

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷
G02F 1/133

(11)
(43)

2003 - 0019134
2003 03 06

(21)
(22)

10 - 2002 - 0050770
2002 08 27

(30)

JP - P - 2001 - 00257333 2001 08 28

(JP)

(71)

가 가

가 4 6

(72)

3550

(74)

:

(54)

1 2

X

PIX Xn

BM - R , DIR

Xn+1 , BM - L

BM - L ,

1 SUB1

θ 가

Xn+1

θ 가

PIX Xn

1

, , ,

1a, 1b	1	.
2 1a, 1b		.
3		.
4a, 4b 3	1	.
5a, 5b 1	1	.
6a, 6b 1	2	.
7a, 7b 1	3	.
8 5a 7b		.
9a 9c		.
10a, 10b 1		.
11		.
12	2	.
, 1	.	.
13 12 b - b'	.	.
14	2	.
, 2	.	.
15 14 d - d'	.	.
16a, 16b	3	.
17a, 17b	3	.
18		.
19a, 19b TN		.
20a, 20b 가		.
21	2	.
22 21 e - e'	.	.

SUB1 : 1

SUB2 : 2

PIX :

가 , .

가 , , , 가 가

가 .

,

, (TN) ,

, (, TN) ,

, (, IPS) .

TN , (1 () 2 () 2)

, 90 ° , 2 .

TN , 가

, , 가 (,) . , 가

() 가 (1991 ,

「 」).

, (

) 가

가 가 (, IPS) .

IPS , , 가

가 가

가 45 ° , 가 1/2

90 ° , 가

IPS 가 , 가

(5 - 505247).

(BM) , TN
(TFT) , 2
BM , 1

19a, 19b TN
1 () SUB1
() SUB2
(19a, 19b)
, Yn, Yn+1 , PIX , TFT
(Disclination Area :
LC , 19a, 19b

1 SUB1 2 SUB2
가 가
(Disclination) 가

20a, 20b 가 , 19a A
- A , 20b 1 SUB1 2 SUB2가
20a, 20b , Xn PIX , Xn+1 PIX
20a, 20b PIX'

1 SUB1 2 SUB2가 20a, 20b
가 LC , 20a PIX
Xn+1 가 , 20b PIX
Xn , 20a, 20b

1 SUB1

가

1 2 가

1

(1) 1 2 1 , 1 ,
2 1 , 2 ,
1 , 1 2 ,
1 2 ,
1 ,
1 ,
2 1 , 1 ,
1 2 2 ,
1 , 2 1 ,
1 , 2 1

(2) (1) , ,

(3) (1) (2) , 2 .

(4) (1) (2) , 1 .

(5) 1 2 1 , 1 ,
2 1 , 2 ,
1 , 1 2 ,
1 2 ,
1 ,
1 , 1

1
2 1 ,
1 2 2 ,
1 ,
1 2
(6) (5) ,
(7) (5) (6) , 2
(8) (5) (6) , 1
가

1a 1b 1 SUB1 2 SUB2 1 (4) ()
DIR1, DIR2 () 1 SUB1
PIX 2 SUB2 1a
1 X θ 가 $(90^\circ < \theta < 180^\circ)$
1b 1 X θ 가 $(0^\circ < \theta < 90^\circ)$

1a 1b , SUB1+SUB2 1 SUB1 2 SUB2 , 2 SUB2
1 DIR1 2 DIR2가
, Xn, Xn+1 , Xn PIX , Xn+1
PIX . Yn, Yn+1
PIX PIX Xn Xn+1, Yn, Yn+1
PIX 2 SUB2 , PIX 1a, 1b
BM - L , 1a, 1b
BM - R
1a 1 SUB1 DIR1 θ 가
가 , BM - R BM - L
PIX 1a , 1 DIR1

[illegible]

SHL SHR PIX PIX X1G, X1B
 . , 2 BM 4b
 PIX SHL SHR BM
 .

5a, 5b 1 1 , 6a, 6b 1
 2 , 7a, 7b 1
 3 .

5a, 5b 1 1
 . , (가)
 , 5b ,
 , BM SHR .

6a, 6b 2 DIR 1
 . , (가)
 , 6b .
 , BM SHL .

7a, 7b 3 5a 1 (, DIR 1 ,
) 180 ° (가)
 , 7b .
 , BM SHL .

8 5a 7b (SU
 B1, SUB2) , Xn 8 ()
 VL , 1 ,
 2 3 VR
 , 2 3 , 1 .

9a 9c ,
 2 , 9b PIX 가 9a 1
 , 9c 3 SHL, SHR .

9a DIR Xn 가 01, 02 1 2
 , 9c DIR Xn 가 03 3
 . 1 PIX ,
 PIX .

2 PIX , PIX

3 PIX

PIX

10a, 10b 1 SUB1 11

() ()

10a 1 SUB1 Xn

10a , 10a

10a , 1

10a (,

10a).

