

(19)  
(12)

(KR)  
(A)

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G02F 1/1335

(11)  
(43)

2002 - 0063835  
2002 08 05

(21) 10 - 2002 - 0005419  
(22) 2002 01 30

(30) JP - P - 2001 - 00022485 2001 01 30 (JP)

(71) 가 가  
5 7 1

(72) 5 7 1 가 가

5 7 1 가 가

(74)  
:

(54)

, , ,  
 (TFT) , ,  
 2 1/2 1/4 ,  
 1/4 , 2 ,  
 6 .  
 1  
 , , 1/4 , 1/2 , 1/4 , TFT , , ,

1 LCD  
 2 1 LCD , 1/2 , 1/4

3 LCD LCD

4 LCD LCD

5 LCD

6a, 6b, 6c LCD

7 LCD

\* \*

1 : TFT 2 :

3 : 4 : 1

5 : 7 :

8 : 9 : ( )

10 : ( ) 11 :

12 : 13 :

14 : 1 15 : TFT ( )

16 : 2 17 :

18 : 1/4 19 : 1/2

20 : 1/4 21 :

22 : 23 :

24 : 2

(LCD) , (TFT) 1/2  
 (layer - stacked type) 1/4 가 LCD,  
 LCD , 2001 1 30 2001 - 022485

TFT , LCD (TFT) 가 LCD , LCD 2 ,  
 LCD TFT , LCD TFT ,  
 LCD LCD , LCD TFT 가 % ,  
 LCD LCD LCD LCD , LCD ,  
 tion) , 가 , 가 (retarda  
 3095005 , LCD TFT ( ) 가  
 TFT LCD , 7 (101), (102), TFT (101) (102) (103)

TFT (101) TFT ( ) 가 (103) , 1  
 (104), 1 (104) (103) ,  
 (105), (105) , (103)  
 1 (106) (102) 2 (108), 2  
 (108) (109), (109) 2  
 2) 1/2 (111) 1/4 (110), 1/4 (11) (108)  
 (103) (113), (113) , (103)  
 2 (114) , (103) , (TN)

(103) (102) (102) TFT (101)  
 (103) (trace) (103) " " 5  
 (109) , , " " 5  
 35 " " - 15 15 , 1/2 (111) , , 1/4 (112) ,

( 2 ) .  
 (103) (103) " " - 75 - 45  
 (103) ( ) " nd" 66 74  
 0.21 $\mu$ m 0.31 $\mu$ m

(111,112) LCD (103) 가

LCD LCD (102)  
 , 가 LCD (102) (103)  
 1/4 (110) LCD 1/2 (111) 1/4 (114)

3 , LCD 1/2 (111) 1/4 (112)  
 , 가 가 " n( )"  
 (550nm) " n(550)" , 3 , LCD ,  
 LCD (111, 112) ( ) " a" , " b"  
 (norbornene) <sup>TM</sup> (Arton; , JSR ) , 1, 2  
 " " , 1 ,  
 500nm 가 1.016

파장 $\lambda$ (nm)	400	450	500	550	
파장 분산도	폴리카보네이트	1.064	1.035	1.016	1.000
	아튼	1.028	1.015	1.006	1.000

$$\text{파장분산도} = \Delta n (\lambda) / \Delta n (550)$$

파장 λ (nm)		600	650	700	750
파장 분산도	폴리카보네이트	0.990	0.979	0.972	0.967
	아톤	0.997	0.994	0.991	0.988

3 1, 2 , " a" , 가 ,  
430nm

4 , (R), (G) (B) " a"  
LCD XY " BL" " ■"  
(111,112)  
" ●"  
" a"  
" y" 0.240 , " x" 4 0.218  
LCD

LCD , TN ,  
가 , LCD ,  
66 74 , 90 TN  
LCD , (normally white)  
" 0 ( )"

LCD 가 ,  
LCD

1 , LCD , LCD ,

1

2

1/2

1/4

1/4

" "

" " 31

41

, 1/2

" " 17

27

, 1/4

" " -34

-24

6

1

6

14

66

74 가

0.21 $\mu$ m

0.31 $\mu$ m

, 1/2

1/4

가

(dip) 가

TM

2

LCD

1

2

66

1

2

74

, 1

2

(rubbing)

