

(19)
(12)(KR)
(A)(51) 。 Int. Cl. ⁷
G02F 1/1335(11)
(43)2003 - 0017406
2003 03 03(21) 10 - 2002 - 0049892
(22) 2002 08 22

(30) JP - P - 2001 - 00251089 2001 08 22 (JP)

(71) 가 가
5 7 1(72) 5 7 1 가 가
5 7 1 가 가

(74)

:

(54)

(LCD)	(TFT)	1 , 2	(LC)
1 2	. 1	1 2	.
1	. 2	1	.
2	1		

1

, , , , ,

1 1 LCD ,

LCD

가

LCD 1.2.27 US 6,195,140) , 1 8 49 3 2955277	가 14 15 2955277 11 11 1 10 1997 7 28 2955277	LCD 1 29 27 53 9 - 201176
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(200)
1 29
6

14 TFT(6) (3) (8)	(3) TFT (6) (7)	(4) (5) (4 5) / (ITO) (5)
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, (3)	(7)	(7) (3), (8)
----------	-----	-----------------

, , 15 (df)	, (7), 15	, (dr) 25	(7) (19)	(dr) (1) (8) (17)
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, , 가 (19)	(dr) (df)	(df) , (7)	1:2가 (7) (19)	(17) (17) 가 (17)
---------------------	--------------	------------------	---------------------	---------------------------

		(LCD)		(TFT)		1		2
(LC)	.	1	2	.	1	.	1	1
2	.	1	2	.	2	.	1	1
,	,	,	,	,	,	,	,	,
]	,	,	,	,	,	,	,	,
3		LCD		1		1		LCD
(TFT)	(11),	(12)	(11 12)	.	(13)	.	LC
, TFT	MIN	,	,	,	,	,	,	
(19)	,	(11)		(14),		(15), TFT(16),		(17),
(14)	.	(14)		(15)		TFT(16)		(15)
(16d)	.	(16a),		(15)		(16b),		(16c)
(16d)	.	(15)		(16a)		(16b)		
(17)	TFT(16)	.	(17)	.	(16d)	.	(20)	.
.	(19)	.	(17)	.	(18)	.	(19)	.
(18)	.	(19)	,	(20)	.	(16d)	.	(18)
(19)	.	.	.	.	.	.	.	.
가				(18 19)		.		
(22)	.	.	.	.	.	(21)	.	(18)
.						.		.
(13)	.	(12)	.	(19)	.	.	.	.
	HAN	.	.	,	.	.	.	.
	(homogeneous)	.	.	TN	.	.	.	.
(11)	,	,	(23)가	.	(14)	,	(24)가	.
(15)	.	.	.	.	.	.	.	.
(13) 가	가	,	(12)	.	(25),	.	(27)	.
가	가	,	.	.	(12)	.	(27)	.
(12)	.	.	.	.	(18)	.	(13),	.
						.	.	.
(28)가	(13)	(11)	.	.	(28)	.	(14),	.
(15),	(17)	(19)	.	.	(13)	.	(13),	.
(25)	(12)	.	.	.	.	.	.	.

0 가

70 가

가

2 가
0 가

2

4 5f LCD 2 (17)
(30) 14 (11) (17) (30), 1
30) TFT (16d) (20) 가 (())5a 5f 2
2a 2f5b , TFT(16) (30) (30) (16d)
(20) (30) () ,2 1 가 2 TFT (28)
(12) (26) (26) (30) (26) , ,
, ,

