

(19)
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10-2004-0053677
2004 06 24

(21) 10-2002-0080881
(22) 2002 12 17

(71) . 20

(72) 505-105

4가 4 706

(74)
:

(54)

가 COT
(staggered)

COT(Color filter on TFT)

5

1

2 1 -

3 2 COT

4a 4g 3 - ` , ,
 5 COT ,
 6a 6f 5 - ` , 1
 ,
 7 2 COT ,
 8 3 COT .
 < >

100 : 106 :
 108 : 110 :
 120 : 126 :
 1306a,b,c :

on TFT) , COT(Color-filter
 가 , 가
 , 가
 1 .
 (6) (11) (8) (8)
 (P) (7) (7) (18) (P) (5) ,
 (22) (5) (17) (22) (T)가 (14) .
 (22) (array substrate) (TFT) 가 (T)가 (13)
 (matrix type) (15) (P) (13) (15) , (P)
 (17) - - (indium-tin-oxide : ITO)

(C) 1 (17) (C)가 2 (13) ,
 (30) (13) , 2 (13)
 , (30) (17) .
 (5) (22) (5) (22) ,
 , 2 .
 2 1 - ` .
 2 (22,5) , 1 (22) 2 (5) , 1
 (22) (32) (34) (36) (38)
 (T) , (T) (40) .
 7) (P) (T) (38) (17) , (1)
 (C)가 (13) .
 가 (5) (22) (13) (15) (T) (6)
 (P) (7a,7b,7c)가 .
) (A) , (cross talk) (15) (17)
 (13) (B) .
 , (15) (5) (13) (17) (A,B)
 (black matrix)(6)가 가 .
 , (34) (T) (6) (40)
 , (5) (22) (margin) (misalign)가 가 ,
 (6) .
 , 가 가 , (A,B) (6) 가
 가 .
 , 3 ,
 3 2 COT .
 (52) , (50) (52) ,
 (P) (66) .
 (64) (52) (66) (T)가 (54) (58) (62)
 (P) (64) (80) (72a,b,c)가 , (72a,b,c)

(52) (66) (74)

74) (72a,b,c) (52)

4a 4f 가 COT

4a 4g 3 -`

4a (Mo) (50) (Al), 1 (Cu), (W), (Cr), (52)

(54)

(SiO₂) (52) (54) (50) (56) (SiN_x)

4b (56) (n+a-Si:H) 2 (50) (a-

Si:H) (54) (56) (58) (60)

4c 3 (58) (50) (62) (64) (66)

(62) (52) (60) (P)

(52) (68)

(58) (62,64) (60)

) (62,64) (50) 1 (70) (SiN_x) (SiO₂)

4d (P) 1 (70) (72a,72b)

(72a,72b) (P)

4 (P) (72a,b)가 (50) (T)

4e 5 (74) (66) (52)

가 가 (74)

4f 6 (64) (76) (68) (78) (56)

4g (ITO) (72a,72b) (74)가 (50) 7

(80) (IZO) (64) (68) (P)

(52) (52) 2 (80) (C_{ST})가 (68) 1
COT

가

(normal staggered)

2

가

1

가

가

가

(Cr)

/

(CrO_x)

1 2 ; 1
 ;
 ;
 ; 2
 ; 가 2

-- 1 --

5 COT(Color Filter on TFT)

(126) (100) (P) (126) (110)
 (126) (110) (124) (120)
 (106,108) (T)
 (T) (106,108) (120) (124)
 (110,126) (P) (132)
 (132) (T) (126) (110) (T)
 (P) (136a,136b,136c)
 (132) (126) (C_{st})
 (C_{st}) (126) 1 (126) 2
 (126) (110) (132)
 (128)

6a 6f 가 1
 6a (100) (D) (P) (T) (G)
 (D,P,T,G) (100) (Cr) (Mo) (W) (Ti) (C)
 (Al) (AINd) (102) (104) 1 (102)
 1 (102) (104) 1
 6b (108) (106) (T) (D) (100) (106)

(110) , (P) (G) (112)

(106) (108) (110) (112)

(114)

(106) (110) (114) (ohmic contac

t layer)

(118) (106,108) (100) (a-Si:H)(116)

(120)

(116) (118) 2 (120)

(T) (106,108)

(114) (120) ,

(120) (G) (122) (114) (122) (124) (1

22) (122) (114) (126) (120) , (1)

