

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

(51) 。 Int. Cl. ⁷
 G02F 1/1333 (11) 2003 - 0030564
 (43) 2003 04 18

(21) 10 - 2001 - 0062753
 (22) 2001 10 11

(71) 20

(72) 2 1027 - 3

(74)

(54)

가

, (etching stopper)

가

가

가

6f

1 ,
2 ,
3 ,
4a 4d 3 - - - ,
5 1 ,
6a 6f 5 - , - , - ,
7 2 ,
8a 8f 7 - , - , - , .

< >

100 : 102 :

104 : 106 :

108 : 110b :

112b : 1 118 :

120 : 124 : 2

126 : 128 : 3

130 :

(liquid crystal display device) ,
(Transflective liquid crystal display device) .

,
(back light)

(power consumption)

1

(13) , (29) (19) (17)
 64) (15) , (P) (A) (52) (T)
 (34,46) (A) (30) , (15) (30) (23)

2

(A) , (29) (13) (15) , ()
 (30) , (52) , (64)
 (41) (15) (30) (23) , (30)

偈 (29) (reflective mode)

5) , (B) (52) , (13) , (1)
 (23) , (23) (B) (Image)

1) , (F) (Transmission mode) , (21) (4)
 , (41) (64) (13) (64) (23)
 (41)

3

, (30) , , (T)偈 (matrix type)
 , (P) (34) (46)
 (34) (S) , (P)
 (52,46) (,)
 (48)偈 (34) (46) (36)

(40) (T) (32) (42) (44)

, 4a 4d , 3

4a 4d 3 - - -

, 4a 1 2

, (30) 1 , (32) (3
 34) (30) (38) . , , (32)
 , (32) (38) (36) , , (32)
 (40) . (40a) (active layer)
 4b 3 . , 4
 , (40b) , , (40a) (42)
 (44) , (42) , (46) (46) (42)
 (48) .
 / , (P) (3 34)
 / (30) (42,44) 2 (50) 2 (50) (AI)
 , (P) (A) (52)
 4c 5 , (52) 3 , 3 (54) , 3 (44)
 , 1 (38) 2 (50) (52) (52) (A) (58)
 (56) , (60) , (48)
 (36) (62)
 4d 6 ,
 , (54) 6
 , (44) (P) (64)
 , (36) (48) (66)
 (68) .
 6

7

(TOP gate : staggered TFT)

(AI)

(ITO) - - (IZO)

3 , , 4 ;
 , , 5
 - - 1 - -
 1 (top gate)
 (TFT) ,
 , 5 1
 , (P) (100) (106) (122) (122)
 (102,104) , (110b) , (106,122)
 (118) (T) (110b) , (110b)
 , (T) (102) (106) , (118)
 (122) , (118) (110b) , (118)
 , , 1
 , 6a 6f 1
 6a 6f 5 - - -
 , 6a 1
 , (100) (Al), (AlNd), (W), (Cr), (Mo)
 , (Cr)(Mo), (Ti))/ (Al) (ohmic contact layer) (n+
 p+)
 1 , ,
 / () ,
 , (102) (104) (102)
 (108) (5 106) ,
 (105) ,
 6b 2 ,
 (102,104) (105) (100) (a - Si:H)
 (110a) , (SiN_x) (SiO₂)
 1 (112a) , .

, 1 (112a) (114)
 , (114) (mask) (M) (positive type) (exposure) (develop) (116a)
 , (104) (118) (114) , (102)
 , (118) , (120) (122)
 , () (118) (1) 16b) 가
 6c (100) (116b) (110b) 1 (112b)
 (6b 116b) 1 (112a) (110)
 , (108) (5 122) (118) (110b) (6b 116b)
 , (110b) (120) (5 122) (118)
 , (110b) 가
 , (110b) (110b) (120) (5 122)
 6d 3
 , (5 122) (118b) (110b) (100) 3
 (BCB) (acryl) (resin) (124) (126) (AI) (AlNd) (P)
 (A) (126) (100) (SiN_x) (SiO₂) 3 (128)
 , 6e 4
 , (126) (100) (SiN_x) (SiO₂) 3 (128)
 , 4 (104) (130) 2 (124) 3 (128) , (A) (132)
 (108) (120) (126) (134) (136)

, 1 (108)
 (105) 가

6f 5

, (130,132,134,136) 3 (128) - - (ITO)
 (104) (138) 5
 , (108) (142) (120)
 (142)

1

2

2

2 5 가

7 2

, (222) (206) (P)
 (206,222) (T) .
 (T) (202) (204) (210b) (218)
 (top gate)

2) (T) (204) (206) (20)
 .

