (60)

(41) (9) ITO ()
 (45) (45) (47) (4)
 42) (46) (9) (45) (9) TFT(30)가 (9) TFT(30)가
 5) TFT(30) (42) (9) TFT(30)가

4 , TFT (10) , , 1 (15) (10a)
 (10a) () (15) TFT(30)가 (12) TFT(30)가 (12)
 (15) TFT(30) (10a) TFT(30)

TFT(30) , LDD , TFT(30)
 (32~34) (42) (32~34) (32~34) 3 (2)
 (1a) (32~34) (42) (1a) LDD ()
 1b) (1a) (1c) , LDD (1d) (1e) ,
 (1a) / (1f) (42)
 , P TFT(30) / ,

(42) (1e) (41) (44) (44) , 4
 3 (2) (44) (48) (3a) (60)

(3a)((48)) 1 (13) , 1 (13) , (6)
 a) (45) (6a) (3a) (6a) (6)
 c)가 (32~34) (6a)
 (45) , Al

, 1 (13) (43) , 1 (43) (6a)
 (42) (1d) (47) (45) (42) (1e)
 (47) , (47) (45) (42) (1e)
 (6a) (45) 2 (14) , 2 (14)
 (9) (9) ITO (14) (46) (45)
 , 2 (14) (46) (45)
 (9) (45) (1e) (9) , 4 (45)
 (42) TFT (10) 가 , 가 , (45)
 , (20) (20a) (50) (21) , (21)
 (22) TFT (22) (10) (17) (21) ITO , (21) , (21)
 (41) , R(), G(), B() (10a)
 (20a)
 (1a) , , TFT(30)
 , (1a) (1b), (1c) LDD
 , P , N LDD Id/Vg . 9
 , TFT(30) (10a) (6a) (15) TFT TFT(30) (10) TFT(30)
 T(30) (50) TFT(30) (6c) , TF
 , TFT(30) P . P ,
 , P (15) (6c) , TFT(30)
 500ppi(25.4mm 500) , 가 ,
 , TFT(30)
 (2)
 , 5 6 , 1 2 , 6 5 5
 , TFT 1 가 , B-B'
 5 6 , (41) 2
 ITO (14) , (19) (19) (19) (45) (19)
 (19a)가 , (46) (45) (9)
 6 (6c) , 1 TFT(30) (50)
 , (19) TFT(30) (50)

P (19) , TFT(30)가 LDD (15)
P (19) , TFT(30) , TFT(30) , TFT(30) (50)
(19) (32~34) 1 (6c) , TFT(30) (42) , TFT(30)
FT(30)가 (19) , TFT(30)
(3)
, 7 8 TFT 1 3 , 8 7 C-C'
7 8 , 7 2 , (20) (29)
(15) L (42) (3a) , TFT (10) (angular portion)
P (29) , TFT(30)가 LDD (15)
P (29) , TFT(30) , TFT(30) (15)
(29) , 1 , (10, 20) , TFT(30) (15)
(15) , TFT(30)가 (29) (50)) TFT(30)
()
12 (1110) RGB (100R, 100G, 100B) 3 (3-plate ty
pe) (1110) (1116) (1118) , R, G, B 3 (1
112) R, G, B (1116) (100R, 100G, 100B)(/)
R, G, B B 가 , (1132), (1123)
(1134) 3 (1131) (100R, 100G, 100B)
R, G, B (1122)() 3
() (1124) (1130)
500ppi-class 가 가
가
, TFT 3 , 2
4 , 가

(EL),
 (DMD)
 DD (15) P (29) 3 가 , TFT(30)가 L
 , TFT(30)
 (29) , 1 , , TFT(30) (15)
) (15) (29) (10, 20) (50)) TFT(30)
 , TFT(30)가 ,
 1 , , TFT(30) (1a) (1a) (1
 b), (1c) LDD (1a) 9 (1
 LDD Id/Vg . 9 , P , N LDD
 TFT (10) TFT(30) (10a) (15)
 TFT(30) (6c) TFT(30) (50) (6a) T
 FT(30) , TFT(30) P
 , P 가 N (15) (6c) , TFT(30)
 , P , TFT(30)
 DD (15) P (19) 2 가 , TFT(30)가 LDD
 , TFT(30)
 DD (15) P (29) 3 가 , TFT(30)가 L
 , TFT(30)
 , 가 가 ,
 (57)
 1.