(T) (120) (active layer)

(108) (112)

6d (124) (126) (100)

3 (106,108) (110)

(128)

(126) (128) ()

(stripe) (122)

(P) () (128)

6e (128)가 (200) 4

(130b)

(130b) 가 (P)

6f (130b)가 (100) (ITO)

(IZO) (108)

(112) (130b) (132)

(132) (112) 1 (126)

(C_{ST})가

1 가

2 1

2 -- 2 --

1

7 2 COT

7 5 - 2

(D) (T) (G) (P) (200)

(202) (Cr) (Cr)/(CrO_x)()

(202)가 (200) (BCB) (acryl) ((SiN_x) (SiO₂))

(204)

(224) (T) (206,208) (220) (224)

(224) (206) (210) (D)

(G) (216) (220) (222)

(222)

(P) (230) (230) (208)

(232)

(212) (232) (212) 1 (218)

2 (C_{ST})가

2 COT

1 6

3 1

-- 3 --

3 1

8 3

1 (300) 2 (400) 1 (300)

(324) (402) (406)

2 (400)

(314) 1 (300) (T) (306,308)

(316) (318) (310) (320) (G)

(D) (306)

(322)

(312) (322) (318) (314)

(C_{ST}) 1 (322) 2

2 (400) 1 (300) (T) (D) (

402)

(402) (400)

1

3

가

,

1

3

가

1

2

(

)

COT

1

3

가
가

가

(57)

1.

;

;

;

;

;

2.

1

2

가

1

3.

1

4.

1

가

가

가

5.

4 ,

1 6.

7.

7 8.

가 가 , 가

8 9.

7 10.

7 11.

12.

가

, ;

;

.

12 13. ,
(Cr) / (CrO_x)

12 14. ,
(SiN_x) (BCB) (SiO₂) (acryl) (resin)

12 15. .

16. 1 2 ;

1 ;

;

2

가 2

16 17. ,
가 가 , 가

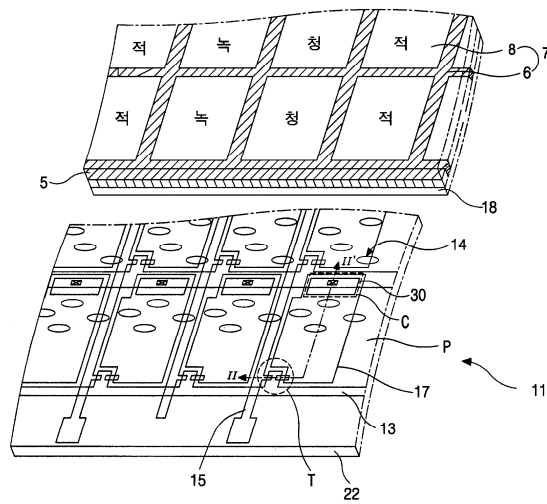
18.

17

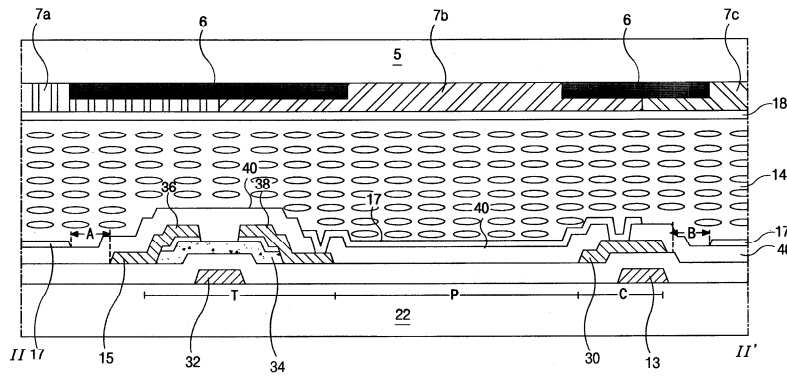
19.

