

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.7
G02F 1/1343

(11)
(43)

10-2004-0071521
2004 08 12

(21) 10-2003-0007538
(22) 2003 02 06

(71) 416

(72) 11 1651-3 103

315-702

3 1258 103 104

105 407 303

911 1502

(74)

:

(54)

2 2 가 2 4 1 3 1 1

3

1			
2		1	
3			
4a			1
4b	4a	A-A	
4c			1 1
4d	4c	B-B	
4e			
4f	4e	C-C	
4g			2

(Liquid Crystal Display device, LCD) (Liquid Crystal, LC) (transmission index)가 (transmission angle) CRT (viewing angle) CRT (Twist Nematic, TN) (Super Twist Nematic, STN) VA (Vertical Alignment) PVA (Patterned Vertical Alignment) MVA (Massive Vertical Alignment) PVA (common electrode) 가

MVA (orientation film) 가 .

MVA , PVA 가 ,

가 가 .

IPS(In-Plane Switching) 가

1

2

가 1 , 1 가 -

가 1 2 2 1 , 1 가 1

2 2 1 , 2 가 1

2 , 1 가 3 1

2 가 2 1 , 4 , 가 2 1 2 1

2 4 LDD(Lightly doped drain)

1

1 , (400) 1 (100), 2 (200) (300)

2 1

2 , 1 (100) (110), 1 (120), (130), 2 (140)

(110) 가 가 (110) (amorphous silicon) 가 가 (poly silic

on) (400) , (110) 가 1024 x68 , (110) 1024 x768 x3 가 , 1 (11

0)

1 (120) (110) - (turn-on) (110) (120) (110) (turn-off)
 가 , , 가 , , (110) (110) (110)
 (110) (gate voltage, V_g) 1 (120) (110)

(130) 1 (120) 1 (120) (layer) , 160
 (reference voltage, V_{ref}) 가 (130) (130) 2 1
 , 135 .

2 (140) (110) , 1 (120) 2 (140) . 2
 (140) (110) (data voltage, V_d) 가 .

) (150) (110) , (150) (110) 2 (140)
 (110) , (150) (160) (130) 1 (120)
 , (150) 1 (135) (135) 2 (135)
 , 155 .

1 , 2 (200) . 2 (200) 1 (100)
 (110) .

3 .

3 , (400) 1 (100), 2 (200) (300) .

1 (100) 1 (101) (110), 1 (120), (130), 2 (140)
 (150) .

(110) (112) , (112) (110)
 (114) .

(112) (114) (110) (115)

1 (120) (115) . 1 가 (120) (110) -
 (110) . 1 (120) (110) (120)
 (114) .

(130) 1 (120) , 1 (115) (130) 160
 , 1 (135) .

1 (120) (130) (132) , (132) (11
 0) (112) 1 (132a) 2 (132b) .

2 (140) (132) , 132a 1 (11
 0) (112) . 2 (140) 가 .

, (150) (132) 2 (140) , 132b
 2 (110) (112) . (150)
 (130) 1 (135) . 1 (135) (150) (1
 50) 2 , 155 .

, (150) 1 (135) (150) (130) 가
 , (150) (130) 가 .

(132) (150) 2 (140) (145)

4a 4b 4a A-A 1

4a 4b 1 (101) (110) (110)

4a 1 (101) (110) 1 4b (110)

(115)

4c 4d 4c B-B 1 1

4c 4d (115) 2 1

(120) (130)

1 (120) (110) X 1 (120) 1 (120)

Y (110) 가 1 (120) LDD(Lightly Dope 1

25 d drain) (110) (가)가 1 (110)

(130) 1 (120) X (130) 가 (110)

(135) (135) 1 (120) Y

1 (101) (110) (110) (110) (110) (110) (110) (110)

(112) (114) (110) (112) (110) (114)

4e 4f 4f 4e C-C 4f

4e 4f 1 (101) 1 (120) (130)

(132)

(132) (132) 3 (112)

1 (132a) 2 (132b) 1 (132a) 2 (132b) 1

(120) (125)

(132) 1 (132a) 2 (132b) (132)

(115) (112)

4g 2

3 4g 2 (140) (132) (150) 4

2 (140) 1 (120) Y , 2 (140) 2
 (140) 2 (140) 1 (120) 132a 1 (112)
 . 2 (140) 1 (132a) (110) (112)
 .
) (150) 2 (140) (150) 1 (120)
 , 132b 2 (155) (150) 1 (135)
 2 (155) (130) 가 1 (135)
 . , 1 (135) 2 (155) 가 .
 3 , 1 (100) , 2 (200) 가 , 1 (100) 2 (200)
 , 1 (100) 2 (200) (300) (400)가 .

