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(A)

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1488-39 502

(74)
:

(54)

가 , / 가 , 가
가 , 가 , 가
가 DC , 가 .

6b

1 AMOLED(Active Matrix type Organic Light Emitting Diode Device)

2 .

3 2 I-I .

4 .

5 1 .

6a, 6b , 6a , 2 , 6b 6a IV-IV .
 7 3 .
 8 4 .
 < >
 210 : 212 :
 214 : 216 :
 218a, 218b : , 218 :
 220 : 222 : 1
 224 : 2 ch1, ch2 : 1, 2
 Va, Vb : 1, 2
 VIa, VIb : 1, 2
 VII :

(Organic Light Emitting Diode Device ; , AMOLED) ,
 (Dual Panel Type) (Thin Film Transistor) .
 가 (FPD ; Flat Panel Display) , 가
 가 (LCD ; Liquid Crystal Display Device)가 가 ,
 가 가 (contrast), , .
 , 가 가 가 , .
 , 가 가 가 .
 , ncapsulation) 가 , PDP(Plasma Display Panel) (e
 , 가 가 , 가 가 가 .
 , (, AMOLED)
 1 AMOLED .

1 (powersupply line)
 (pixel area)

2 (addressing element)

(switchi
 (storage capa

ng TFT)가
 citor ; , C_{ST})가
 (current source element)
 (Electroluminescent Diode)가

(C_{ST})

, AMOLED (addressing)

AMOLED 2 AMOLED (s
 storage capacitance)가

2

(36) 1 (42) (12) 1 (12) 2 (36)
 (12) (30) , (14) (T_S)가 (36) (26) , (T_S)
 (14), (26) (30) (26) (22)

(T_S) (42) (T_D)가
 (T_D) (12) (16)
 (30) (16) , (16)
 (28, 32) , (36) (28, 32)
 (24) (16),

(42) (28) (44)
 (32) 1 (54)

1 (54) 1

(30) (42) (34) (C_{ST}) (34)

3 2 I-I

(20) (10) (16) (16) (24a), (24
 b) (20) (16) (24)
 (28, 32) (24)

(28, 32) (24a) (ch)

(16), (24), (28, 32) (T_D)

(T_D) (28) (46) 가
 (48) , (48) (46) (28)
 (44) , (44) (48)
 (32) (50) 가 (52)

(52) (50) (32) 1 (54)

DC (direct current stress)가 (charge trapping)

가 가

(20) PECVD(plasma Enhanced chemical vapor deposition) (16)

가 (void) , DC 가 (II)

가 가

4 2

1 (70) 1, 2 (70, 90)

(80) , (80) (T_D) (T_D)

1 (72) , 1 (72)

(74) , (74) 2 (76)

1, 2 (72, 76) 1, 2 (72, 76) 1 (72) (74)

(E) , (74)

2 (90) , 2 (90) (E) (92)

)가 (92)

(94)가

(94)가 2 (90) 2 (76)

1, 2 (70, 90) 가 (85)

가

가 , 1,000

가 가 가

가

2

가

(環)

가

1, 2

) , 1, 2

1 () 2 ()
1, 2 가 (環) ;

1, 2

1, 2

1 1 1 1 1 1
2 2 2 2 2 2
(a-Si) (n+ a-Si)
1 2 1, 2
1, 2 가

-- 1 --

5 1

1, 2 (110, 150)

1 (110, 150) (T_D)
(140) (140) (T_D)
(142)

(142) (142) (T_D)

(T_D) (112), (114), (116) (118)
(142) (118)

2 (150) 1 (152) 1 (152)
(160) (156a, 156b, 156c) (160)
2 (162)

58) (156a, 156b, 156c) (160) 1 (152) 1 (154)
 , 2 (162) 2

1 (152) 2 (162) 1 (154)
 , 2 (158)

1, 2 (152, 162) 1, 2 (152, 162) (160)
 (E)

T D) 가 (142) 2 (162) ((142) 2 (162)

1, 2 (110, 150) 가 (170) 1, 2 (110, 150)

(142) (E) (140)

, 3 2

가 / 가 가

-- 2 --

6a, 6b 2
 , 6a , 6b 6a IV-IV

6a (212)가 (環) (214) (214)
 (218) (218) (214) (212)
 (220) (220) (218)
 1, 2 (222, 224)

1, 2 (222, 224) (214)