() (Buff Textile)

() ROL B C ()

ORI 가 10b (Pile) , 10b

DIR (Atomic Force

e Microscope, AFM)

11 DIR Xn (1) 가

가 PIX (2) SHL (1) SHR

(2) , , ,

가 ,

12 2 , 1

13 12 b - b'

14 2 , 15

14 d - d'

BMO가 2 SUB2(BMO

1 SUB1 , 12 14 , 13

15 BM PIX (Xn, Xn+1

) ,

12 14 , 1 SUB1 (1)

Xn, Xn+1 (1 2) , (2)

Yn, Yn+1 (1) ,

12 15

2

가

TFT . PIX Xn, Xn+1 Yn, Yn+1 ()

12 14 Xn TFT Yn
 () GI AS AS ()

SD1, SD2 () , 가 Xn PIX
 AS 1 AS ((Photo - Conduction))

SD1 SD2 PIX Xn TFT 가 ,
 SD1, SD2 , , SD1, SD2

가 2 , 1 SUB1 , 12 14
 2 8 가 12 14

12 14 , PIX Yn
 가, (Xn+1)

12 14 PIX PIX , Xn+1
 PIX Xn, Xn+1 Xn PIX PIX Xn+1).

PIX Xn, Xn+1 가 PIX 가
 (TFD)

12 14 , 13 15 . 1
 SUB1 Yn, Yn+1 , PIX
 GI SHL, SHR (12 14 PIX PIX Yn+1)

, .

12 14 PIX , PIX

SHL, SHR Yn, Yn+1 SUB1 GI Yn, Yn+1

, SHL, SHR Xn, Xn+1 SHL, SHR SH

Yn, Yn+1 L, SHR Xn, Xn+1 GI Xn, Xn+1 SHL, SHR

(, Xn)

, SHL, SHR 1 SUB1

(, Xn+1) PSV

, , , PIX ORI1 1 SUB1 ,가

, PIX LC 가 Xn, Xn+1 ORI1

- (IZO) PIX SD1 SD1, SD2 (ITO) PSV

, 13 15 , 2 SUB2 2 SUB2 P

IX , BM , 1 BM

가), FIL BM (

FIL BM FIL , 2 SUB2

FIL () OC BM OC

LC CT ORI2가

CT , PIX CT 가

ORI1 가 , 10 , 가 ORI2 1

GI, PSV, OC, (SiN_x), (SiO_x), (Al₂O₃), (TaO₅)
 PSV, OC () .
 , 12 13 1 , 14 15 2
 . (12 14) 가
 1 DIR() .

12 DIR DIR Xn 135°
 , DIR Xn 135° (,) 1
 . 14 DIR Xn 45°
 . , DIR Xn 45° (,)
 2 .

12 13 1 , 12 PIX
 , 1 SUB1
 PIX BM (가 SHL, SHR BMO) , PIX 2 SUB2
 SHL, SHR BM , 12 (1 ,
 2) S .

CT , 12 14 PIX, LC,
 hv 13 LC 가 가 hv 가 LC LC
 ORI1, ORI2 (LC 가 가 ,), PIX
 CT CT , LC hv
 .

1 SUB1 hv 1
 , SHL Xn , SHR Xn+1 LC
 . 가 (, LC 가 가 , LC
) , hv 1 , LC PIX
 CT 가 , PIX hv 1 LC
 BM .

13 , S , 13 , S가 hv 1
 hv 1 SHL, SHR BM BM . 2 SUB1 2 SUB2
 PIX SHL, SHR 2 SUB2 BM
 BMO , (,
) .

, 13 hv 1 PIX 가
 . , 1 PIX ,
 . hv 2 13 S BM SHR
 , BM SHR ASYM .
 , BM SHR Sa가 (, Sa=S+ASYM), 13
 PIX BMO ASYM PIX
 가 .
 12 13 1 2
 .
 1 :
 Xn , PIX , Xn
 1 SHL ,
 Xn+1 2 SHR
 1 SUB1 , BM
 2 SUB2 .
 , BM 1 SHL 2 SHR
 . BM 2) 2 SHR
 BM 2 SHR Sa(,
) BM 1 SHL BM 1 SHL S
 (, Sa 가) .
 1 (()) . ,
 .
 2 : 1 , 1 2 가
 , 1 SUB1 , BM
 2 SUB2 , Xn
 PIX, 1 SHL, Xn+1
 2 SHR .
 , 2
 BM BW BCEN ,
 1 SHL (PIX가)

(
PIX가 1) SHL 2 SHR ()
SHW 2 SCEN
2 SHR).

12 13 가

3 :
Xn , Xn, Xn+1
PIX가 1 SUB1 ,
BM 2 SUB2 .

Xn 1 , BM 가
Xn+1 2
PIX BM
PIX 2 BM Wa , BM Wb
PIX 2 BM .

