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(12)

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(43)

2003-0057141
2003 07 04

(21) 10-2001-0087518
(22) 2001 12 28

(71) . 20

(72) 454 207-1107

3가271-79

(74)
:

(54)

, / (scribe amp; break)

2

1

, 2

7

1

2

3

4a 4c 3 - , - , -

,
5 1 ,
6a 6d 5 - , - , - , 1
,
7 2 ,
8a 8d 9a 9d 7 - , XI-XI, XII-XII, XIII-XIII, XIV-XIV ,
2 .
< >
200 : 201 :
202 : 204 :
206 : 208 :
210 : 1 214 :
218 : 220 :
224 : 226 :
228 : 2 234 :
236 : 2 1
238 : 2 2
240 : 242 :
246 : 1 1
248 : 2 2
250 : 254 :
256 : 1 258 :
260 : 2 262, 264 :

(LCD)

, , 가 .

가 가

가

가

(AM-LCD : Active Matrix LCD)

가

1
1

(T) (14) (18) (6) (5) (22) (P) (5) (7) (17) (22) (T)가 (13) (matrix type) (15) (P) (17) (13) (indium-tin-oxide : ITO) (15)

(24) (26) (13) (15) (24, 26) (T)

2

2 st1 TFT (TFT)가

st2 (Alignment layer) (Rubbing) (rubbing)

가 (Display)

st3 (seal pattern)

가 .

st4 (Spacer)

가 .

(st5).

st6 st1 st5

가 가

st7

cm2 μm 가

st8 / (scribe/break)

3

3

2) 가 (11) (5) (22) (13) (13) (2 (24

(15) (13) (26) (P) (15)

(P) (17)

(T)가 (30) (32) (36,38)

(24,26) 가 (24,26) (D) 가

(60) (62) (24,26)

(13,15) (24,26) (link line)(42,46)

(D) st8 (5) 가 / (scribe/break) ,

4a 4c

4a 4c 3 - , - , - ,

4a (22) (Al), (3 13) , (24)

(42) , (42) (24)

(30) (3 13) (42) (24)

2700

(22) (24) (SiN_x) (42) (SiO₂) (30) (3 13) 1

(31)

(31) 4000

4b (32) (34) (30) (31) (island)

p+ (32) (a-Si:H) (34) n+

(Ti) (32) (34) (22) (Cr), (W), (Mo), (34) (36,38) (36) (15)

(26) (15) (46) (46)

(26) (26) (15) (46) 1500 가

(34) (36) (38) (32)

el) (32) (36,38) (carrier)가 (tive chann

sin) (15) (22) (BCB) (Acryl) (re (50)

2000 가

(50) (38) (52) , (24) (26) (54) (56)

4c (22) - - (ITO)

(38) (IZO) (P) (17)

가 (24) (26)

(60) (62)

6a 6d 가

6a 6d 5 - , - , - , 1

6a (100) (Al), (102) (108)

8) (5 106) , (104) , (109)

1 (104) (1 106) (102) (108)

(109) 2700 .

SiN_x (108) (102) (109) (100) (

(110) (SiO₂) (110) 4000 가 .

(114) (104) (110) (island) (112)

act layer) (112) (p+ n+a-Si:H) (a-si:H) , (ohmic cont

(116) , 1 (109) 2

2000 가 .

6b (Cr), (W), (Mo), (112) (114) (116) (100)

(118) (114) (122) (118,120) ,

(122) (124) , (124)

(126) .

(109,116) (124) . ,

(124)

(122) (124) 1500 .

(114) (118) (120) (116)

(112) (118,120) (carrier)가 (tive c

hannel)

(122) (100) 2000 가 (SiN_x) (128) (SiO₂)

(108) (128) (126) (120) (129) , (132)

(130)

(108,126) (130,132)

() (128) .

