

(19)
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2004 05 04
10-0430234
2004 04 22

(21) 10-2001-0048773
(22) 2001 08 13

(65) 10-2003-0014885
(43) 2003 02 20

(73) .

20

(72) 가 307 801

(74)

(54)

1

가

가

6

1 2 가
가 .
2a 2b

$$\frac{3}{4a} \cdot \frac{2b}{4l},$$

5 4 가 가 .

6
7

**

Gn: n

Dm: m
 Pm: m
 210,220: 1, 2
 230,240: 1, 2
 250:
 211,221,231,241:
 212,222,232,242:
 213,223,233,243:
 260:
 LASER-BEAM:
 SCAN:
 ACTIVE LINE: 1, 2

가 .

minescence : , EL) (electro lu
 (active layer)

, EL 가 (cathode ray tube : CRT) (liqui
 d crystal display : LCD) 가 ,
 (car navigation system : CNS),

, 가
 (hole)
 가 ITO(indium-tin-oxide) (sputtering)
 가
 (+),(-) 가 ,
 가
 가
 , 1 2 가 가
 (A)
 (Gn) , m (Dm) m n (Pm)
 1, 2 (10,20) (30)가 m (Gn) (Dm) (30)
 (30) 1, 2 (10,20)가 (Gn)
 1 (10) (11) , (Dm) (12) , 2 (20)
 (13) , (30)
 2 (20) 1 (10) (13) 2
 1) , (30) (+) (22) , (Pm) (23) (30)
 , (30) 2 (20) (22) (+) , (VS S) (-) , (+) (-) (31) (31)
 , (Pm) 1 (10) (13) 2 (20) (21) (40)가

가 가 , 1 (10)
 가 가 , 1 (10)
 (11) (Gn) (Dm) (20) (21)
 (turn-on) (12) (13) (Dm) 2 (20) (21)
 (21) 가 (21) 가 2 (20) - 가 ,
 (21) (30) 가 (Pm) (30) (Dm) 가
 가 가 (40) (Gn) 가 (30) 1 (30)
 (10) , (30) 2 (20)가 ,
 , 2 (20)가 가 ,
 , , 가 ,
 , (amorphous silicon) (poly silicon)
 (photo current)가 (dangling bond) (defect)
 가 100 200
 LPCVD(low pressure chemical vapor deposition) PECVD(plasma enhanced chemical vapor deposition)
 con) 500 (intrinsic amorphous sili
 가 (metal induced crystallization : MIC)
 (solid phase crystallization : SPC)
 (laser annealing) 250 가
 가 (network) 600 (furnace)
 (phase) , (grain)
 가 가
 250 가
 2a (51) (buffer layer) (52)
 3000 (53) PECVD (53) 500

53) , 2b (53) (scanning) (

(beam) 200 250mm, 0.25 1.5mm

(53)

(53)

3 , 1 (61) , 1 (61) 90%

2 (62) (53)

4a 4l

4a (101) (buffer layer) , (102)

4b (102)

(103) (104)

4c (103) (104) (102)

(105) (106) (103)

(106) (105)

4d (103) 가

(107) (108)

(103) 가 (type)

n (P) , p (B)

(107) (108) 1

(photoresist) 2

LDD(lightly doped drain)

4e (104) (102) 1 (107) (108),

4f (109) (109) (110)

(overlap) (110) (104), 1 (104) 1 (109) (110)

(110) (Pm)

4g (111) (110) 1 (109) 2 가

2 (111) 1 (107) (108), 1 3 (C1 C3)

4h (107) (112) , 1 (C

1) (112A) 2 (111) (112B) (10

8) (110) 3 (C3)

4i (113) (107)

(112A) 가 4 (C4)

4j (114) 4 (C4) (107) (114) (113)

(114) (113)

4k (114) (114) 가 (113) (113)

115) (114) (114) 가 가 가

4l (115) (113)

(116)

2 가

가 가

가 가

3 가

(current mirror)

5 가

5 n 4 가 가 m (Dm)

m (Pm) (Gn) 1, 2 (210,220), 1,

2 (230,240), (210) (250)가 (Gn)

1 (211) (Dm) (212) 1

(230) (232) (213)

2 (221) 1 (220) (Gn) (231) (222) 2

(240) (241) (223)

1 (231) 1 (230) 2 (220) (222) (23

2) (Pm) (233) (210) (213) (220) (223)