14 15 2 가
hv 2 SHL , 1 가 , ,

4 :
Xn , PIX , Xn
Xn+1 , 1 SHL , 2 SHR
1 SUB1 , BM
2 SUB2 .

BM 1 SHL 2 SHR
BM () 1 SHL
BM 2 SHR 가
BM 2 SHL S Sa , BM 1 SHR
BM 2 SHR .

()
1 ()

5 : 1 , 2 가
1 , 1 1 BM

2 SUB2 , Xn
 PIX, 1 SHL, Xn+1
 , 2 SHR .
 , 2 BM
 BW BCEN 1 SHL
 (PIX가)
 1 SHL 2 SHR (PIX가)
 1 SHW SCEN (1 SHL).
 14 15 가
 .
 6 : , Xn, Xn+1
 Xn PIX가 1 SUB1 ,
 BM 2 SUB2 .
 , BM 가
 Xn 1 Xn+1 2
 . , BM (PIX 2 Wb , PIX BM
 2 PIX 1 BM 1 Wa
 . , .
 1 6
 , , 1 6 , 1 2
 , , .
 3 6 1 SUB1 SHL, SHR , 가
 2 1 , 21 22 ,
 21 22 PIX ORI1 12 13 , 22 , S Wa , Sa Wb
 .
 2 , Xn
 PIX(Xn) BW BCEN ,
 PXW PCEN .

21 22 BM BMO BCEN PIX
 PCEN (, PIX Xn)
 BM BMO Xn BCEN PIX PCEN (, PIX)
 , 2 SUB2 1 SUB1 2 SUB2 (,
) SUB1 PIX ,
 1 SUB1 , 16 17
 1 SUB BM
 2 SUB2 .

16a, 16b 17a, 17b 3 , 1
 X(Xn, Xn+1, ...) .
 16a Xn 가 가 ,
 17a Xn 가 가 .
 16a 17a , 16b 17b 16a 17a A
 - A .

1 SUB1 Xn 가 가 16a, 1
 6b , PIX Xn+1
 SHR , SUB2 SHL
 . , 2 SUB2 , .

1 SUB1 Xn 가 가 17a, 1
 7b , Xn Xn+1 SHL ,
 Xn Xn+1 SHR
 . , 2 SUB2 , .

, 가 ,
 . , 가(ORI1 ORI2, 13 15 ,
 b, 17b ORI1 ORI2, 가 SUB1, 16b, 17b 16
 15 ORI1 ORI2, 가 SUB2 , 13

13 15 ,
 1 SUB1 가 SHL, SHR PIX PIX ,

18
 PNL GLB CFL .

FPC1 , PNL () FPC2가

GLB RF OPS가 , GLB MDL PNL SHD
 , CB , CT . CFL CB

1
 1 2

(57)

1.

1 2 , 1 ,
 2 1 ,
 1 , 1 2 ,
 1 2 ,
 1 ,
 , 1
 ,

1
 , 2 1 1 1 2 2 2
 , 1 2 , 1 1
 1 , 2 2 , 1 1

2.

1 ,
 2 ,
 1

3.

1 ,

1 2 2 .

4.

1 ,

1 2 1 .

5.

1 2 , 1 ,
2 1 ,

1 , 1 2 ,

1 2 ,

1 ,

, 1

, ,

1

, 2 1 1 1 2 2 2
1 ,

,

1 , 1 1 , 2 2
.

6.

5 ,

2 1 ,
2 .

7.

5 ,

1 2 2 .

8.