	6d			(100)			(ITO)
-	(IZO)		(P)	(134)			
(120)							
	가		(108)	(126)			
(136)		(138)					
		(102)		(124)	420		(14
0a,140b)							
			(124)	2700	가	1	(109) 2000
2	(116)						가
	7920						10700
		(124)		3000			가
						(124)	
--	2	--					
	2						
			가				
	7		2				
(201)	2		(199)			(200)	
		(200)	가			(202)	
		(202)		(206)		(202)	(208)
		(206)			2	(228)	
		(208)	2	(228)		(234)	2
1	(236)		(254)				(228)
6)			(240)	2	(228)	2	(238)
	(256)						1
		(208)				(206)	2
							(228)
		(202)		(202)			(222)
		(202)	(222)			(P)	
		(222)		(224)			(224)
		(226)					
		(224)					
26)	1	(210)		(242)	1	(210)	1
		(226)			1	(210)	(246)
	(250)	1	(210)			(224)	
					2	(248)	2
							(2

60)

(210,228) (201) (B) (206,224)
, (206,224) (210,228) 가

가 (210,228) (202) (222)

, 가 (224) (206)
(262,264)

, 8a 8d 9a 9d 2

8a 8d 7 X-X , 9a 9d 7 XI - XI, XII - XII, XIII - XIII, XIV - XIV ,
2 (, 8a 8d)
, 9a 9d)

, 8a 9a , (200) (Al), (7 202)
(204) , (206) , (206)

(208)

, (dummy line)(210) (208) 가 1

, (Mo) (7 202) 1 (210) (Al)() (Cr)
2

(SiN_x) (208) (206) 1 (210) (200)
(212) (SiO₂) 1

, (212) (a-Si:H) (n+
p+a-Si:H) (204) (212) (214)
(216)

, 8b 9b (214) (216) (200)
(Cr), (W), (Mo), (Ti) ,
(216) (218,220) , (218)
(222)

(222) (224) , (224)
(226)

, (206) 2 (228)

, (218) (220) (216)
(214)

(214) (218) (220) (carrier)가

(224) 1 (210)

1 (210) 2 (228) (206) (224)

(228) 8c 9c (200) (222) (SiN_x) (SiO₂) (218,220) 2

(230)

(230) (212) (220)

(232) (208) (234) 2 (238) , 2

(228) 2 (238) (206) (228) 1 (236) 2 (240)

(226) (242) 1 (210) 1 (246) 2 (248) , (210)

2 (248) (224)

(250)

TO) 8d 9d (IZO) (P) (200) (252) (I)

(220)

(206) 가 (208) , 2 (254) 1 가 2

(256) (206) 2 가 2

1 (210) (226) 1 (210) 1 (246) 가

1 (210) (224) 2 (210) 2 (248) 가

(210,228) (210,228) (201)

(7 262,264)

(256) (206) 2 (228) (254) 1

(258) 2 (260) (224) 1 (210)

(210,228) (206) (224)

(206) (212) (230)

2 (228)

2

- - (ITO) - - (IZO)

8.

;

,
1

;

1

;

1

2

;

2

9.

8

10.

8

9

- - (ITO) -

(IZO)

11.

;

1

2

;

2

1

1

1

2

;

2

11 12. ,

11 13. ,

1 , 2

12 14. ,

(a-Si:H)

12 15. ,

11 16. ,

11 17. 16 ,

- - (ITO) - - (IZO) 1 2

18. ;

, , ; 1 ;

; 1 ;

, ; , , 2

1 1 1 , 2

2

2

19.

18

20.

