

2002 - 0091897
2002 12 11

(54)

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1
 2a 2f 1 - ` , - ` , - ` ,
 3a 3f 1 - ` , - ` , - ` ,

< >

130 : 132 : 1 ()
 138 : 2 () 140 :
 143 : 1 144 :
 146 : 3 () 150 :
 152 : 154 :
 158 : 4 160 : 6
 162 : 164 :
 166 : 171 :
 174 : 175 : 7

(Liquid crystal display device) , (Poly sili
 con TFT) (Transflective liquid crystal display device)

(back light)
 (power consumption)

가

, 1

(30) , (P) (63,72) (T) (41)
 가 (matrix type) , (30) (T) 가 (41)
 (54) .

(40) (T) (50) (coplanar) . (40)

(56)가 (41) (54) (44) (66)
 , (44,56) (64) .

(T) (40) (50) (52) (40)
 (36)

(37) 가 .

(P) , (41) (42) , (42)
 .

(42) (P) 가 (43)
 .

(42) (43) , (63) 2 (48b)
 (63) (72) .

(63) (52) 1 (62) (52)
 .

(P) (C) (E)가 .

(37) (42) (43) 1, 2 (63) 1, 2
 1 2 , 가 .

(C) (72) (P) (E)
 . (F) .

2a 2f 1 . (,
 1 .)

2a 2f 1 - ` , - ` , - ` .

2a (30) (SiO₂) (SiN_x) (a-Si:H)
 1 (32) , 1 (32) (34)
 .

1 (32) (buffer layer) , (30)
 .

(34) (poly silicon) .

, , , FE - MIC

. , 2b (36) , (36)

2 (38) .

(37) 가 (40) (41) . (36) (P)

(.)

(41) 가 (44)

. , (41) (43) , (42)

(P) (43) 가 .

(36) , 1 (A) , 2

(B) 2 (B) 1 (A) 가

. , (38) (40) 1 (A) .

(40) 2 (B) (ion doping)

. (40) 1 (A) (dopant)가

(Ion - stopper) 가 B_2H_6 3 가 P - , PH_3 5 (36) 가

N - .

, 2c , (40) 2 (B) 1 (32) 2

(38) 3 (Inter layer insulator ; 46) , 2

(B) / (48a, 48b) .

, / (48a,48b) (30) (Al), , (W),

(Cu), (Cr), (Mo) (B) (50,52) .

(48a,48b) .

, (50) (54) (54)

(56) .

(T)가 .

, 2d (T)가 (30)

4 (58) , .

, 4 (58) , (Benzocyclobutene) (Acryl)
 (resin) 5 (60) .
 1 , 5 (60) , (52)
 (62) , (44) (61) (56)
 (65) .
 e) , 2e , 5 (60) - - (Indium - tin - oxid
 - - (Indium - zinc - oxide)
 (52) (P) (63) ,
 (44) (64) , (56) (66)
 .
 , 2f , (63) (30) (SiO₂)
 (SiN_x) , 6 (68) .
 , 6 (58) , (52) (62)
 2 (70) .
 , 2 (70) (30) (Al),
 (52) (62) , (P) (72) ,
 (72) (66) 1 6 (68) ((64)
 (74) 2 (76) .
 (64, 66) (72)
 (72) (63) .

,
 가 .

,
 , (particle)

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3a 3f 1 - ` , - ` , - ` .
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3a , (130) (SiO₂) (SiN_x)
 1 (buffer layer)(132) .

(132) .

(134) , (132) (a - Si:H)

3b , (136) .
 (1 P) (137) .

(136) (active channel) 1 (A) , 2
 (B) .

(136) (130) (SiN_x) (SiO₂)
 2 (138) .

3c , (136) , 1 (A)
 (140) , (140) (141) ,
 (144) .

142) , (141) (142) , ()
 (P) (143) 가 .

3 , 3c , (140) (130)
 1 (146) 2 (146) , 2 (B)
 1 2 (148a, 148b) .

3 (146) (Al), , (Cr), (W), (Mo),
 (Nb) (150) (152) , 2 (B)

3c (150) (156)
 (154) .

