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(24)

2003 02 26
10 - 0373667
2003 02 12

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10 - 2000 - 0053683
2000 09 09

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(43)

2001 - 0030357
2001 04 16

(30)

1999 - 266833

1999 09 21

(JP)

(73)

가 가

가 4 6

(72)

13

562 - 1

3 - 17 - 2 - 102

가 4 - 39 - 11

13

(74)

:

(54)

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가

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1

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1

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2 1 2 - 2 .

3 1 3 - 3 .

4 1 4 - 4 .

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가 .

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12

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13

, 14 가 .

14

, 13 가 .

15

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16 15 16 - 16 .

17 15 17 - 17 .

18 15 18 - 18 .

19

20 가 .

20

, 19 가 .

21				.
22	21	22 - 22	.	
23				.
24	23	24 - 24	.	
25	23	25 - 25	.	
26	23	26 - 26	.	
27				.
28	27	28 - 28	.	
29	27	29 - 29	.	
30	27	30 - 30	.	
31				.
32	31	32 - 32	.	
33	31	33 - 33	.	
34	31	34 - 34	.	
35		가 -	.	
36				.
37				.
38	37	38 - 38	.	
<				
GL :				
GI :				
DL :				
CL :				
PX :				
CT :				

AS :

TFT :

PSV :

GTM :

DTM :

CTM :

ITO :

， .

()

가 가

가 , (廣視野

角)

，

，

(1) (2)

가 가

SID 99 DIGEST: P202 P205

가

()

가

()

()

가

가

가

가

[1]

<

1 ()

1 2-2

2 , 3-3

3 , 4-4

4

, 1 가 (, X) , (, y) GL
 (Cr) GL DL
 ,
 ITO (Indium - tin - Oxide)
 ,
 CT (trimming) CT CL
 1 (GL)
 CL
 CL (Cr) CT 가 ,
 DL CL ,
 GL CT ()
 , CL GL ,
 , CT, CL, GL SUB1
 SiN GI가
 GI DL CL GL
 Cstg TFT 가 ,
 , GL (1) TFT가 ,
 GI a - Si AS가
 AS SD1 SD2가 , GL
 MIS 가 , SD1 SD2
 DL
 , 1 y x DL , DL 가
 AS TFT SD2
 , DL SD1 , SD1
 PX SD1 SD2 n , 3
 AS SD1 SD2
 d0
 2 d0 AS n , AS SD1 SD
 , AS TFT , DL
 GL, CL

, TFT가 SUB1 TFT
 , SiN PSV가 TFT
 , PSV PX FCT가, ITO
 , PX CT , 3 , 1 y
 X , x
 SD1 , PSV CL TFT
 , , Cstg가
 가 Cstg TFT DL 가 PX
 , TFT가 PX
 , PX y FCT가
 , , FCT ()가 가
 , FCT ITO , CT
 , 2 PX FCT FCT 가 CT PX SUB1
 , PX CT PX FCT
 , , 가
 , 가
 , 가 FCT CT 가 , CT Ct가 Cstg FCT
 , FCT PX
 , FCT PX
 FCT PX FCT가 ORI1 ORI1 PX
 <
 TFT , TFT

2 LC , , BM 가 BM

, BM OC가 ,
OC ORI2가 .

<

5 SUB2 SUB1 , AR 5
SUB1 .

, SUB1 5 SUB2 Tg, D
, , , GL Td가 .

L

SUB2 SUB1 SUB2 SL
, SL SUB1, SUB2 LC

6 SUB1, SUB2 LC가 SL .

, SL (5) INJ가 , INJ .

<

7 GTM , 7(a)
, 7(b) 7(a) B - B .

, SUB1 ITO ITO1 GTM
GT CT .

GTM ITO ITO1 .

, GTM GL GL
..

, GTM GL GI PSV가 ,
PSV GI , GTM 가 .

, GI PSV AR .

<

8 DL DTM , 8(a) ,
8(b) 8(a) B - B .

, SUB1 DTM ITO ITO1
, ITO ITO1 CT .

, DTM GI DL , GI
 .
 , ITO SiN GI ITO , DL
 ,
 가 .
 , 8 DTM Cr g
 1 , g1 GI .
 , GI PSV PX ITO ITO2
 , DL PSV g1 .
 , g1 Cr A1 Al g1 Tj/Al/Ti ,
 ITO 3 .
 <
 9 CL CTM , 9(
 a) , 9(b) 9(a) OB - B .
 SUB1 CTM , ITO ITO1 CT ITO ITO1
 , ITO ITO1 CT .
 , CTM CL CL
 .
 , PSV , AR GI GI CTM 가 PSV가
 , PSV GI , CTM 가
 .
 < 가
 10 가 .
 10 가 GL V
 ()가 .
 가 GL TFT
 .
 , H DL 가 ,
 가 .
 , CT CL
 가 .
 , () .