(202,204) (210b) (210b)
 (222) (218) .

, (210b) (218) (222)
 .
 (P) (240) (A) (228)
 (228) (N) .

, 8a 8f ,

8a 8f 7 - - , - -

, 8a 1

(200) (Cr) (Al), (Mo), (Ti)) / (AlNd), (Al) (W), (Cr), (Mo),
 1 , ()
 , (202) (208) (206) (204) , (202) (205) (2) 204
 02, 204 (206) (208) (206) (204) , (202) ,
 8b 2

a) , (202,204) (SiN_x) (200) (SiO₂) (a - Si:H) (210)
 (BCB) (Acryl) (resin) 1
 (212a) , 1 (212a) (214)
 , (214) (M2) (exposure) (positive type) (216a)
 (M2) (D1) () () (P) () (D2) 1
 (210b) (214) , (202,204)
 , (218) (220) (7 222)
 (P) (224)
 , (7 22) (218) (224)
 (Photo - Resist) (216b) 1
 (210a) 1
 8c (200) (210b) 1 (212b) (218)
 (8b 121a) (218) (8b 210a) (8b 116b) 1

, (220) (7 222) (218) (220) (218) , (220) (7
 222) (218) (220) 1 (212b) (212b) (210b)
 b) . (P) (N) (224) 1 (212b) (210b)
 , (110b) (220) (218) (218) (210b) (7
 222) (224) . (N) (P) (N)
 8d 3 (228) (200) (7 222) (218) (210b) (resin)
 , (200) 3 (BCB) (226) (acryl) (210b) (resin) (P) (N)
 , 3 (226) (AI) (AI) (AlNd)
 , (N) (O) (P)
 , 3 (P) (A)
 (228) .
 , 8e 4 (228) (200) (SiN_x) (SiO₂)
 , 4 (232) , 2 (226) 3 (230) , (234) , (2
 04) (208) (220) (228) (A) (236) (238)
 , (205)
 8f 5
 , 3 (230) (ITO) (IZO)
 , 5 - - - (204)
 (240)
 , (208) (240) (220)
 (242)
 1 2

가 .

가 .

(57)

1.

;

;

,

,

;

;

2.

;

1 , 1

1 , ;

1 , 2 ;

2 , 1

1 , 2 ;

2 ;

2 , 3 ;

4

;

5

3.

2 ,

,

4.

2 ,

(AI)

5.

2 ,

- - (ITO) - - (IZO)

6.

;

;

,

,

;

;

7.

;

1 , 1

1 , ;

1 , 2 ;

2 , 1

1 , 2 ;

;

2 , ;

2 ; 3

3 , ; 4

, 5

8.

7 ,

,

9.

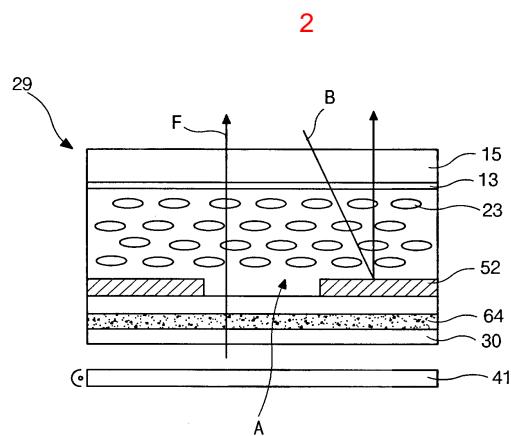
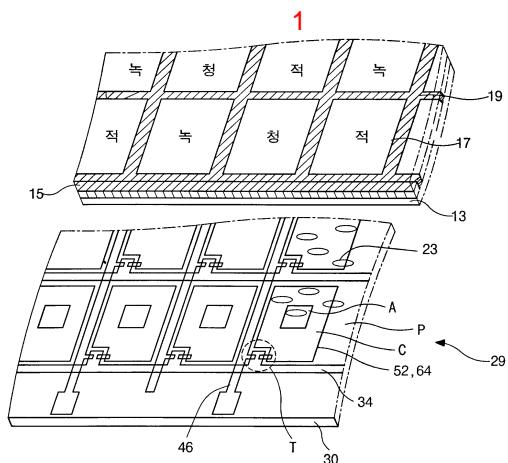
7 ,

