

(19)
(12)(KR)
(A)(51) 。 Int. Cl. ⁷
H05B 33/10(11)
(43)2002 - 0025760
2002 04 04(21) 10 - 2001 - 0059939
(22) 2001 09 27(30) JP - P - 2000 - 0029
6582
JP - P - 2001 - 0028 2000 09 28 (JP)
7328 2001 09 20 (JP)

(71) 가 가

2 5 5

(72) 3 112 - 3
1495 - 6

(74)

:

(54)

(10) EL , (100)가 (10)
(200) (110) (100) (200) (10) (1
0) , (,
(64)) . , .

, , , EL ,

1 EL .

2 .

3 1 .

4 .

5 EL .

6a 6b 5 B - B C - C .

7 EL .

8a .

8b 8a D - D .

9a, 9b 9c 2 .

10a, 10b 10c .

< >

10 :

30, 40: TFT

60 : EL

61, 61R, 61G, 61B :

100 :

110, 110R :

200 :

210 :

(" EL") (electroluminescence element)

, EL EL CRT LCD

EL
EL (" TFT")
가

1 EL 1R, 1G 1B
(53) (10) EL (51), (52)
(RGB) 1R, 1G 1B
RGB 1R, 1G 1B
1R, 1G 1B , R, G, B EL 가

1R, 1G 1B EL (island pattern)
(organic compound)
가 EL
EL TFT TFT

2 () 가
(68) , TFT, EL (60) (61R, 61G, 61B),
(10) (61R, 61G, 61B) EL
TFT (61R) , TFT 2

2 (95)
(10)

(Ni) (95) (125)
(61R) (110R) 2 (95)
(component bearing side) 가 EL (61R, 61G, 61B) TFT
(10) (200) (95)
가 50 μ m (126) (95) (95)
(125) 가 (tension) (95)
(95)가 (10) (120) (95)
(warping)

(95) (10) (130) (200) (10)
(61R)

(61R, 61G, 61B) RGB

(95) 400mm × 400mm (10)
(single dot - like evaporation source)가 (200)

가 가 가

(shadowing), (blocking)

(10)

가

가

1
(self - emissive element)

2

1 2

2

가

가

가

yer) 1 2 (electroluminescence la

가

1 2

가

가

()

가

EL 가

3

4 3 A - A (68) TFT, EL (10)

(61R)

(100) (100) (10) (200) 가 (10) (10)

(100) (100) (10) (210)가 (210)가 (110)가

(10) (210) (211)가 (100) (100)

(10) (200)

(100) (201) (100)

(10) 3 4

" a" , " b" , " c" , " d"

" a" ()

(10) X " b" (1)

(10) Y " c" ()

(10) X " d" (2

(100) (10) (61R)

4 (10) 가 (reaction chamber)
 , , (10) X Y ,
 가 " a" , " b" , " c" , " d" ,
 (61R, 61G, 61B) .

5 EL , 6a 6b 5 B - B
 C - C .

5 (51) (52)
 , 1 TFT(30) . TFT(30) (,
 11s) (55) , (54)
 (11s) EL 2 TFT(40) (43) . 2 TFT (41s) EL
 (60) (61) (41d) EL (60) (53) .

TFT , (54) (51)
 (54) (54) TFT (11s)
 (55) , (12) ,
 2 TFT(40) (43) 가 .

6a 6b , EL (10)
 TFT EL
 6a 6b .
 , 1 TFT(30) TFT가 6a .

, (10) , CVD
 (a - Si) . a - Si (polycrystallized),
 (p - Si) (11) TFT(30) (active layer) . (12) p - Si
 (11) (Cr) (Mo) (refractory metal)
 (51) (13) .

SiO₂ (14) (12), (13), (53)
 (54) . (Al) (11d)
 (15) (52) , (photosensitive)
 (planarizing) (16)
 , EL (60) (63), (65) (67)가
 , 2 TFT(40) EL TFT가 6b .