18

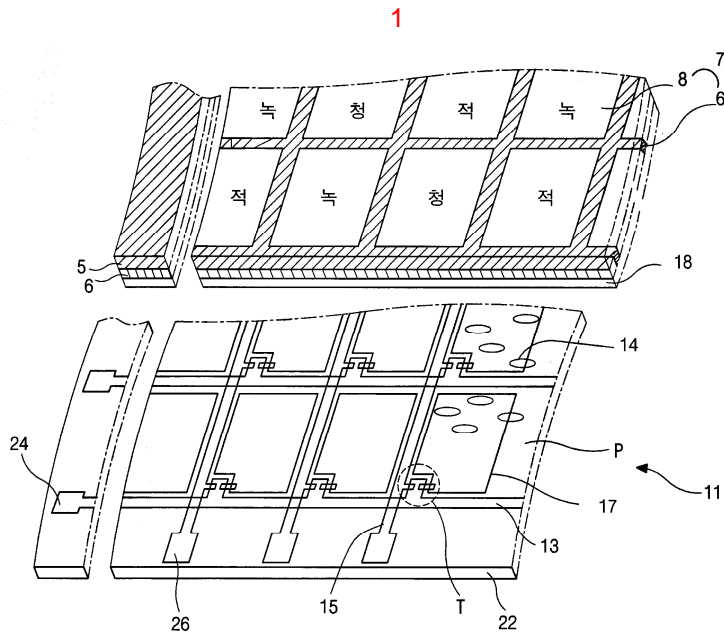
19

(ITO)

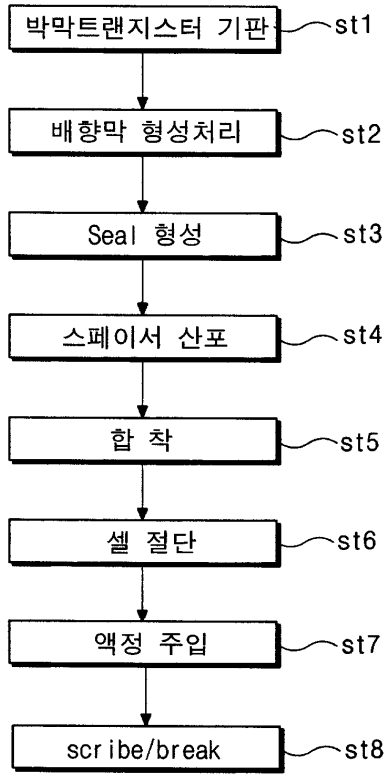
(IZO)

1

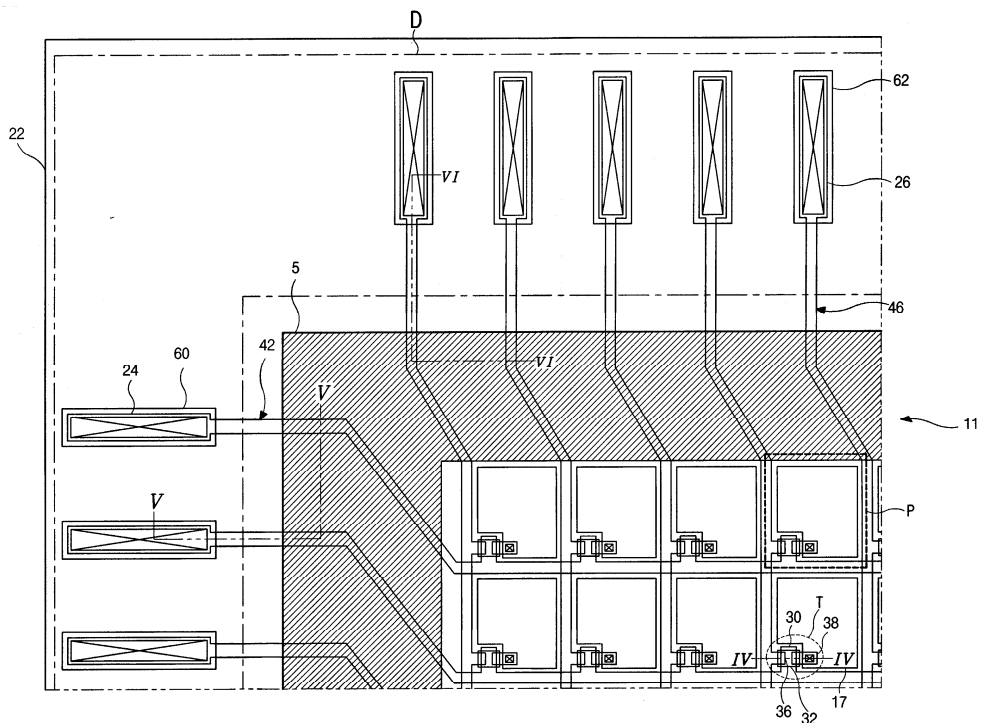
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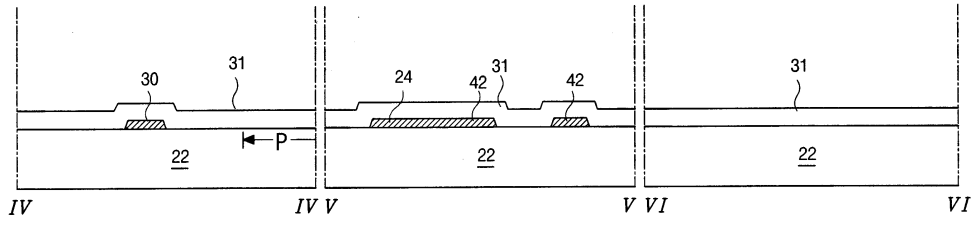
2