3

6 7e LCD 3 3 1
(17) (30) 가 2 (11) 4 , 3 ,
(12) 가 (18) TFT(16) (16d) (30) (30) (15)
8) (19) (18) (18) (18) (19) (30) (30) (20)
(18) (30)3 2 가 3 (28)
TFT (30) (30) , (12) (18) (30)
, (12) (positioning) 가 , (12)

$$, \quad (13) \quad , \quad (11) \quad (31) \quad (28) \\ . \quad 1/4 \quad (32) \quad . \quad (12) \quad 1/4 \quad (32) \\ \quad \quad \quad \quad \quad (12) \quad (31)$$

$$, \quad (13) \quad , \quad (11) \quad (31) \quad (28)$$

$$\cdot 1/4 \quad (32) \quad (13) \quad . \quad (12) \quad 1/4 \quad (32)$$

$$. \quad (12) \quad (31)$$

8 , 4 (14 27) (31) UV 1/4
(32) 가 .

$$4 \quad , \frac{1}{4} \quad (32) \quad (31) \quad (14 \quad 27) \quad (13) \quad \text{가} \\ . \quad \quad \quad \frac{1}{4} \quad \quad \quad \quad \quad \quad \frac{1}{4}$$

1/4 . 가 500
700μm

9a 9i (31) 1/4 (32) 가

5

$$10 \quad \text{LCD} \quad 5 \quad . \quad 5 \quad , \quad (13) \quad \text{가 TN} \\ 1, \quad 2 \quad 3 \quad (12) \quad (31) \quad 1/4 \quad (32) \quad (11) \quad (31) \quad 1/4 \quad (1) \\ 32) \quad , \quad (32) \quad . \quad . \quad , \quad (12) \quad 1/4$$

1/1

$$(11) \quad (31) \quad 1/4 \quad (32) \quad (13)$$

$$(12) \quad 1/4 \quad (32) \quad (31) \quad . \quad (13)$$

1

$$I_\lambda = (1/2)[(\Gamma/2)(1/X) \sin X]^2$$

$$[n^2 + (\Gamma/2)^2]^{1/2} = (n \times d) \quad (13)$$

, , (11) (31) (13)
, , (12) (31) . , 1/4 (32) , , (13)

(I_P)

2

$$I_P = (1/2)[(1/X) \sin X]^2 [\phi^2 \cos^2 \phi + \sin^2 \phi (\Gamma/2)^2]$$

$$+ \sin^2 \phi \cos^2 X - \phi \sin 2\phi \cos X [(1/X) \sin X]$$

11
 I_p 가 3μm LCD 가 , , (dr) 가 (I_P) (I)

, 10 5 , (11) 1/4 (32) 가

6

12a 12b LCD 6 (CLC) / (33) (11) (14) (28) (12) , 1/4
, / (33) (27) (13) 가

6 , / (33) (11) 1/4 1/4 (32) 12a
CLC / (33) (13) 가 1/4 (32) 12b
, 1/4 (32) CLC / (12) (33) (13) 가 , 1/4

7

13 LCD 7 (12) 1/4 1/4 (32) CL
C / (33) (11) (14) (28) (32) (27)
, / (33) (12) , 1/4 (32) 1/4 (32) (27)

(12) 1/4 (32)

2001.8.22

2001 - 251089

가

(LCD) , (TFT) 1 2 1 2
 (LC) . 1 2 . 2 1 . 1 2
 . 1 2 . 2 1 . 1 2
 , 가

(57)

1.

(TFT) 1 ;

2 ;

1 2 , ,

1 1 1 2 , 1
 2

2.

1 , 1 TFT ,
 , 2

3.

1 , 1 TFT , 1 2 ,
 1 2 가 , 1 2 ,

4.

1 , 1 TFT ,
 , 2

5.

1 ,

6.

1 , (homogeneous) , (homeotropic) , TN , HAN
OCB

7.

1 , 1 HAN , 2
TN

8.

1 , 2 1/4

9.

8 , 1/4 ↗

10.

