

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

(51) 。 Int. Cl. ⁷ G02F 1/13363	(11) (43)	10-2004-0097722 2004 11 18
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(21)	10-2003-0030105
(22)	2003 05 13

(71) 416

(72) 1006 315

113 1901

705 104 1205

2 110 304

(74) :

(54)

1 2 , 4 5μm C- C- 1
2 . C- , C- ,
.

1

, C-

1

2 1 1

3 1 C-

4 1 C-

5 1 C-

6 1 C-

7 1 C-

8a 8d 1

9a 9b 2

10 1 2

11 10 1 C-

12 11 C- 1

13 10

(liquid crystal)
(Liquid Crystal Display device, LCD)

가

, CRT

(viewing angle)

가

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

2 1 1 .

1 2 , 1 (100) 1 (112), (pixel electrode, 114)
가 (116) . 1 (112) , (114) 1 (112)

, (400) 가 1024×768 , (114) 1024×768×3
(Indium Zinc Oxide film, IZO) (Indium Tin Oxide film, ITO)

가 (116) 1 (112) (114) . 가 (116) (117), (117)
(114) 가 (116) (117), (117)
(118,119)

(117) (114) 1 (117) (G),
(S), (D) (C) (G) (C) (C)
(G) (C)
(amorphous silicon film) ,
n + (n + amorphous silicon film)

(S) (D) (C) , (S) (D)

(118) (119) (118) (117)
(119) (G)가 (119) (117) (S)가

2 (120) 1 (110) 2 (120) 2 (122), (124)
2 (120)

2 (122) (124) 2 (122) (124) (124)
124 2 (122) 1 (110) (114) (124) 2
(114) (122) (124) , (114)
(114)

1 (110) (114) , 2 (120) (124)
1 (110) (124) , 2 (120) (114)

, 1 (110) 2 (120) 1 (110) (sealant)
1 (110) 2 1 (110) 2 (120)
, 1 (110) 2 (120) (cell gap) 3.75μm 4μm가

(130) 1 (110) 2 (120) (drop filling)
(130) (124) (114) , 1 (110) 2 (120)
0) (Vertical Alignment mode LC)

(200) 1 (210) 2 (220) 1 (210) 1 (110)
, 2 (220) 2 (120) , 1 (210) 2 (220)
0)

C- (300) 1 (210) 1 (112)
, C- (300) 2 (220) 2 (122)
. C- (300) (100) 가

3 1 C-

3 , C- (300) 3 n_x, n_y, n_z
 $n_x, n_y,$ 3 XY
 (300) , n_z C-

C- (300) (Retardation value, R_{th})

$$R_{th} = [(n_x + n_y)/2 - n_z] \times d \quad (1) \quad , n_x = n_y > n_z$$

, < 1> (300) 220nm 270nm (R_{th}) 220nm 270nm , C-
 0nm , 가 가 (R_{th}) 220nm 27
 , C- (300) (R_{th}) 220nm
 270nm 가 ,

4 1 C-
 4 a 3.75 μ m , 4 b
 4 μ m

4 a, b , C- (300) (R_{th}) 220nm (R_{th}) 180nm 29
 0nm 가 , (R_{th}) 270nm 가

, C- (300) (R_{th}) 220nm
 270nm 4 5 μ m
 C- (300) 4 5 μ m , 25 μ m 30 μ m
 210 μ m 1/7 2 , C- (300) 25 μ m
 가 54 μ m 55 μ m 1/4

4 5 μ m C- (300) C- 1 (110) 2 (120) 1 (110)
 110) 2 (120) , C-

5 1 C-
 5 c 2 , d 1
 C-

, (, K) , 가
 , 가
 , 가
 5,400K 2,800K 6,500K
 1 2000 1 8000K 6500 7000K

5 a , 2 가
 가 , 16 , 16

5 b, 1 C- , 가 .

4 $5\mu\text{m}$ (100) C- (300) (100) (400) (1

6 1 C- .

6 , C- (300) 1 (210) 1 (110)

0) . C- (300) 2 (220) 2 (12

20) (300) 1 (110) , 2 (1

7 1 C- .

7 , C- (300) 1 (110) 1 (210), 2 (120)

2 (220) (310,320) (400) 25 μm 가 (310,320)

C- (300) C- 가 .