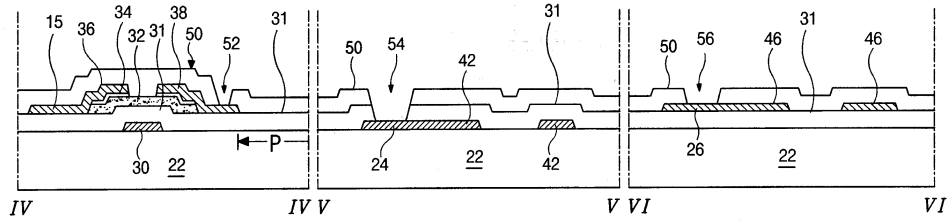
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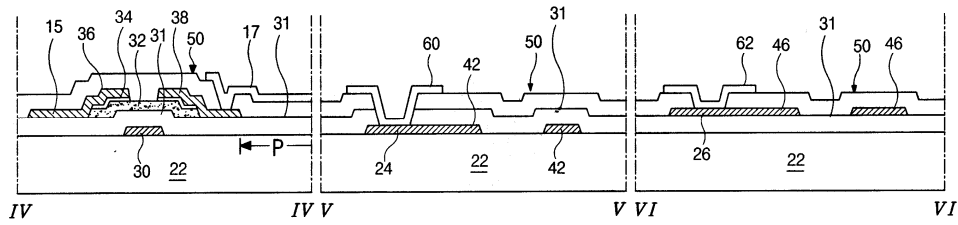
4a