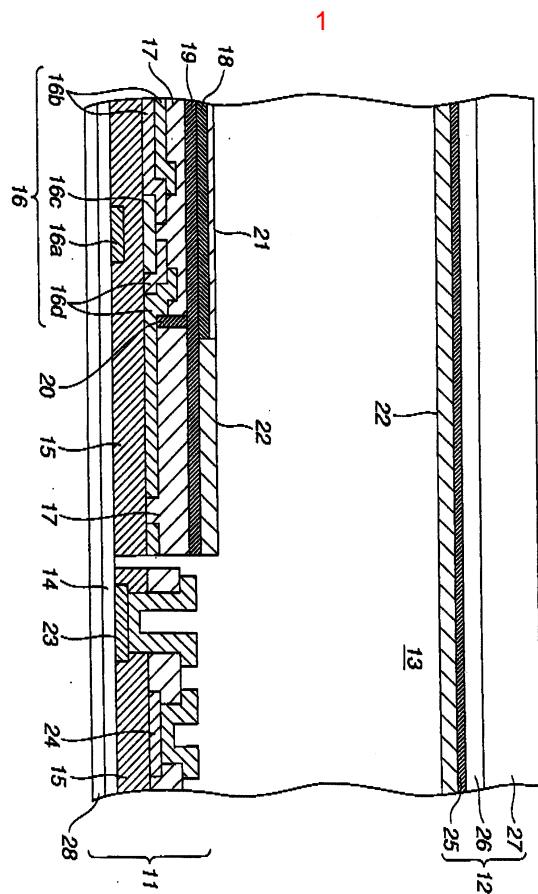
8 , 2 (CLC)

11.

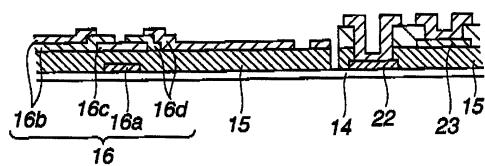
8 , 1 2 1/4

12.