8a 8d 1

8a 8b , 1 (112)

(112) (118) (118) (G)가 1

, 1 (112) (113)

(113) , n⁺ / , n⁺ (117)

(119) (S), (D), (C)

, 8c 8d , (117) (D)

, 1 (112) (114) 1 (112) (114)

9a 9b 2 .

9a 9b , 2 (122) 1 (110) (114) 가

(123)가 (125) , 2 (122) (123)

(125)가 (125) RGB RGB 2 (122)

(125b) (125c) . 2 (122) (125a), (125)가 ,

2 (122) (124)

10 1 2 .

[illegible]

(57)

1. $\begin{matrix} 1 & & 1 & & 2 & & 1 & & 2 & & 1 \\ & 2 & & 가 & & 1 & & 2 & & & \end{matrix}$

1 1 , 2 2 ;

1 1 가 C-

2.

1 , C- n_x, n_y, n_z C- n_z ,
 $(\text{Retardation value, Rth}) \frac{[(n_x + n_y)/2 - n_z] \times d}{220\text{nm} \quad 270\text{nm}}$ C-
) , .

3.

2 , C- $d \quad 4 \quad 5\mu\text{m}$.

4.

2 , 1 2 $3.75 \quad 4\mu\text{m}$.

5.

1 , 1 , 2
 .

6.

1 , 1 , 2
 .

7.

1 , C- 1
 .

8.

1 , C-
 .

9.

1, 2 , 1, 2 1, 2 가 가 ;
 1, 2

가 C- ; 1 2
 C-

1 1 , 2 2
 .

10.

9 , C- , C-
 $[(n_x + n_y)/2 - n_z] \times d$) n_z , C-
 $220\text{nm} \quad 270\text{nm}$ C-
 .

11.

9 1 , C- 2 ; C-

C- 1 2
 C- ;

C- .

- 9

12.

, C-

4

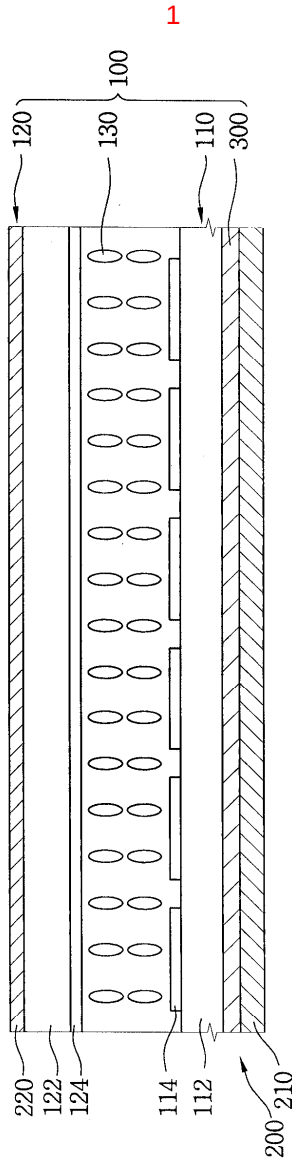
5μm
- 9

13.