가, P (P-type lightly doped region) LDD

2.

3.

4.

5.

6.

7.

8.

(continuous grain silicon)

가,

,
P

LDD

P

,

,

9.

8

10.

8

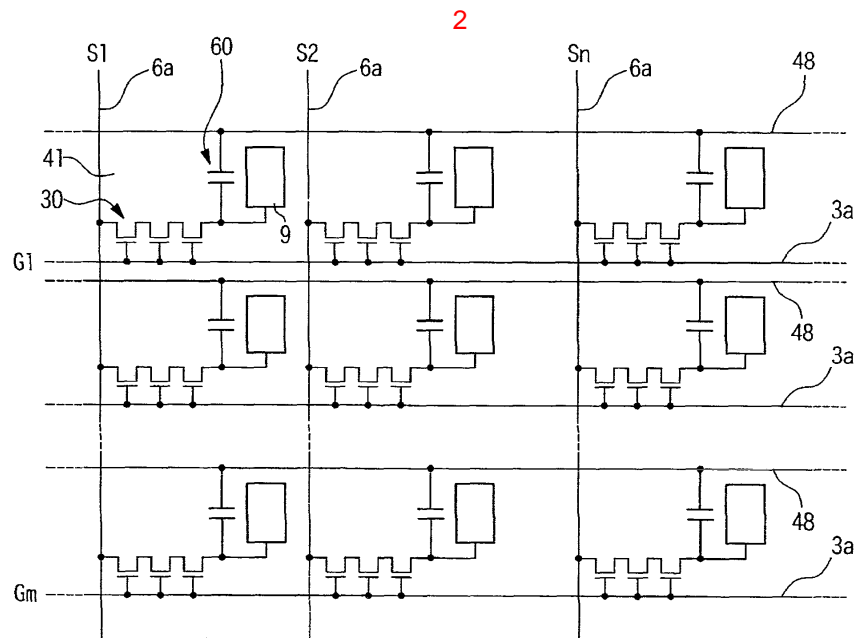
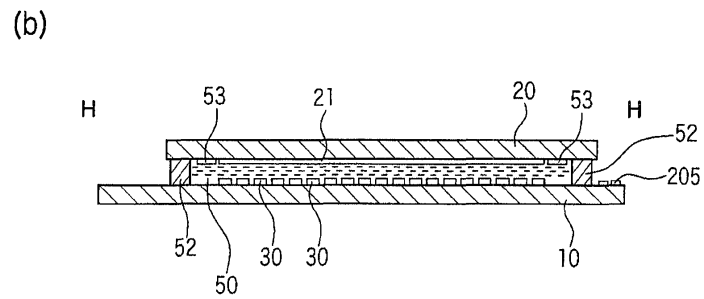
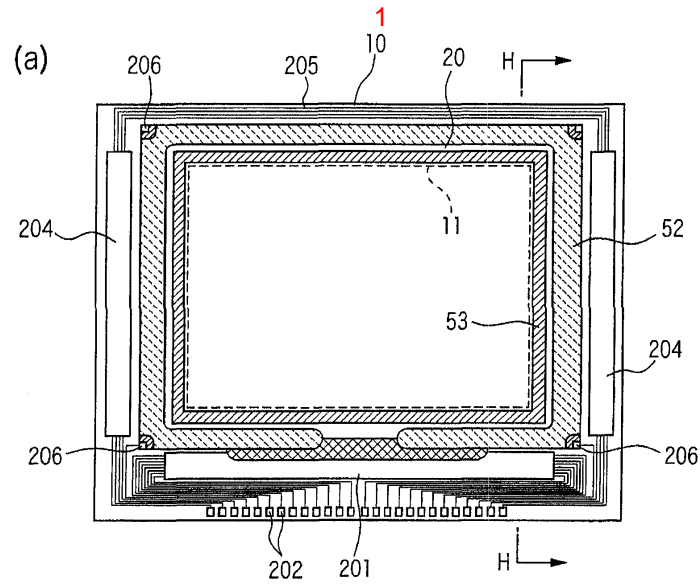
9

