

(45)
(11)
(24)

2004 04 03
10-0426031
2004 03 24

(65)
(43)

10-2003-0058150
2003 07 07

307-801

(72) 가
1494-6

(74)

(54)

1

가 가 가 . , 7 8

가

5

1
2
3a 3g
4
5 1
6a 6f 1
7 2
8a 8f 2

< >

110 : 111, 114 :
112, 116 : 113, 115 :
120 : 121, 122 :
130 : 1 140 : 2
151 : 152 :
160 : 1 161, 162, 163, 164, 165 :
171 : 1 172 : 2
173 : 2 180 : 2
181 :

(cathode ray tube : CRT)

가 (flat panel display) 가 (liquid crystal display)
ay) (plasma display panel), (field emission display),
(: electroluminescence display(ELD)) 가

(electroluminescence : EL)

(inorganic)

(organic electroluminescence display : OLED

ELD)

(contrast ratio)가

(μ s)

5V

15V

가
LED(organic light emitting diode : OLED)

LE

(active matrix)

LED(active matrix organic

LED : AMOLED)

LED

(switching)

(4)

(driving)

(5),

(storage capacitor)(6),

(7)

(4)

(5) p

(4)

(1)

(2)

(4)

(5)

(5)

(7)

(anode)

(5)

(power line)(3)

(7)

(cathode)

(6)가

(5)

, (1) 가 가 (4)가 (on) , (2) 가
 (5) (5)가 (7)
 (6) (4)가 (off) ,
 (5) LED 2
 , (10) (island) 가 (11, 12, 13, 14, 15, 16)
 , (11, 12, 13, 14, 15, 16) (11, 14)
 (12, 13, 15, 16)
 , (11, 12, 13, 14, 15, 16) (20) , (11, 14)
 (30) 1 2 (21, 22) , (30)
 (21, 22) (30) , (30)
 (20) 1 (12) 2 (15) 2 (16) 1
 3 (30a, 30b, 30c) 가 .
 (30) 1 (41) 1 (30a) (41) 2 (42) 2
 (43) (42) 2 (30b) 2 (15) , 2 (12) , 2 (43) 3 (30c)
 2 (16) 1 (13) 1 , 1
 (41) 2 (22) , 1 (13) 1 , 1
 , 2 (43) 1 (1 3) , 2 (43)
 2 (22) (Cst) . , 2 (43)
 , 1 (21) (41) () 1
 (1 4) , 2 (22) (43, 43) 1 ()
 1 5) .
 , 1 (41) 2 (42) 2 (43) 1 (50) ,
 1 (50) 2 (42) 4 (50a) 가 .
 , 1 (50) (60) (60) 2 , (60)
 4 (50a) 2 (42) , (60) (60) 2 (70) (60)
 , 2 (70) (60) (bank)(71) 가 .
 3a LED 3a 3g 가
 (17, 18) , (10) (17, 18)
 (buffer layer :)
 , 3b (17, 18) (20) ,
 2 (22) . (22) (11, 14) (11, 14)
 (3a 17, 18) (12, 13, 15, 16)
 , 3c (21, 22) (30) , 3
 1 3 (30a, 30b, 30c) , 1 (30a) 1 (12) , 2
 (30b) 2 (15) , 3 (30c) 2 (16) .
 , 3d 4 (41) 1 (30a) 1
 2 , 1 (12) , 2 (42) 2 (30b) 2 (15) , 2
 (43) 3 (30c) 2 (16) . 2 (43) 2 (22)
 (Cst) , 1 1 (13) 2 (22)
 () 2 (43) .
 , 3e 1 (41) 2 (43, 42) 1 (50)
 , 5 2 (42) 4 (50a) .
 , 3f 6 4 (50a) , 4 (50)
 a) 2 (42) (60) . (60) LED
 , 3g (60) (60) 2 (70) 7 ,
 (60) (71) LED , (71)
 LED LED
 LED
 (kick-back voltage)

(A)

(d)

7,000

LED

가

가

가

가

LED

가

4

가

(21, 22)

1

(31)

1

(31)

2

(22)

(80)

2

(32)

2

(32)

1

(31)

1

(20)

1

4

(32a, 32b, 32c, 32d)

가

1

(32a)

1

(12)

2

(32b)

2

(15)

3

(32c)

(80)

4

(32d)

2

(16)

(41, 42, 43)

1

(41)

1

2

(32a)

1

(12)

2

(42)

2

(32b)

2

(15)

2

(43)

3

4

(32c, 32d)

(80)

2

(16)

LED

1

2

(31, 32)

1

(31)

3,000

2

(32)

4,000

가

1

2

(31, 32)

2

(22)

1

2

(31, 32)

(80)

(Cst)

가

LED

가

LED

7

가

4

가

가

8

[illegible]

[illegible]