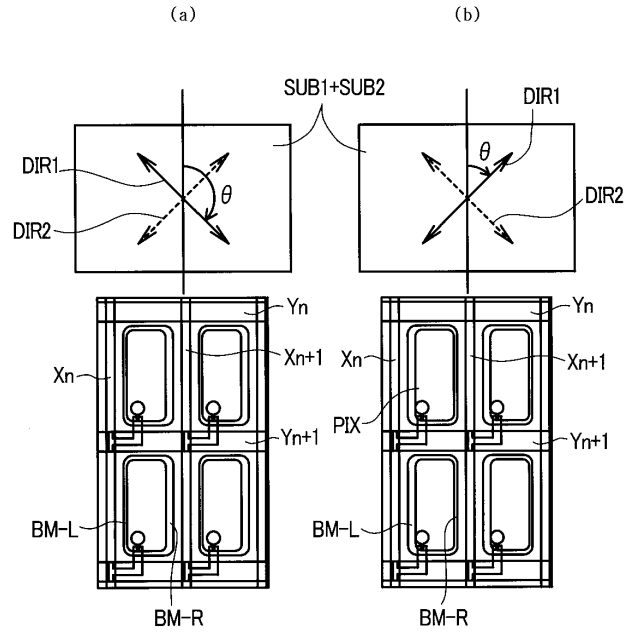
5

1

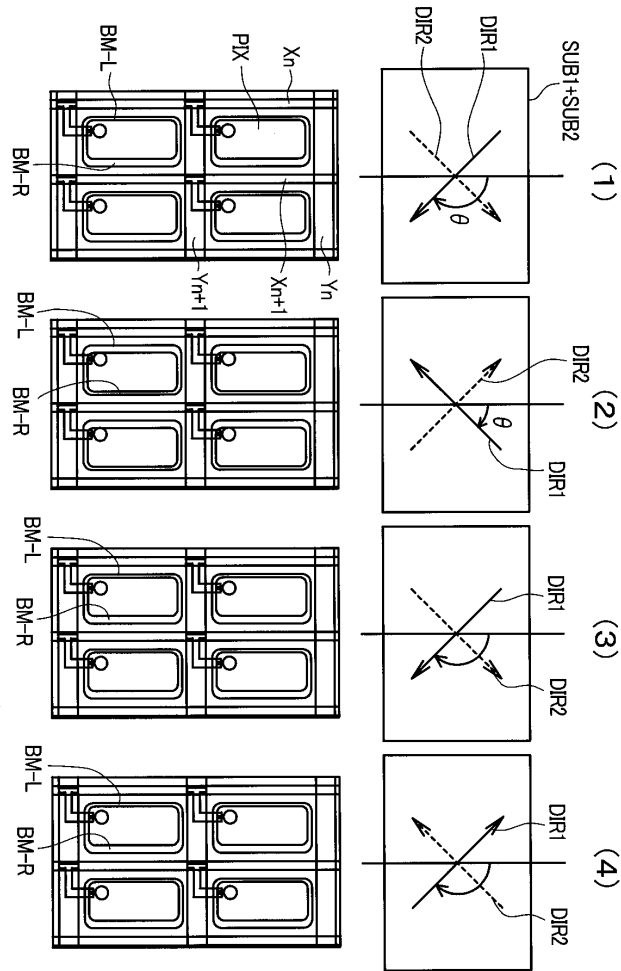
2

1

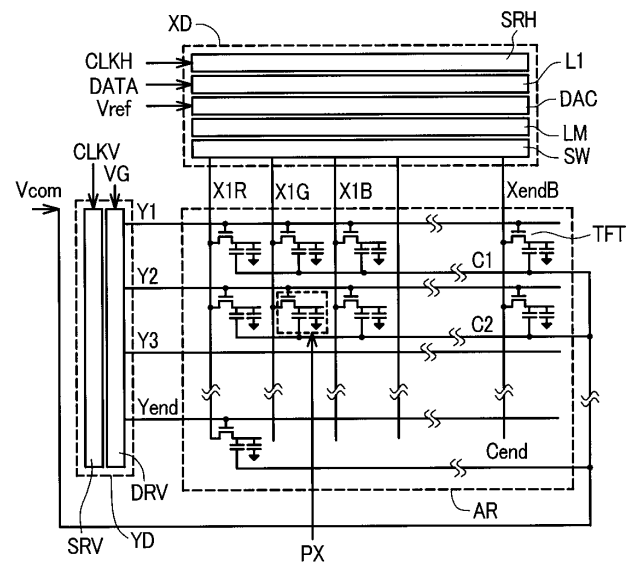
1



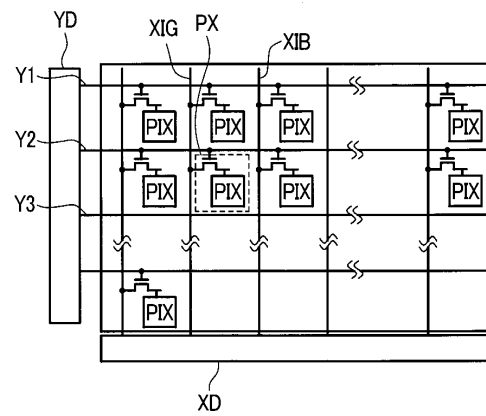
2



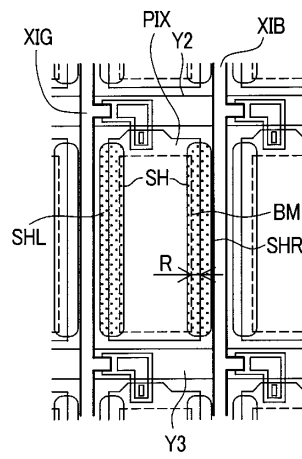
3



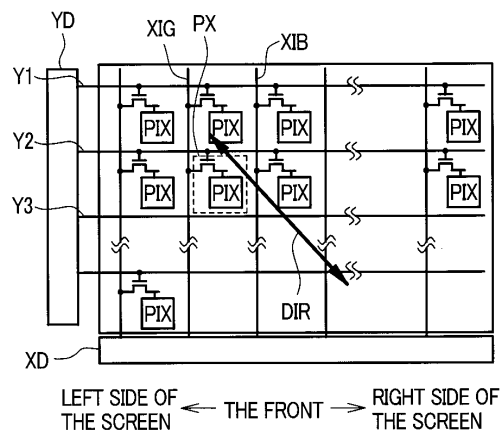
4a



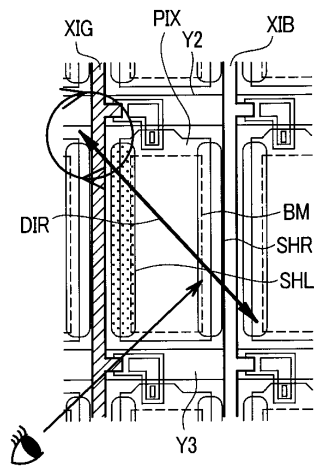
4b



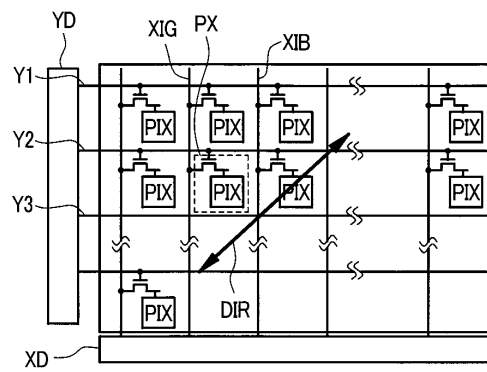
5a



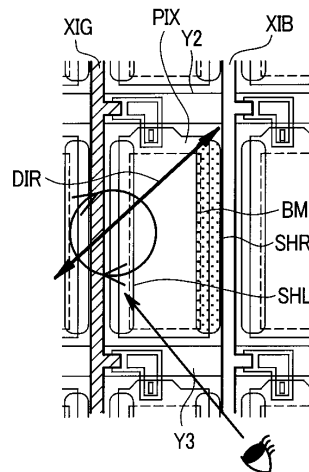
5b