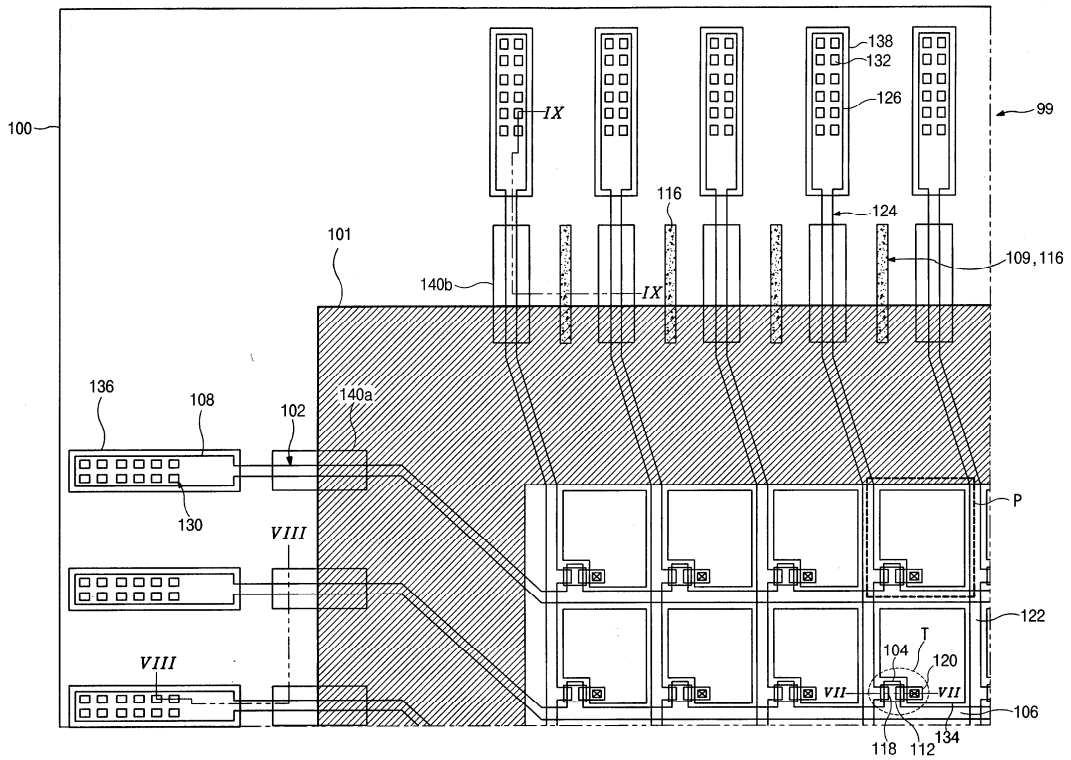
4b



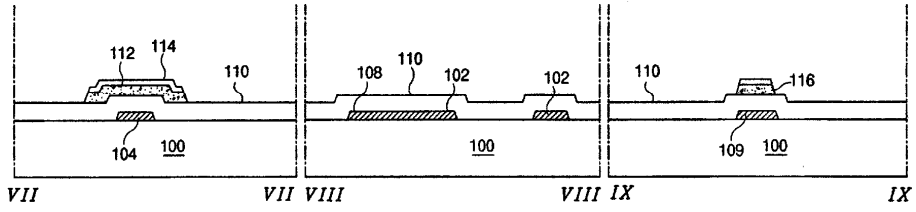
4c



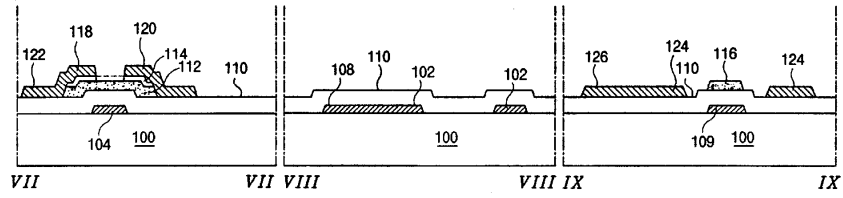
5



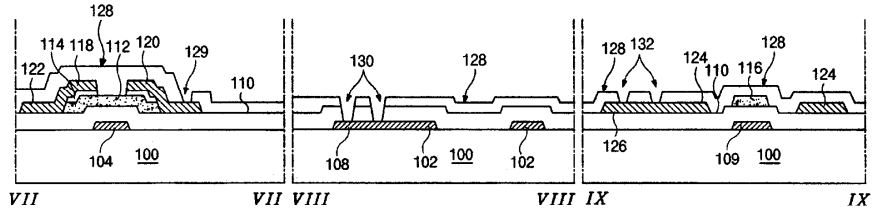
6a



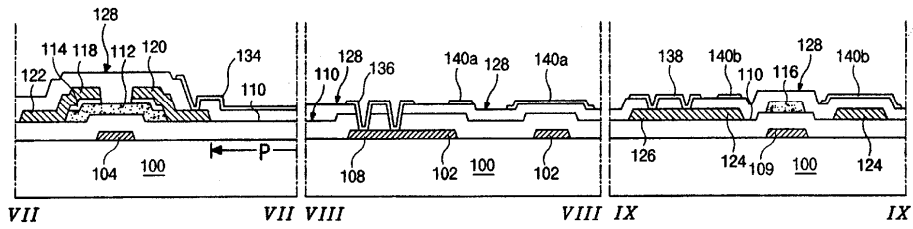