2 (241) (240) 2 (242) (250) (+)

(243) (250) 2 (240) (243) (+)

(VSS) (-) (+) (-) (251)

(223) 2 (Pm) (240) (241) 2 (220) (260)가

(Gn) 가 가 1 가 1 (210)가 (210)

(Dm) (213) 1 (230) (211) (232) (231)

(212) (220) (220) (231) (Gn)

가 가 2 (230,240) (232) (231) (233) (232)

1 (Pm) 1 (230) 가 (Pm) 2

(240) (242) (243) (250) 가 (250)

(250) (Dm) (Dm)

가

가 (260)

(Gn) 가 (Gn) 가

(250)

2 , 2 가 가

가

2

가 / 2 1 (shot

) 200 250mm, 0.25 1.5mm

가

가 ± 5μm

6 , 2 가 2 가

6 , 가 5 (LASER-BEAM) (SCAN) 1, 2 (230, 240) 가 (ACTIVE LINE) 200 250mm, 0.25 1.5mm

(LASER-BEAM)

1, 2 (230,240) 가 (ACTIVE LI

NE) (LASER-BEAM) (SCAN) , 1, 2

(230,240)

(SCAN) 3 (LASER-BEAM)

1, 2 (230,240) , 1, 2

(230,240) (LASER-BEAM)

1, 2 (230,240) (LASER-BEAM) 1

1, 2 (230,240) (LASER-BEAM) 1 가

(ACTIVE LINE) (230,240) ± 5μm 가 (LASER-BEAM) 1

1, 2 (230,240) , 1, 2

(230,240)

(LASER-BEAM) (SCAN)

7 (LASER-BEAM) (SCAN) , 1, 2

(230,240) (LASER-BEAM) 1

1

(57)

1.

가 / 2

1 (shot)

2.

1 , 200 250mm, 0.25 1.5mm

3.

1 , 가

4.