, 1 (Cst1) (152) (130, 140)
 (Cst1) 1 2
 (140) (Cst1) 가
 (Cst1) (151) 가
 (152) (151) (171, 182, 1 LED)
 73) 6a 6f (110) 1
 6a 1 2 (117, 118) 가 (110)
 (110) (117, 118)
 ()
 6b (120) 2
 1 2 (121, 122) (121, 122)
 (6a 117, 118) (111, 114) (111, 114)
 (112, 113, 115, 116) (120) 1,500
 가 6c (121, 122) 2,500 1
 (130) 1,500 2 (140) (152)
 , ITO 3 (122) (Cst1)
 (Cst1) (152) 1 2 (130, 140)
 6d (151) (152) 4,
 000 120), 1 2 1 (160) 4 (161, 162, 163, 164, 165)
 (130, 140) 1 5
 6e 1 (160) 5
 (171) 2 (172) 2 (173) 1
 (160) 1 (113) 1 2 (173)
 , 2 (173)
 1 (171) 1 (161) 1 (112)
 (172) 2 3 (162, 163) (151) 2 (115)
 2 (173) 4 5 (164, 165) (152) 2 (116)
 6f 1 (171) 2 (172) 2 (173)
 2 (180) 6 1 (160)
 (151) (181)
 1 6 LED
 1
 2 LED 7 8a 8f
 가 2 (211, 212, 213, 214, 215, 216) (210) (211, 212, 213, 214, 215, 216)
 214, 215, 216) (211, 214)
 16) (211, 212, 213, 214, 215, 216) (220) (21
 1, 214) (230) 1 2 (221, 222)
 (220) 1,500 가
 (221, 222) 1 (230) 2 (240) 2,500 (240) 1,500 가 1
 (230) 2 (240)
 , 2 (240)

, 2 (240) ITO (251) (252)
)
 , (251) (352) 1 (260)
 1) 3 4 1 (260) 1 5 (261, 262, 263, 264, 265) 가 1 (26
 (263, 264) (220) 1 2 (230, 240)
 , 1 (261) 1 (212) , 2 (262) (252)
 , 3 (263) 1 (215) , 4 (264) 2 (216)
 , 5 (265) (251)
 , 1 (260) 1 (271) 2 (272, 273)
 1 (260) 1 (213) 1 2 ()
 272) , 2 (273)
 , 1 (271) 1 (261) 1 ()
 212) , 2 (272) 2 3 (262, 263) (252) 2
 (215) , 2 (273) 4 5 (264, 265) 2 (216)
 (251) 2 (252) 1 (213)
 (Cst2) , 2 (222) 1 (213)
 1 (221) 1 (271) 가
 , 2 (222) 2 (272, 273) 가
 , 1 (271) 2 (272, 273) 2 (280)
 2 (280) 1 (260) (251) (281) 가
 , 2 (213) (252)
 (Cst2) , (Cst2) (220) 1
 2 (230, 240) , (220) 가 1 2 (230, 240)
 가 , (252) (240) (Cst2)
 가 , 2 (251) 가 8a 8f
 8a 2 , LED (210) 8a 8f 1
 1 2 (217, 218) , 가 (210)
 , (217, 218) ()
 , 8b (220) 2
 1 2 (221, 222) , (221, 222)
 (8a 217, 218) , (211, 214) (211, 214)
 (212, 213, 215, 216) , (220)
 , 1,500
 , 8c (221, 222) 2,500 1
 (230) , 1,500 2 (240)
 , ITO , 3 (251) (252)
 , (252) 1 (213) 1 (213)
 (Cst2) , (Cst2) (220) 1
 2 (230, 240)
 , 8d (251) (252) 4,
 000 1 (260) , 4 ()
 220), 1 2 (230, 240) 1 5 (261, 1262, 263, 264, 265)
)
 , 8e 1 (260) 5
 1 (271) 2 (272) 2 (273) , 1
 (260) 1 (213) 1 2 (272)
 , 2 (272)
 , 1 (271) 1 (261) 1 (212) , 2
 (272) 2 3 (262, 263) (252) 2 (215)
 2 (273) 4 5 (264, 265) (252) 2 (216)
 , 8f 1 (271) 2 (172) 2 (173)
 2 (280) , 6 1 (260)
 (251) (281)

가

(57)

1.

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1 2

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9.