0.21 $\mu$ m

0.31 $\mu$ m

가

1/2

1/4

1/

4

2



(5), (7), (13), (8), (9), 1 (14), (10) TFT (15)

(2) 2 (16), 2 (16) (3) (17), (17), 2 (16) 1/2 (1) 9) 1/4 (20) (17) 2 (16) 1/4 (18), 2 (16) (3) (21), (21), (ITO) (22), - - (23), (23), 2 (24) (23) (3) 2 (24) TM (3) , TN (3) , 1 (13) (2) (13) (3) TFT (1) 1 (14) , 2 (24) (2) (14) 2 (24) (2) (17) (A), 1/2 (19) (B), 1/4 (20) (C) (3) (2) (D) (E) (3) (2) (D) (1) TFT (1) (3) (3) (D) (3) (A) (D) " ", 1/2 (19) (B) (17) (D) (A) " ", 1/4 (20) (C) (D) " "

, " " 31 41 , 36 " " - 34 17 27 , 22 , " " - 34 -24 (3) 66 74 72.5 (3) " nd" 0.21 $\mu$ m 0.31 $\mu$ m 가 (3) 6 6 14 (3)

LCD , TM ( ) 1/2 (19) 1/4 (20) 1/4 (18) (17) , (2) (3) 2 (16) , , TM 가 , ,

3 " b" , TM LCD , " a" ,  
 TM LCD (1/2 (19), 1/4 (20)) " b"  
 , 1, 2 " "  
 TM , 1 , TM  
 , 500nm 1.006 .  
 3 1, 2 , " b" , 가 " a"  
 , TM , , ,  
 430nm , , , , ,  
 , 4 XY " b" , (R), (G), (B)  
 249 , " y" 0.282 가 , " a" , " x" 0.

(3) , ( ) LCD (3) (3) (nd) ,  
 " " 31 41 (17)  
 , 1/2 (D) " " 17 27  
 1/2 (19) , 1/4  
 " " -34 -24 1/4 (20) , , (3)  
 3) 6 , .  
 5 ( ) (가 )  
 a" 4V , 5 , " b" 5V , "  
 , " c" 6V . ( )

1

$$\Delta \epsilon = \epsilon_1 - \epsilon_2$$

1 10V 가 , 2 0.1V 가 가  
 5μm가 , 90 가 , 가  
 5 ( ) 가 , 가 ,  
 " a" " c" , 가  
 , 40 ( 40:1) 5V , ( ) 6  
 ( ) 80

, 80 LCD , 40 가 , (3)  
 , ( ) 14 LCD  
 , ( ) 가 , , , (3)  
 가 .

, LCD 6a, 6b, 6c , 6a  
 , 1 , (4) , (3)  
 , (5) , .

, (4) (5) , (7)  
 (CVD) , CVD (7)  
 , (8)  
 (7) (5) ,  
 (8) (9) (7) (9) (10) (10)  
 , ( ) (9) ( ) (9),  
 , (10) ) CVD (8), ( ) (9) ) (11)  
 , (8) (10) (11) (4) (5),  
 , (7), (8), (9), (10) TFT (15) .

, (12) (11) , (10)  
 , (11)  
 (12) , (1)  
 3) . , 1 (14) (13) ,  
 4 1 (14) , (3) , 1 (14) , 66 7  
 , TFT .

, 6b , , , 가  
 , 2 (16) (3) ,  
 , (21) ,  
 (22) , (SOG), (21) ,  
 , ITO (22) , (23)  
 , 2 (24) (23) ,  
 2 2 (24) , (3) , 66 74  
 2 (24) , (2) .