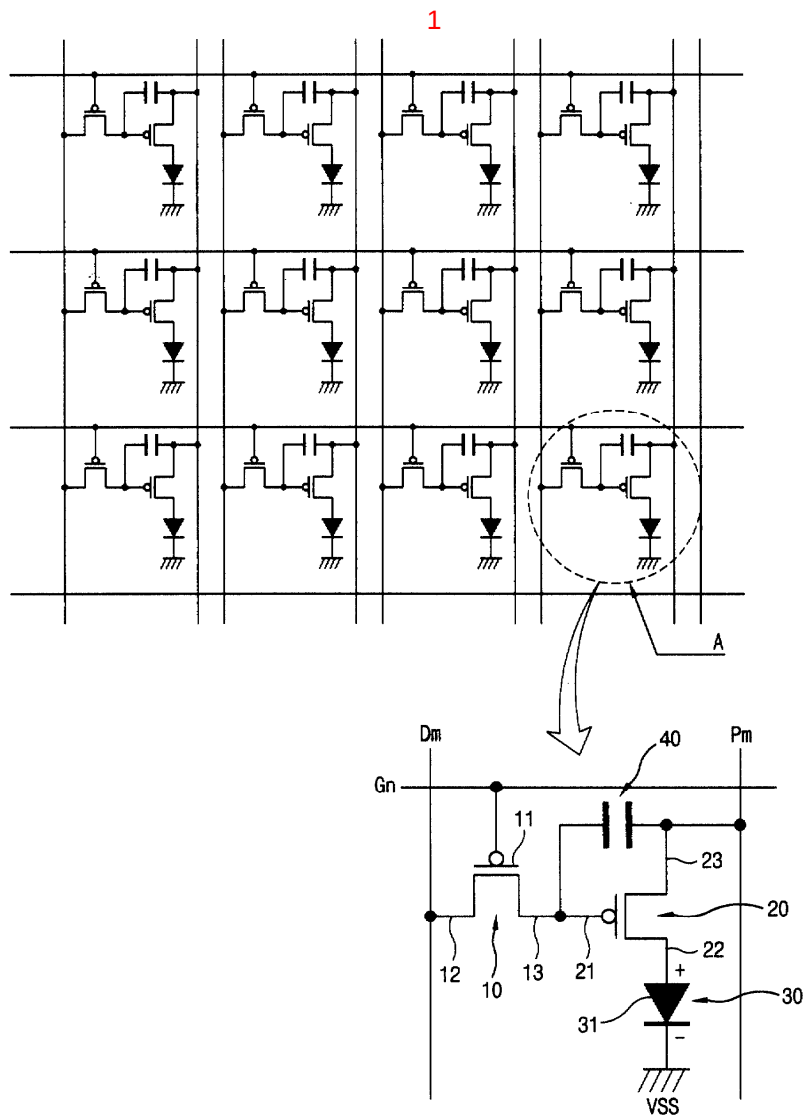
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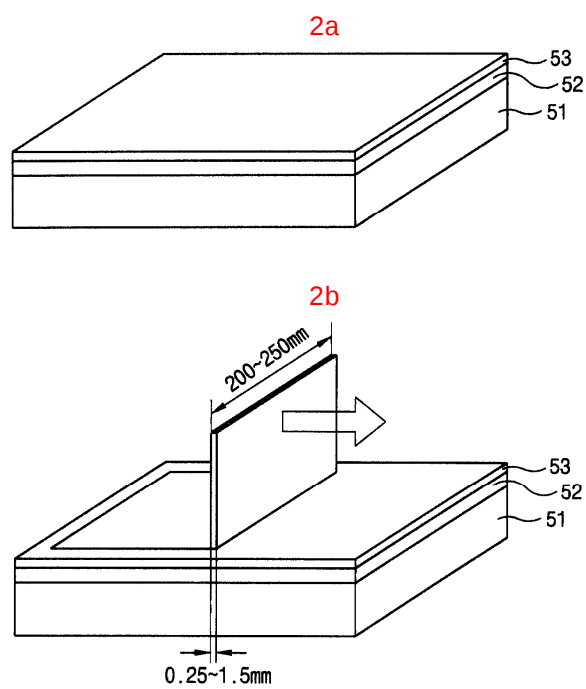
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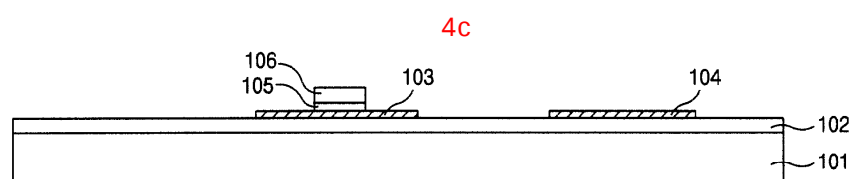
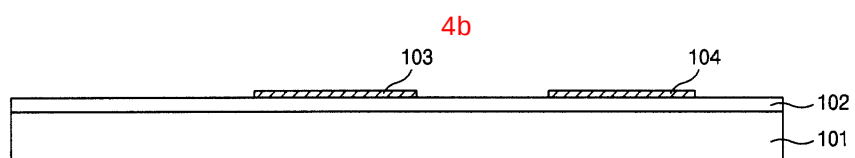
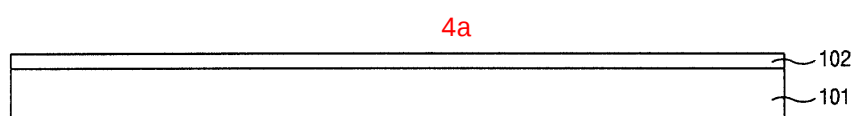