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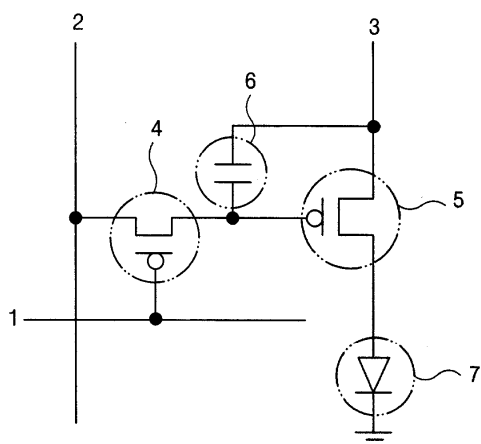
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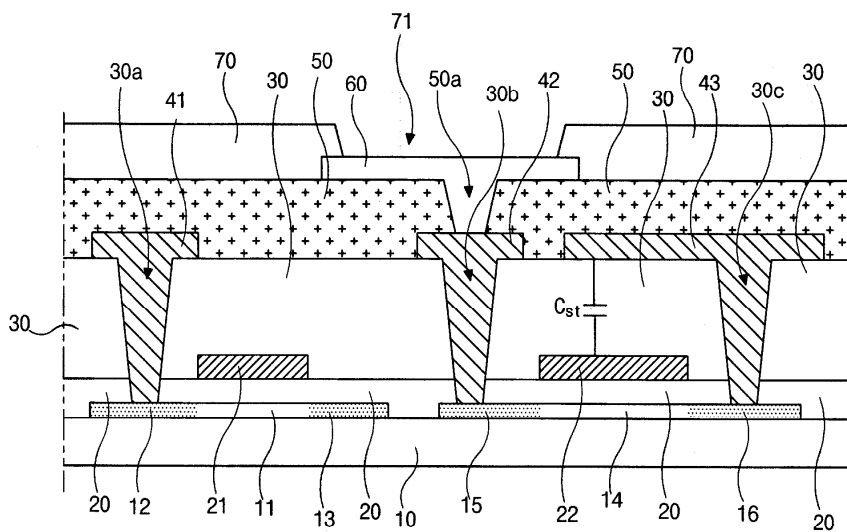
;

1 2 1 2 1
 2 ;
 1 2 1 ;
 1 ;
 1 ;
 , 1 2
 가 1 ;
 ;
 1 1 , 1 1 ;
 1 , 2 2 , 2
 ;
 1 2 가
 2 .
10.
 9 , 2
 .
11.
 9 , 1
 .
12.
 10 11 ,
 .
13.
 12 , - - - -
 .
14.
 10 11 , 2
 .
15.
 10 11 , 2
 1
16.
 15 ,
 2 .