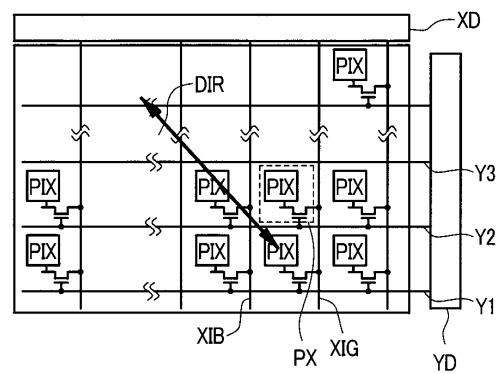
6a



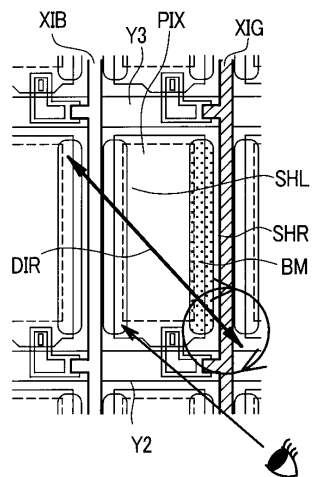
6b



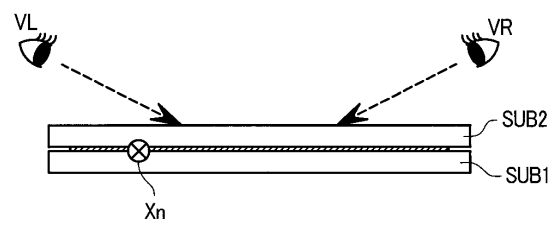
7a



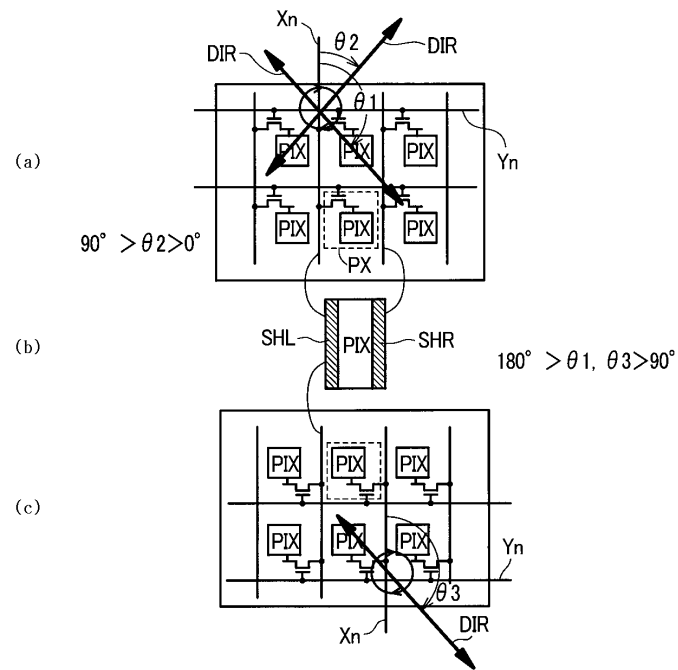
7b



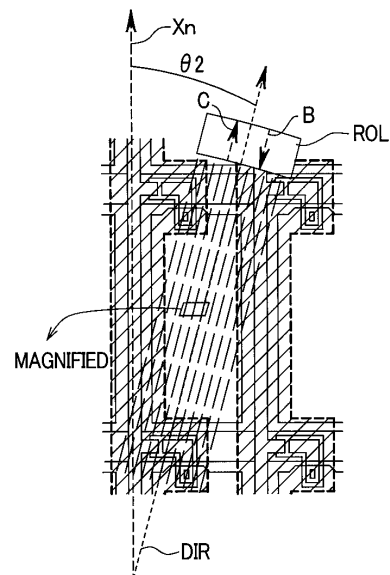
8



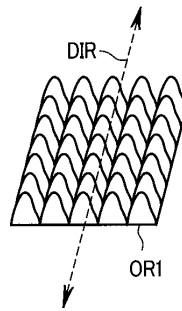
9



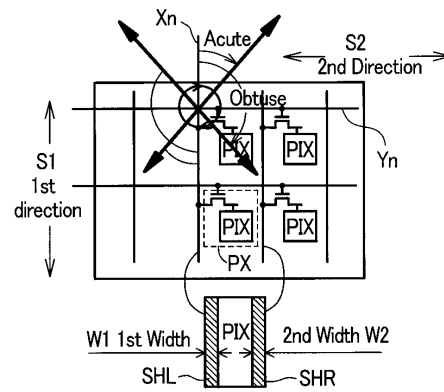
10a



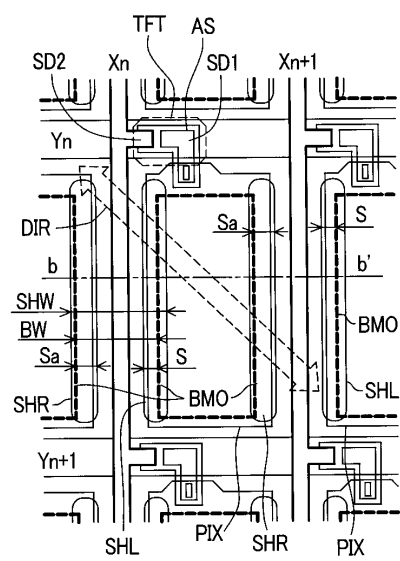
10b



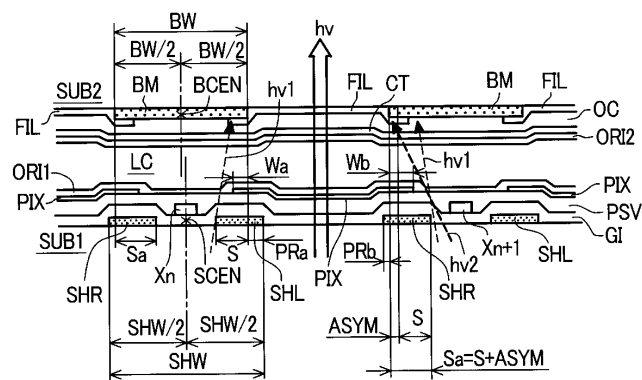
11



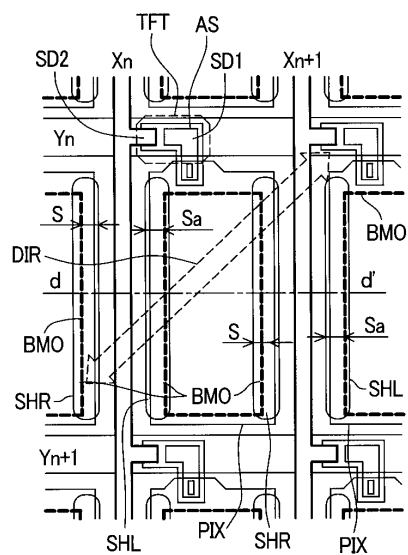