6b, 1 TFT(30) p - Si (41),
 (12), Cr Mo (43)
 (10) (41) (41c), (41c)
 (41s) (41d) SiO₂, SiN SiO₂
 (14) (41) (12) (12)
 (14) (41d), (53)
 (16)
 (41s) (16), (14)
 (12) (41s) ITO(indium tin oxide)
 , , EL (61)가 (16)
 EL (60) ITO (61),
 (66), (67)
 (66) MTDATA(4,4,4 - tris(3 - methylphenylphenylamino)triphenylamine)
 1 - (62), TPD(N,N' - diphenyl - N,N' - di(3 - methylphenyl) - 1,1' - biphenyl - 4,
 4' - diamine) 2 - (63), (quinacridone deriv
 atives) Bebq₂ bis(10 - hydroxybenzo[h]quinolinato)beryllium) (64), Bebq₂
 (65) (66)
 (68) EL (60) (61)
 (61) (69) (61) (69) (67)
 EL (60)
 EL ,
 가 ,
 (64) (10) (61)
 6b , EL (60) (64)
 (62, 63) (65) (61) R, G, B EL (60)
 (62, 63) (65) (64) EL
 (60) R,G,B
 (62, 63)
 (65) (64)
 7 (64) EL (60) (1
 00) (10) , 4
 7 , (10) 1 TFT 2 TFT 2 TFT (61R, 61G, 61B)
 (61R, 61G, 61B) (68) (62, 6
 3)
 (10)
 (110R) (100)가 , (110R)가 (6
 1R)
 (100) (110R) (61) (

, 7 (62, 63)) .

가 (10) , (10) 4 (10) 가
 (210) (100) (201) , (10) 가
 가 (Ni) 가
 가 4 (210) 2 가
 가 .

, 8a 8b 가 8a (100)
 (10) (10) 7
 1 TFT 2 TFT, EL (60) (61) (68),
 () 8b 8a D - D (10), (100)
 (210) .

8a 8b (100) 가 0.5 mm (Si)
 가 10 μ m 50 μ m (140)
 , (100) 가 (100) (140)
 (100)가 (10) 가
 (100) (110) (10) 8a 8b
 (100) , R,G,B 1 (110R)
 (100) (110R) EL

(100)가 ,
 , (100)
 , (100)
 , (etching away) (etchant)
 , 가 ,

, 가 (10)
 , 가 , ,
 ()
 , 가

, 2 가 9a 9c . 9a
 , 9b 9a E - E , 9c 9a
 . 1 , , 1 TFT , 2 TFT, EL (10)
 , ((100) (10) .
 (100) 가 , 8a 8b 가
 (가). (100) (10)
 (100) (110) , (200) (110)
 (100) (110) , (200) (200)
 (201) 9c
 (110) (100)가 (200)
 (10) , , (10) (100) (110) (10)
 201)가 (100) (110) (200) , , (100) (110)
 100) (200) (200) (100) (200) , (100) (110)
 (10) 1R , (100) (110)가 (10)
 , (, RGB , 3
), (100)가 1R
 , (100) (100) , (100) (10)
 가 , (100) 1 , (10)

1 1R 1G 1B
 (10) (10)
 1R, 1G 1B (61R, 61G, 61B)
 9b 4
 (100)가 (210) (100) (10) (210)
 (200)
 (100) 9a (110)(
) 가 , 가 (110)
 (201) (110)
 (100) (110) (200) (10)
 (100) (110) 9a
 (10) (100) (110)
 0) 400mm × 400mm (1
 가 (100)가 (100) (10) (10) 가
 (100) (10) (100)
 0) 가 (100) (110) (100) (1
 가
 (200) (100) (110)
 가 (100) (110)
 9a (200) (201)
 (100) 가 () (200)
 9c (201)
 (100) (110)
 가 EL
 ()
 (10) 가

(100) (10) (100) (110)
 1R, 1G 1B 1 , 3
 1G 1B 1R
 1 가 3
 1R (100) (10)
 .
 , 2 , (10) 가 (100)
 (10) (100)가
 (201)가 (110) 가 ,
 (10)
 ,
 (blurring)
 ,
 가 2 (100)
 (110) (100)가 (100)
 (61)
 가 EL
 가
 1 2 ,
 × 222() (10) 852()
 (,)
 , 1 , (10) 3 4 ,
 (X Y) 4 3
 ,
 가 ,
 ,
 , 2 ,
 (right angle) 가 (directivity)
 ,
 ,
 가 가

, 2 10a 9a (201) 10a 10c
 , 10a (200) ((201)) (130) (202) 10a
 , (201) (200)가 (201)
 (130) 가 10b (201)
 (203) (130) 가 (130) 가 , 가
 (100) (110) (110) 10c
 (201) (130) (130) (204)
 (205) (130) 가 .

