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H05B 33/26

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(22) 2003 05 01

(71) 575

(72) 1630-5

4 305-7

1 107 504

4 983-12

105 504

(74)

•

(54)

R, G, B

2

■

R, G, B

R, G, B

•
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,

;
R, G,
.

B

1

2

,

2

2

,

R

2

2

•

2

1 ,
2 ,
3a 3e 1 ,
4a 4d 2 ,
5a 5d 3 ,
6a 6c , R, G, B ,

* *

200, 400 - 600 : 450 :

320, 421, 511, 611 : R

330, 423, 513, 613 : G

340, 425, 515, 615 : B

530, 630 : 540, 640 :

, R, G, B .

, (OLED)
OLED OLED ,
OLED .

. 1/4
OLED 가 ,
OLED 가 ,
 , OLED 가 ,

, 2846571 ,
 , 가 ,
 . 2000-323277 ,
 , R, G, B .

1/4

2002-35137

1

2

R, G, B

2

가

1

R, G, B

가

R, G, B

R, G, B

R, G, B

R, G, B

1

2

R

2

2

2

2

,

R

2

250

450

700

750

, G

B

2

50

150

,

200

300

, B

2

250

450

50

700

150

750

, G

R, G, B

2

250

, B

2

R

125

,

2

375

, G

R

2

750

, G

2

250

, B

2

125

1 Al, Ag

, 2

ITO

IZO

R, G, B

1

; R

1

R

2

R

; G

B

1

G

B

2

G

B

; 가

2

R, G, B

R, G, B

1

2

R, G, B

; 가

1

2

1

2

; R, G, B , R, G, B 2 ; 가 2

, R, G, B 1 ; 2 2 R,

G, B ; 2 ; R, G, B 1 2

2 ; 가 2

, .

2 .

2 (200) (210) (210) /

(221, 225), (231, 235), (241, 245) R, G, B (220), (230), (240)

(250) (261), (263), (265)가 (270)

() / (221, 225), (231, 235), (241, 245)

/ (281, 285), (291, 295), (301, 305)가 .

, (310) R, G, B (320), (330), (340) ()

/ (285), (295), (305)

, R, G, B (320), (330), (340) 1

2 (321, 325), (331, 335), (341, 345) R, G, B

2 (325) G B 2 (335), (325) , R

2 (335), (345) R 2 (325) , G B

B 2 (335), (325) , G 2 (335) B

2 (335), (345) .

(310) (320), (330), (340) (360)

(360)

(320), (330), (340) (381), (383), (385)

(390) (381), (383), (385)

, , , , , (381), (383), (383)

, , , , ,

(325), (335), (345) R, G, B (320), (330), (340) 2

R, G, B

, R, G, B

3A 3E 1

3A , (400) 1 (410) Al, Ag,

1 (410) DC R, G, B 가 2000 3B ,

(421), (423), (425)

3C , 2 R 1 (421) R , ITO, IZO

, R 2 (431) 250 450 700 750 2 (431)

375

3D , R 2 ITO, IZO 50
150 G B 2 (433), (435) 1 (423), (425)
5) R, G, B (441), (443), (445) 2 (421, 431), (423, 433), (425, 43)

, G B 2 가 G 2
(433) 200 300 250 , B 2 (435) 5
0 150 , 125 , R, G, B 2 (431), (433), (435)

3E , (441), (443), (445) (4
50) (450) , , (450)
UV/O3 2mmx2mm

, (441), (443), (445)
, R, G, B
Idemitsu IDE 406 250 NPB{N,N' - di(naphthalen
e-1-yl) - N,N' - diphenyl - benzidine) 0.1nm/sec 100

, 100:12 CBP{4,4' - bis(carbazol - 9 - yl) - biphenyl} (red) 300
R , 100:5 CBP IrPPy3{tris(phenylpyridine)Iridium}
250 G , 100:4 (blue hoos
t) (blue dopant) 150

