

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.⁷
H05B 33/04

(11)
(43)

10-2004-0013978
2004 02 14

(21) 10-2002-0047134
(22) 2002 08 09

(71) 23 202

(72) 23 202

3 302-11 19/2

(74)

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(54)

(IBAD)

가

6

D) (OELD), (FPD), (encapsulation), (Diffusion), (IBA

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2
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6
7
8

< >

10, 30A, 30B, 30C :

101, 301 : (Glass Substrate)

102, 302 : (Anode)

103, 303 : (Hole Injection Layer;HIL)

104, 304 : (Emission Layer;EML)

105, 305 : (Electron Injection Layer;EIL)

106, 306 : (Cathode)

107, 307 : (Passivation Layer)

210 : (island)

220 : (pinhole)

310 : (Diffusion Brrier)

320 :

410 :

420 :

(OELD:Organic Electro-Luminescence Display)

ation) (anode) (IBAD) (encapsulation) (passiv Layer) (high mobility)

2001 8 20 2001-49952

21 가 (mobile) PC, (display

) 가 CRT(Cathode Ray Tube) LCD(Liquid Crystal Display) (contrast)

LCD (FPD; Flat Panel Display) LCD(Liquid Crystal Display) (contrast)

가 (Organic Electro Luminescence Display; OELD)

1 (101, Glass Substrate) (Emission Layer;EML, 104), (Hole Injection Layer;HIL, 103), (Electron Injection Layer;EIL, 105) 가 가 (Passivation Layer, 107)

(106) (102) (Electron) (Hole) , (104) 가 (Recombination) (Exition) 가 (Exition Diffusion) 가 (nanometer) 가 (Li)

(Dark Spot) 가 (encapsulation) 가 (inert) 가 (O₂)

(H₂O) 가 (sealant)가 ITO (102, anode) (104)

1 10 (106) (102) . (104) 가
(104) (Luminesc
ent Quenching Site)
(encapsulation) (Packaging) 가 (Aldehyde)
가
ot) , (dark sp
, ITO (roughness)
가 가 , (pinhole defect) 가
가 (210) 2 (210, island)
가 (210) 가 가 (210)
(220, pinhole) (210) 가 (210)
assivation) (diffusion barrier) (passivation layer) (p
(surface mobility) (layer) (dark spot)
(encapsulation passivation) (anode)
(high mobility) (Layer)
- 4 -

3

06, Cathode), (302, Anode), (30A), (301) ITO (diffusion barrier, 310), (303, HIL), (304, EML), (305, EIL), (306, Cathode), (307)

[illegible]

(Ru), (Ce), (Zr), (Y), (Th) (Hf)

MO_{2-x} (M : Ru, Ce, Zr, Y, Th Hf, O x 1)

(Ti) (Ta) (Ti) (Ta) (matrix) 가
 [(amorphous)] [[Ti-MO_{2-x}] (amorphous)+ (Ta) [Ta-MO_{2-x}] ,
 (310) (microcrystal)] .
 , 가

ITO (301)

(310) , 가

(IBAD; Ion Beam Assisted Deposition) , 가 ,

가 .

(mobility)가 ,

가 .

4 .

, (IBAD; Ion Beam Assisted Deposition) (301)
 0)가 (410)가 , (301) (42
 (420)

(320) (302) (306), (302)

, (302) , 가 (301)
 ITO (302) , (410)
 ITO (Ar +), (Kr +), (Xe +) (assist)

5 .
 (30B) (Passivation L

ayer) (30B) (320) ,

(302, 306) (320)

6 .

3 (310) 5 (320)
 (30C) 3 5
 가

7 .

[A] 가 , [B]

8 , [A]
 , [B]
 .
 [A] , (210) , (220, pinhole) (210) [B] , (210)가 (pinhole) .
 , (surface mobility)가 가 .
 (304)
 가 .
 , (Ti) (Ta) MO₂-
 x 가 , 가 .
 (surface mobility) 가 (dark spot) , .

(57)

1.

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2.

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 ;
 ;

3.

ITO(Indium Thin Oxide)

4.

(Ti) [Ti-()]

6.

5 (Ti)

MO_{2-X} (Zr), (Y), (Th) (Ti) (Ce),
(Hf)

7.

(Ta) [Ta-()]

8.

7 (Ta)

MO_{2-X} (Ti) (Ce),

(Zr), (Y), (Th) (Hf) ,

.

0 x 1 .

9.

3

, , ,

10.