1 (222) (220) 1 (214)
 (Va) , (218), 1 (222) (220) 1 (T1)
 2 (224) (220) (220) 2 (T2)

(Vb) , (218), 2 (224) (220) 2

6b 1, 2 (210)
 (212) 가 (214) (212)
 (214) 1 (Va), (214) 2 (Vb)

(214) (216) (216)
 (212) (212) 1, 2 (Va, Vb) (218)
 (218) (220) (220)
 (220) (218) (214)
 1, 2 (222, 224)

1 (218) (218a) (218b)
 (222) (220) 1 (VIa) 2 (224)
 (220) 2 (VIb) , 1, 2 (VIa, VIb) ((218a) 1, 2

218b) (ch1, ch2)

1 (ch1) (T1) , 1 (Va), (218), 1 (222) (220) , 2 (ch2) (218), 2 (218), 2

(214) 가 , (214) 1, 2 (222, 224) (220) , (VII)

-- 3 --

7 3 6a (322, 324) (320) (321)가 , 1, (VIII) 가 .

, 1, 2 (322, 324) 가 (314) , (VIII) 가 1, 2 (322, 324) ,

-- 4 --

8 4 7 (422, 424) (420) (421)가 , 1, 2 (IX) 가 , 3 (421) (420a, 420b, 420c, 420d) (420) 1 4

, 1 4 (420a, 420b, 420c, 420d)

2 4

, 가 , , 가 , / 가 , DC , 가 , 가

(57)

1.

, 1 () 2 () , 1, 2

가 (環) ;

;

, ;
, ;

1, 2

1, 2

2.

1 ,
1 1 1
1 2 , , 1 2 1 1 , , 2
2 , , 2 2 2 1 1 , , 2

3.

1 ,
(a-Si) , (n+ a-Si)

4.

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

5.

1 ,
1, 2 가

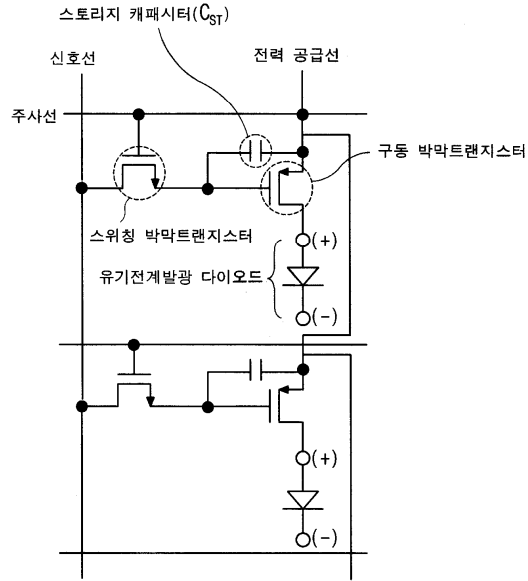
6.

5 ,
,

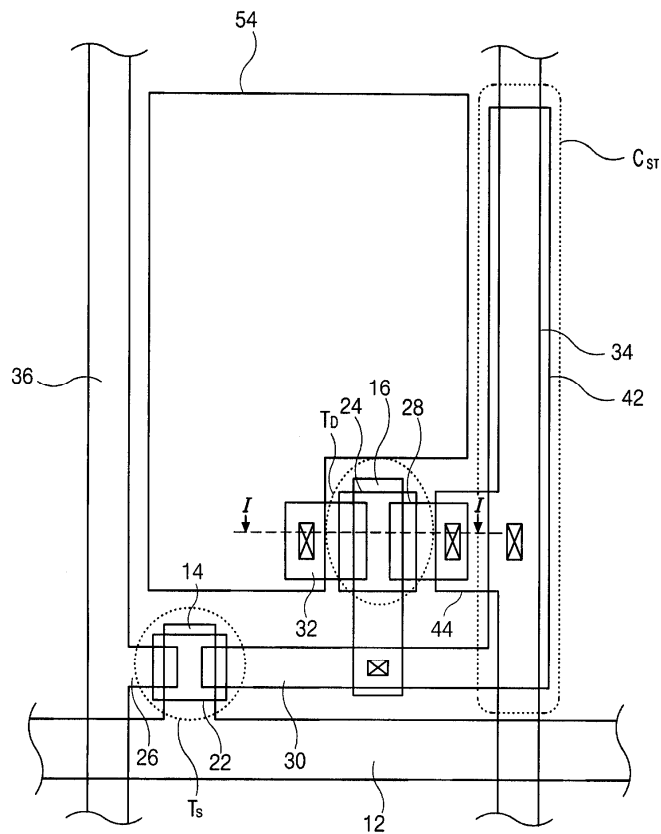
7.