(57)

1. , - 가 가 1 , 1
 2 2 가 , 가
 1 ;
 1 2 ;
 1 2 .
2. 1 , 1 .
3. 2 , .
4. 1 ;
 2 가 ; - 가 1
 1 ; , 3 1 2
 ;
 4 가 1 가 2
 1 ;
 1 2 ;

1 2

5.

4

1

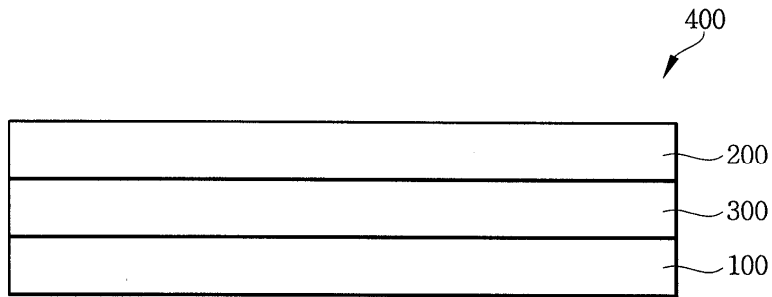
6.

5

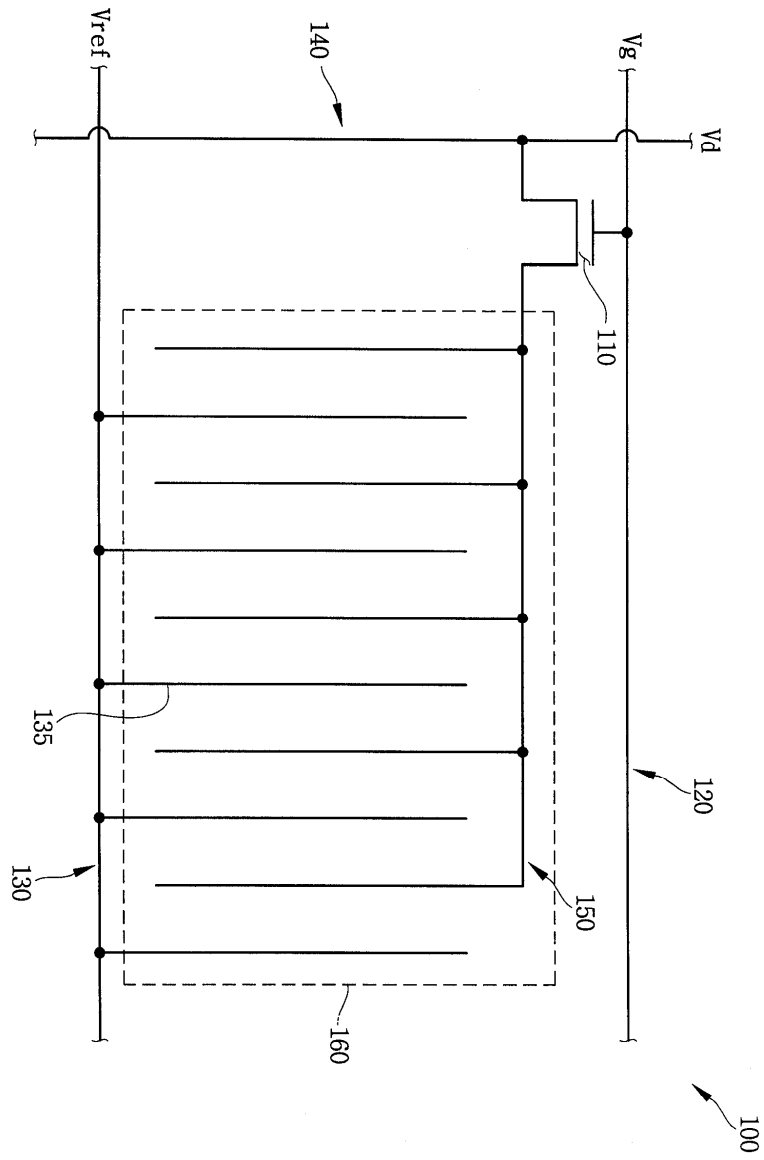
1