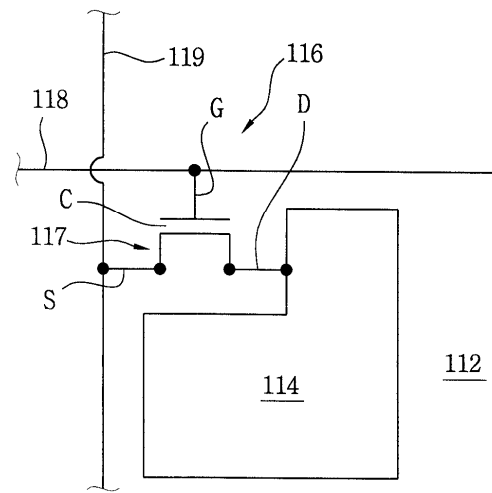
, 1 2

3.75μm

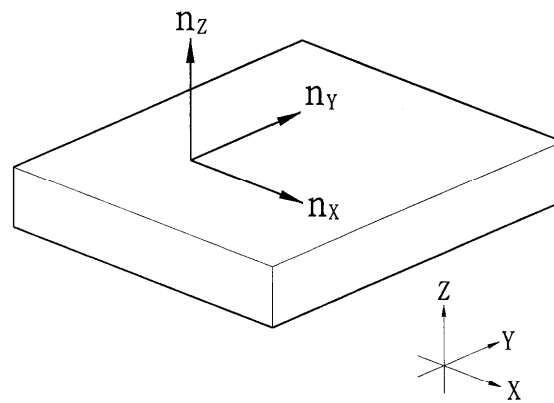
4μm



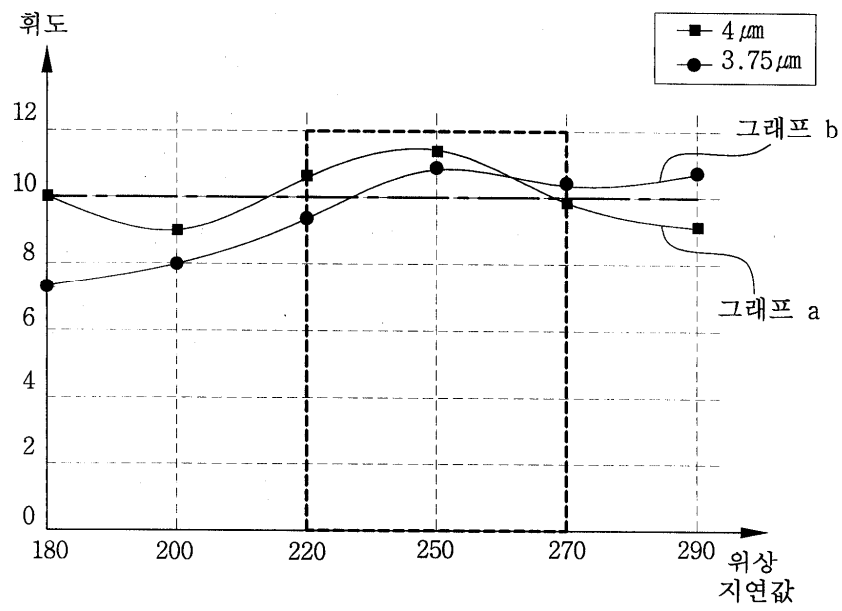
2