(AI)

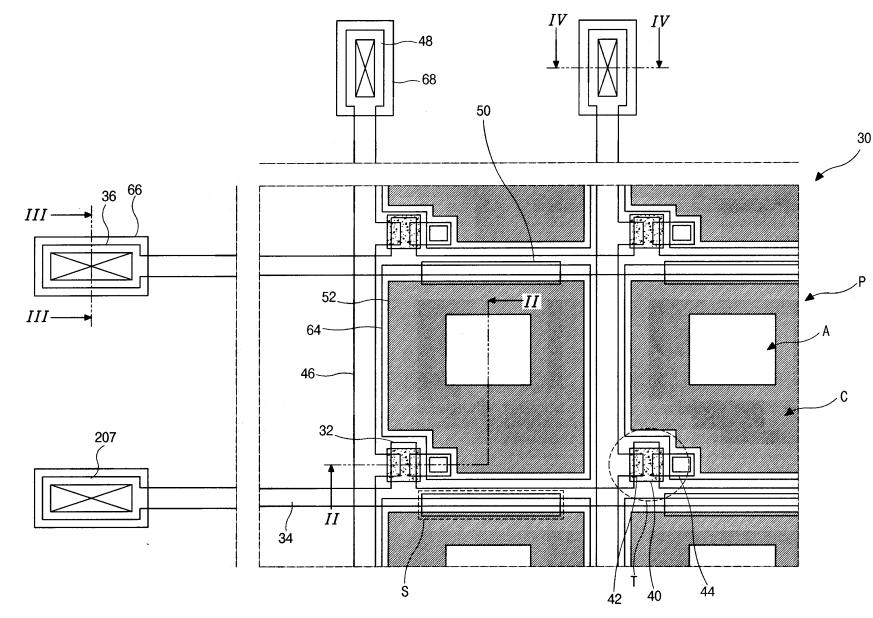
10.

7 ,

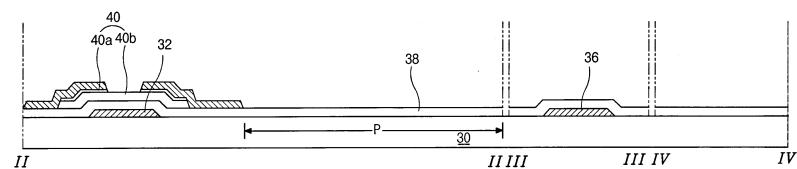
(ITO) - - - (IZO)