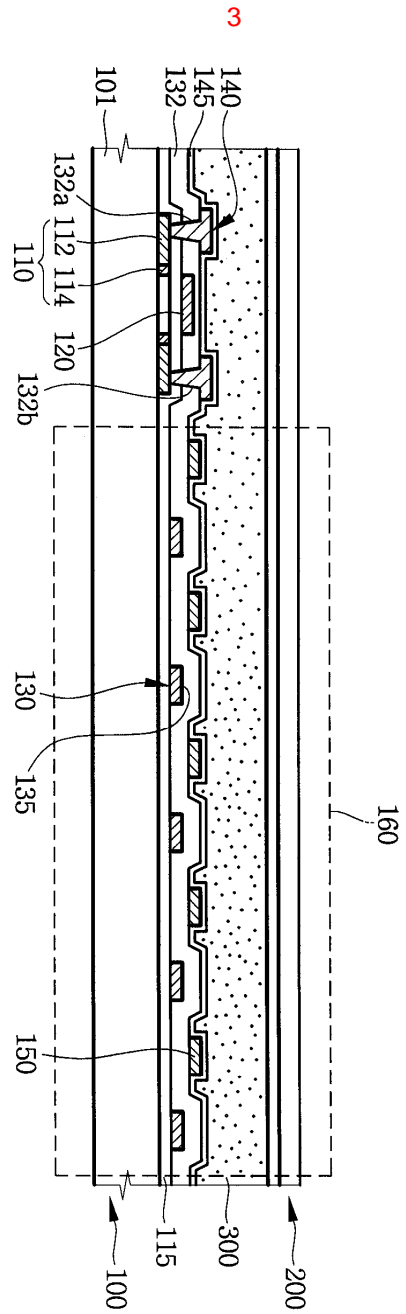
가

1

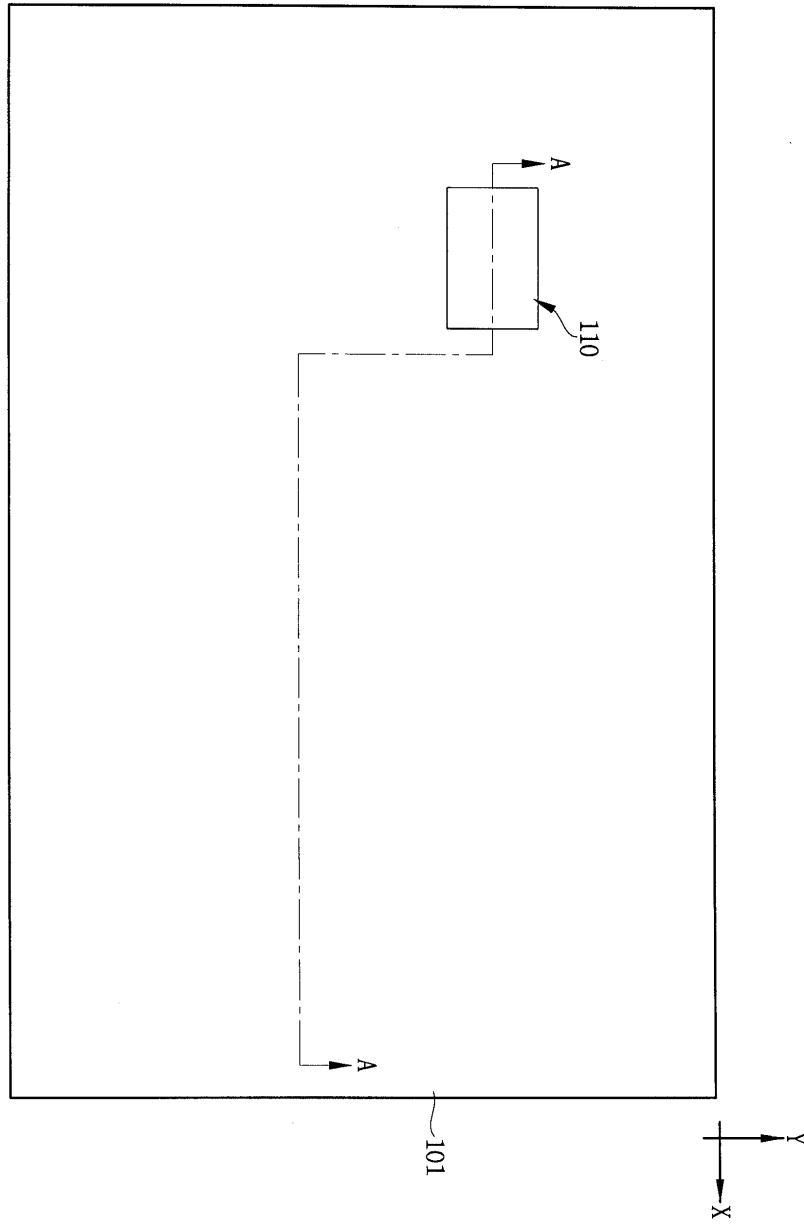


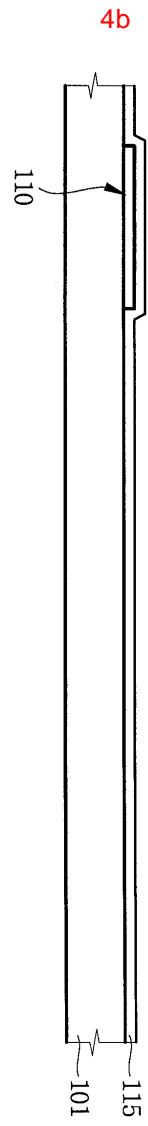
2



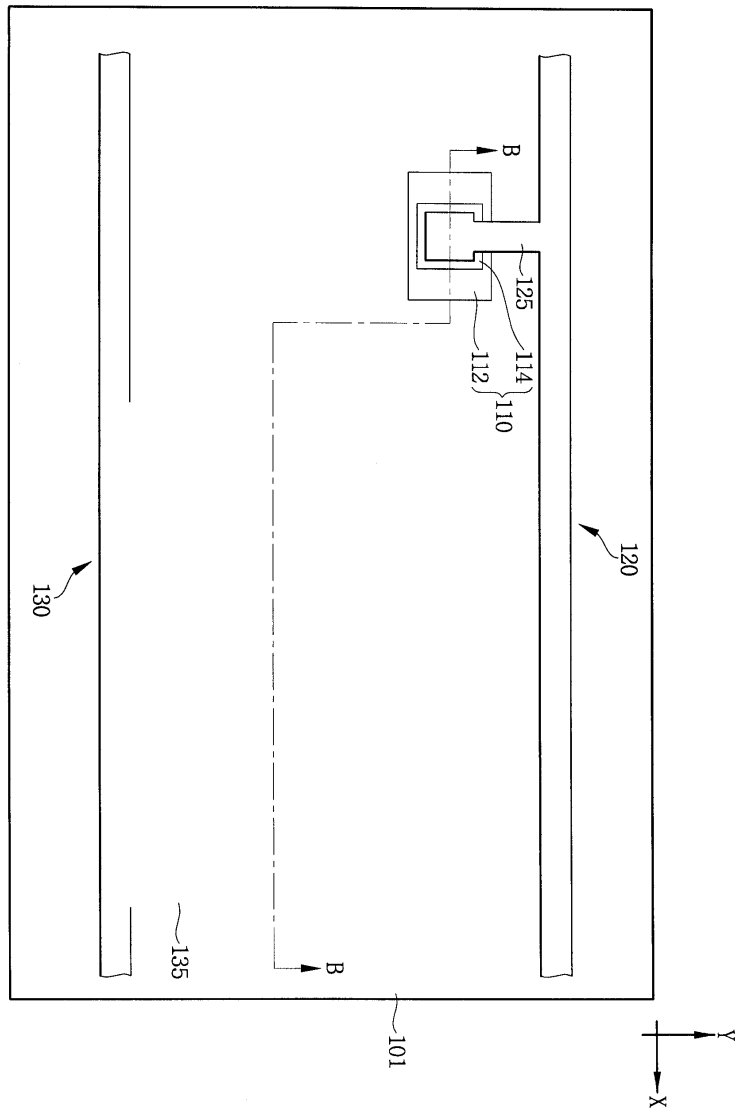


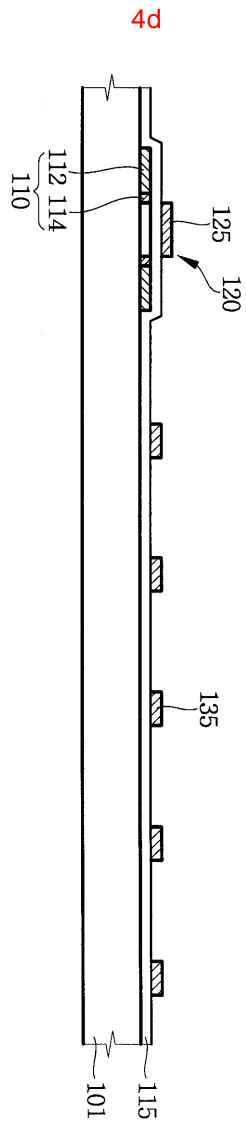
4a