, BA1q 50 , Alq3{tri(8-quinolinolate) - aluminium}
250 10:1 30:1 (Mg) (Ag)
50 150 100 IZO
0.2nm/sec , 1x10⁻⁵ Pa

가 , UV , 70 1

4A 4D 2 1
. 2
1

4A , (500) 1 (510) 2 (520) 4B
, 2 (530) (540)
(541), G B (547)
(543), (545)

4C , (540) R, G, B
(531), (533), (535) . R (531) G B (533),
(535) , G B (533), (535)

4D , (531), (533), (535) 1 2 (510), (520)
R, G, B (551), (553), (555) , R, G, B
(521), (523), (525) (511), (513), (515) , 2
(531), (533), (535)

5A 5D 5
. 5
1

5A 1, (600) 1 R, G, B
 1 (611), (613), (615) 1 (611), (613), (615) (600)
 2 (620) .

5B 2 (630) (640)
 (641), G B (640) R 1 (611) ,
 2 (613), (615) (647) .
 (643), (645) ,

5C (640) R, G, B
 (631), (633), (635) . R (531) G B (633),
 (635) , G B (633), (635) .

5D (631), (633), (635) 2 (620) R,
 G, B 2 (621), (623), (625) , R, G, B
 (651), (653), (655) 1 (611), (613), (615) , 2
 (621), (623), (625) , R, G, B .

(1), (2) (3) 2 R, G, B ,

(1) R

()	(Cd/A)	(Lm/W)	(CIE_x, CIE_y)
125	5.92	3.60	0.62, 0.38
375	12.03	7.76	0.64, 0.35
500	0.44	0.19	0.68, 0.31
750	5.59	3.43	0.67, 0.33

(2) G

()	(Cd/A)	(Lm/W)	(CIE_x, CIE_y)
125	32.33	17.26	0.23, 0.68
375	10.85	4.85	0.45, 0.53
500	0.23	0.06	0.32, 0.40
750	3.20	1.37	0.52, 0.47

(3) B

()	(Cd/A)	(Lm/W)	(CIE_x, CIE_y)
125	4.24	2.81	0.13, 0.14
375	3.28	1.95	0.21, 0.49
500	0.17	0.07	0.18, 0.08
750	1.46	0.73	0.33, 0.53

(2) R 가 375 가 , 가 750
 , R 2 375
 .
(3) G 가 125 가 가 , , G
 2 125
 .
(3) B 가 125 가 가 , , B
 2 125
 .
6a 6c , R, G, B
 .

, R, G, B
 ,
 R B
 .
 , 가
 가
 ,
 .

- (57)
1. R, G, B ;
R, G, B ;
 ,
R, G, B
 .
2. 1 , 2 1 2 ,
 2 2
 .
3. 2 , R 2 2
 .
4. 2 , R 2 250 450 700 750 , G B
 2 50 150
 .
5. 2 , R 2 250 450 700 750 , G 2
 200 300 , B 2 50 150
 .

6.

G⁵ , R, G, B 250 , B , 2 R 125 2 375 ,
2

7.

G⁵ , R, G, B 250 , B , 2 R 125 2 750
, G 2

8.

2 , 1 Al , Ag , 2 ITO IZO

9.

R, G, B 1 ;
R 1 R 2 R ;
G B 1 G B 2 G B
; R, G, B ;

R, G, B

2 가 2

10.

9 , R 2 2

11.

2 , R 2 250 450 700 750 , G 2
50 150 200 300 , B 2 50 150

12.

R, G, B 1 2 ;
1 2 1 2 R, G, B
; R, G, B ;

R, G, B

2 가 2

13.

12 , R 2 2

14.

12 R 2 250 450 700 750 , G
2 50 150 200 300 , B 2 50 150
.

15.