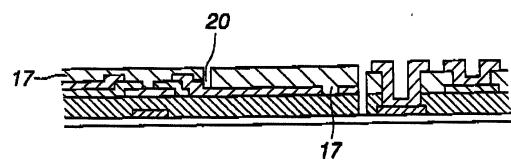
9 , 2 (CLC) CLC
1 2 1/4



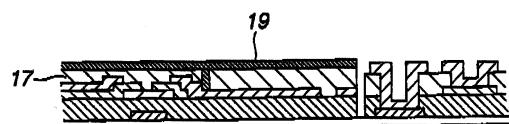
2a



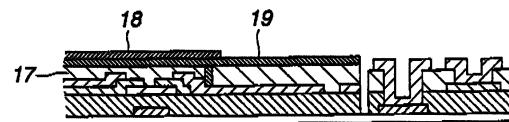
2b



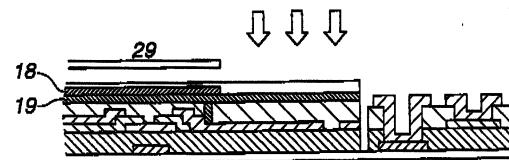
2c



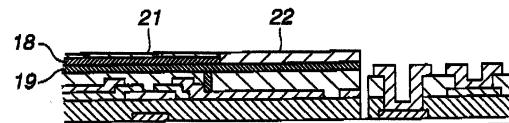
2d



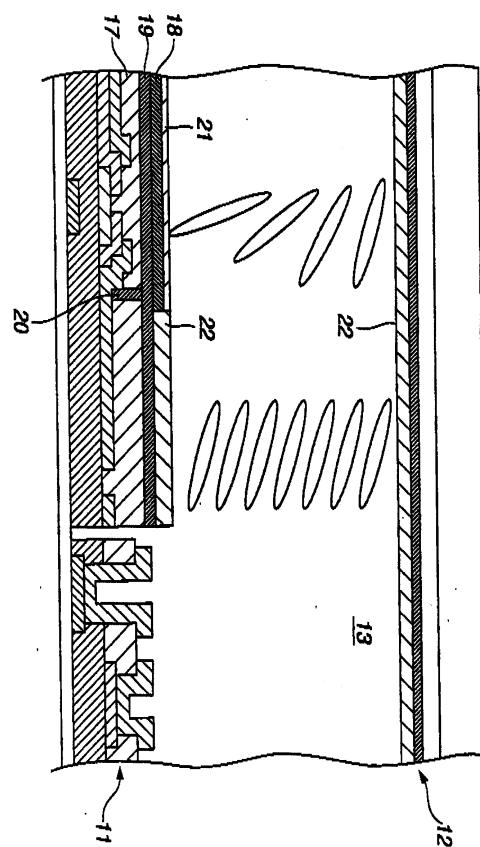
2e



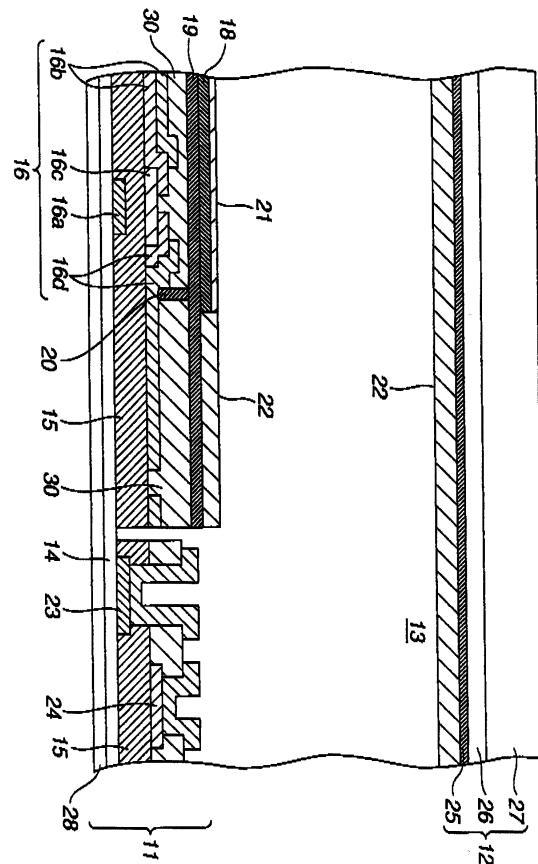
2f



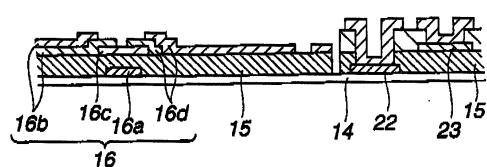
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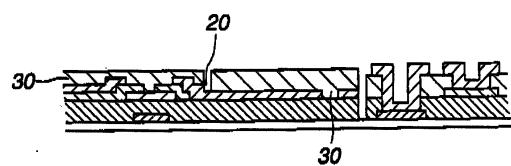
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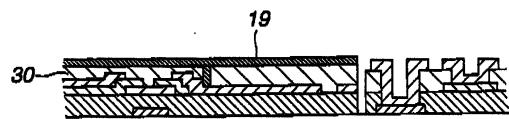
5a