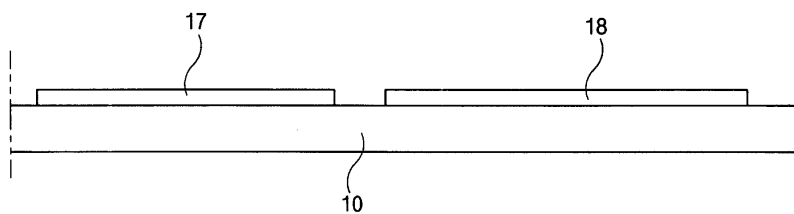
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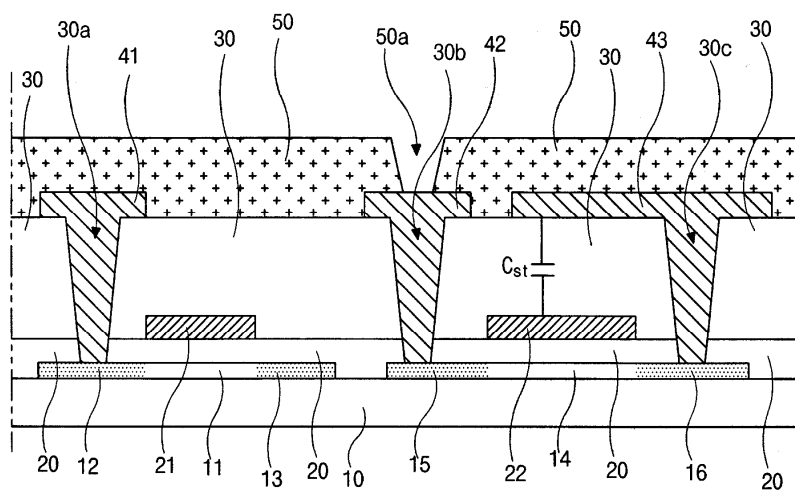
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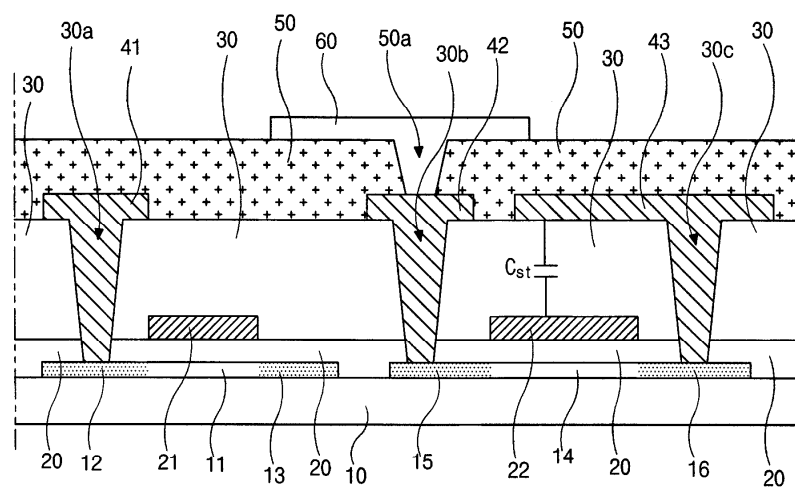
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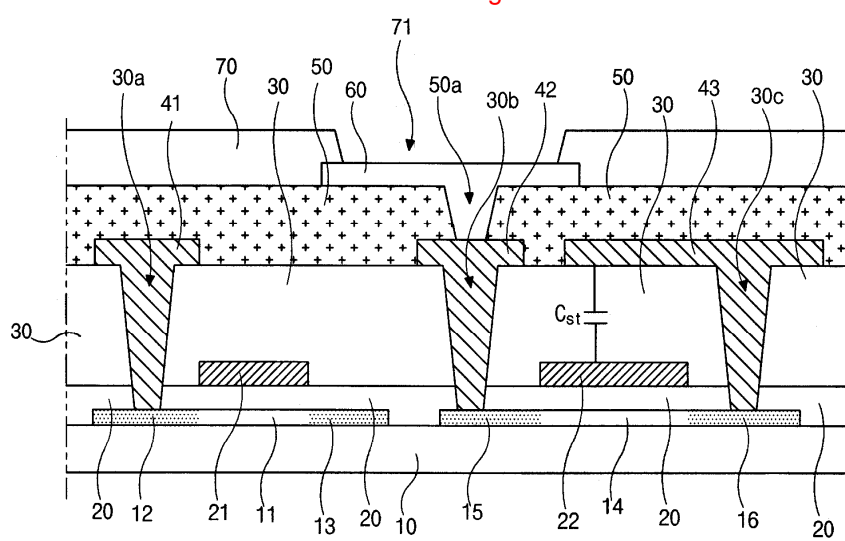
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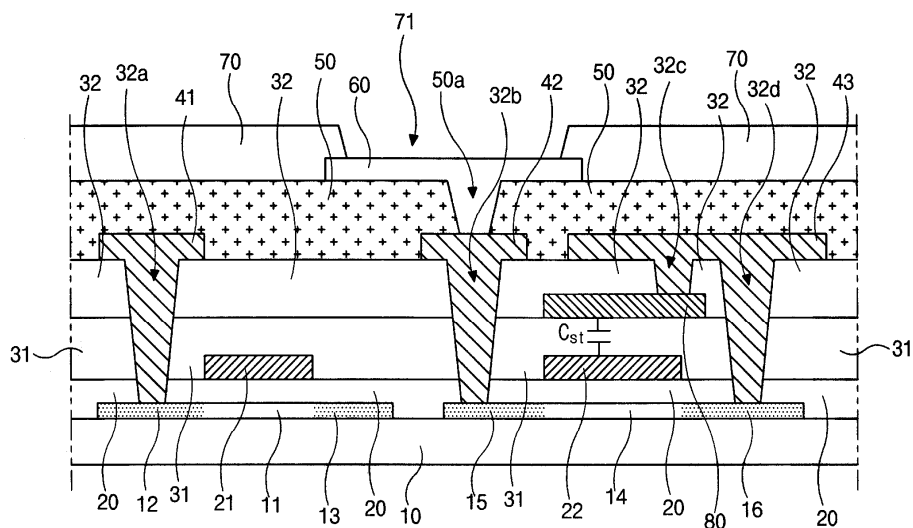