(154) (141) (P) .

(T)가 .

3d , (T)
 4 (158) .

4 (158) , (T) .

(136) (SiN_x) .

, 4 (158) 5 (160) (BCB)

, 5 (160)
6 (barrier layer)(170)

, 3e , (170) (Al),
(P) (172)

(172) ,
(154) , (143)

(172) (143)

, (172) (130) (SiN_x) (SiO₂)
7 (175)

, (152) 4 (158) 5 (160) (170) 7 (175)
(152) (162) , (144)
3, 4, 5 (6) 7 (146,158,160,170,175) (144)
(164) , (156) 4, 5 7 (15
8,160,170,175) (156) (166)

, 가 (SF₆, CF₄) (O₂)가 65 80% 가
(under - cut) (taper)

, 3f , 7 (175) - - (Indium - tin - oxide) -
(Indium - zinc - oxide)
(52) (P) (168) , (144)
(171) (156) (174)

가

가

(57)

1.

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2.

1

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 (SiN_x) (SiO_2)

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3.

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4.

1

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5.

1 ,

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6.

1 ,

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7.

1 ,

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8.

1 ,

(SiN_x)

(SiO₂)

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9.

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3

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4

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10.

9

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 (SiN_x) (SiO_2)

11.

9

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12.

9

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13.

9

,

 (SiN_x) (SiO_2)

14.

9

,

3

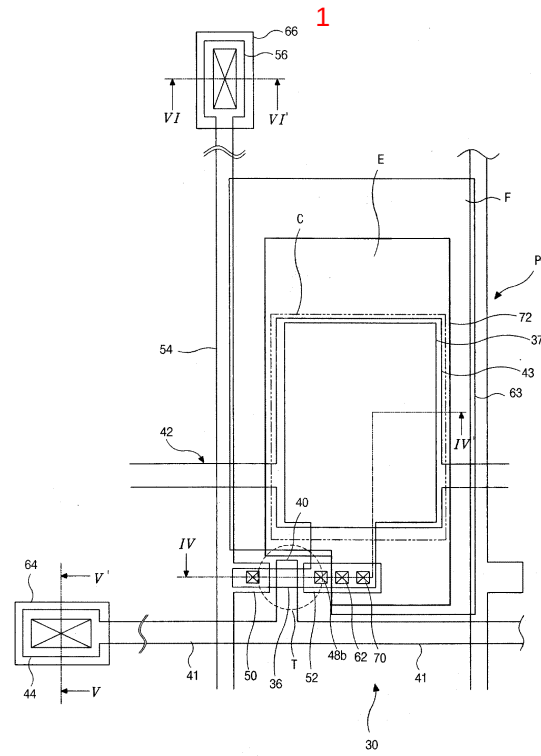
 $(\text{SF}_6, \text{CF}_4)$

5

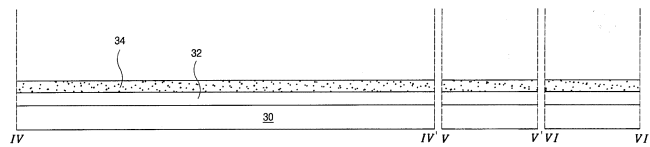
 (O_2) 가

65 ~ 80%

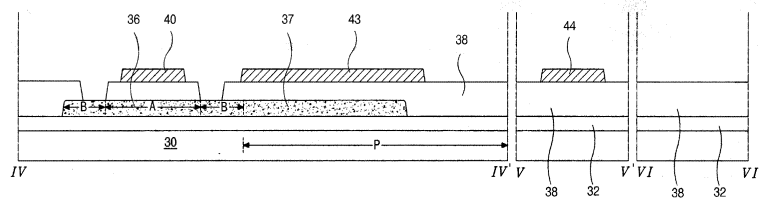
가 (SF₆, CF₄)