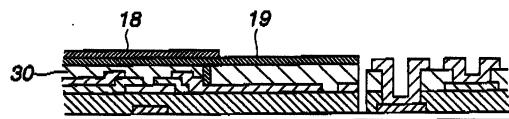
5b



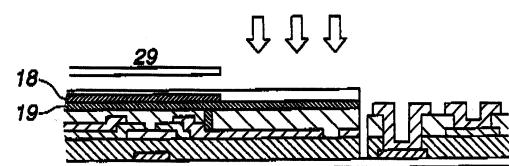
5c



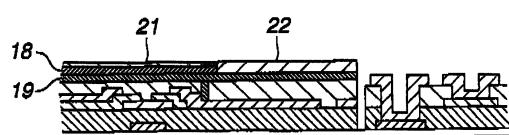
5d



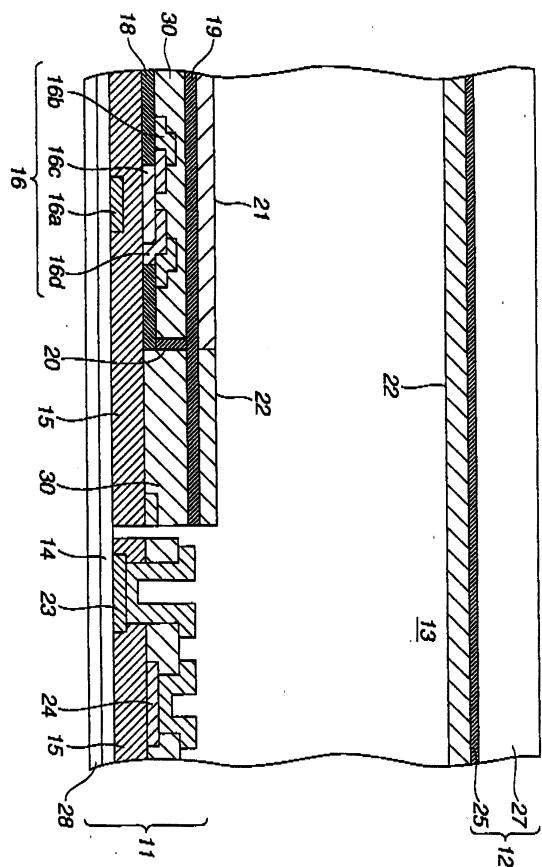
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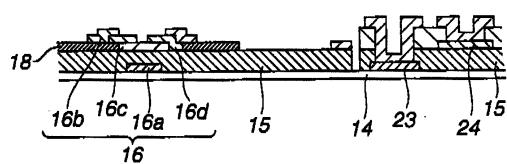
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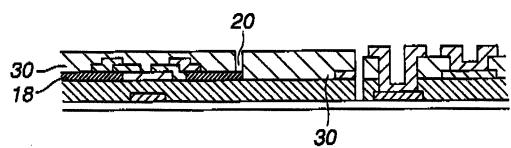
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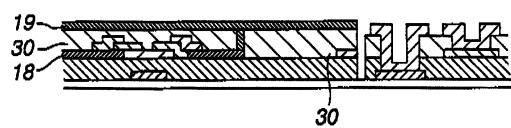
7a