1 ,
,

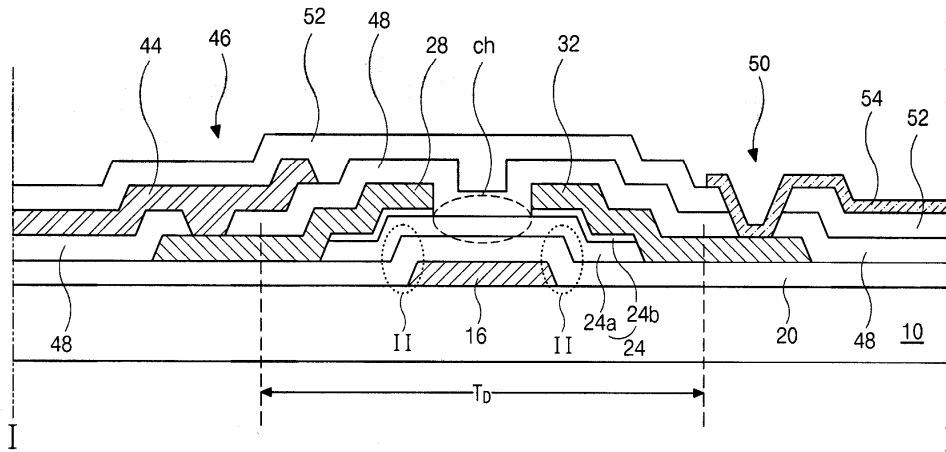
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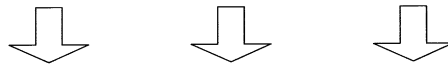
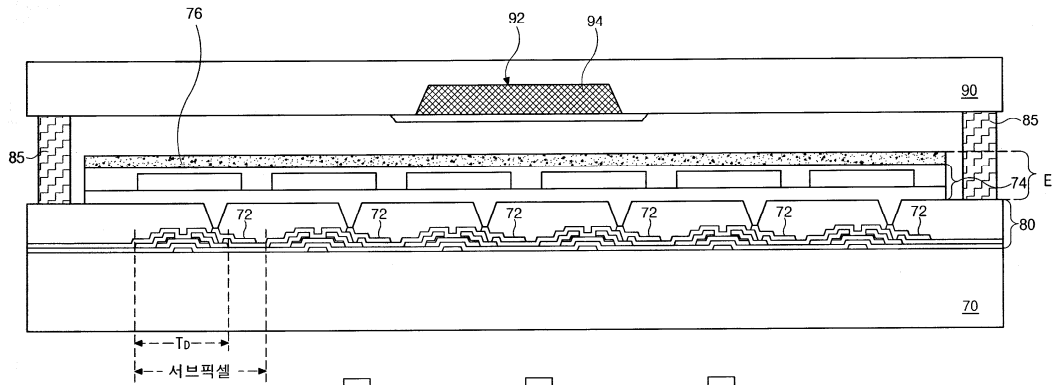
2