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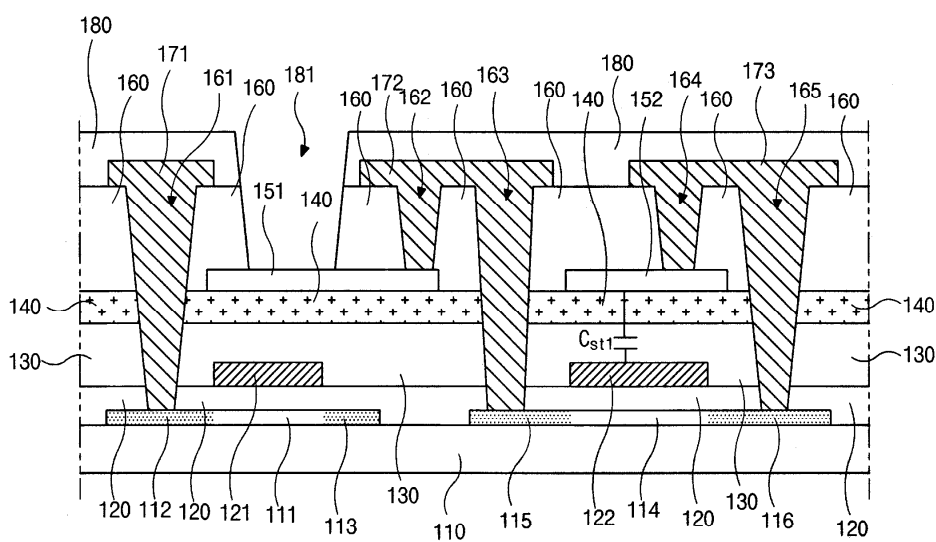
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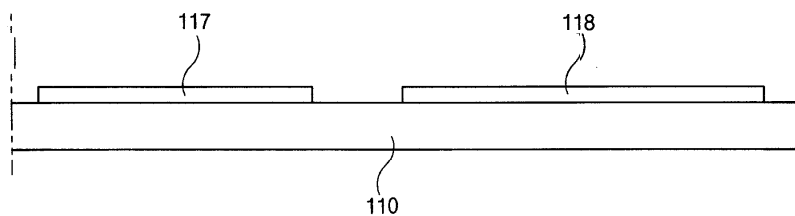
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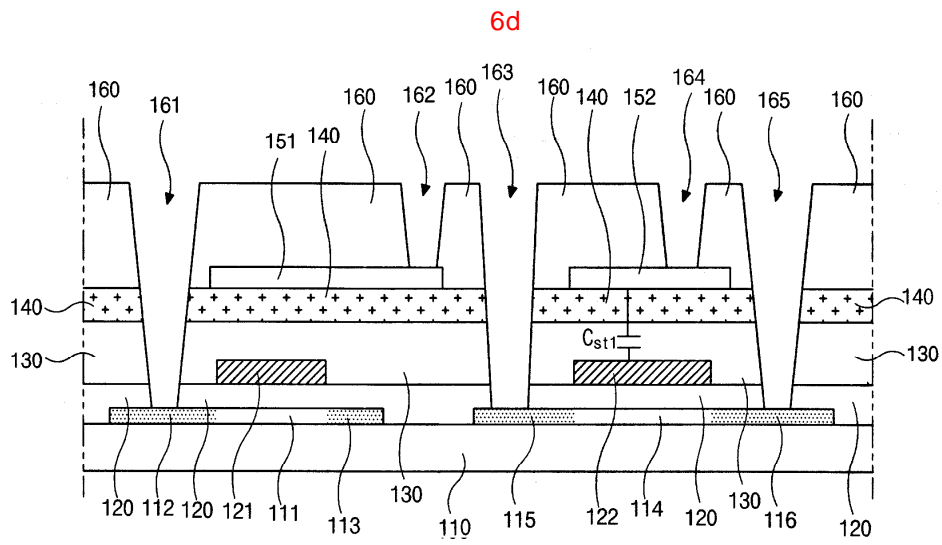
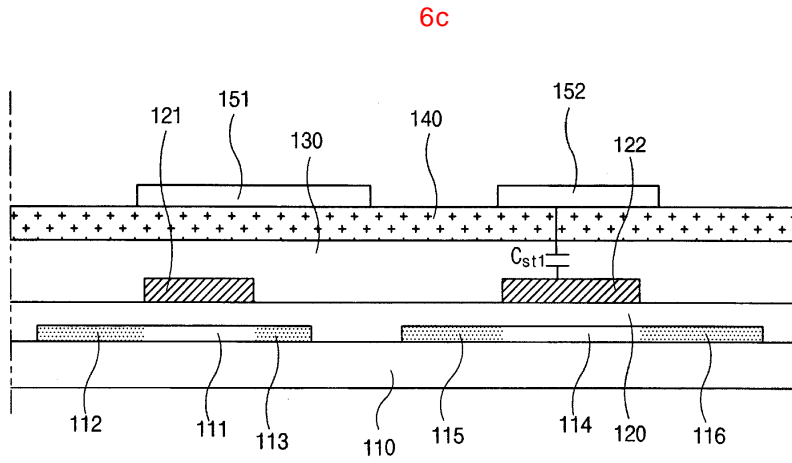
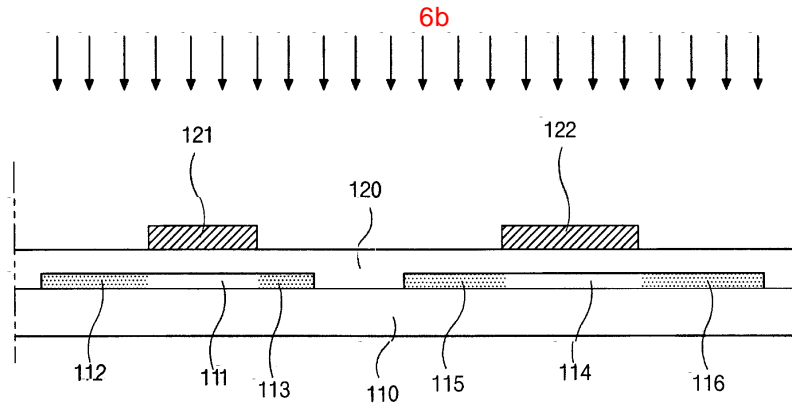