가 R, G, B , ,

<

11 GL , VD , , VC , VG CT

VC () .

<

12 5 .

12 , PNL V, , PCB2가

V IC ,

GTM ,

가 , IC ,

DGTM ,

PCB2 FC H , H

FC V .

SUB1 ,

SUB1 () SUB1 COG (Chjp On Glass)

<

13 14 TFT .

(A) (F) , 13 14 , 13 14

가 .

(A)

SUB1 , ITO CT ,

ITO DTM ,

(B)

SUB1 Cr GL , CL , Cr

g1 .

(C)

SUB1 CVD SiN GI .
 , GI CVD a - Si , n a - Si
 .
 , a - Si , TFT
 AS .

(D)

SUB1 , Cr , SD1 S
 Cr , DL, TFT
 D2 , DL .

(E)

SUB1 , CVD SiN PSV .
 , PSV , TFT
 SD2 PSV
 GI g1 .

(F)

SUB1 ITO ITO2 , TFT
 SD2 ITO PX, FCT ,
 DL g1 .

[2]

<

15 16 15 16 - 16 ,
 17 15 17 - 17 , 18 15 18 - 18 .
 1 (1, 2, 3, 4) , .
 1 , CT가 GI , DL
 .
 CT GL .
 , CT DL FGT GL
 , CT
 DL FGT CT 1 CL , ,
 DL CT .

, DL CT

.

, FGT , CT , CT

DL

, CT DL (GL)

, CT GL

, DL CT DL

CT GL GL

가 , 1 C CL

, DL CT CT

GL CT

, CT DL , 1

, PX FCT , GL GI ,

GL (15),

(GL , GL GL 가),

<

19 20 , 13

14

1 CT가 GI , CT PSV

PX가

[3]

21 15 . 22

21 22 22

21 , 15

DL DL CL

CT CL , CT () ,
 CT , CT 가 .

CL DL , DL
 CL CT , ITO
 .

CL 2
 DL .

CL 21 y PX
 .

PX가 CT ,
 CL ,

DL ITO ITO1 , DL
 ITO ITO1

ITO ITO1 CT ,

[4]

23 , 24 23 24 - 24 ,
 25 23 25 - 25 , 26 23 26 - 26 .

23 1 , .

23 , 1 PX FCT가 GI , CT
 GI , PX FCT PVS(O
 R11) .

LC PVS , LC
 ,

25 TFT SD1 PX
 , PSV 가 .

[5]

27 , 28 - 28 , 29 - 29
 , 30 - 30 , 28, 29, 30 .

27 1 , .

27 , 1 PX , CT .

, 28 ITO PX가 GI I PSV1 , 1 PSVI

PX TFT , 1 PSV1

CT , PX 2 PSV2가 , 2 PSV2

CT FTC가 . .

CT PX 27 y x

CT CT

, CT (ITO) , PX

, FTC ,

. (ITO) CT FT

C CL , CT , FTC

, CT FTC GL

DL

가 CT FTC

(FTC) SUB1 PX , () CT 가

, 28 SUB2 가 ,

, , , 가 가 ,

, 가

, GL DL 1 PSVI 2 PSV2 2 PSV2

가 . ,

[6]

31 , 32 - 32 32

31 5 , 27 30

.

5 1 PSV1 , PX GI , CT PX

, PX CT 1 PSV

, 2 PSV2가 . 2 PSV2 ,

2 PSV2 ,

, 2 PSV2 . CT ,

5 가 , PX

, FTC CT가 .

GL DL 1 PSV

1 2 PSV2 , PX

CT 1 PSV1 LC

[]

35 1, 2, 4, 5, 6 가

, 15 XGA , GL 10 μm,

DL 8 μm .

, , TN TFT - LCD IPS TFT - LCD .

50%, , I 60%, 2 70%, 4

5 6 80%가 .