12



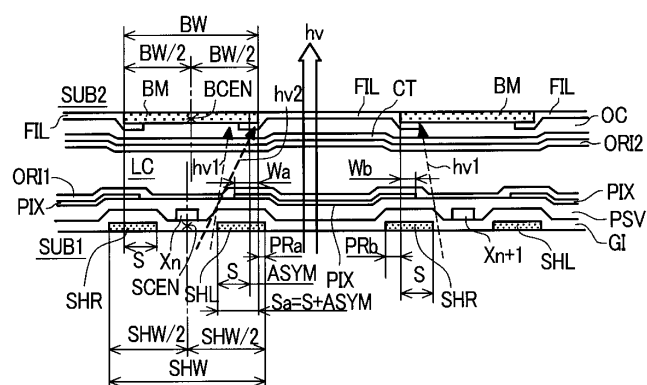
13



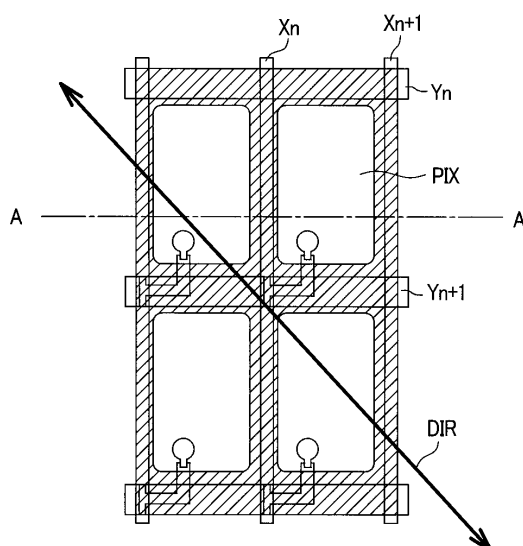
14



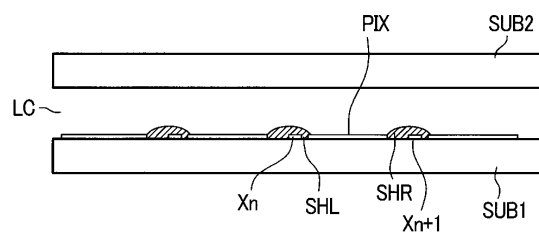
15



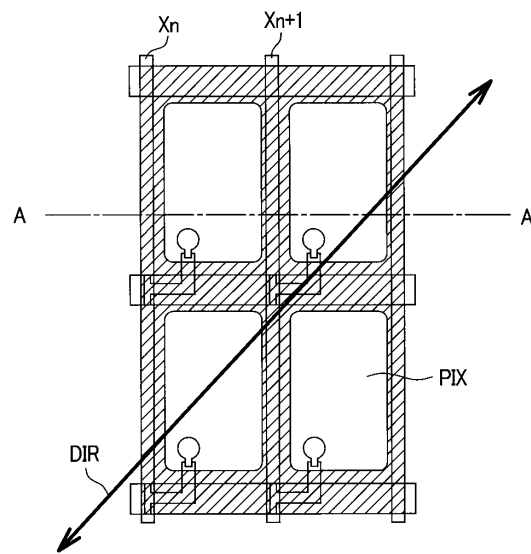
16a



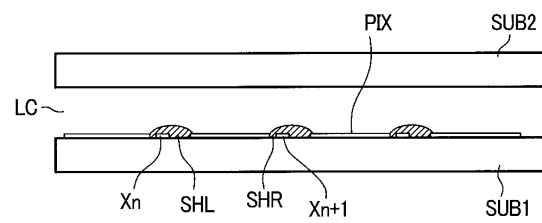
16b



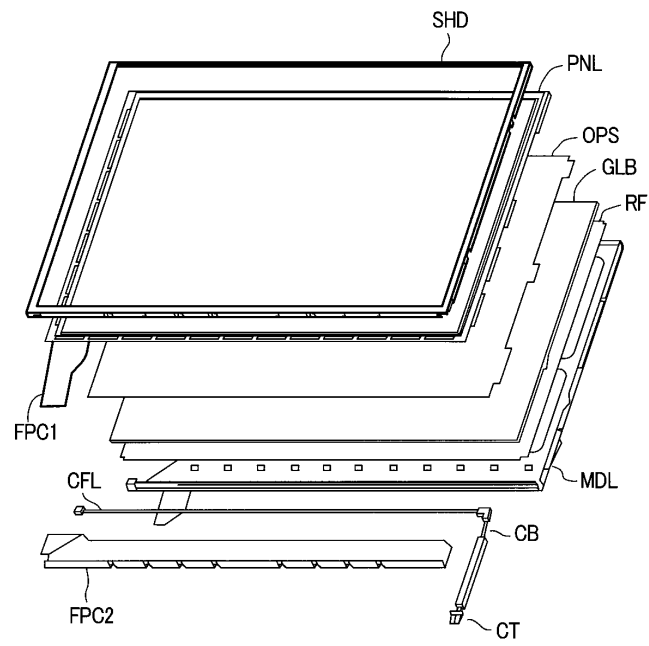
17a



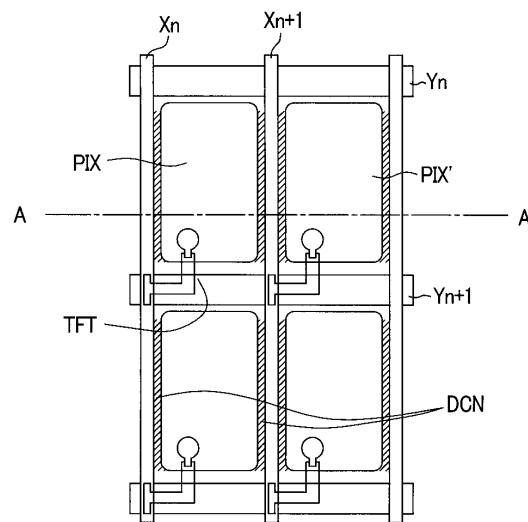
17b



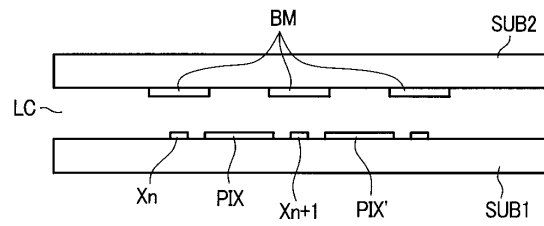
18



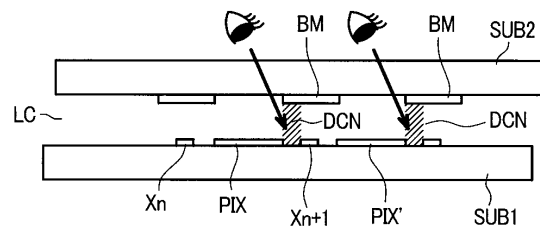
19a