, 6c , (3) 1 (14) 2 (24) , TN  
 (3) ( ) TFT (1) (2) ,  
 (3) , 66 74 1 (14) 2 (24) ,

, 1/2 (2) (19) 1/4 (20) (17) 1/4 (18)  
LCD (3) , LCD , CVD , LCD , ,  
, LCD , 가 , LCD , ,  
, (3) TFT (1) (2) , TFT (1)  
1 (4), 1 (4) (3) TFT (15), TFT (15)  
(13), (13) 1 (15) ,  
(2) 2 (16), 2 (16) (3) ,  
(23), (23) 2 (24),  
, (17) 2 (16) 1/2 (19) 1/4 ( )  
20 (17) 2 (16) 1/4 (18) , 2 (16) (3)  
(2) (D) (17) , (3) TFT (1) (3)  
(D) (3) " " " " (17)  
" " 31 41 , 1/2 (19)  
" " 17 27 , 1/4 (20)  
" " -34 -24 (3)  
6 , LCD , 가 ,  
, LCD , 가  
LCD , LCD , 가  
, (MIM) , TFT  
, TFT  
, TFT  
, 가 LCD

(57)





" " 31 41 , 1/2  
 " " 17 27 , 1/4  
 " " - 34 - 24 ,

6

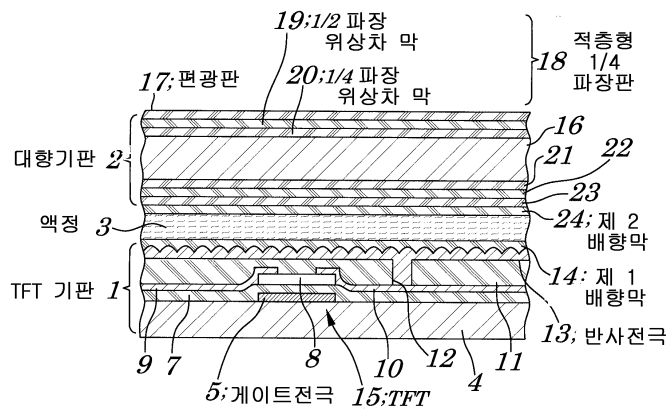
11.

10 , 6 14

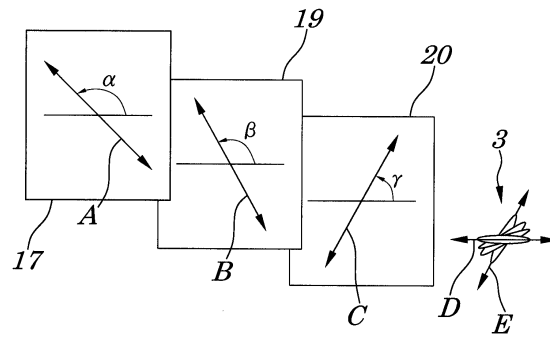
12.

9 , , , TM

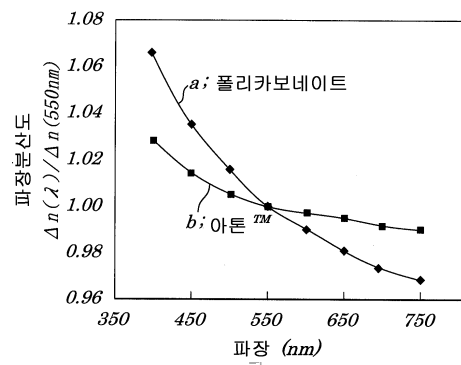
1



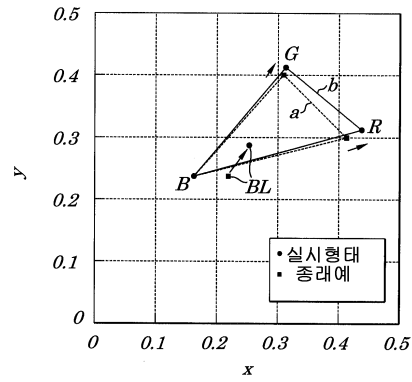
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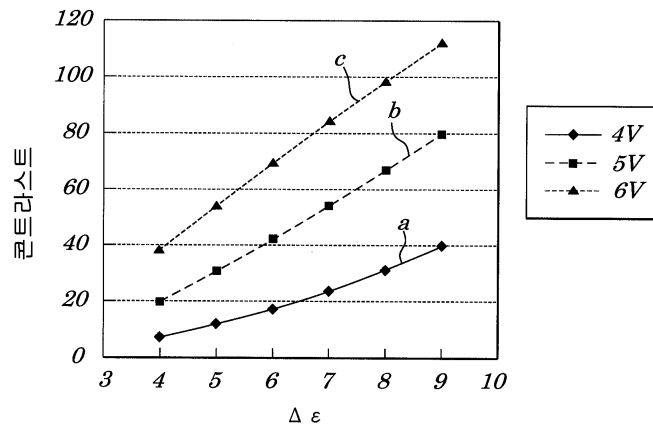
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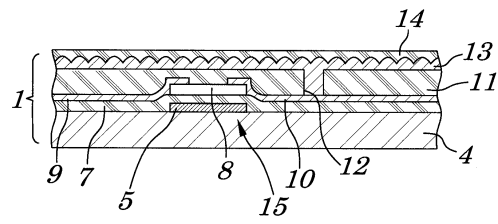
4