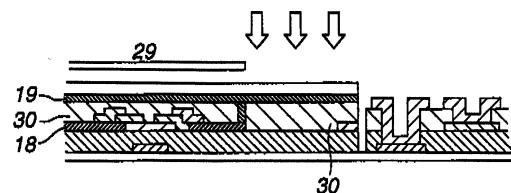
7b



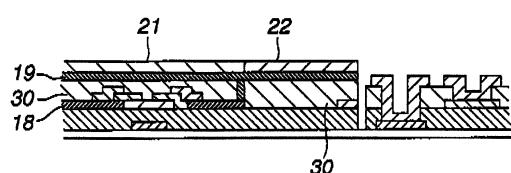
7c



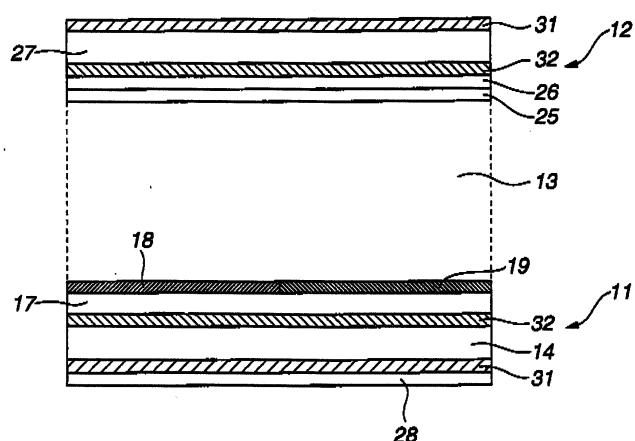
7d



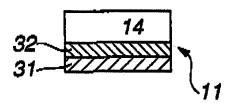
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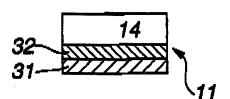
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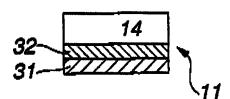
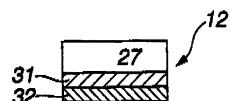
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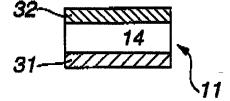
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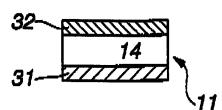
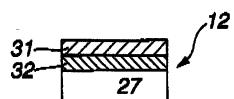
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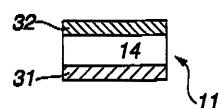
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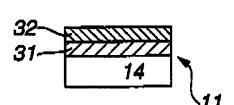
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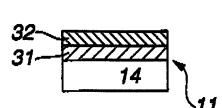
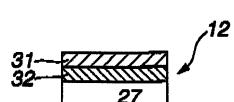
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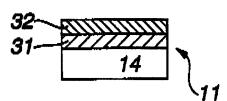
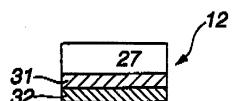
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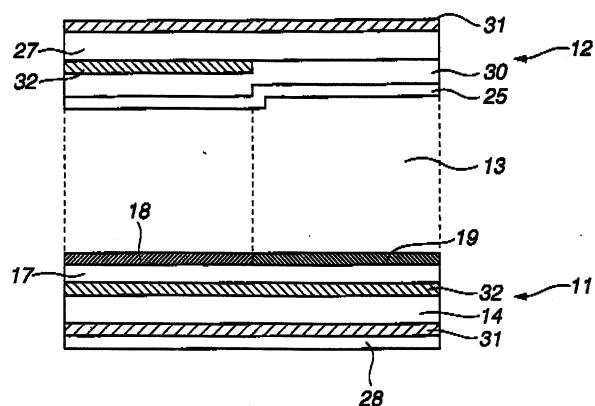
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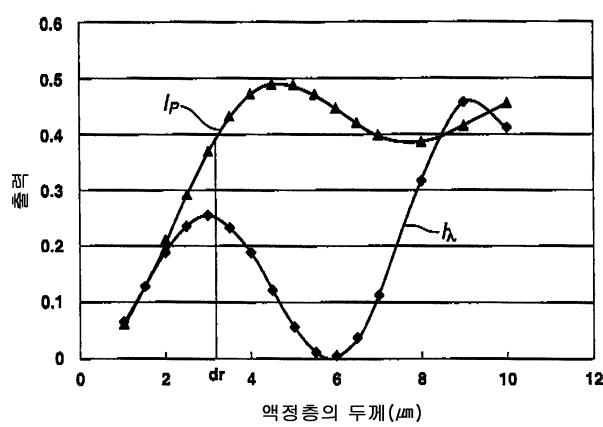
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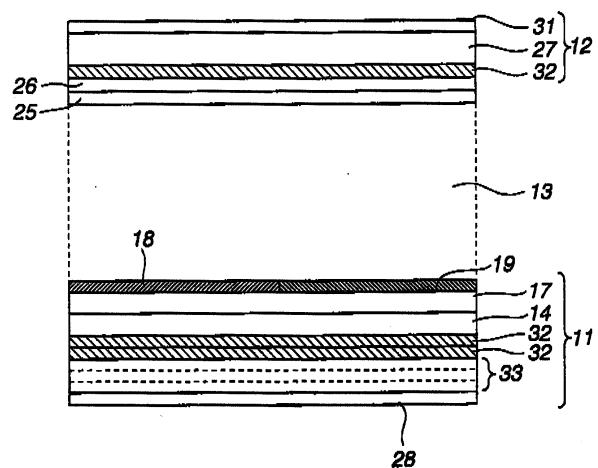
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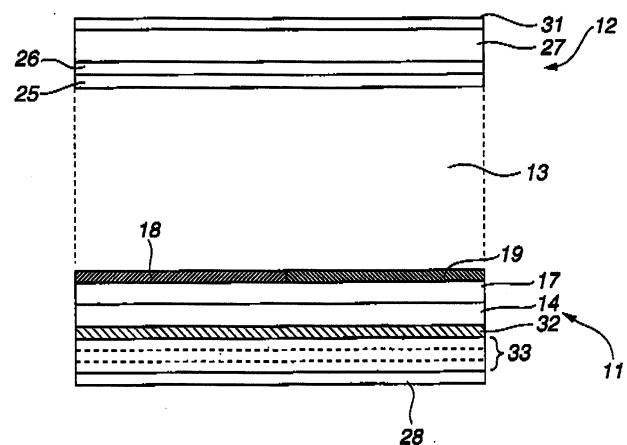
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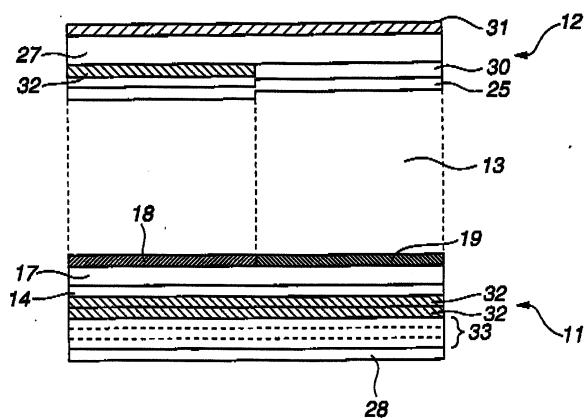
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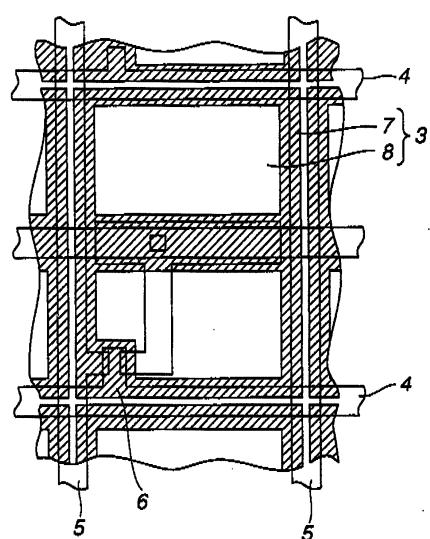
12b