3

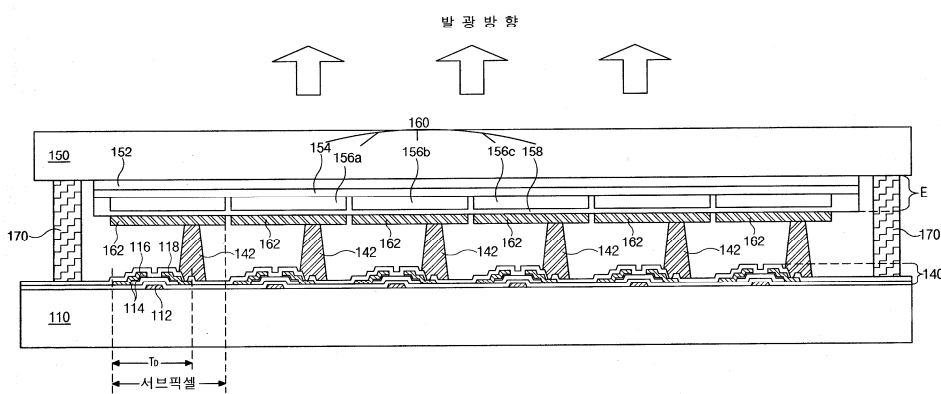


4



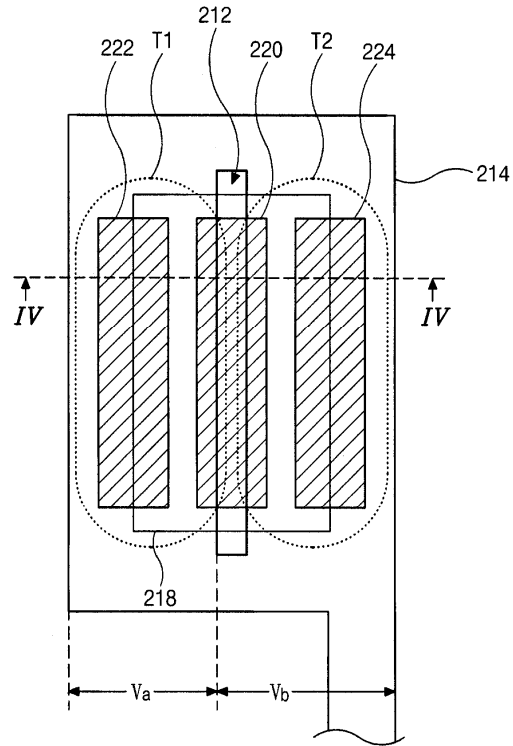
발광 방향

5

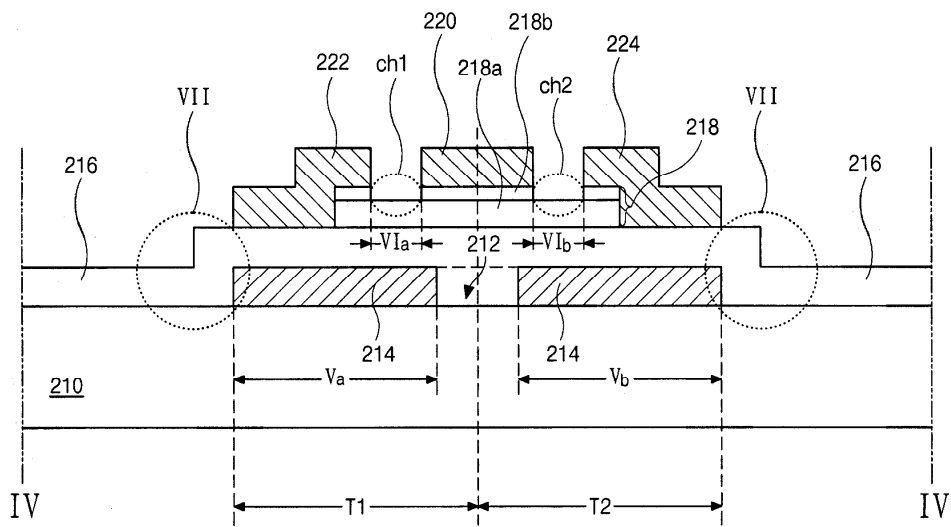


발광 방향

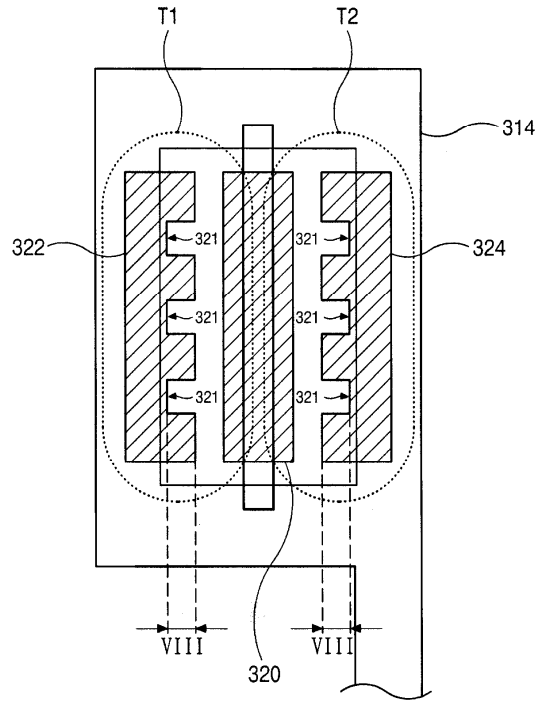
6a



6b



7



8