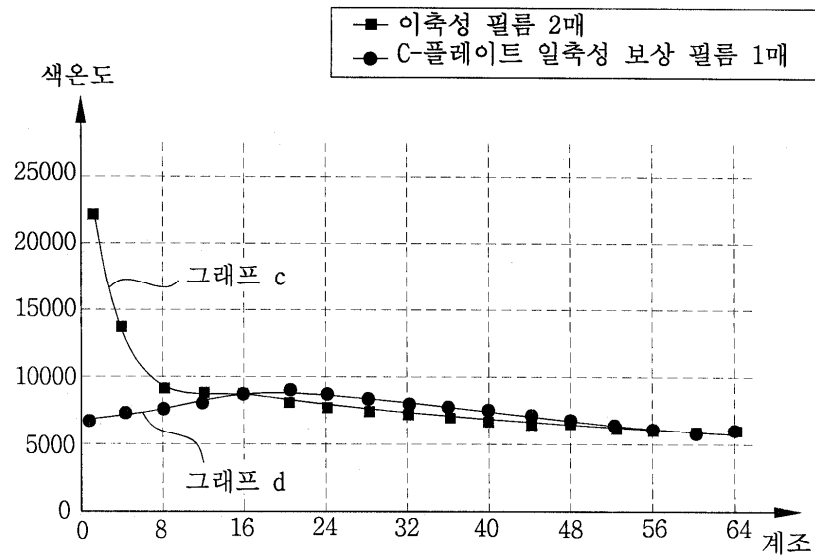
3



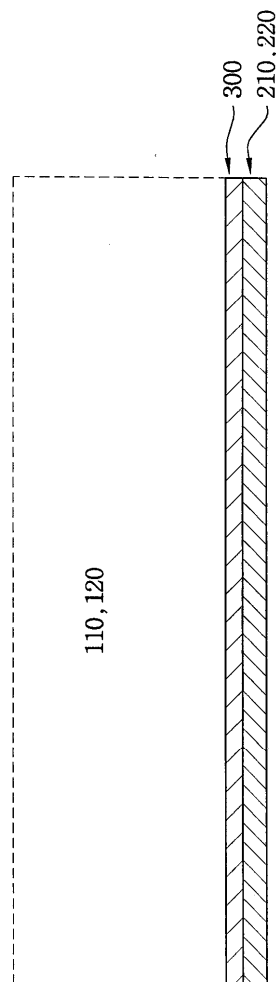
4

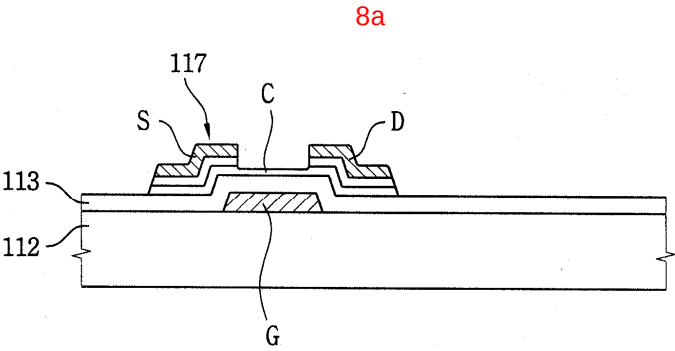
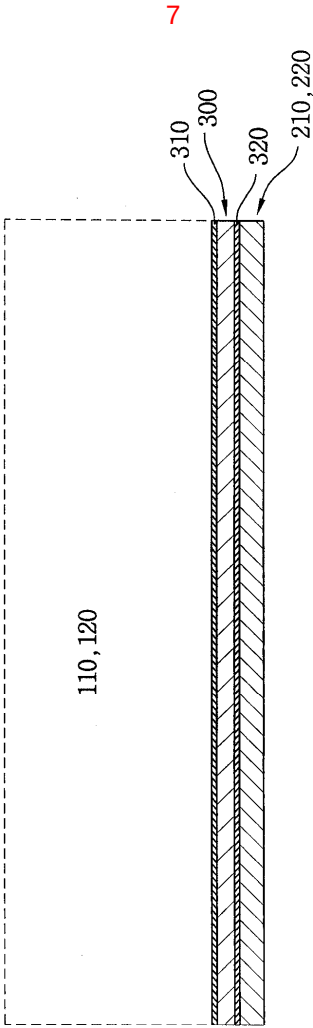