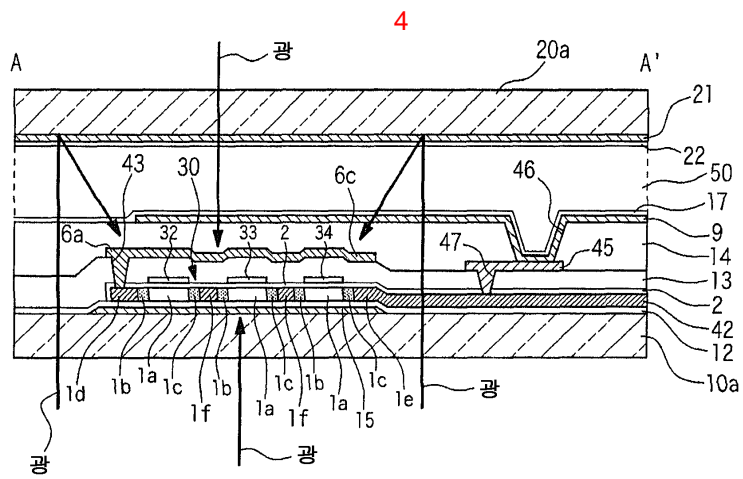
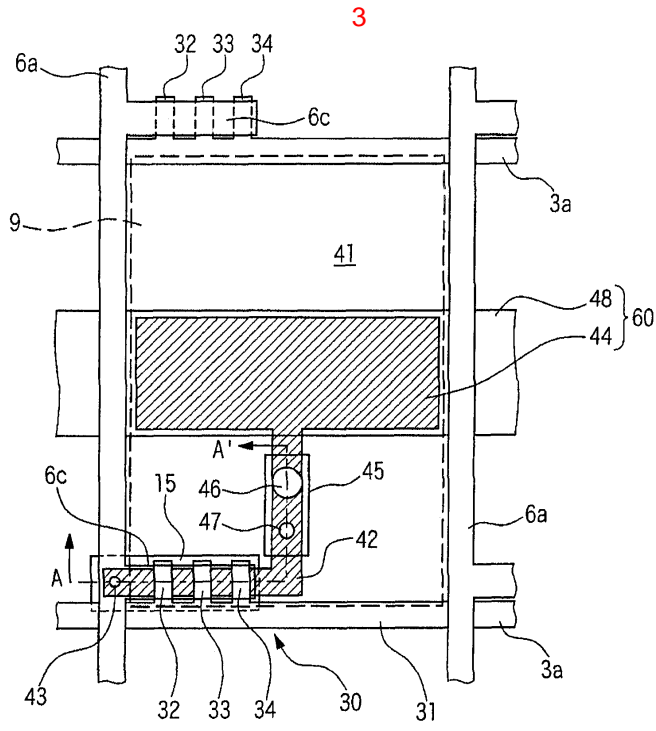
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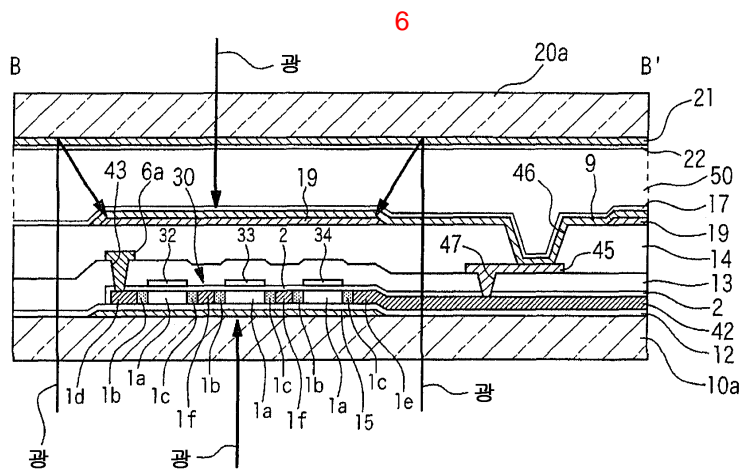