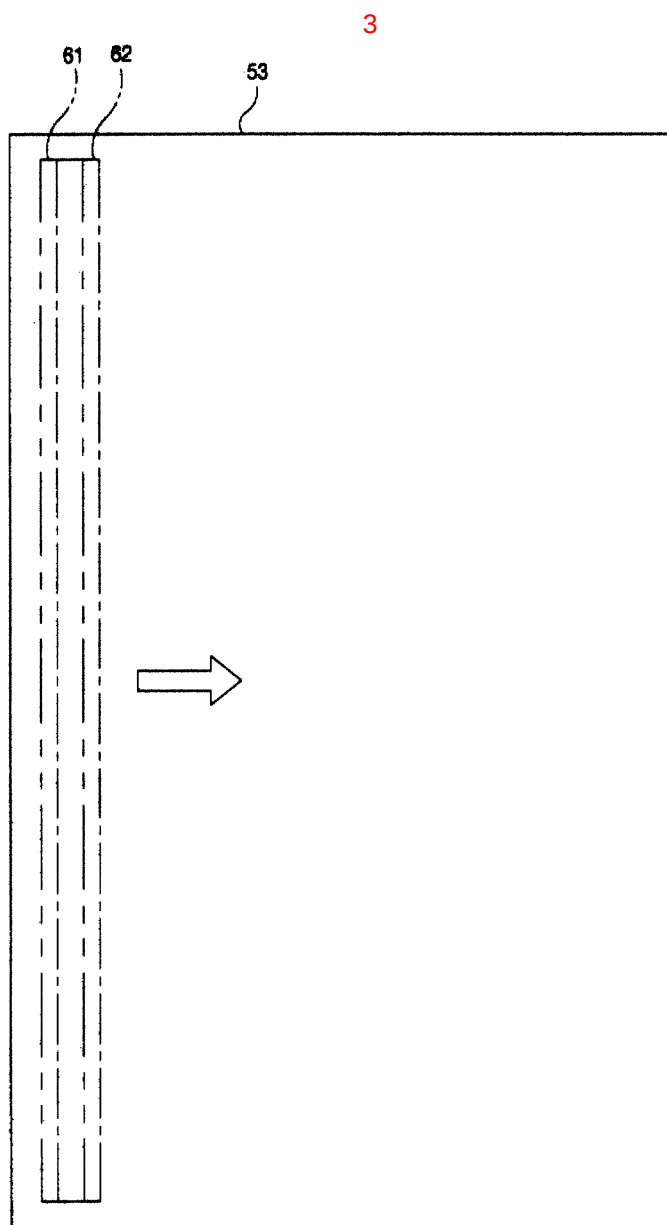
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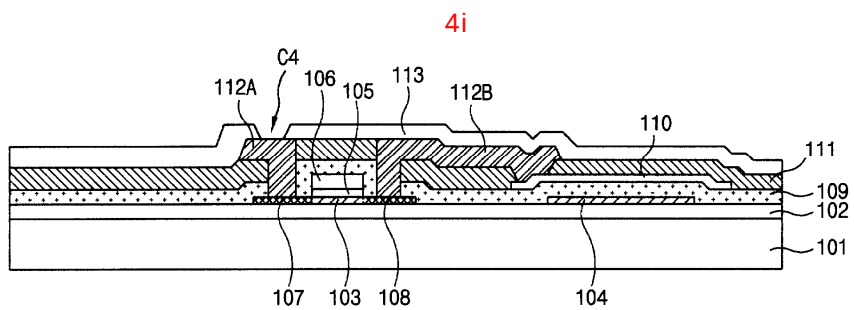
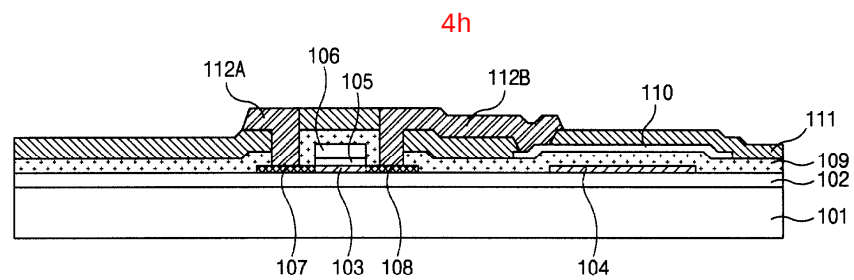
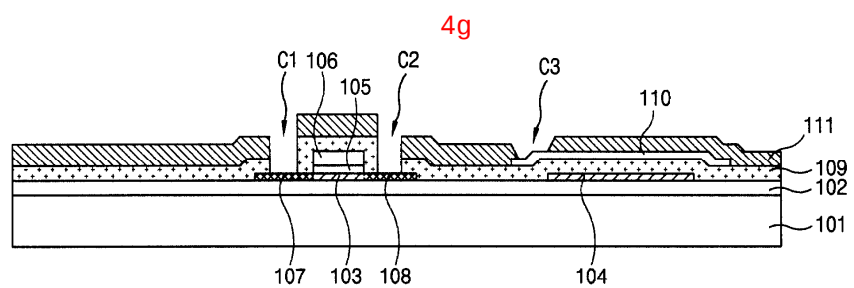
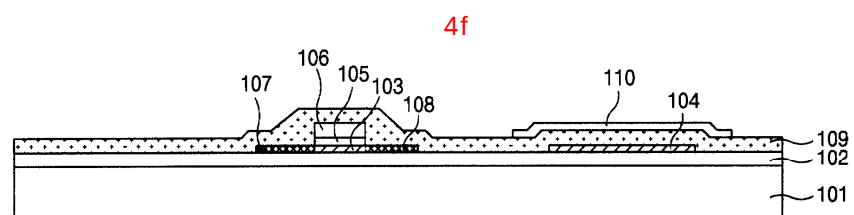
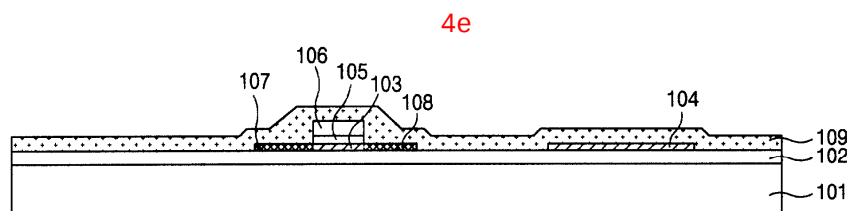