, 5 6

, 6 , 5 2 PSV2

[7]

36 ,

, () ,

36 1 , (P ,

PX , , 5 40가) (- 2)

, FTC PX ,

X , CT , CT P
FTC가 ,

, , PX CT PX
CT

, PX

, PX 36 y , 36 x

, PX

, PX 28

[8]

37 , 38 - 38 38

1 , 1 2

1 , FCT가 CL PX

, 38 FCT CL GL

UI

ITO FCT 37 UI

CL

, , UI FCT CL

, 1 CT

, 38 FCT TFT CL
FCT Ct FCT PX Cstg

, PX CT , DL GL

가 ,
PX CT () 가

PX
DL GL
,

가

가

가

(57)

1.

가

가

2.

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가

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가

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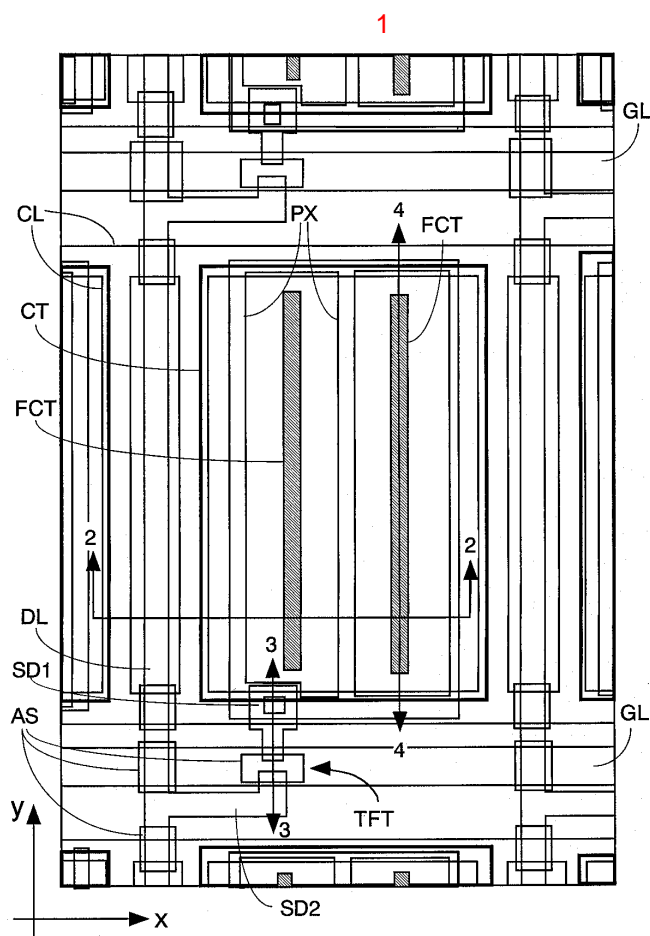
,

가

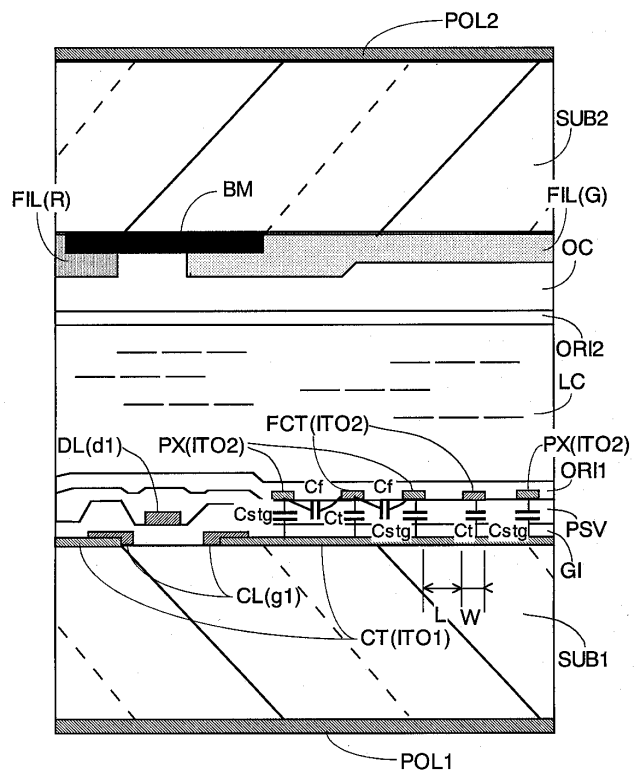
가

10.