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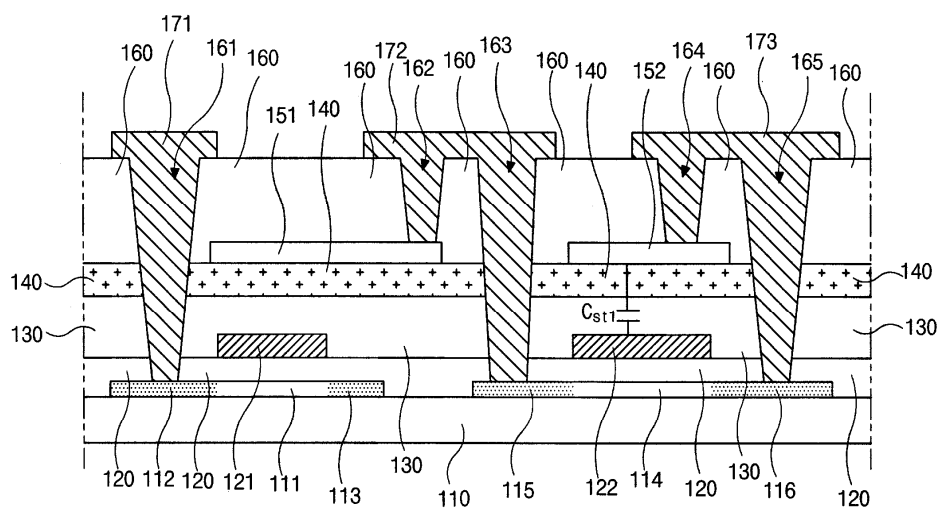