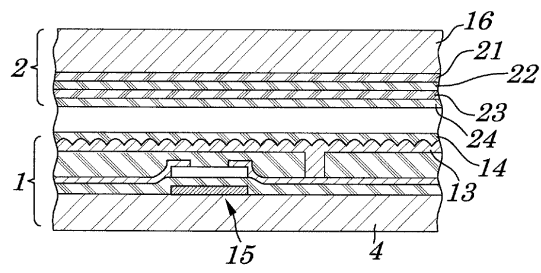
5



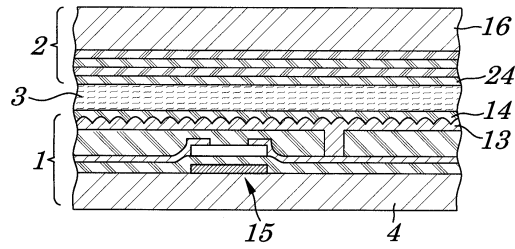
6a



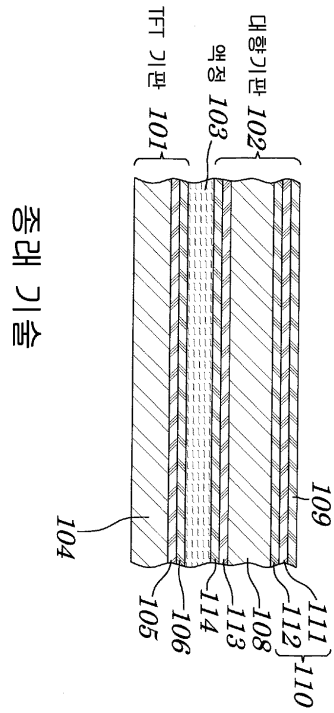
6b



6c



7



专利名称(译)	反射型液晶显示装置及其制造方法		
公开(公告)号	<a href="#">KR1020020063835A</a>	公开(公告)日	2002-08-05
申请号	KR1020020005419	申请日	2002-01-30
[标]申请(专利权)人(译)	NEC液晶技术株式会社		
申请(专利权)人(译)	日元号技术可否让这个夏		
当前申请(专利权)人(译)	日元号技术可否让这个夏		
[标]发明人	WATANABE TAKAHIKO 와타나베다카히코 INOUE DAISUKE 이노우에다이스게		
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IPC分类号	G02F1/1335 G02F1/1368 G02F1/139 G02F1/13363 G02F1/137 G02F1/136 G02F1/1343		
CPC分类号	G02F2001/1398 G02F1/1396 G02F2001/133638		
代理人(译)	韩国专利公司		
优先权	2001022485 2001-01-30 JP		
其他公开文献	KR100446321B1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

本发明公开了一种反射型液晶显示装置及其制造方法，该反射型液晶显示装置能够通过防止不利的颜色在显示黑色时在显示器上扩散而稳定地获得高对比度。液晶夹在薄膜晶体管 (TFT) 基板和基板之间，偏振板由降冰片烯聚合物，1/2波长延迟膜和夹在偏振板和第二透明绝缘基板之间的1/4波长延迟膜制成并且，液晶设置在第二透明绝缘基板上与液晶相对的一侧，使得液晶的介电各向异性设定为约6或更大，使得反射型液晶显示装置构建。1 指数方面 反射型液晶显示装置，偏光板，四分之一波片，半波延迟膜，四分之一波长延迟膜，TFT基板，对置基板，取向膜，薄膜晶体管