R, G, B 1 ;
2 ;
2 R, G, B 1 2 R, G, B
;

R, G, B ;

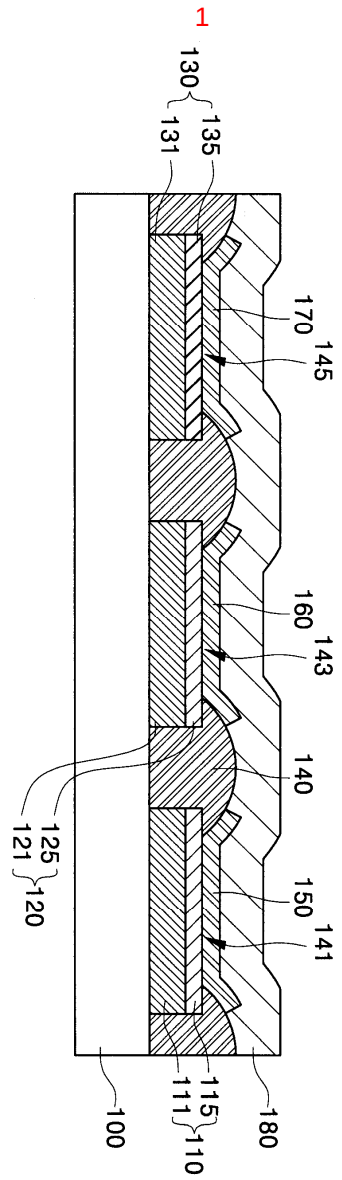
R, G, B ,
R, G, B 2 가 2
.

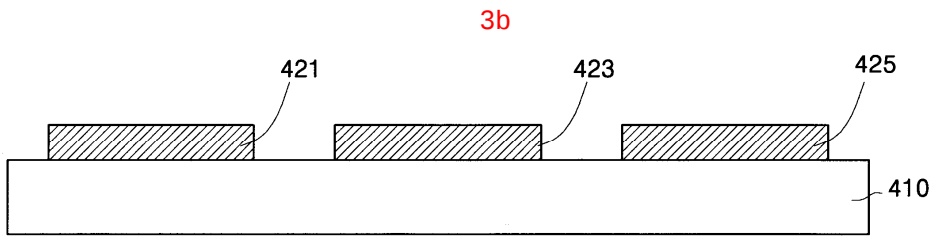
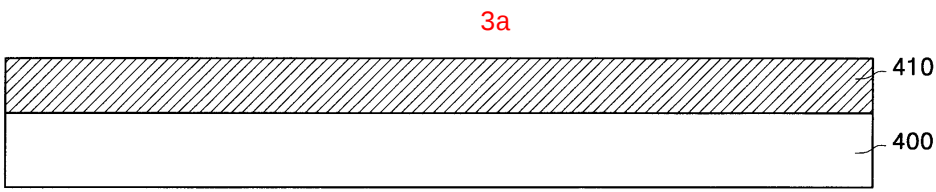
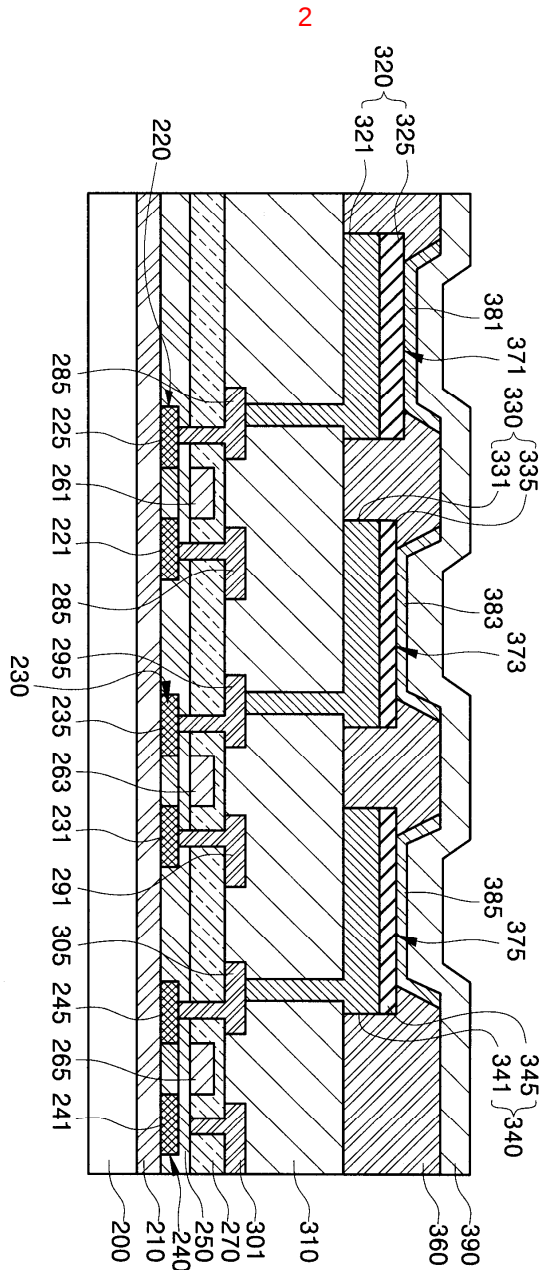
16.