6a

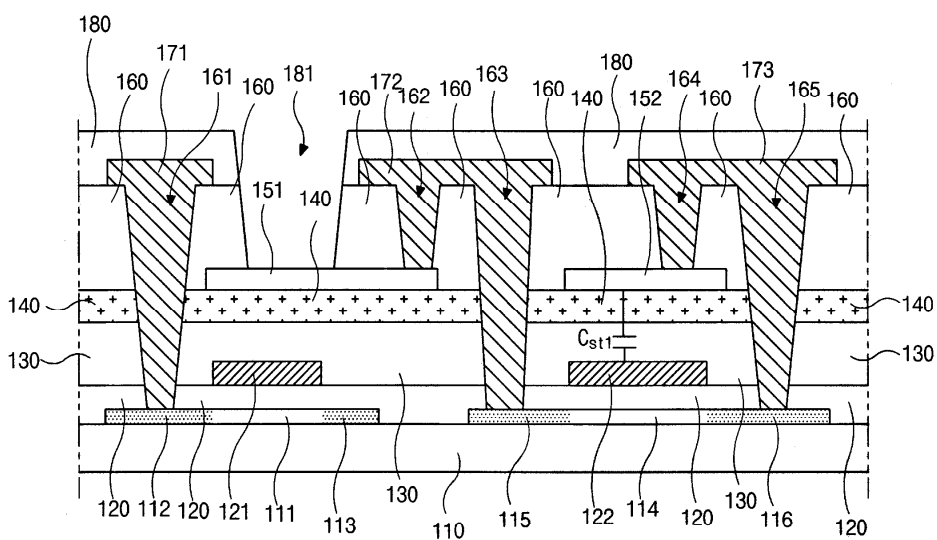




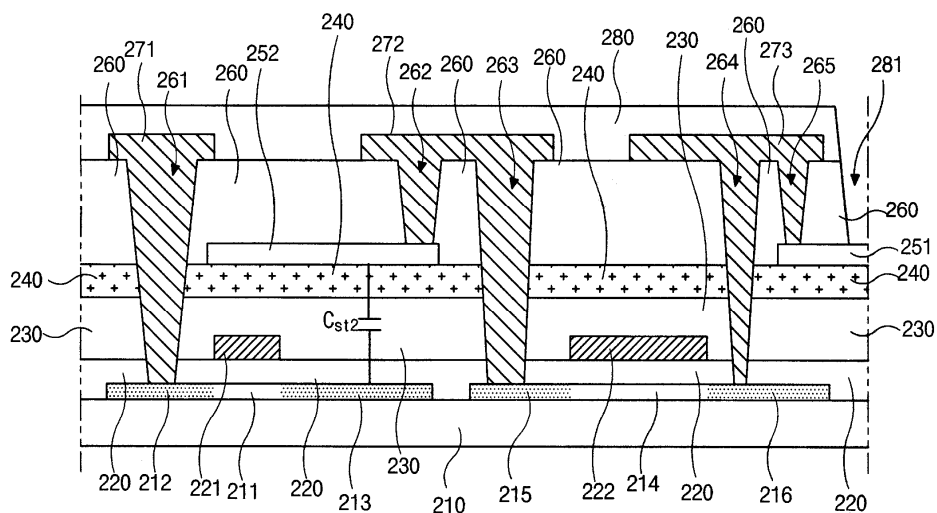
6e



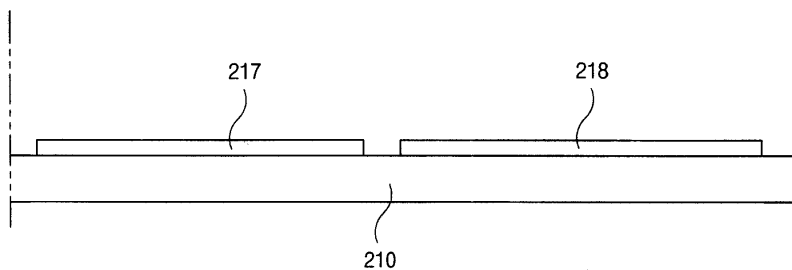
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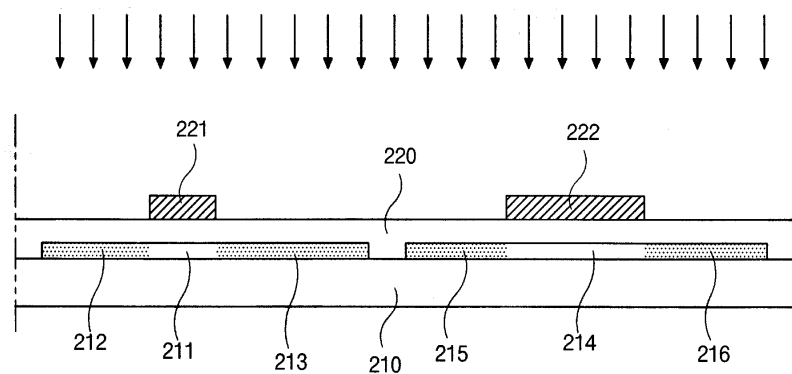
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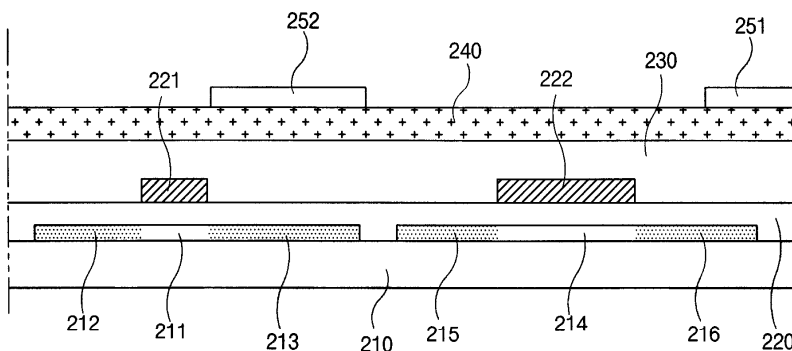
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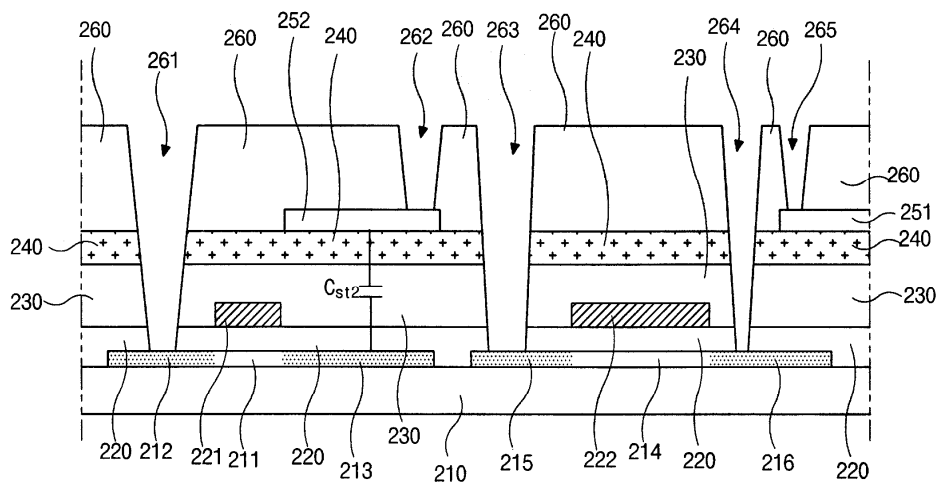
8b