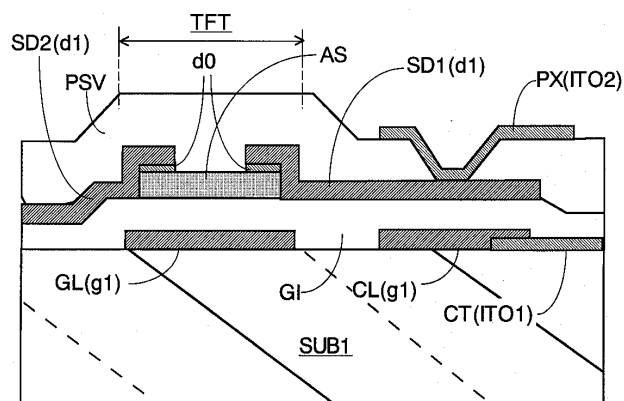
9



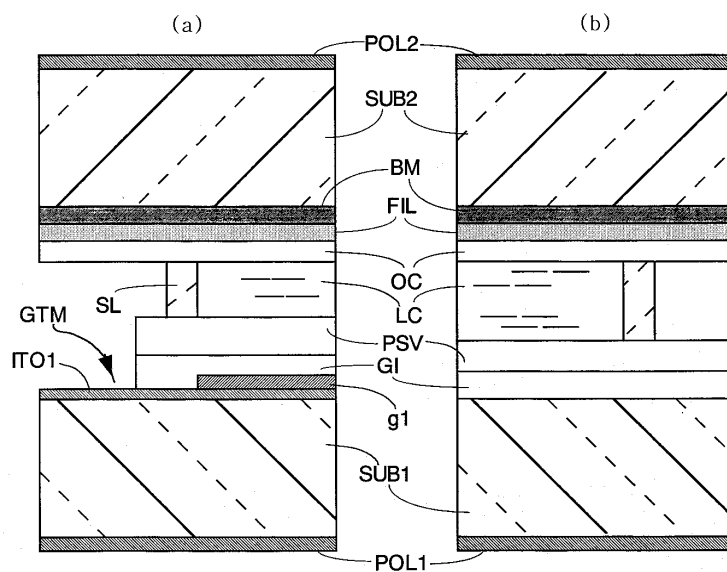
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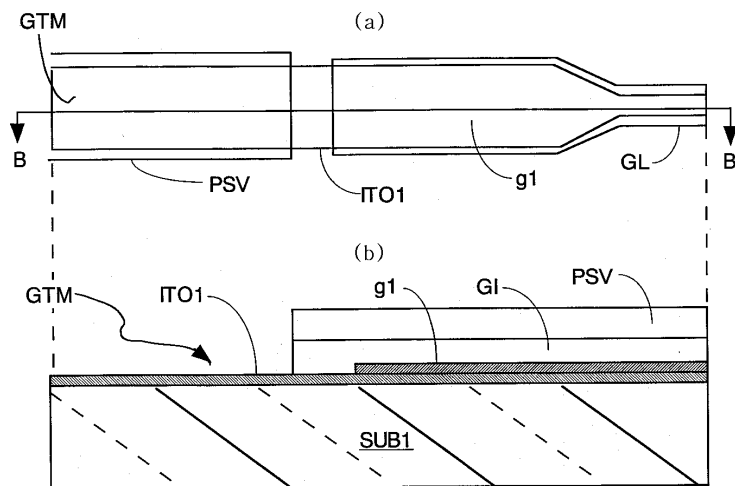
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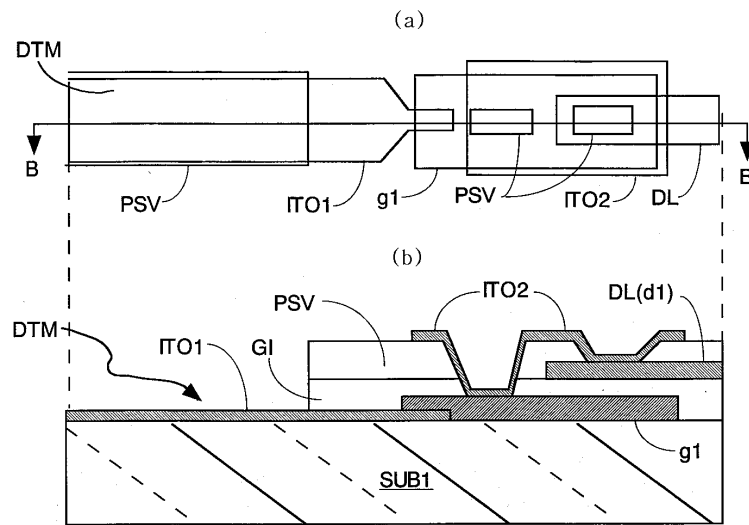
6