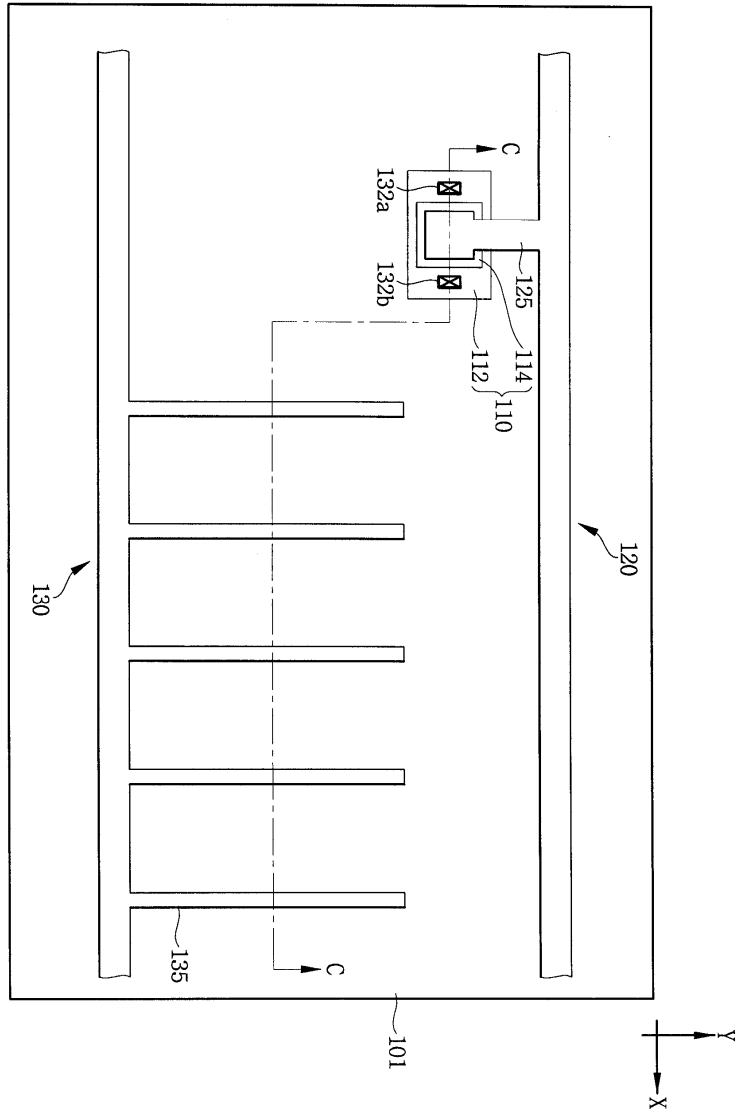


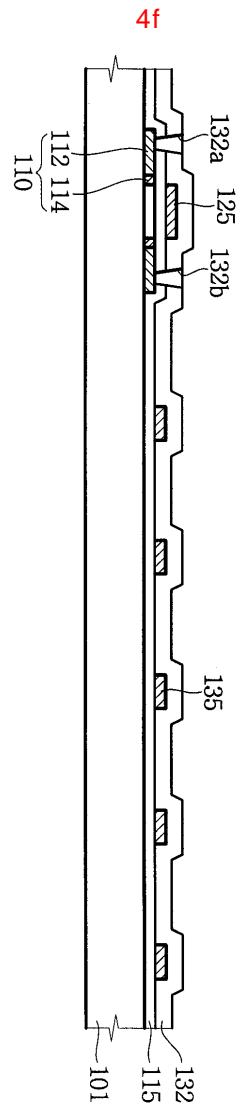
4c



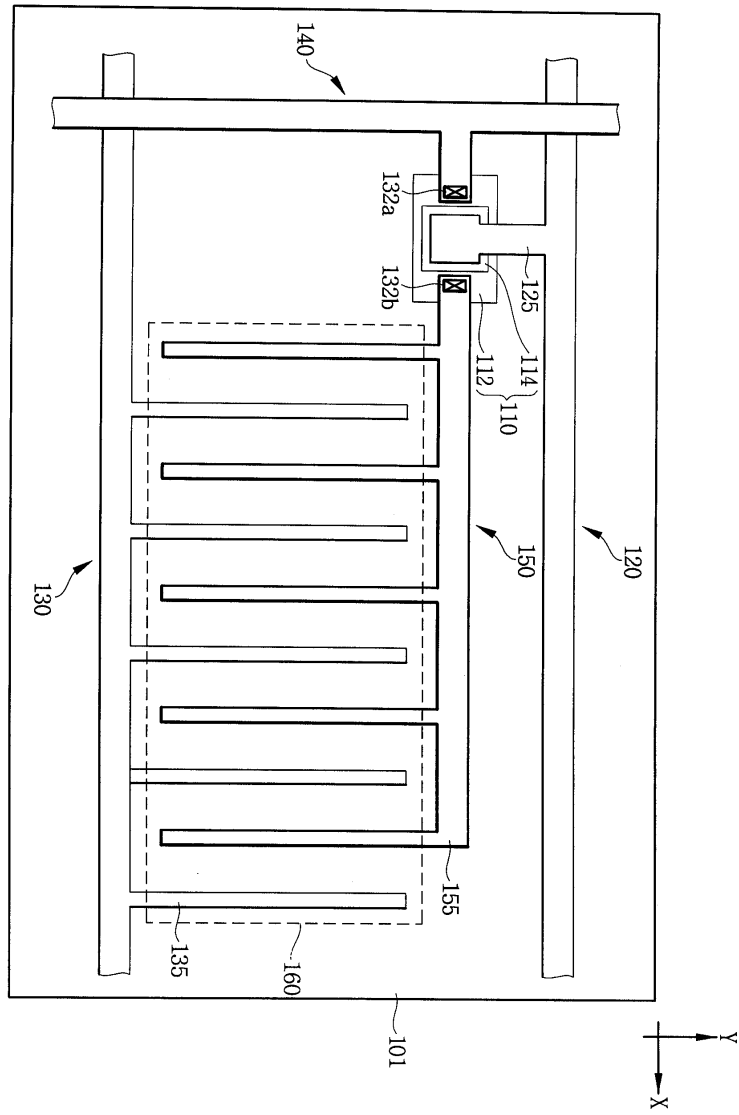


4e





4g



专利名称(译)	宽视角液晶显示装置及其制造方法		
公开(公告)号	KR1020040071521A	公开(公告)日	2004-08-12
申请号	KR1020030007538	申请日	2003-02-06
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	CHOI PILMO 최필모 YI CHUNG 이청 CHUNG UIJIN 정의진 KIM DEOKHOI 김덕희 KWAN WOOKJUNG 정관옥		
发明人	최필모 이청 정의진 김덕희 정관옥		
IPC分类号	G02F1/1343		
代理人(译)	PARK, YOUNG WOO		
外部链接	Espacenet		

摘要(译)

公开了一种宽视角液晶显示装置及其制造方法，其中减少了制造工艺的数量并改善了视角。形成具有第一图案掩模的沟道层，形成第一信号线和具有第二图案掩模的公共电极，用第三图案掩模图案化覆盖第一信号线和公共电极的层间绝缘膜以形成接触孔，并且形成其上通过第四图案掩模在层间绝缘膜的上表面上形成第二信号线和公共电极以及水平电场的像素电极，以制造液晶显示装置的第一基板。第一基板与第二基板组装，液晶设置在第一基板和第二基板之间。结果，大大提高了液晶显示装置的视角，并且大大减少了制造步骤的数量。3 指数方面 液晶显示，宽视角