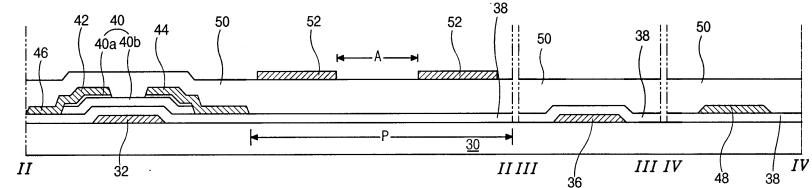
3



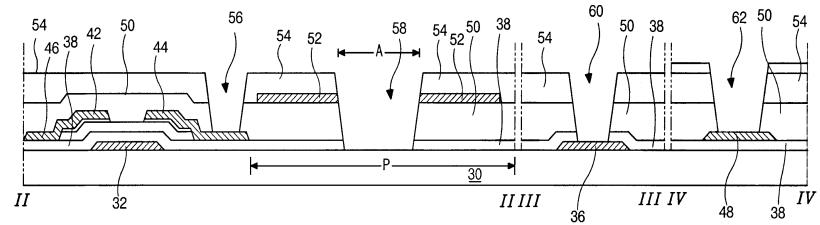
4a



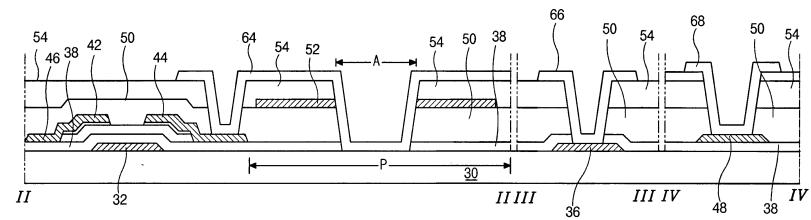
4b



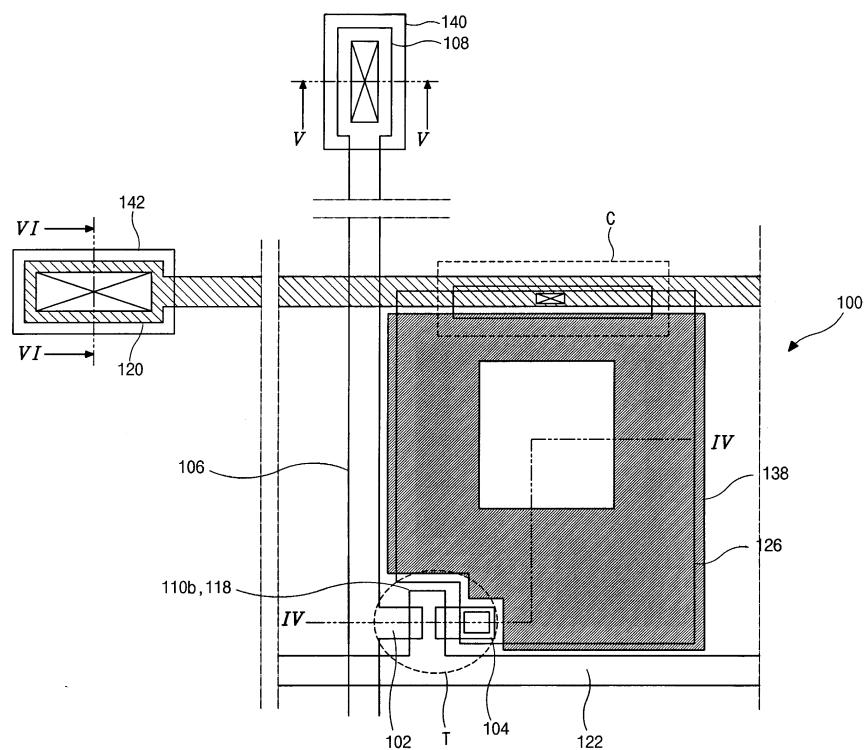
4c



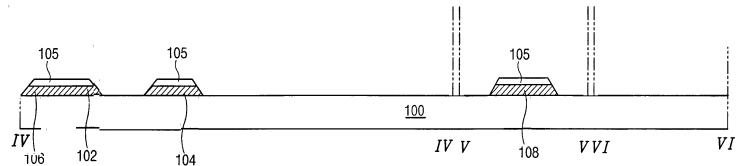
4d



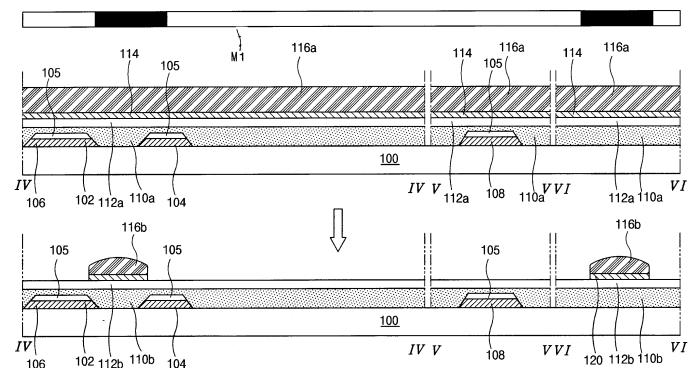
5



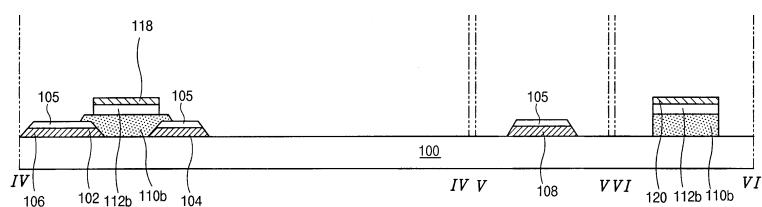
6a



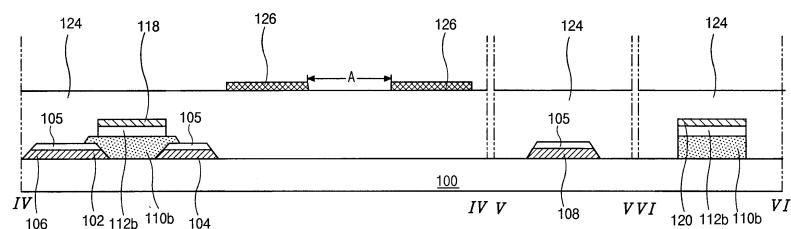
6b



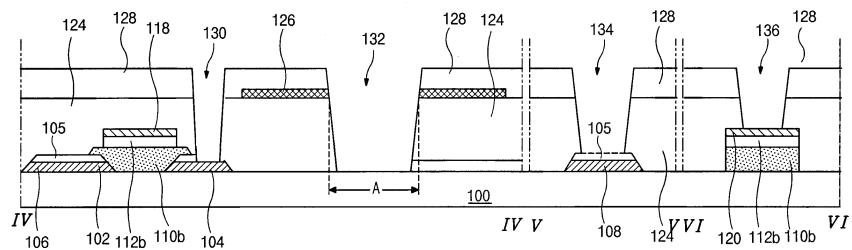
6c



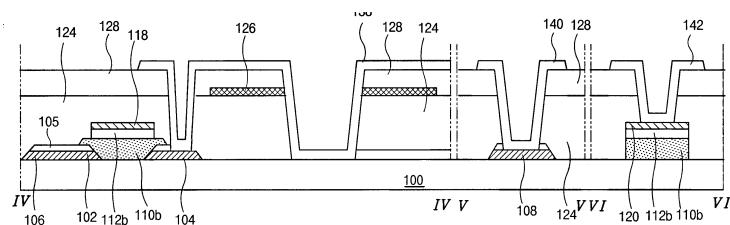
6d



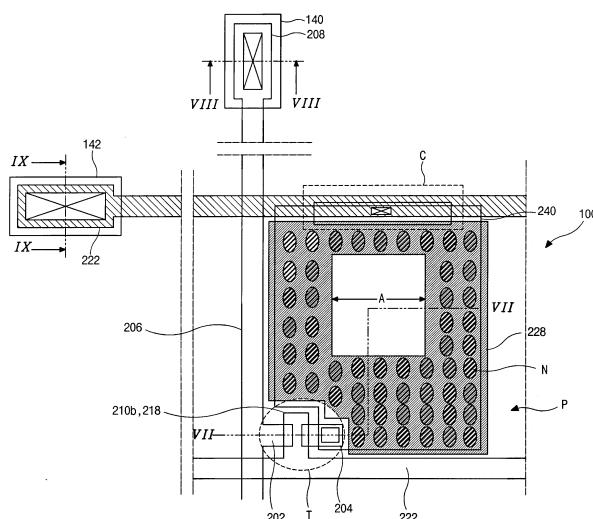