10a (200)가 (200)가
 , (203)가 10b (201)
 가 , 가 (203) , 가
 가 (100) (110) 10a (201)
 . (204)가 , 10c (201)
 . 10c (205) ,
 (205) 가 (205) , (2
 05) (130) 가 .

, (201) (201) , .

(201)가 (10) (100)가 10a 10c
 , (10) (10) (10)
 가 (110) ,
 가 (110) (201)
 가 , 10a 10c (100) (201)
 , (201) (10) (10)
 (10) , ,
 , (201)가
 (200)가 (10) 가 (100)가
 (110)

가 TFT ,
 TFT 가 ,
 , , , , ,

EL
(VFD; vacuum fluorescent display) VFD
EL
VFD

가 가

가

가 가 가 가

(57)

1.

2.

,

;

,

,

,

.

3.

1

2

,

가

(linearly extending source)

.

4.

3

,

가

.

5.

1

2

,

1

2

(electroluminescence layer)

,

.

6.

5

,

,

.

7.

1

,

2

(sel

f - emissive element)

,

;

8.

1 ,

2

9.

7 8 ,

2

10.

7 8 ,

11.

7 8 ,

가

12.

11 ,

가

13.

7 8 ,

가

14.

7 8 ,

가

15.

1 2 ,

16.

7 8 ,

17.

1 ,

2

,

;

,

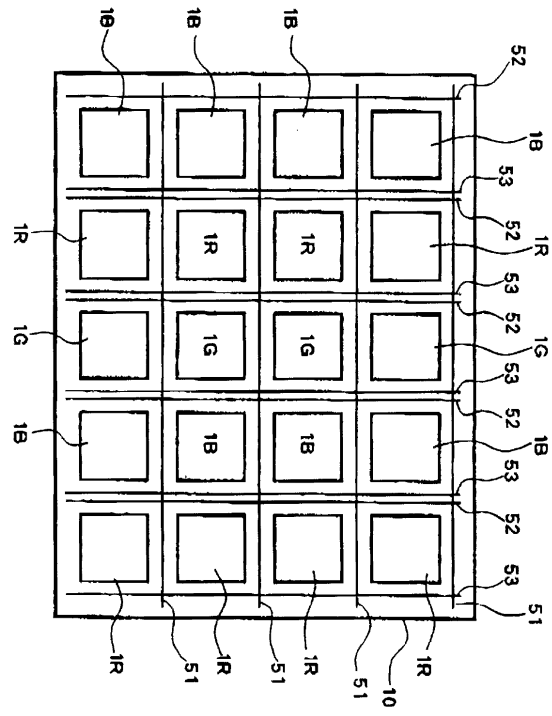
,

18.

