

(19) (KR)
(12) (A)

(51) 。 Int. Cl.⁷ (11) 10-2004-0000629
H05B 33/22 (43) 2004 01 07

(21) 10-2002-0035136
(22) 2002 06 22

(71) 575

(72) 105 504

860 304 302

(74)

:

(54)

1 1 2
, , 1 , ,
1 , 1 1 ,
, 1 1 2 , 1
3 , 1 3 1 2 1
, , 1 1

.

3

1 ,

2 AM ,

3 ,
4 8 3
,
< >
100: 110:
112: 1 114:
116: 2 117:
120: 121:
122: 123:
124: 125:
126: 127:
128: 129:
121a: 1 125a: 2
129a: 3 130:

가 , 가 ,
.
(CuPc:copper phthalocyanine), N,N'- (-1-)-N,N'- (N,N'-Di(naphthalene-1-yl
)-N,N'-diphenyl-benzidine: NPB) , -8- (tris-8-hydroxyquinoline aluminum)(
Alq3) .
(hole) , 가 가
, 가 (exiton) .
(internal efficiency) (external
efficiency) , (light couplin
g efficiency) .
가 PDP

가 .
가
ITO
1/4
1
(2) N 4 ITO (2)
(3) ITO
 $1/2(N_{out} / N_{in})^2$

(nm)	450	530	620
ITO (n)	2.01	1.93	1.76
(n)	1.525	1.52	1.515
	29%	34%	37%

ITO
60%
가
2691
가
63-17
가
62-172691
1
가
2
가
1-220394
가
가
가
가
11-283751
가
가
2
11-283751
가
AM(Active Matrix)
AM
p n
(12) (10) (11)
(13) (13) (11)
(12) (14) 1 (15) 1 (13)
(13) (16a)(17a) (12) 1 (15)
(16) (17) (23b) 1 (23b) 1 (17)
1 (15) 1 (23a) (23) (19) 1 (15) (15)
2 (18) , (19a)가 (19) , 1 (20) (21) ,
16) 1 (20) , 1 (20) (22)

(10), (11), (13) 1 (20) ITO
 1 (20) 2 1,2 (15)(18)
 (18a)
 (18a)가 2 (18) ITO 1 (20)
 (20) (20a)가 1 (20) (20a) 1 (20)
 (21) (21)가
 (21)가 (21a) (20a) 2 (22) (21)
 (21a) (S)
 1 (20)
 TFT
 (18) 1 (15) (21) 1 (20) 2
 (13), (11) (10)

1 1 2 1

1 , 1 , 1 , 1
 , 1 , 1 , 1
 , 3 1 1 2 , 1 2
 , 1 3 2 , 1
 1 ,

0.01 50 μ m가

1 , 1 , 1 ,
 1 가 , 1
 1 1 1 2
 1 , 1 1 2 3
 , 1 3 2 1 2
 , 2

1, 2, 3, 가, 2

3 AM
(AMOLED: Active Matrix Organic Light Emitting Display)

3, (100) 가 (110),
(TFT) (120)

(TFT) (120) (100) (121), (121) (129)

(122) (121) p n (122),
(123), (123) (122)
(124), (125), (125) (123)
(126a)(127a) (122) (125)
(126) (127) (127)
(125) 2 (128a) 1 (128b), 1 (128b) (125)

(120) (110) (110) (100)
1 (112), 1 (112) 2 (116) (114), 1 (114) 2 (116)
(129)

1 (112) (121) (117) (120)
(126) (125) (117) (121) 1 (112) (126)
(123)

1 (120) 가 (110)
(121) 1 (112) 1 (121a)가
1 (121a) 2 1 (125a)가 1 (112) 1 (129) 1 (121a)
(125a) 3 (129a)가 2 (125a) (123) (121a)
(125)

3
1 (112) ITO, 가 (100) 1
(112) (100) (130) 2
(130) 가 ITO 2 1 (112) 2
(100)

(130) 3
(100) (132)

(112) (132) (dot) (100) 1
 (114) (scattering efficiency) (100) 1 (112) (114)

(d) (130) (t1) 0.03 50 μ m (132)
 50 3,000nm (d) (114)
 80%

(130) 1 (112) 1 (114) 2
 1 (112) 가 1 (112)

2

3 (100) 1 (112) (130) 4 (112)
 (100) (132) (sand blast), (130) (laser hologram), (half tone)

1 (112) (100) 5 (112) (112a)
 (130) (132)

1 (112) (112a) 6 (micro-polishing) CMP(Chemical Mechanical Polishing)

1 (112) SiO₂ NH₄OH (100) 1 (112)