6e



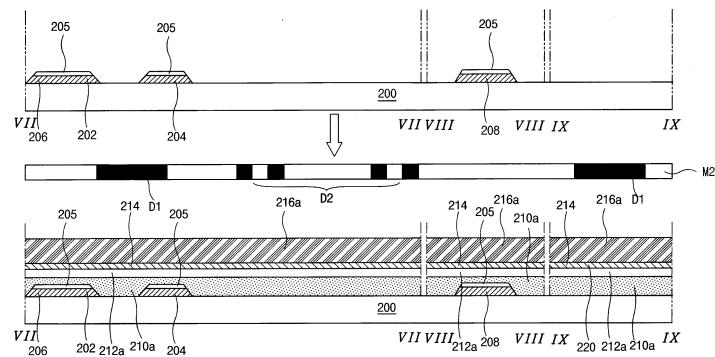
6f



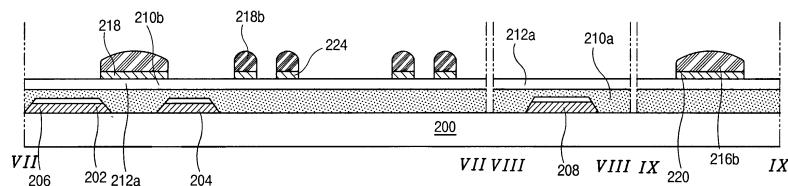
7



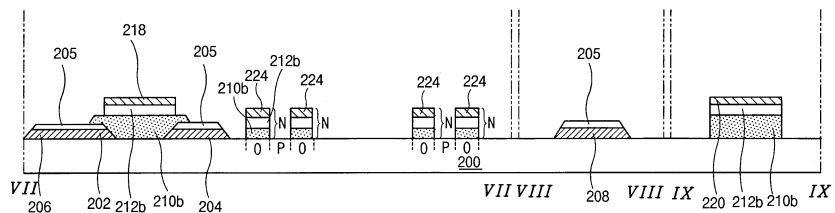
8a



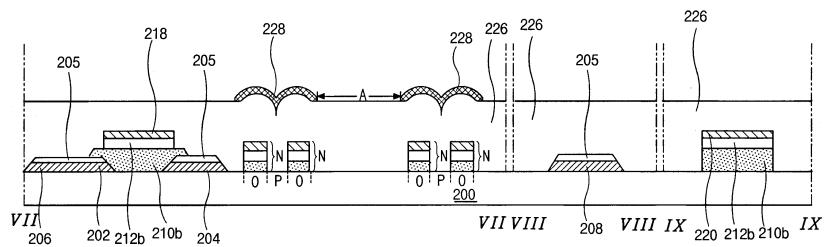
8b



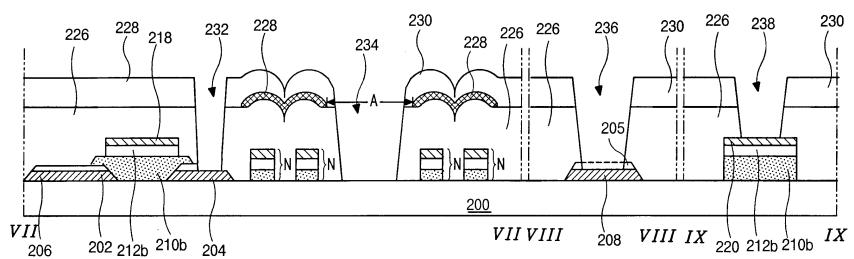
8c



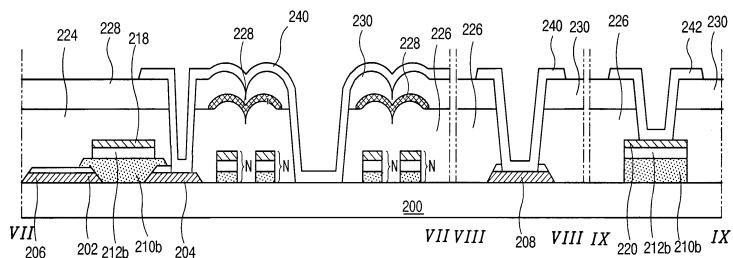
8d



8e



8f



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	KR1020030030564A	公开(公告)日	2003-04-18
申请号	KR1020010062753	申请日	2001-10-11
[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	BAEK HEUMIL		
发明人	BAEK,HEUMIL		
IPC分类号	G02F1/1368 G02F1/1333 G02F1/1362 G02F1/1335		
CPC分类号	G02F2001/136231 G02F1/133553 G02F1/136286 G02F2001/13685 G02F1/133555 G02F1/136227		
其他公开文献	KR100433805B1		
外部链接	Espacenet		

摘要(译)

液晶显示装置及其制造方法技术领域本发明涉及液晶显示装置，更具体地，涉及在单个像素区域中同时形成反射部分和透射部分的半透半反液晶显示装置及其制造方法。根据本发明的用于反射半透半反型液晶显示器的阵列基板采用顶栅型薄膜晶体管形成栅电极，然后使用该栅电极作为蚀刻停止层，以形成下绝缘膜和有源层蚀刻。在这种情况下，由于可以缩短工艺，因此可以提高产品的产量。此外，本发明提出一种结构，其中在具有上述构造的半透射型液晶显示装置的反射部分中形成凹凸形状的反射电极。当反射电极形成为凹凸形状时，反射率得到改善，并且产品的显示质量得到改善。图6F