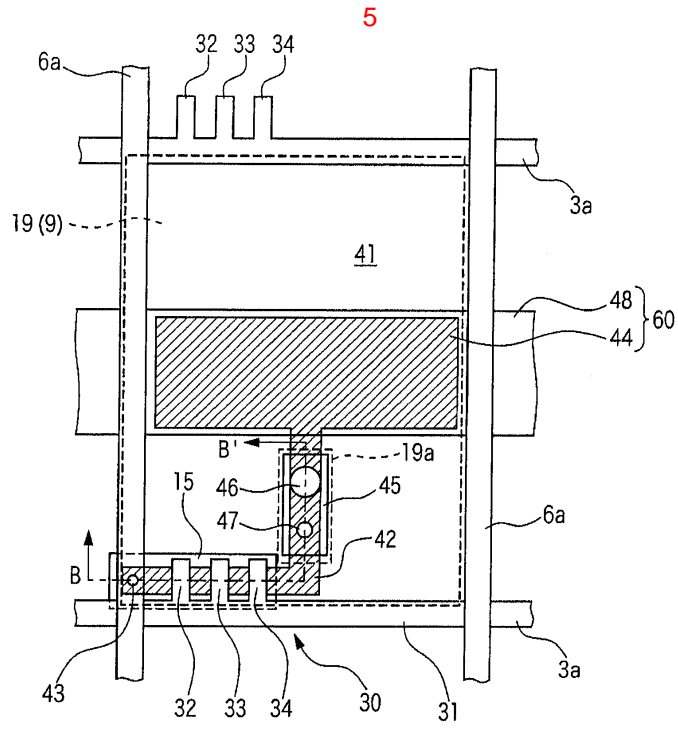
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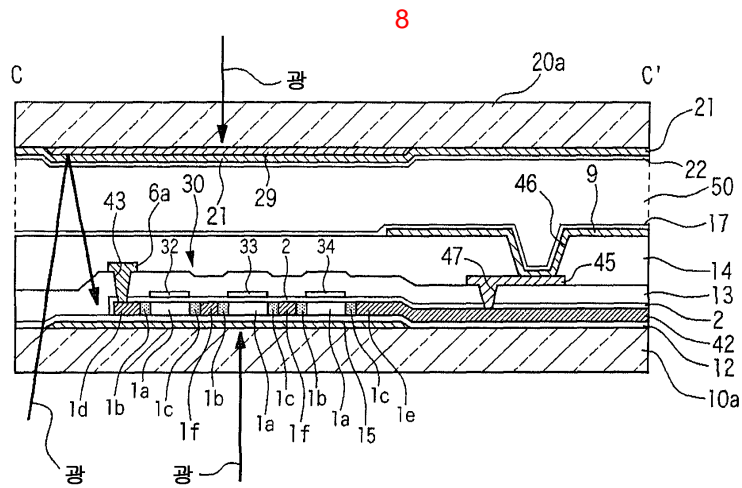
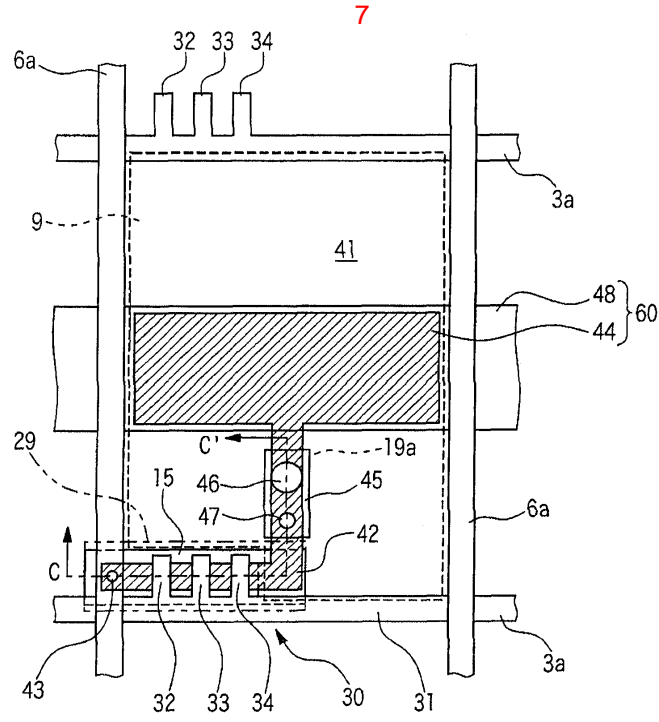
12.