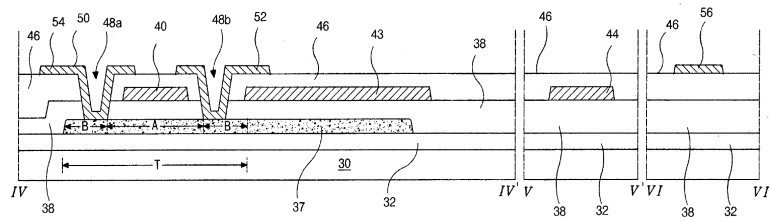
2a



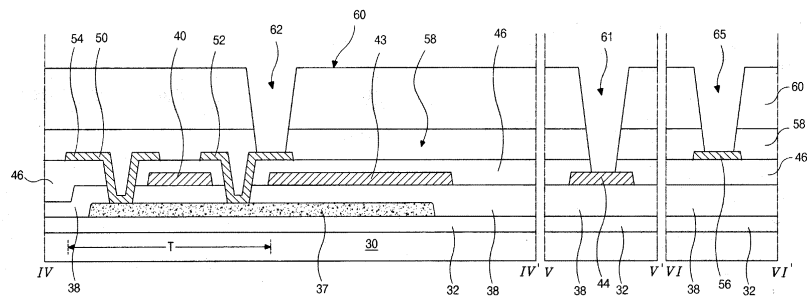
2b



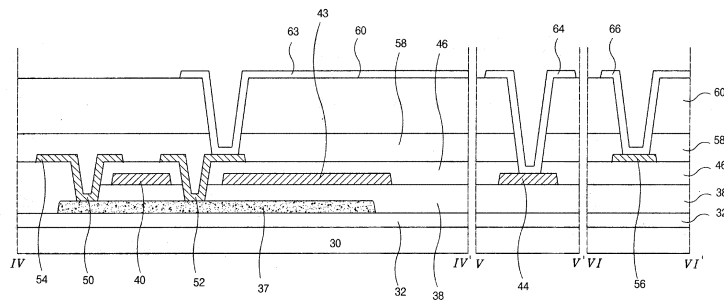
2c



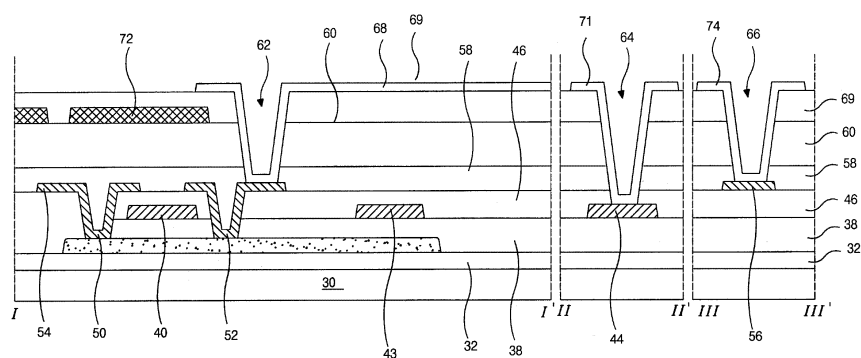
2d



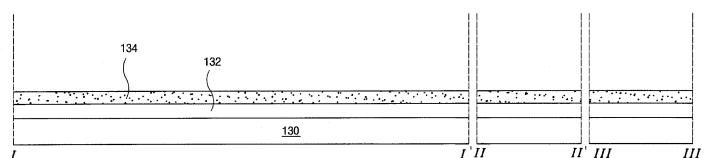
2e



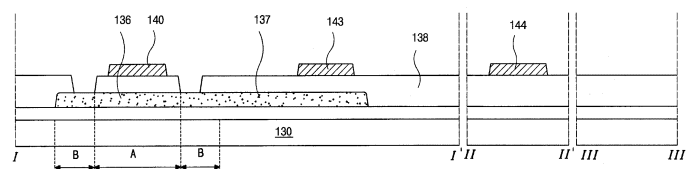
2f



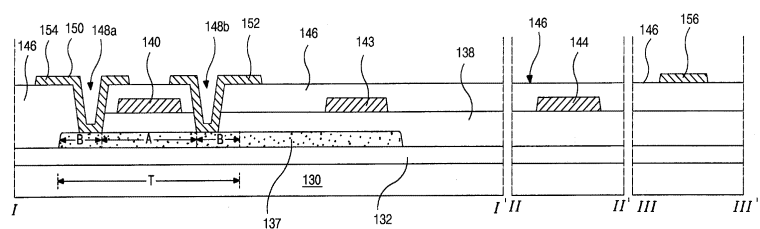
3a



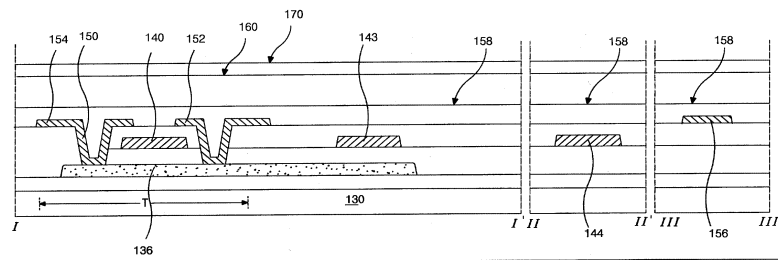
3b



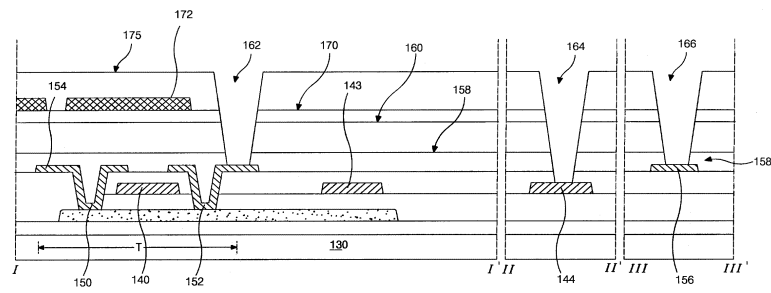
3c



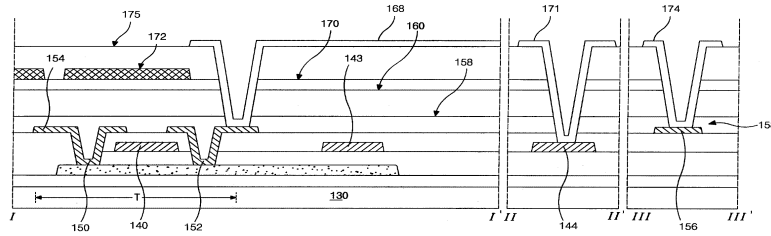
3d



3e



3f



专利名称(译)	用于反射透射型液晶显示装置的阵列基板及其制造方法		
公开(公告)号	KR1020020091897A	公开(公告)日	2002-12-11
申请号	KR1020010030699	申请日	2001-06-01