5

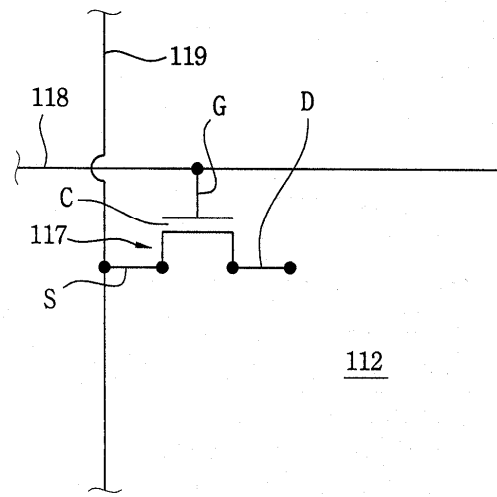


6

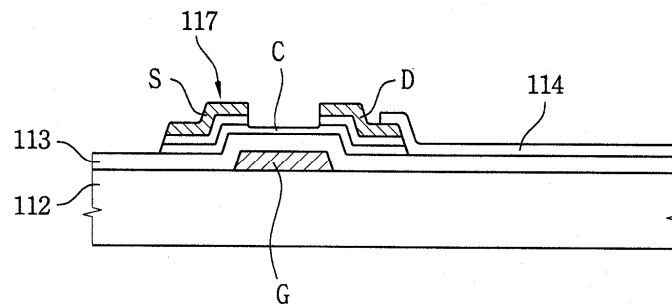




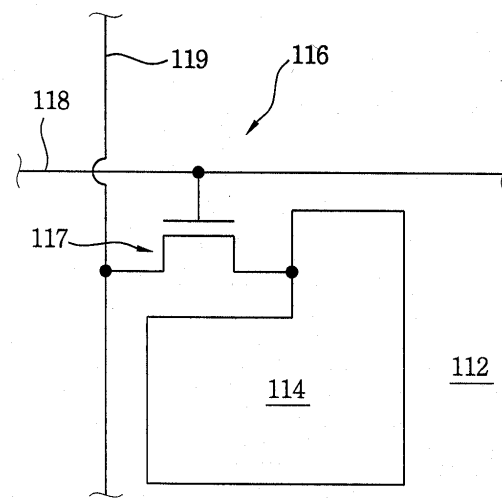
8b



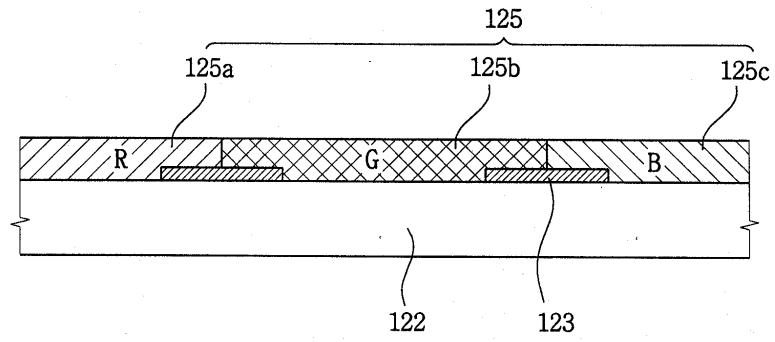
8c



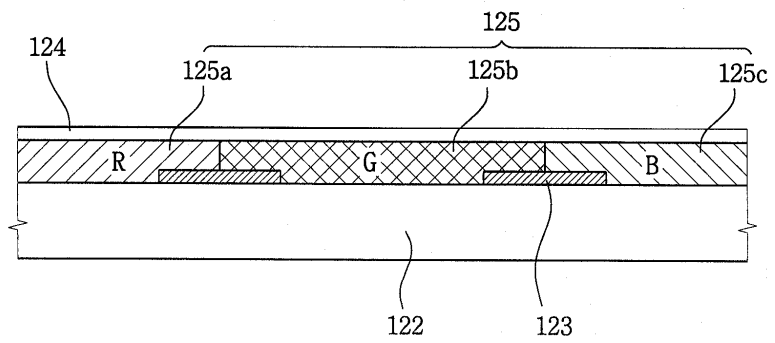
8d

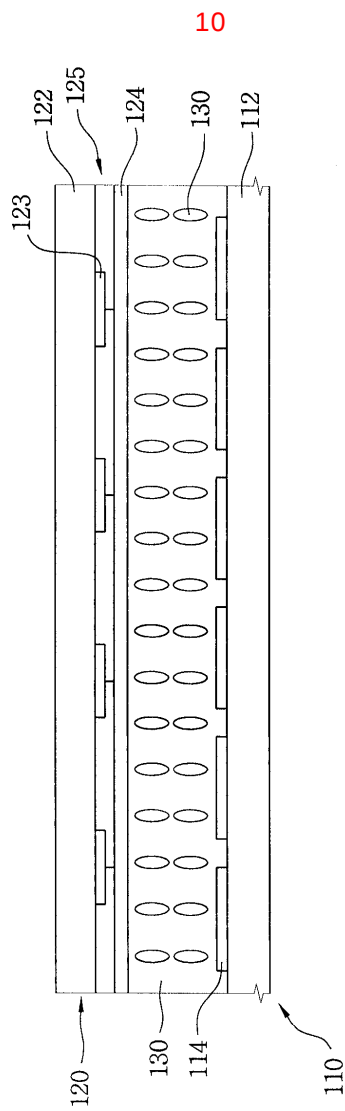


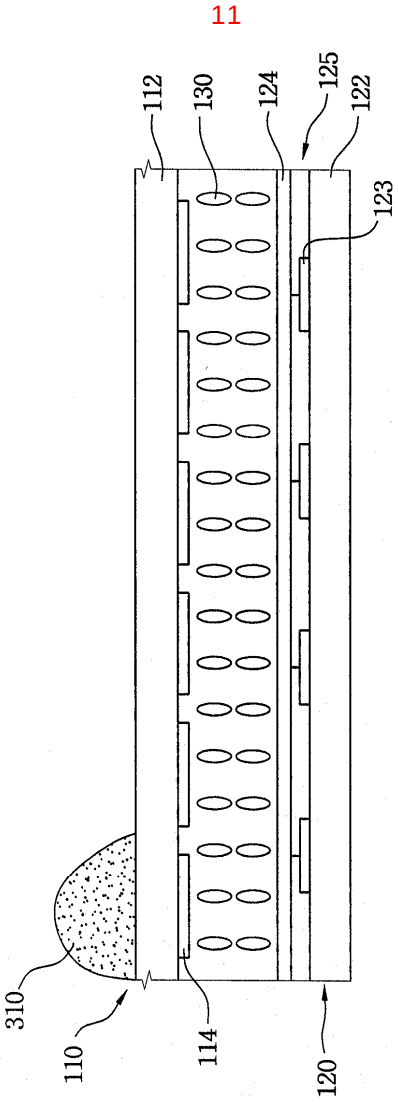
9a



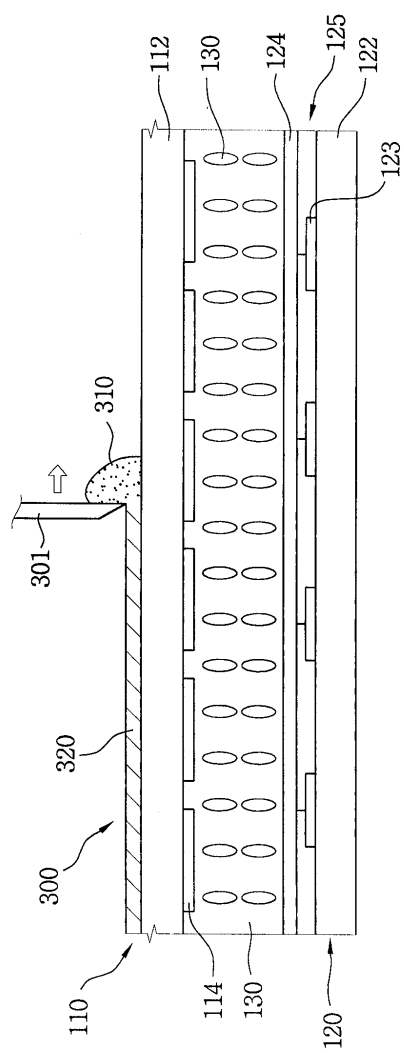
9b



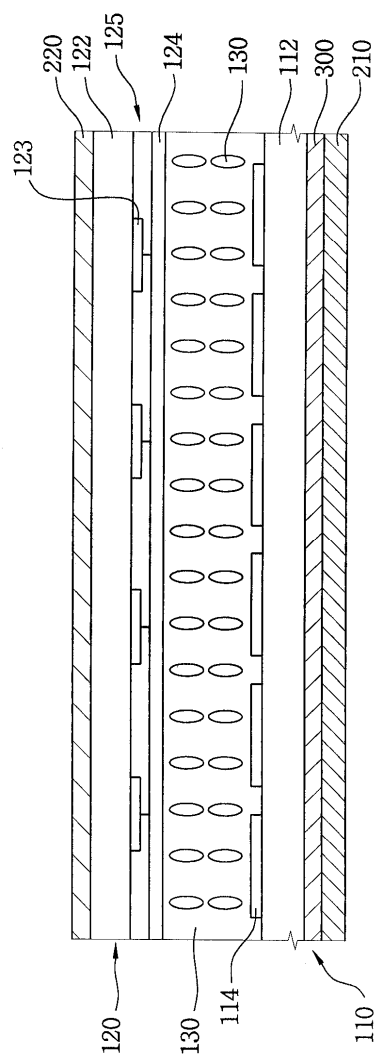




12



13



专利名称(译)	液晶显示装置及其制造方法		
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[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		
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发明人	창학선 김경현 이창훈 송장근		
IPC分类号	G02F1/1335 G02F1/139 G02F1/1343 G02B5/30 H01L29/786 G02F1/13363 G02F1/1337		
CPC分类号	G02F1/133634 G02F1/1393		
代理人(译)	PARK , YOUNG WOO		
其他公开文献	KR101023974B1		
外部链接	Espacenet		

摘要(译)

本发明公开了一种制造液晶显示装置的方法和液晶显示装置，其中厚度和重量减小并且亮度得到改善。在液晶显示板的第一基板或第二基板上形成或设置厚度约为4至5 μ m的C板单轴补偿膜。C板同轴补偿膜是液体C-放置在第一基板或第二基板上的材料，并通过使更宽的传播到单轴材料C-补偿板可以用非常小的厚度来形成。因此，能够降低液晶显示装置的厚度和重量，有可能扩大视角，并且还同时大大提高了亮度。1 指数方面 液晶显示，C板单轴补偿电影