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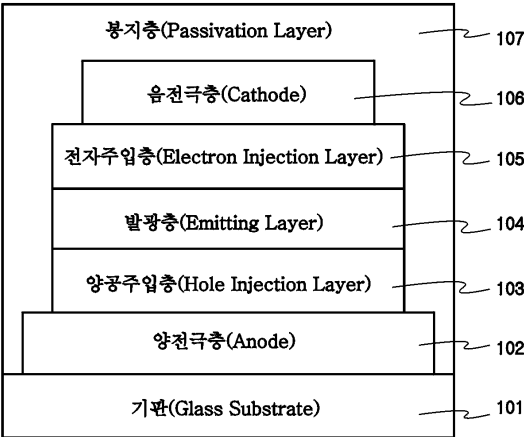
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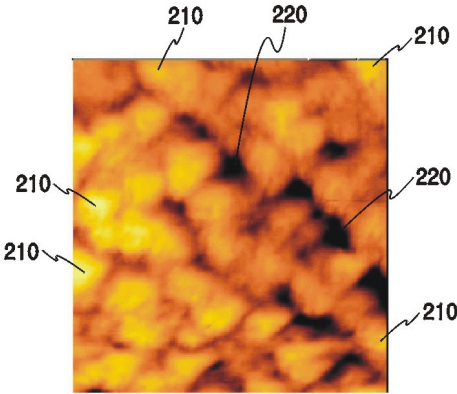
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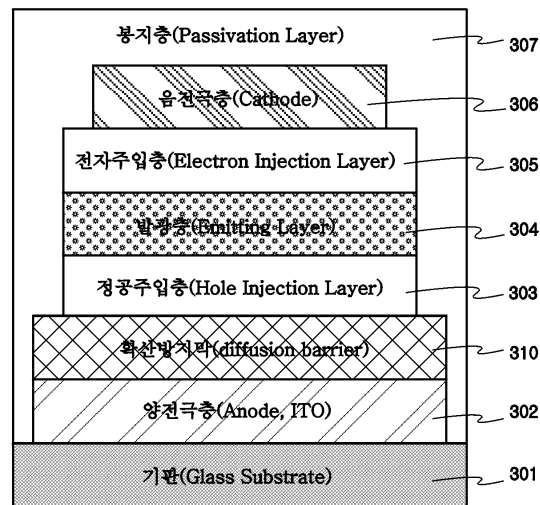
10



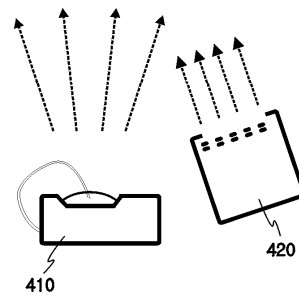
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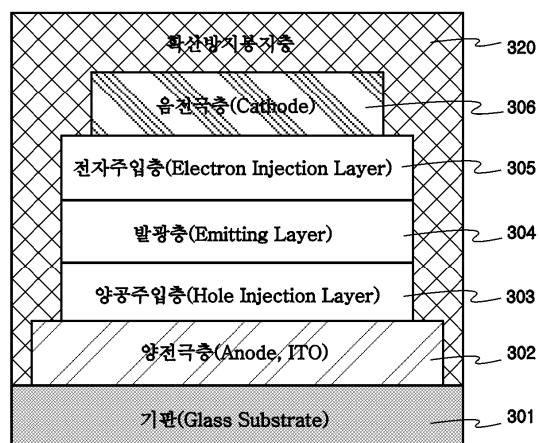
3

30A

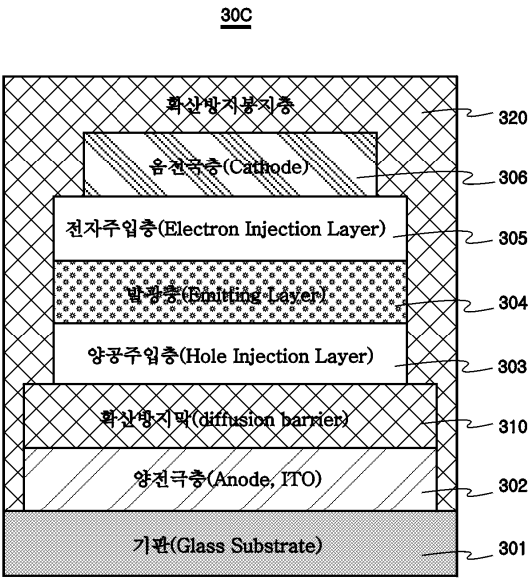
4



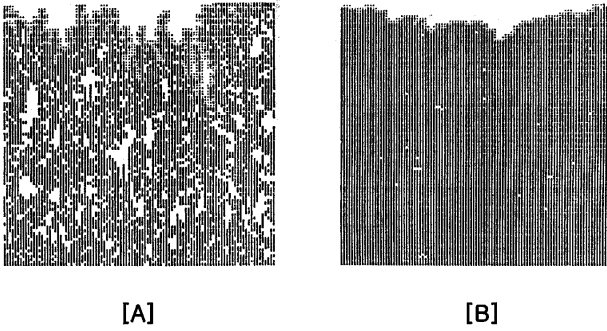
5

30B

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