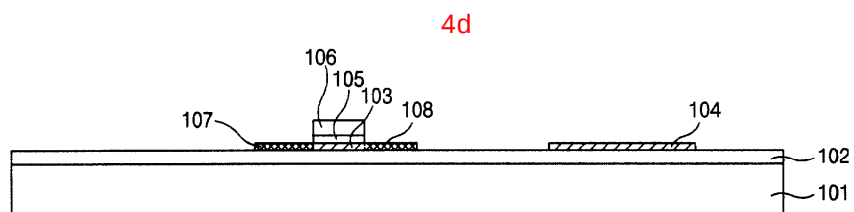
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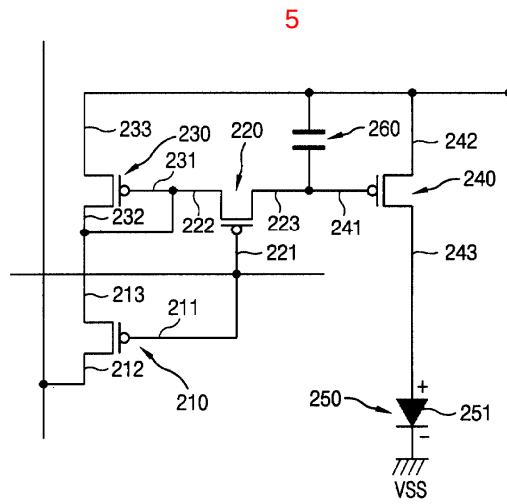
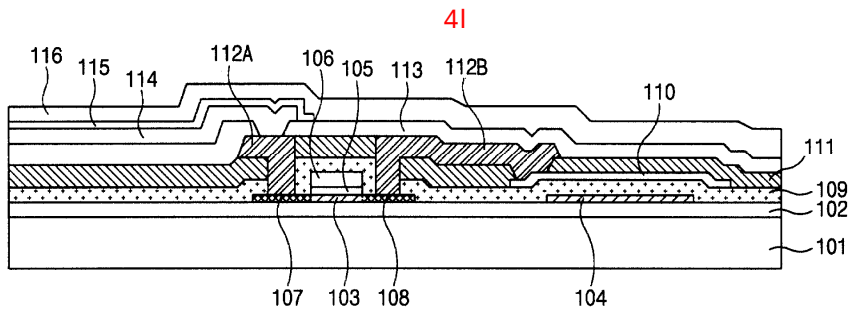
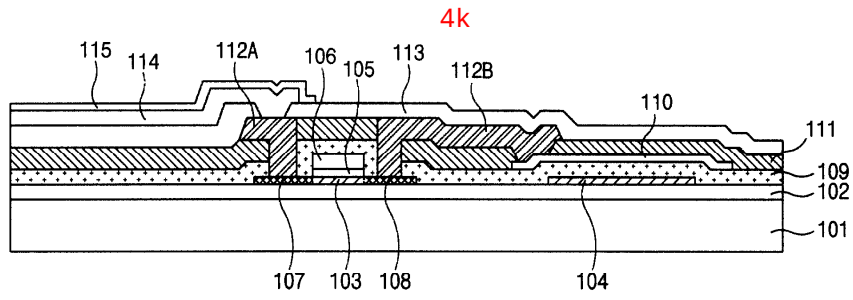
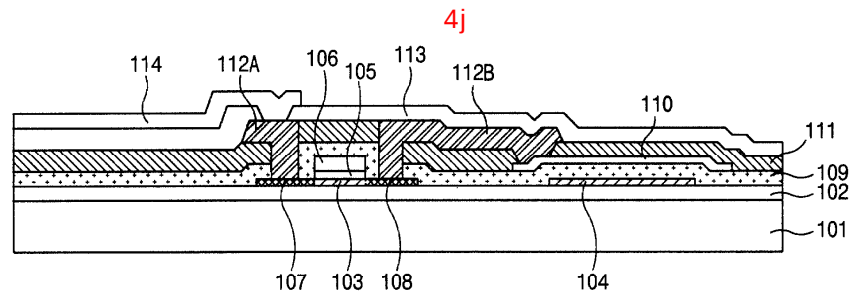
1 가 $\pm 5\mu\text{m}$