16

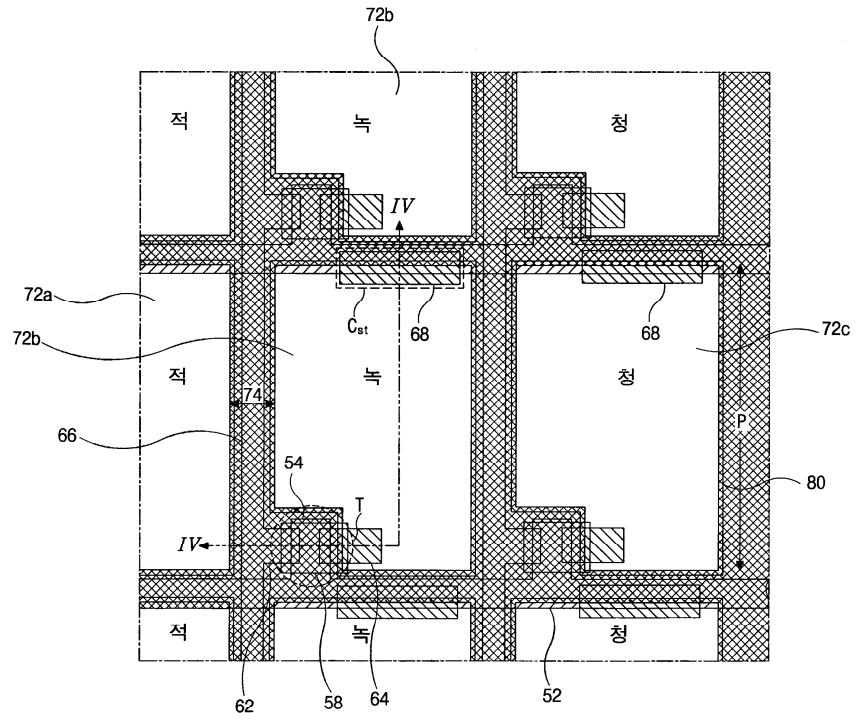
1



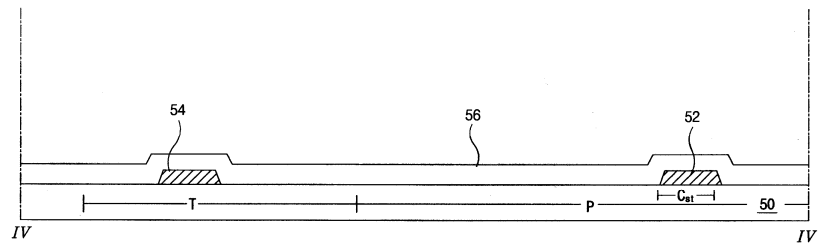
2



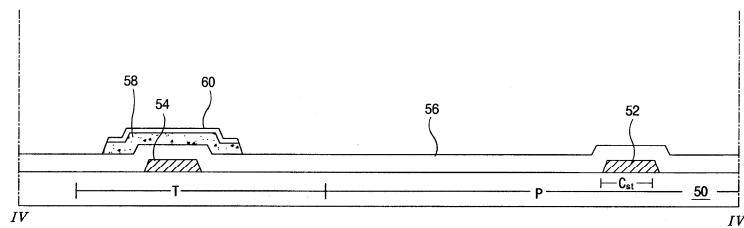
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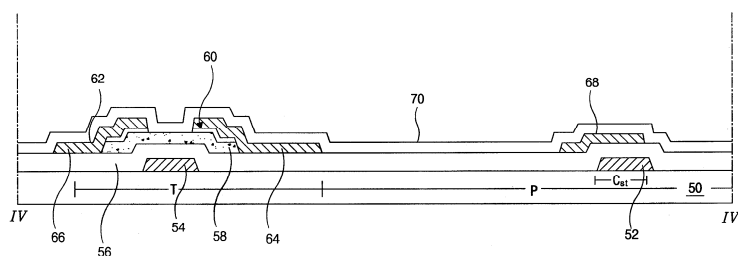
4a