15 , R 2 2
.

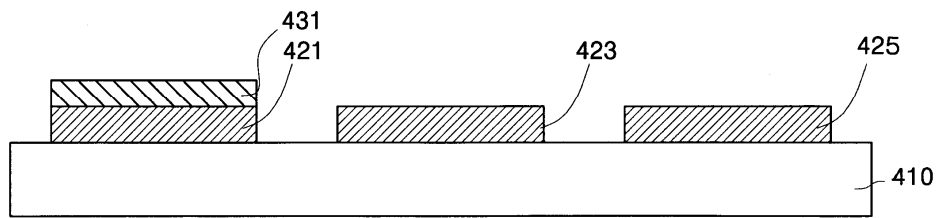
17.

15 R 2 250 450 700 750 , G
2 50 150 200 300 , B 2 50 150
.

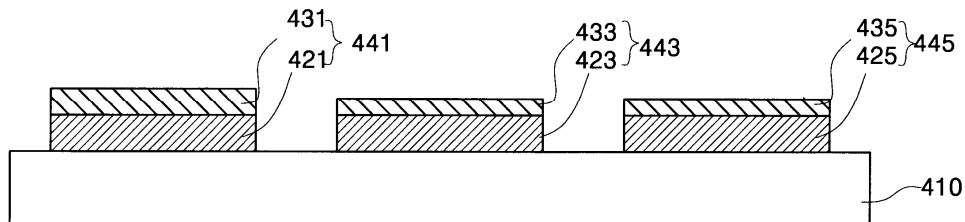




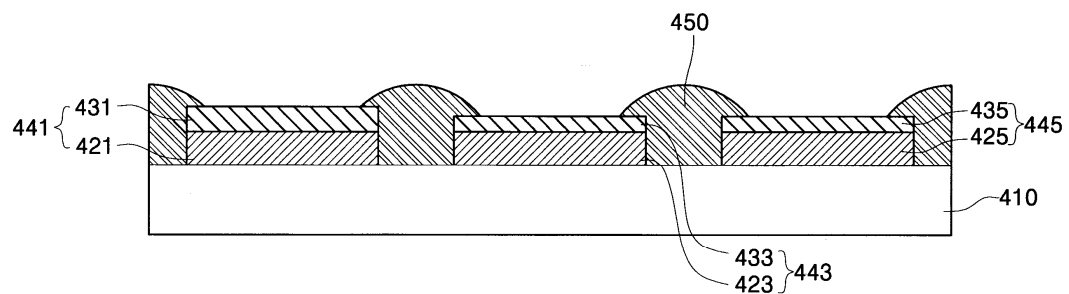
3c



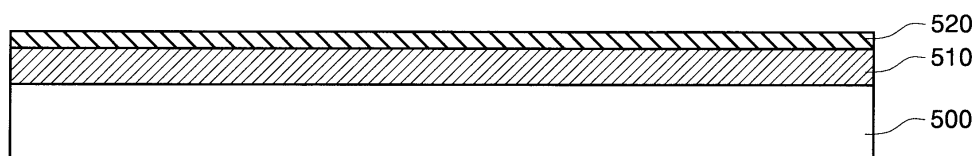
3d



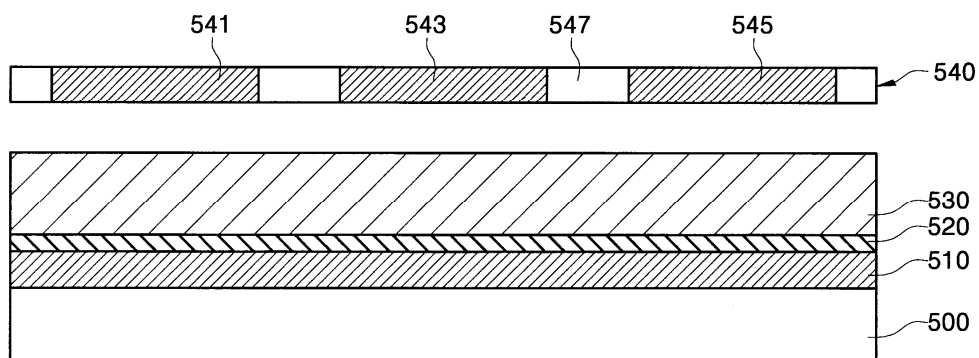
3e



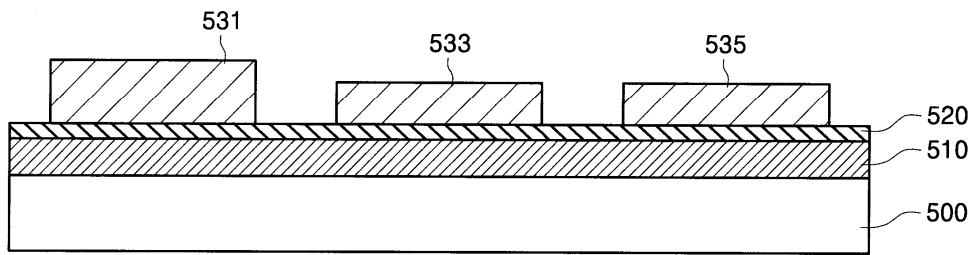
4a



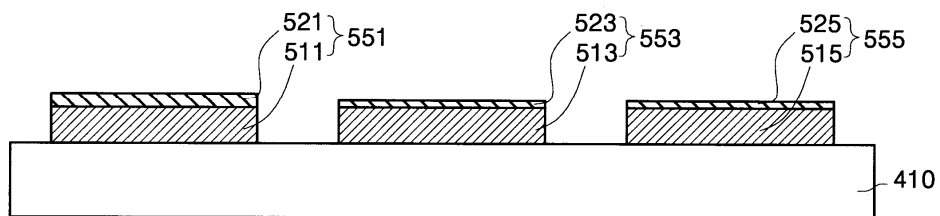