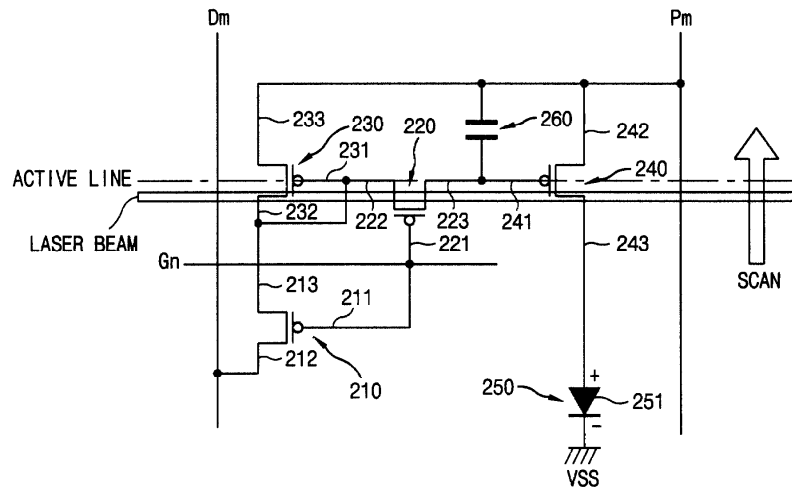




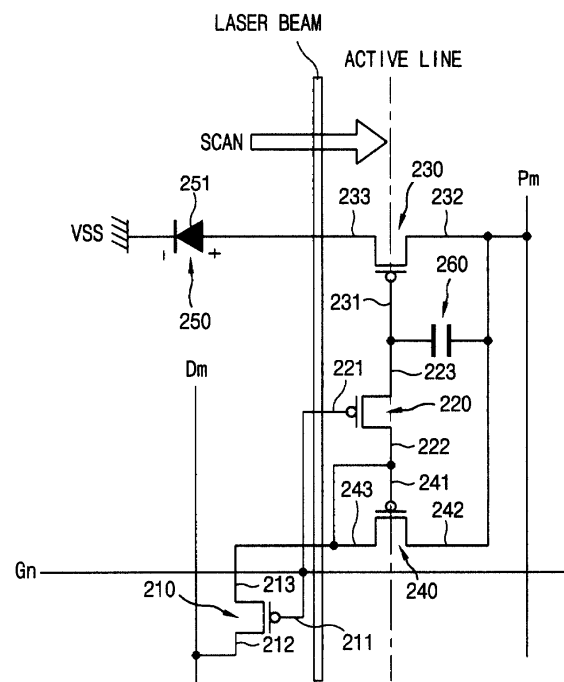




6



7



专利名称(译)	形成有机电致发光显示装置的薄膜晶体管的方法		
公开(公告)号	KR100430234B1	公开(公告)日	2004-05-04
申请号	KR1020010048773	申请日	2001-08-13
[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		
发明人	PARK, JAEYONG		
IPC分类号	H05B33/10		
CPC分类号	H01L27/1285 H01L27/3244		
代理人(译)	PARK , JANG WON		
其他公开文献	KR1020030014885A		
外部链接	Espacenet		

摘要(译)

目的：提供一种形成有机电致发光显示器的薄膜晶体管的方法，以通过最小化薄膜晶体管的电特性的变化使薄膜晶体管的有源层具有均匀的特性。组成：有机电致发光显示器包括两个或多个薄膜晶体管（210），其中栅极绝缘膜，有源层，栅电极（211），源电极（212）和漏电极（213）顺序堆叠/在透明基板上图案化，并通过激光扫描使有源层多晶化。布置成单位像素的薄膜晶体管的有源层通过一次激光束一次多晶化。