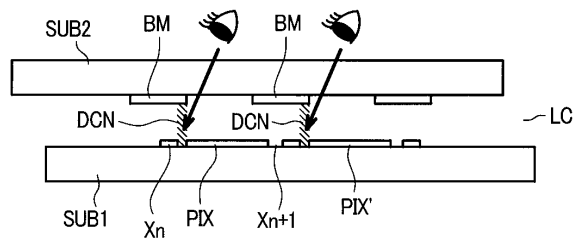
19b



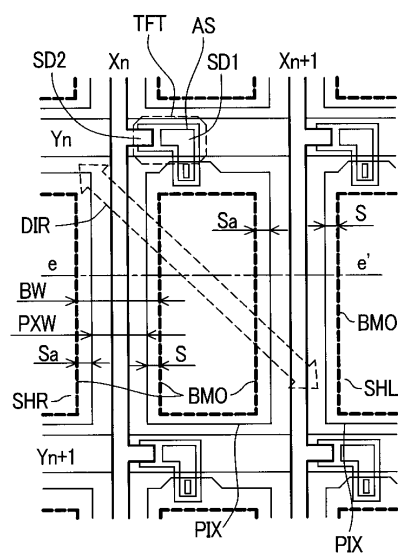
20a



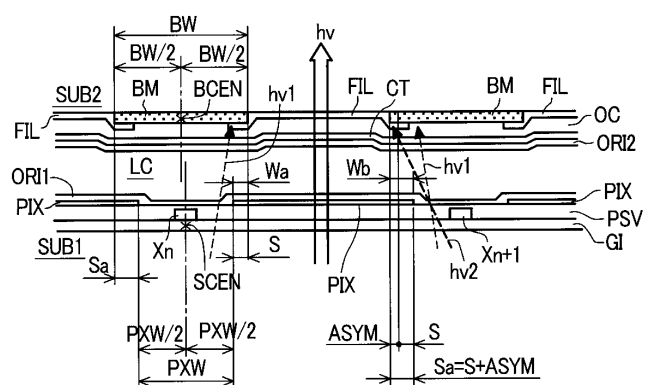
20b



21



22



专利名称(译)	液晶显示器		
公开(公告)号	KR1020030019134A	公开(公告)日	2003-03-06
申请号	KR1020020050770	申请日	2002-08-27
[标]申请(专利权)人(译)	日立HITACHI SEISAKUSHODBA		
申请(专利权)人(译)	株式会社日立制作所		
当前申请(专利权)人(译)	株式会社日立制作所		
[标]发明人	MIMA TOSHIYUKI		
发明人	MIMA,TOSHIYUKI		
IPC分类号	G02F1/1335 G02B5/00 G02F1/1368 G09F9/30 G02F1/1337 G09F9/35 G02F1/133		
CPC分类号	G02F1/133784 G02F1/133512 G02F2001/13373		
代理人(译)	CHANG, SOO KIL		
优先权	2001257333 2001-08-28 JP		
其他公开文献	KR100620922B1		
外部链接	Espacenet		

摘要(译)

从而根据第一基板的对准和第二基板的对准之间的横向差异来抑制不连续的发生。当取向膜的摩擦方向DIR相对于第一基板SUB1的主表面上的视频信号线X的拉伸方向的交叉角 θ 在顺时针方向上是钝角时，光阻挡部分BM-形成在相邻视频信号线 $X_n + 1$ 上的光阻挡部分BM-R的宽度宽于视频信号线 $X_n + 1$ 的宽度，并且摩擦方向DIR的交叉角 θ 在顺时针方向上是锐角。形成在像素电极PIX的视频信号线 X_n 侧的屏蔽部分BM-L的宽度比屏蔽部分BM-R的宽度宽。 1 指数方面 倾斜，阴影，重叠宽度，摩擦