4b



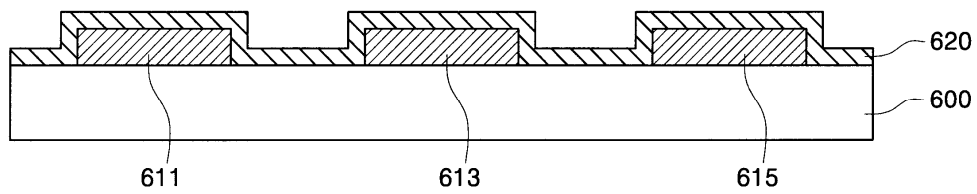
4c



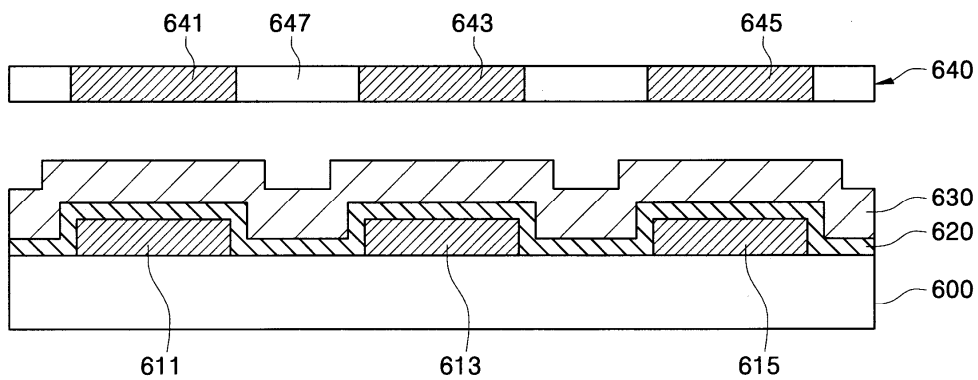
4d



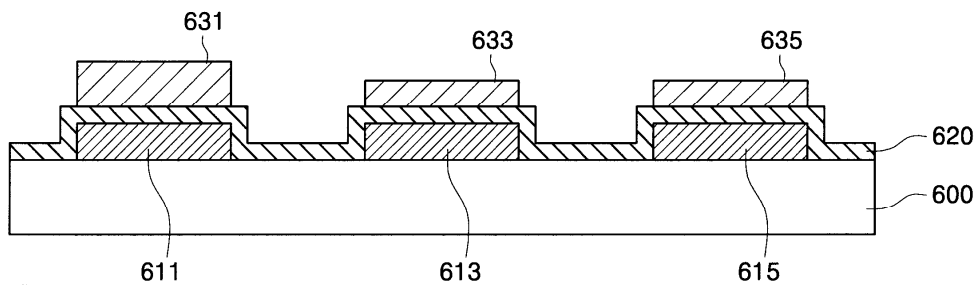
5a

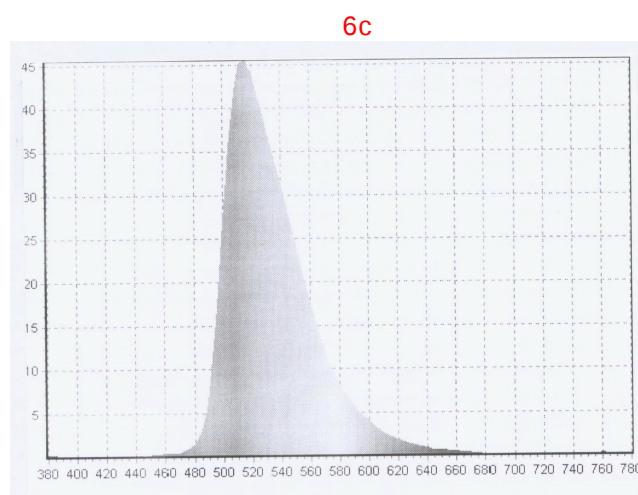
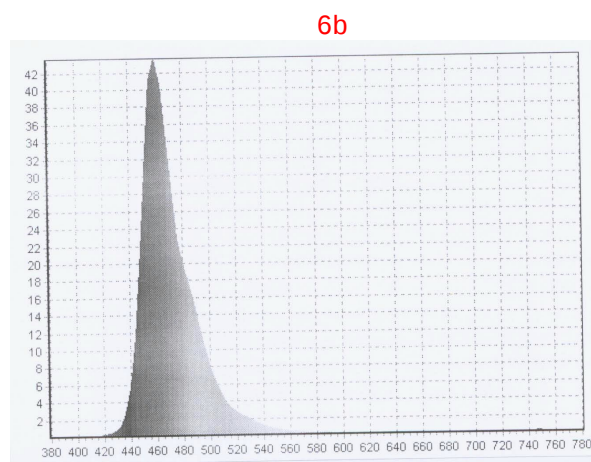
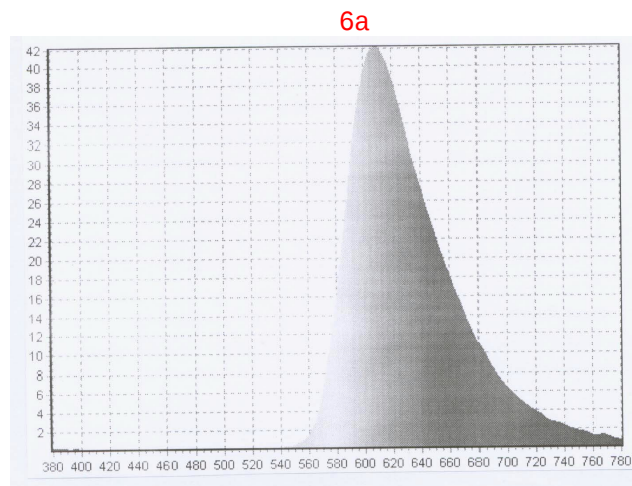
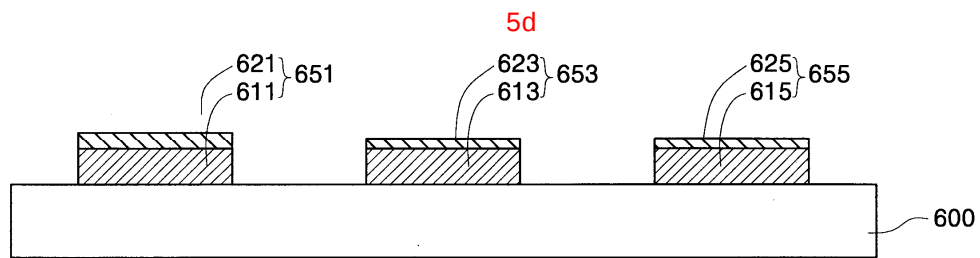


5b



5c





专利名称(译)	高效有机电致发光显示装置及其制造方法		