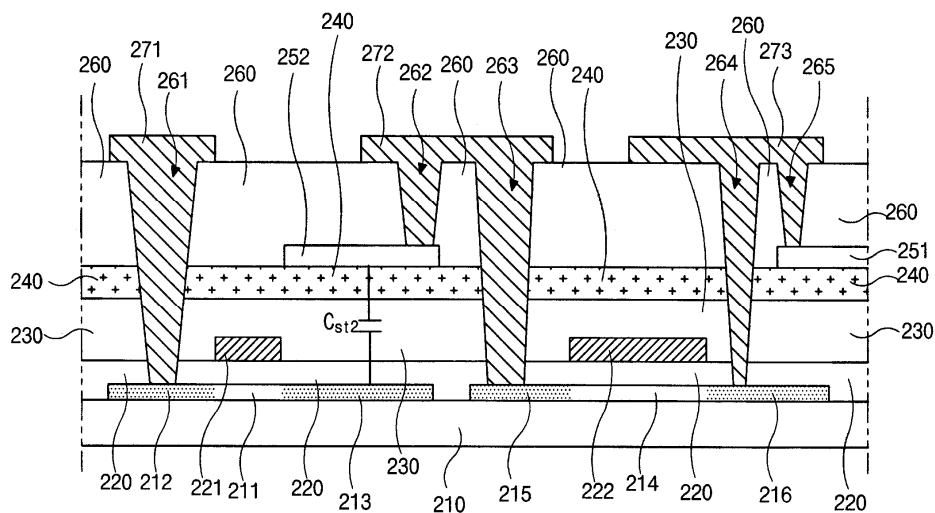
8c



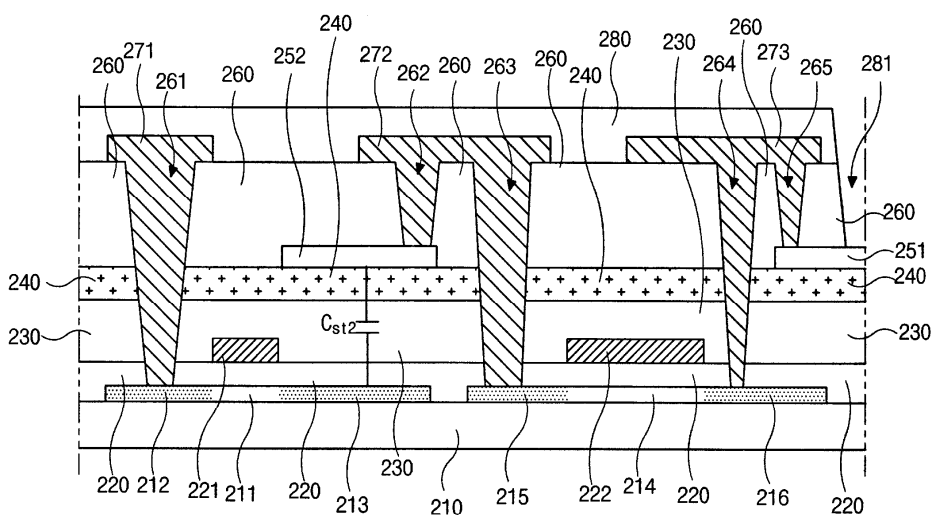
8d



8e



8f



专利名称(译)	有源矩阵有机电致发光器件及其制造方法		
公开(公告)号	KR100426031B1	公开(公告)日	2004-04-03
申请号	KR1020010088537	申请日	2001-12-29
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG显示器有限公司		
当前申请(专利权)人(译)	LG显示器有限公司		
[标]发明人	PARK JAEYONG 박재용 YOO JUHNSUK 유준석		
发明人	박재용 유준석		
IPC分类号	H05B33/26 H01L27/32		
CPC分类号	H01L27/3265 H01L27/3258 H01L27/1255		
代理人(译)	贞媛KI		
其他公开文献	KR1020030058150A		
外部链接	Espacenet		

摘要(译)

一种有源矩阵有机电致发光显示 (ELD) 器件，包括衬底，在衬底上由多晶硅形成的第一和第二有源层，第一源区和漏区以及第二源区和漏区，与第一有源区相邻的第一源区和漏区层和与第二有源层相邻的第二源区和漏区，第一和第二有源层上的栅极绝缘层，栅极绝缘层上的第一和第二栅电极，第一和第二栅电极上的第一中间层，第一夹层上的阳极和电容器电极，阳极和电容器电极上的第一钝化层，第一钝化层上的电源线，第一钝化层上的第一源和漏电极，第一源电极是连接到第一源区和第一漏电极连接到第一漏区，第二源区和漏区第一钝化层上的电极，第二源极连接第二源极区，电源线和电容器电极以及第二漏极连接第二漏极区和阳极，第二钝化层连接第二漏极层第一源极和漏极以及第二源极和漏极，第二钝化层具有暴露阳极的堤。