[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	CHOI JAESIK		
发明人	CHOI,JAESIK		
IPC分类号	G02F1/136		
代理人(译)	贞媛KI		
其他公开文献	KR100470020B1		
外部链接	Espacenet		

摘要(译)

目的：提供一种用于透反射式液晶显示装置的阵列基板及其制造方法，以通过在浮动结构中的透明电极下方形成反射板来简化制造步骤，并防止由于液晶显示器的颗粒而造成的设备污染。通过在形成反射板之前形成阻挡层来形成有机绝缘膜。构成：一种用于透反射式液晶显示装置的阵列基板的制造方法，包括基板（130），由有源层形成的薄膜晶体管（TFT），栅电极（140），漏电极（152）和源电极（150）在基板上依次排列，栅极线连接到栅电极并在具有预定区域的一端具有栅极焊盘（144），与栅极线平行设置的存储线与栅极线相距预定距离，数据与用于限定像素区域的栅极线相交的导线（154），连接至源电极并在端部具有预定面积的源极焊盘，形成在TFT和数据线上的有机绝缘膜（160），阻挡层（170）由在有机绝缘膜上的无机绝缘膜，通过部分去除像素区域而在阻挡层上的像素区域上的反射板（172）以及形成在反射板上的像素电极（168）构成绝缘膜并与漏极接触。