公开(公告)号	KR1020040094119A	公开(公告)日	2004-11-09
申请号	KR1020030028076	申请日	2003-05-01
申请(专利权)人(译)	三星SD眼有限公司		
当前申请(专利权)人(译)	三星SD眼有限公司		
[标]发明人	LEE KWANHEE 이관희 RYU SEOUNGYOON 류승운 LEE HUNJUNG 이헌정 PARK SANGIL 박상일 KOO JAEON 구재본		
发明人	이관희 류승운 이헌정 박상일 구재본		
IPC分类号	H05B33/26 H01L27/32 H05B33/00 H01L51/50 H01L51/52 H05B33/10		
CPC分类号	H01L27/3244 H01L27/3211 H01L2251/5315 H01L2251/558 H01L27/3295 H01L51/5206 H01L51/5016 H01L51/5218 H01L51/5265 Y10S428/917		
代理人(译)	PARK, 常树		
其他公开文献	KR100527187B1		
外部链接	Espacenet		

摘要(译)

一种有机电致发光显示装置，其能够通过从每个R的阳极电极形成具有不同功函数的第二阳极而获得最大效率和最高色纯度，目的是提供。本发明的有机电致发光显示装置包括形成在基板上并彼此分离的R，G和B单元像素的阳极；在阳极上形成R，G和B单元像素的有机薄膜层；其中，R，G和B单元像素中的至少一个的阳极电极具有与另一个单元像素的阳极电极不同的厚度。这是每个单位像素的阳极包括具有不同厚度的是由第一层膜和调整具有高反射率的第二膜的功函数的，将R中的至少一个单位像素中的第二膜的其他单元的像素的第二薄膜单位像素的第二膜的厚度比另一单位像素的第二膜的厚度厚。2