가 7 1 (112) 8

(121)

(130) 1 (112) 3 (121a)가 (100)
 1 (121a) (122) (121) a-Si
 poly-Si 가 (122)

(122) (123) (122) (122) (124) 2 (128a)
 (123) (125) (Activation) (126) (127)
 (123) (126a)(127a) (128b) (126a)(
 127a) 1 (112) 가 (117) (127a)(
 126) 1 (112) (126) (127a)(

29)

(110) (120) (110) ,

(121) 1 (121a) 2 (125a) (

129) 3 (129a)가 , , (121) , (123) , (12

9) (125) (129) , 1 (121a) 2 (125a) , (126a)(127a) (129)

3 (129a) , 3 (129a) (117)

1 (121a) 3 (129a) 1 (112)

(114) , (114) (129) 2

(116)

가

가

1 1 1

2 .

가 가 .

1
;

2.

1
,
0.01 50μm .

3.

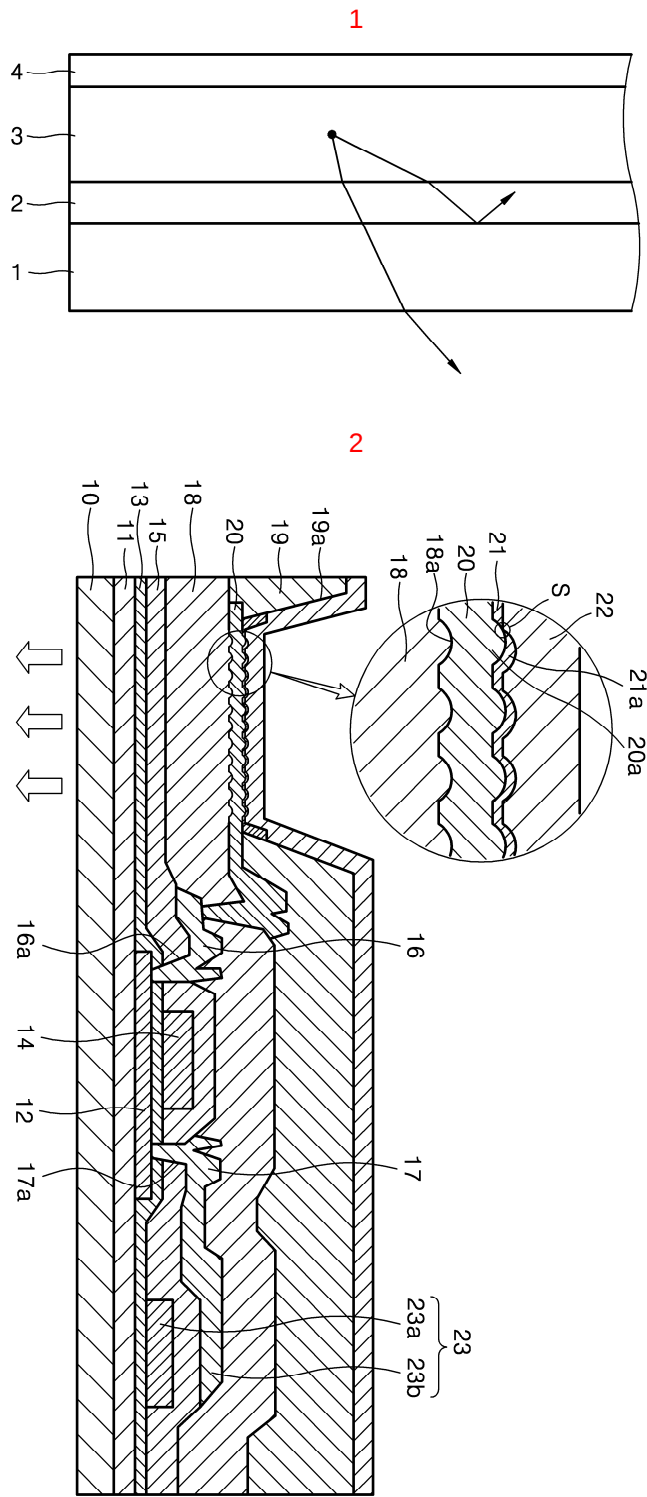
;
1 , 1 ;
1 ;
1 1 가 ;
1
;
1 1 1
2 ;
;
2 1 1 1
3 ;
1 3 1 ;
2
1 3 1 ;
2 ;
.