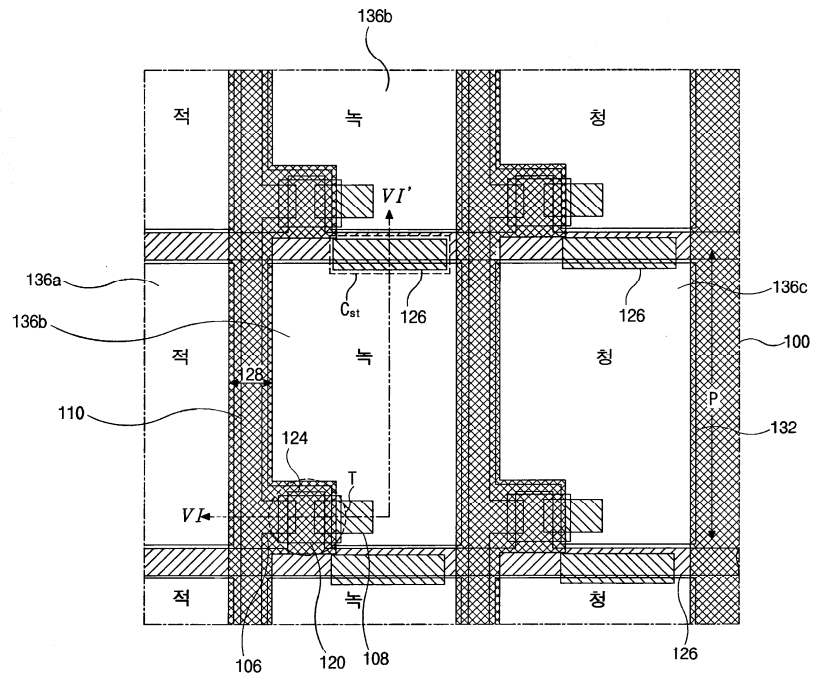
4b



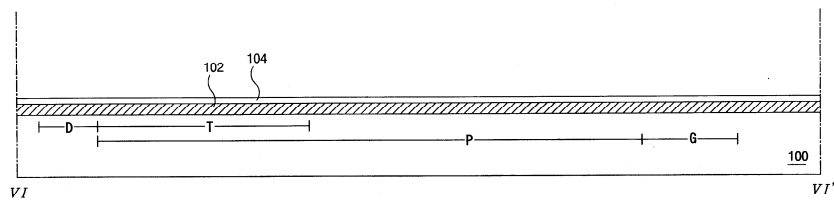
4c



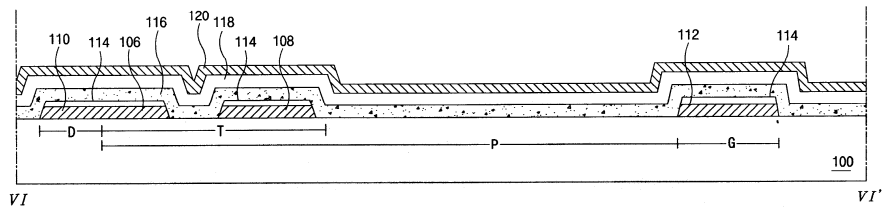
5



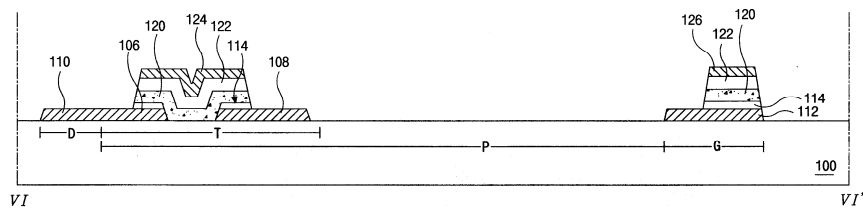
6a



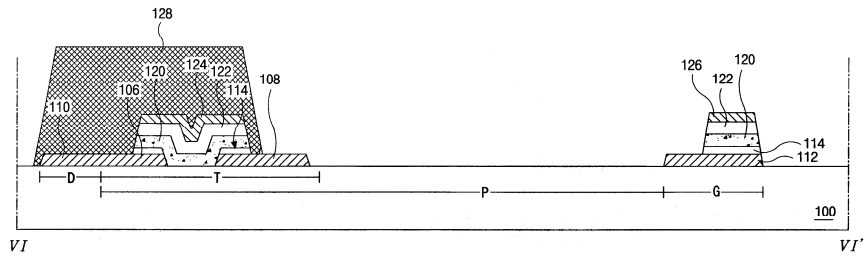
6b



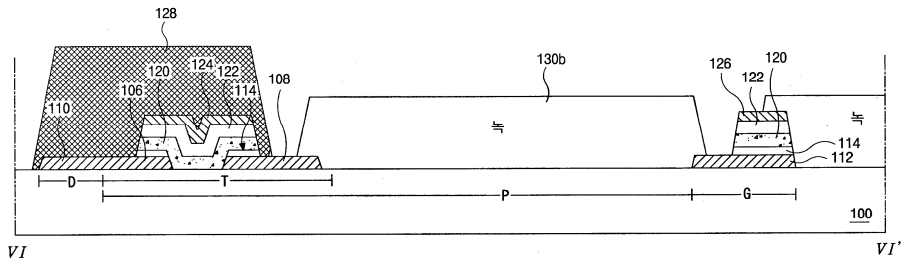
6c



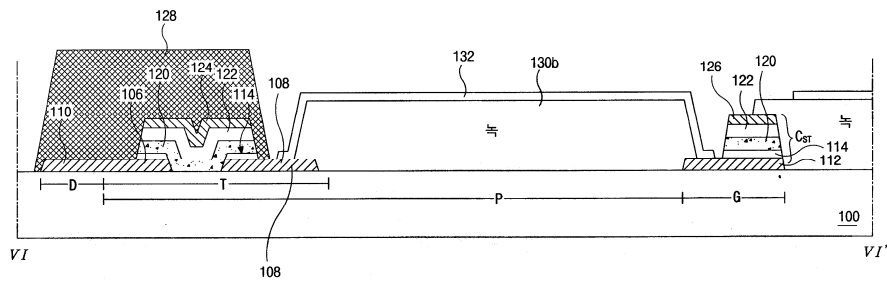
6d



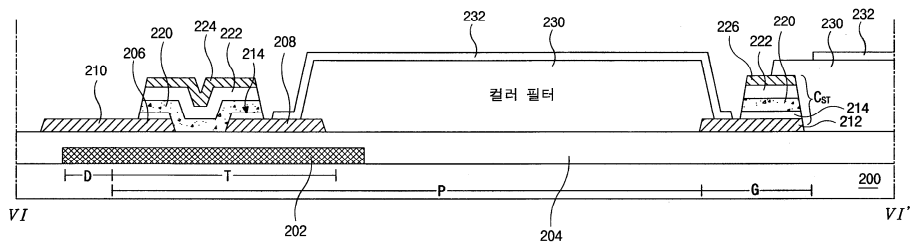
6e



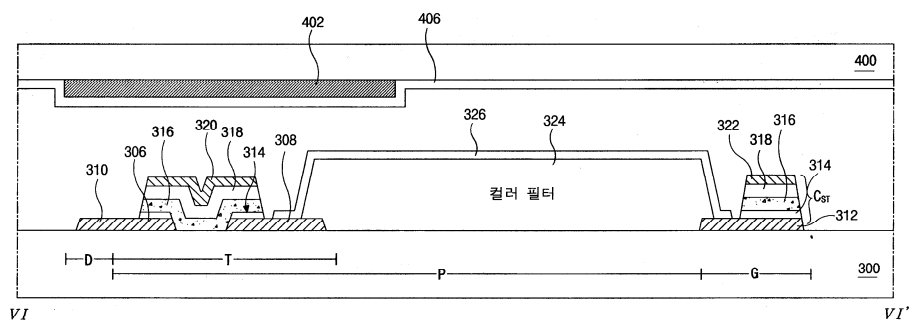
6f



7



8



专利名称(译)	用于液晶显示装置的阵列基板及其制造方法		
公开(公告)号	KR1020040053677A	公开(公告)日	2004-06-24
申请号	KR1020020080881	申请日	2002-12-17
[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	LEE DONGHOON 이동훈 KIM MINJOO 김민주		
发明人	이동훈 김민주		
IPC分类号	G02F1/1335 G02B5/20 G02F1/1368 G02F1/136 G02F1/1362 G09F9/30 H01L21/336 H01L29/786 G09F9/35		
CPC分类号	G02F1/136209 G02F2001/136222		
其他公开文献	KR100870701B1		
外部链接	Espacenet		

摘要(译)

液晶显示装置技术领域本发明涉及液晶显示装置，更具体地，涉及具有COT结构的液晶显示装置，其中滤色器形成在阵列基板上。根据本发明的用于液晶显示器的阵列基板包括顶栅型薄膜晶体管阵列部分和形成在阵列部分的上部的滤色器。此时，当形成包括滤色器的顶栅型薄膜晶体管的阵列部分时，源电极和漏电极以及杂质非晶硅层同时被图案化，并且栅电极，有源层和栅极绝缘膜被同时图案化。如上所述的具有TFT (COT) 结构的滤色器的液晶显示装置用阵列基板的优点在于可以简化工艺。五