6b



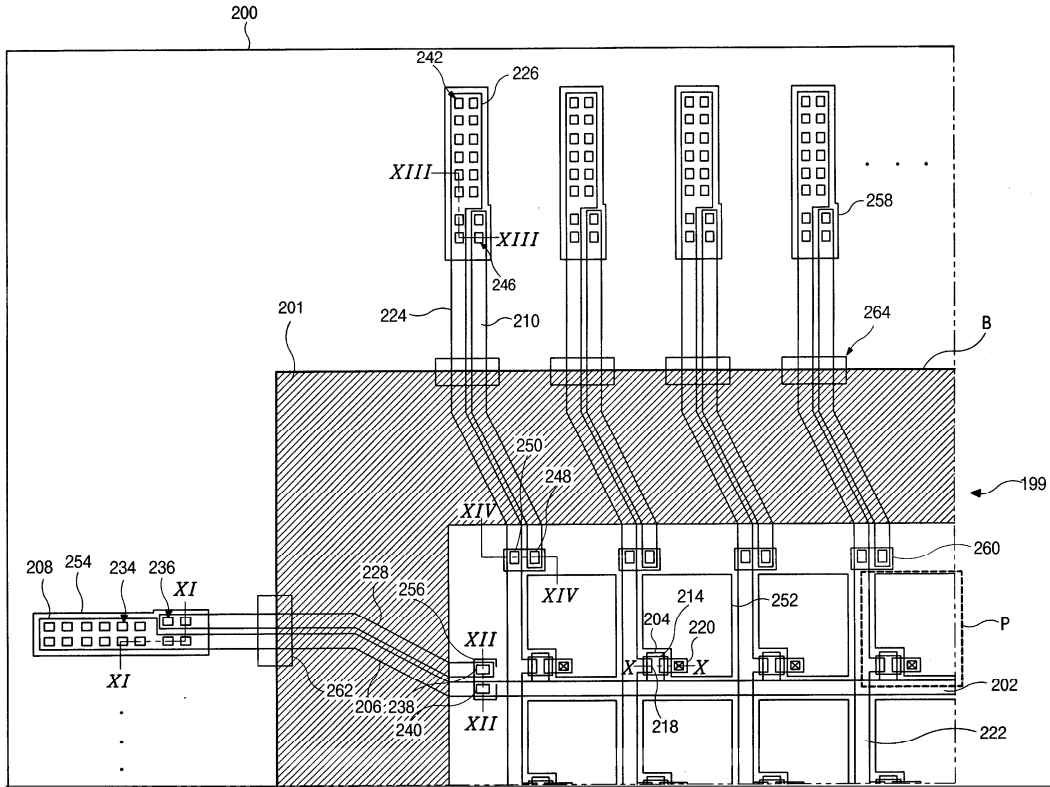
6c



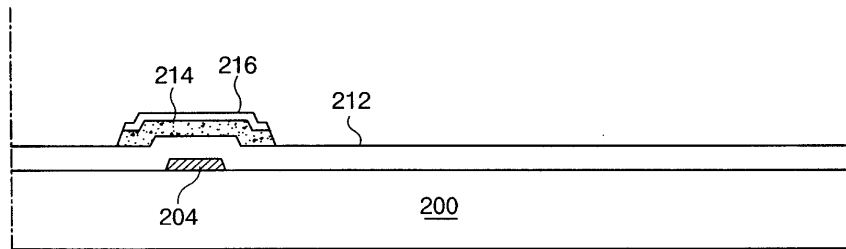
6d



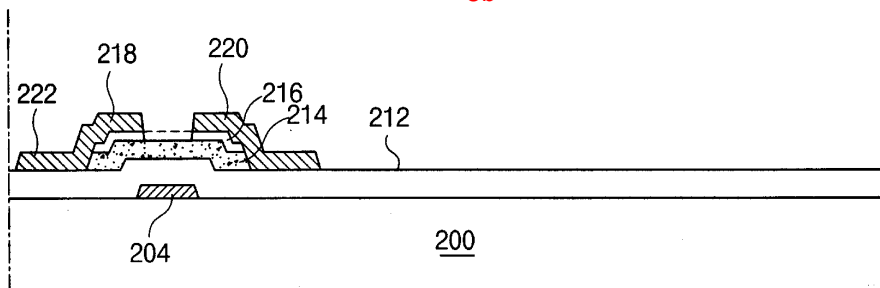
7



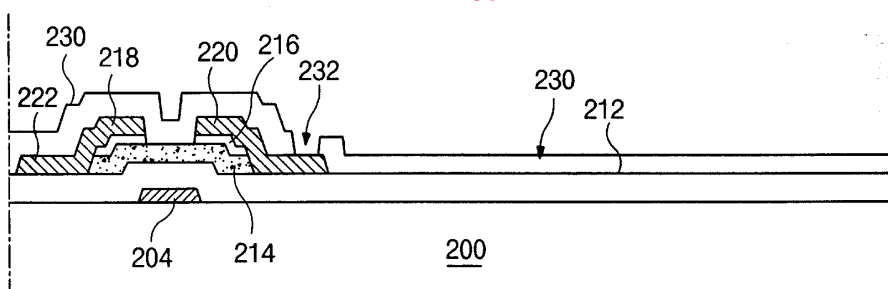