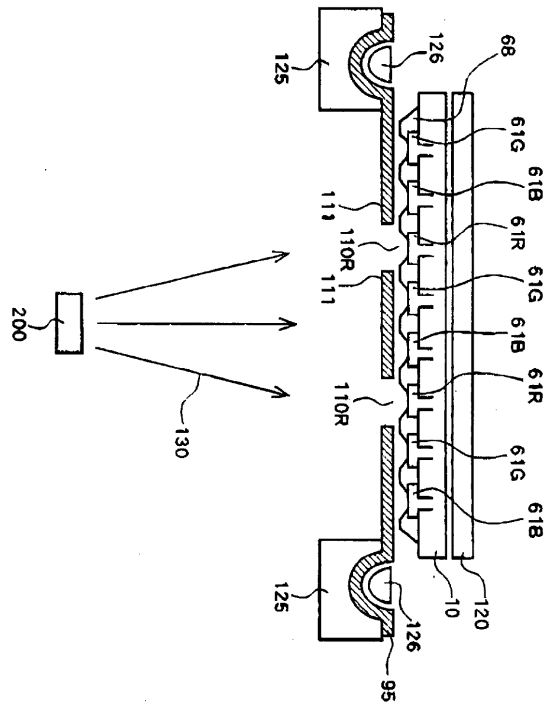
17 ,

가

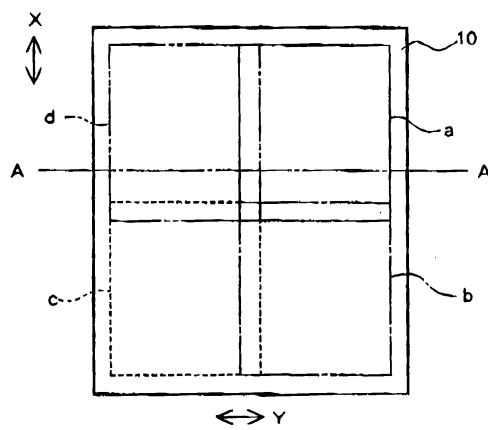
1



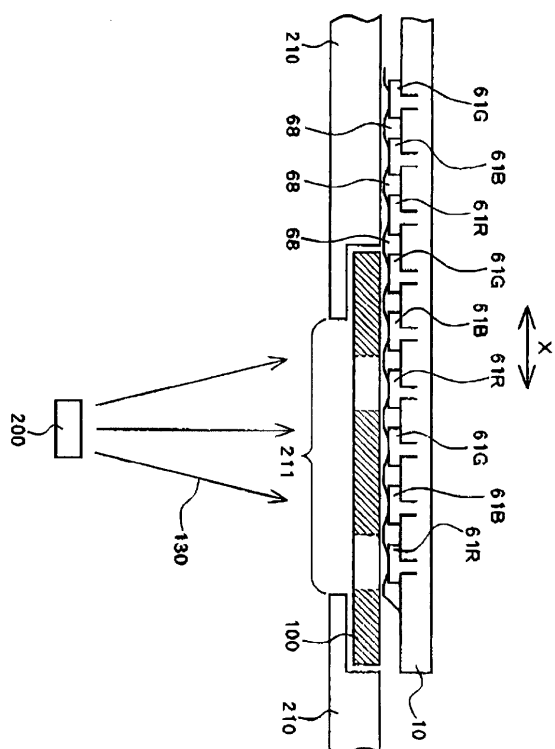
2



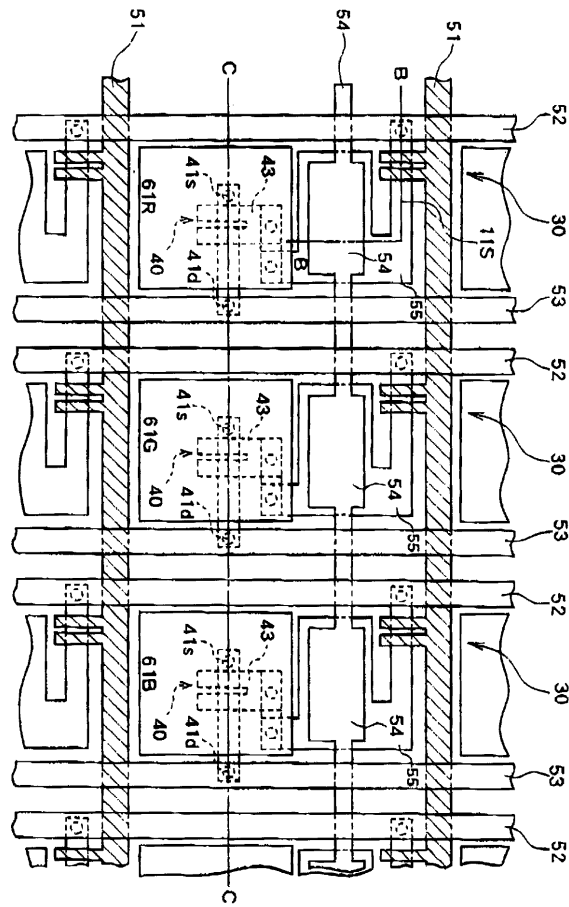
3



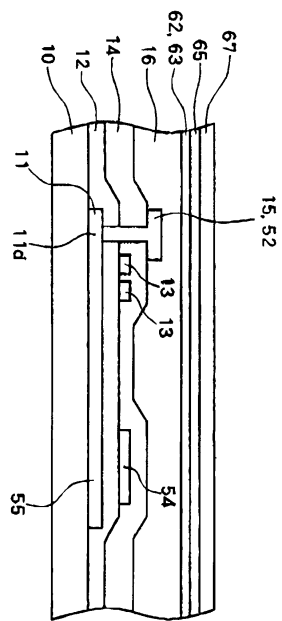
4



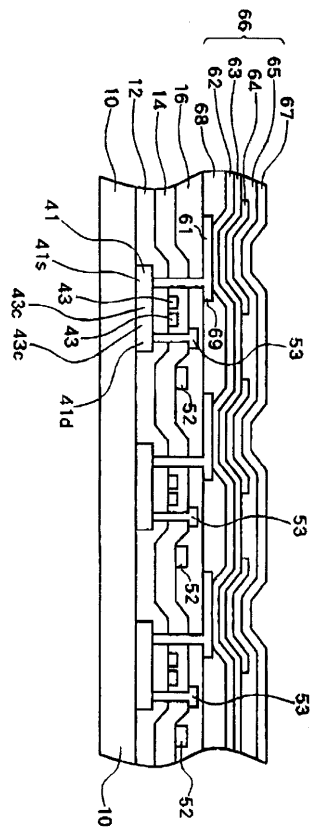
5



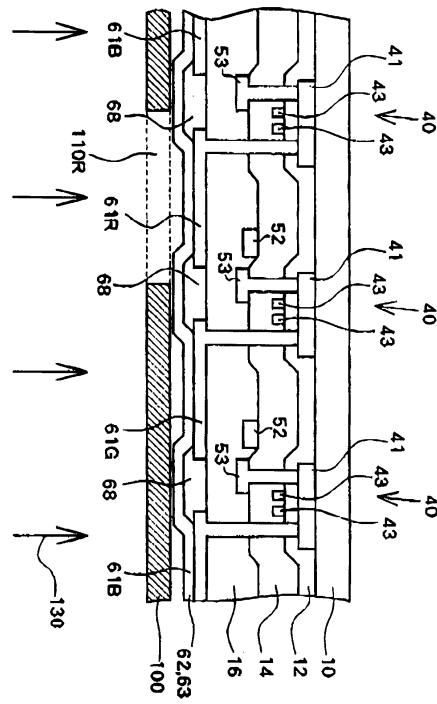
6a



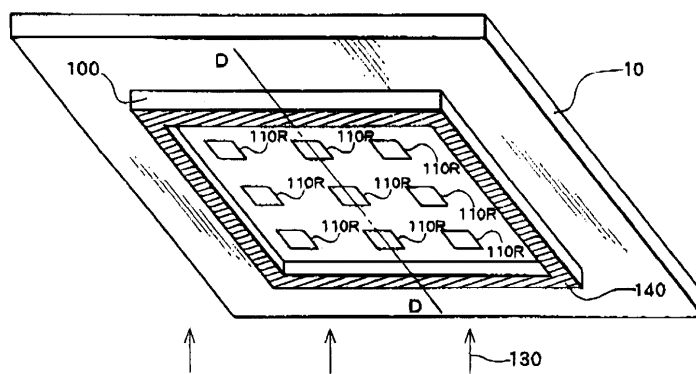
6b



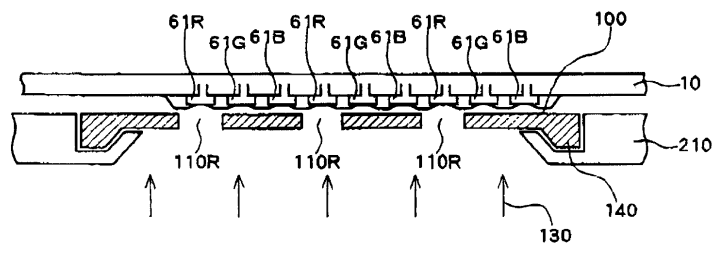
7



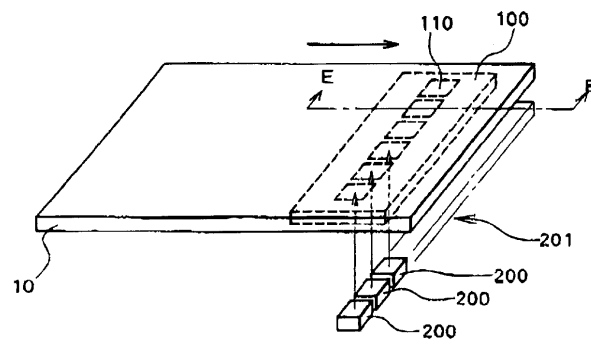
8a



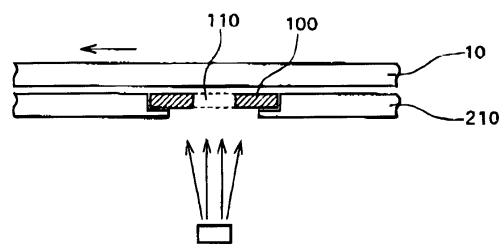
8b



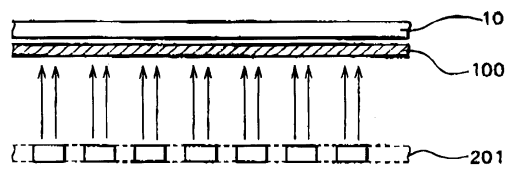