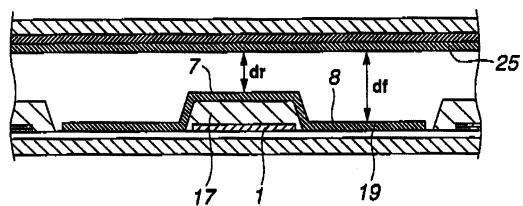
13



14



15



专利名称(译)	透射反射式液晶显示器		
公开(公告)号	KR1020030017406A	公开(公告)日	2003-03-03
申请号	KR1020020049892	申请日	2002-08-22
[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	IKENO HIDENORI 이케노 히데노리 SUZUKI MASAYOSHI 스즈키 마사요시		
发明人	이케노 히데노리 스즈키 마사요시		
IPC分类号	G02F1/1368 G02F1/13363 G02F1/1335 G02F1/1337 G02F1/1343		
CPC分类号	G02F1/133753 G02F1/133514 G02F1/133555 G02F2001/133638		
代理人(译)	JO , EUI JE		
优先权	2001251089 2001-08-22 JP		
其他公开文献	KR100670168B1		
外部链接	Espacenet		

摘要(译)

目的：提供一种半透射型液晶显示装置，能够消除反射模式和透射模式之间的光程差，使两种模式下的出射光束强度最大化，并具有有源矩阵基板表面的平滑度。