1

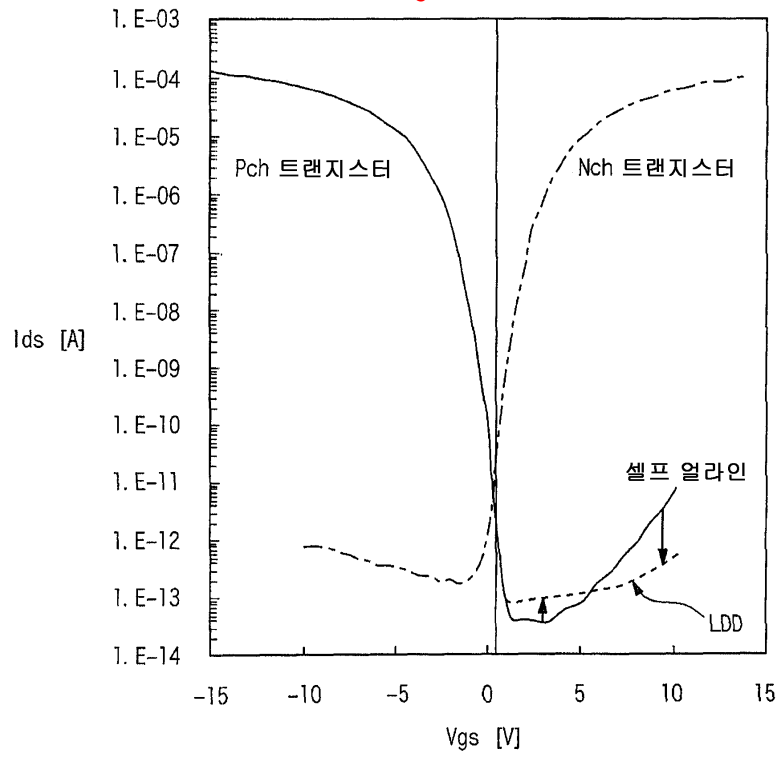




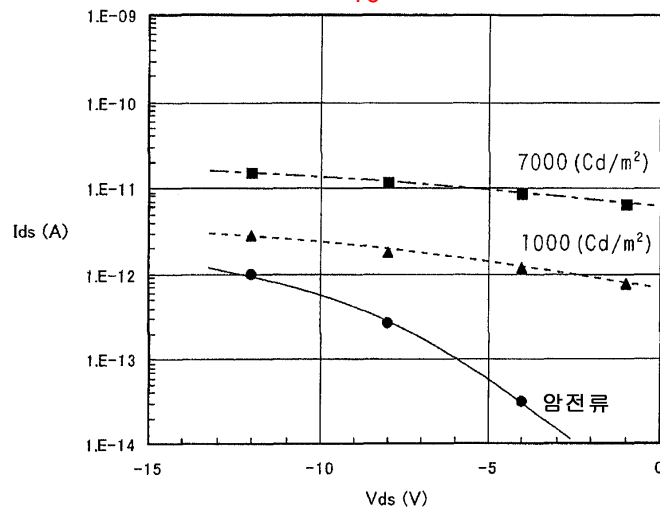




9



10



누설 전류의 V_{ds} 전압 의존성 (Pch) $V_{gs}=1(V)$