9a



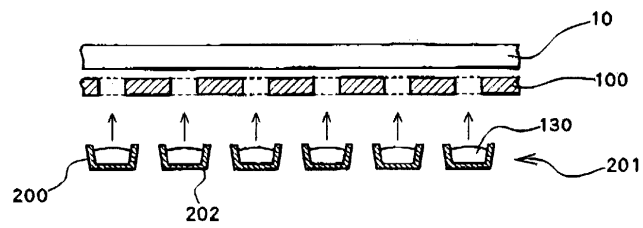
9b



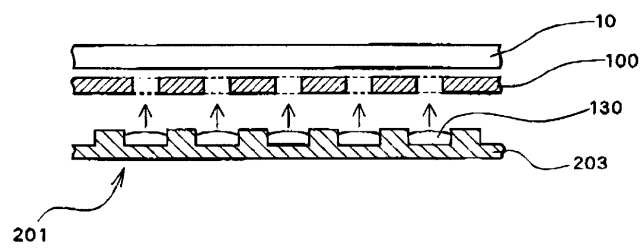
9c



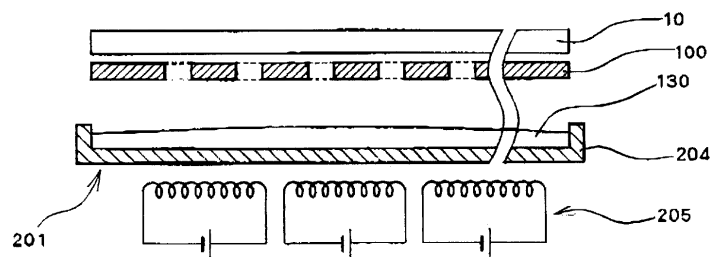
10a



10b



10c



专利名称(译)	一种使用掩模附着层材料以在基板上形成预定图案的层的方法		
公开(公告)号	KR1020020025760A	公开(公告)日	2002-04-04
申请号	KR1020010059939	申请日	2001-09-27
[标]申请(专利权)人(译)	三洋电机株式会社 山洋电气株式会社		
申请(专利权)人(译)	三洋电机有限公司是分租		
当前申请(专利权)人(译)	三洋电机有限公司是分租		
[标]发明人	YAMADA TSUTOMU 야마다쯔토무 YONEDA KIYOSHI 요네다기요시		
发明人	야마다쯔토무 요네다기요시		
IPC分类号	H01L51/40 H01L51/50 H01L27/32 C23C14/04 H01L51/56 G09F9/30 H05B33/10 G09F9/00 H01L51/30 H05B33/12 H01L51/00		
CPC分类号	H01L51/56 H01L51/0059 H01L51/0011 H01L27/3211 H01L51/0062 C23C14/042 H01L51/0013 H01L51/0081 H01L51/001		
代理人(译)	LEE , JUNG HEE CHANG, SOO KIL		
优先权	2000296582 2000-09-28 JP 2001287328 2001-09-20 JP		
其他公开文献	KR100518709B1		
外部链接	Espacenet		

摘要(译)

当形成类似于有机电致发光显示器的发光层的层时，发光材料粘附到基板（10）上，具有比其所暗出的基板小的面积的沉积掩模（100）是开口部分（110）对应于形成的层，以便在基板（10）和材料源（200）之间设置多个单独的图案。掩模（100）与材料源（200）和基板（10）之间的相对位置是在基板的可预定区域中的材料层（例如，发光层（64））被滑动的相对位置因为相应的可预定间距形成在衬底（10）的像素尺寸中。因此，非常精确地例如可以通过沉积在衬底上形成材料层。沉积掩模，沉积源，掩模支撑构件，有机电致发光显示器，彩色发光器件的制造方法。