8a



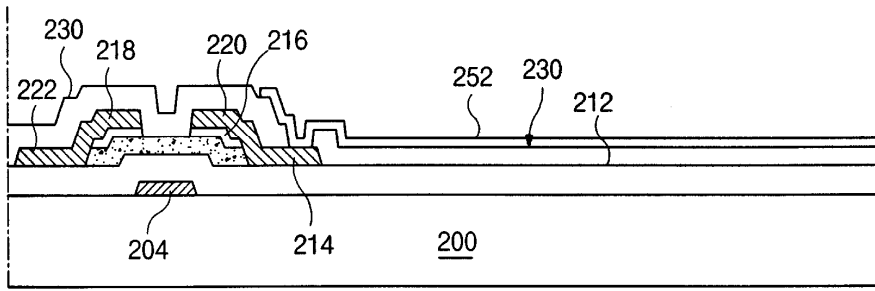
8b



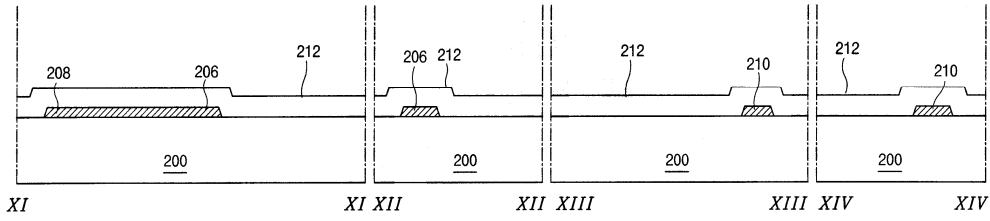
8c



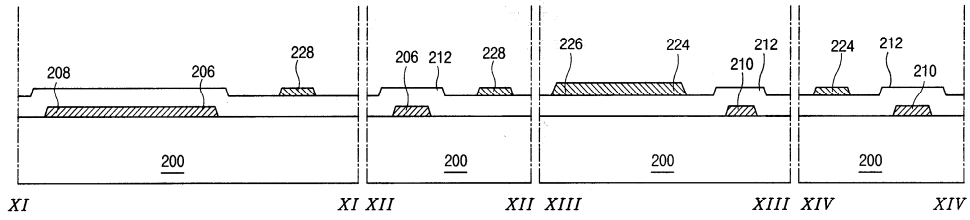
8d



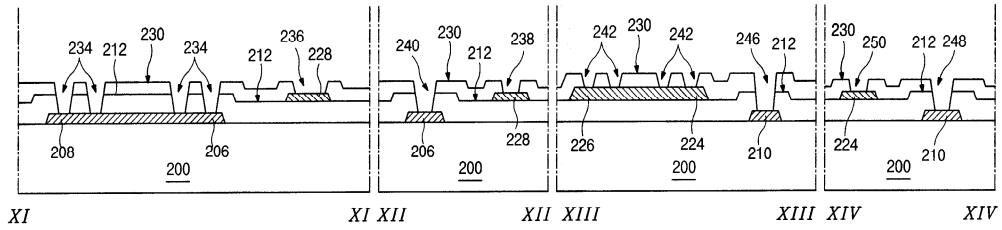
9a



9b



9c



9d