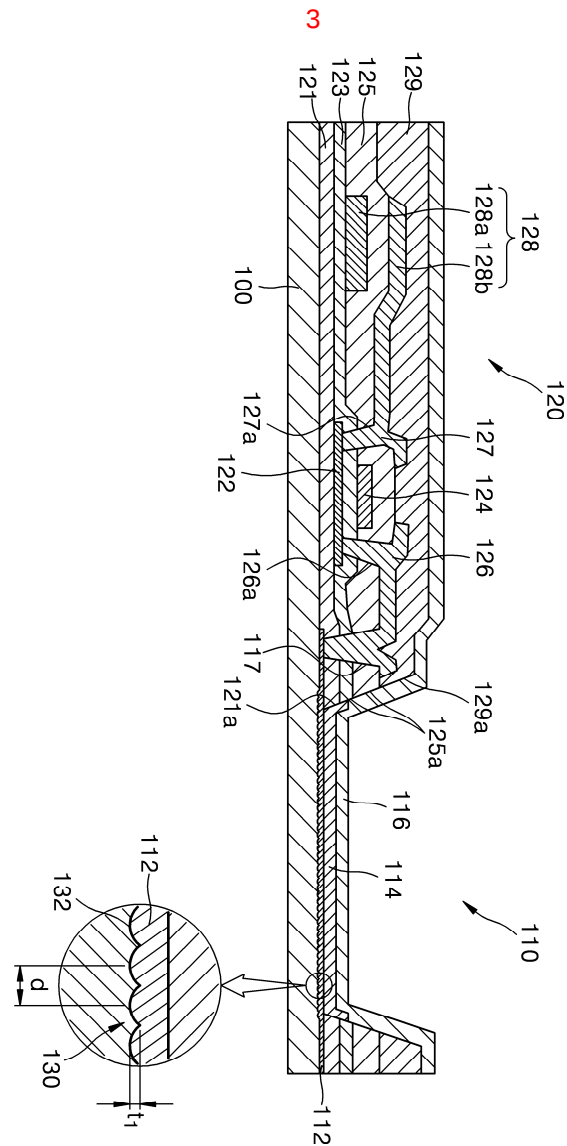
4.

3
,
1 , 2
.

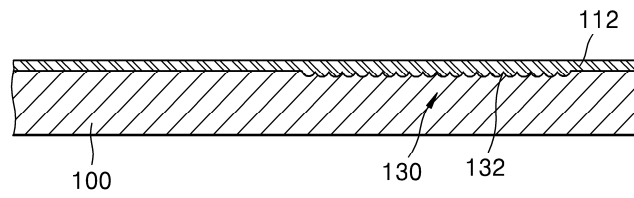
5.

3
,
1 , 2 , 3
.

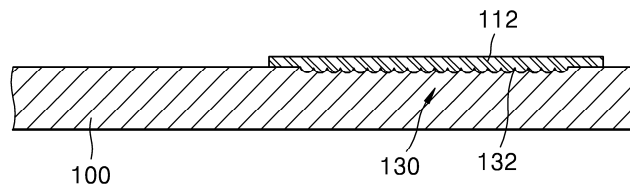




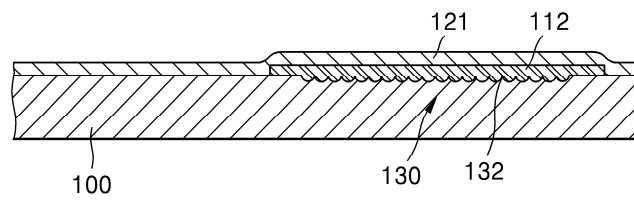
6



7



8



本发明涉及在基板和第一电极层之间形成衍射光栅的光损失阻挡层的情况下防止第二电极层和第一电极层之间的短路。并且它形成在缓冲层上，该缓冲层配备有透明基板，第一电极层形成在具有预定图案的基板上，并且第一开口部分第一电极层暴露，它形成在基板上和缓冲层对于在具有预定图案的基板上形成的第一电极层，上侧是均匀的。本发明涉及由衍射光栅制成的有机电致发光显示器及其制造方法，所述衍射光栅包括具有所述衍射光栅的光损耗阻挡层。驱动器构建层，包括薄膜晶体管 and 对应于第一开口的第二开口，使得暴露的第一电极层的一部分通过第一开口暴露。并且第一开口部分暴露的第一电极层通过第一开口暴露，驱动器组合层被回收并且在基板的上侧弯曲它位于绝缘平坦化膜层之间，配备有第三开口层对应于第二开口和第二电极层的开口部分，通过形成在暴露的第一电极层的上侧的有机层的上侧中的第一至第三开口部分和有机层和平坦化膜形成预定的图案和基板以及第一电极层。