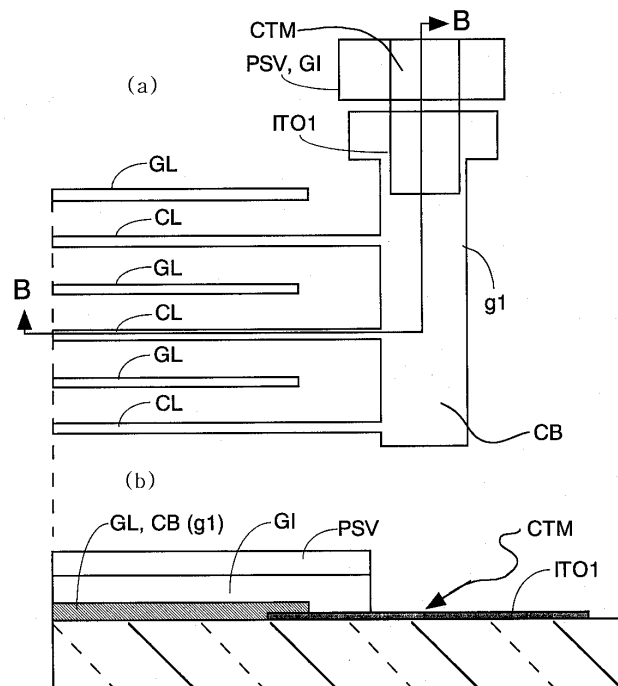
7



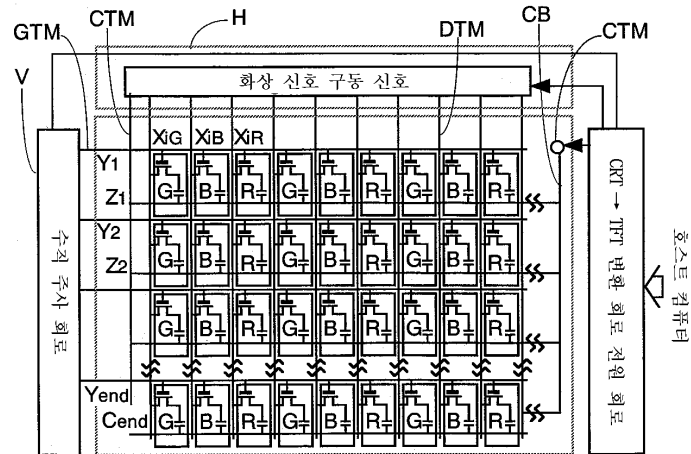
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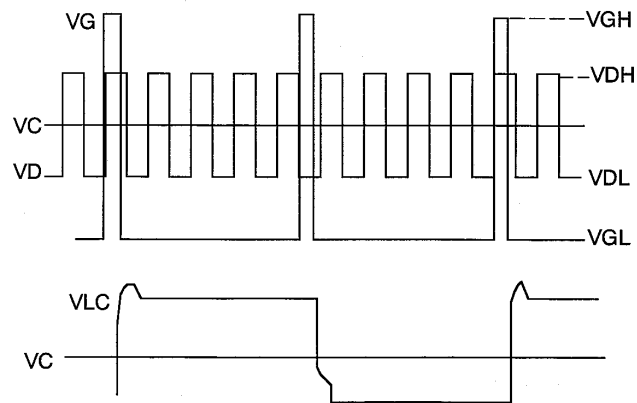
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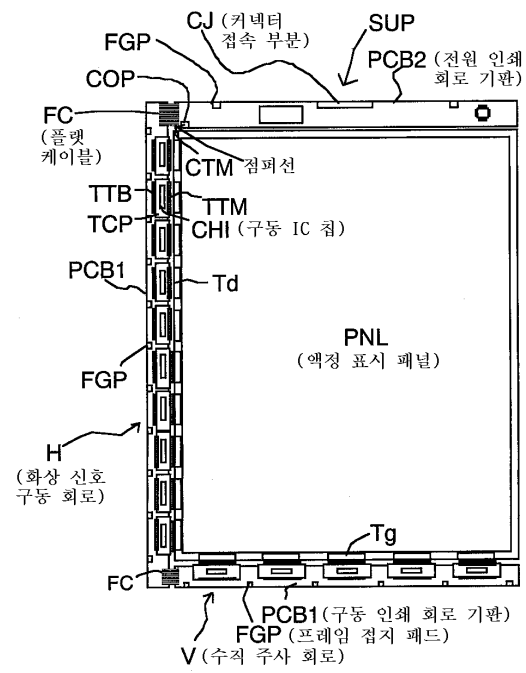
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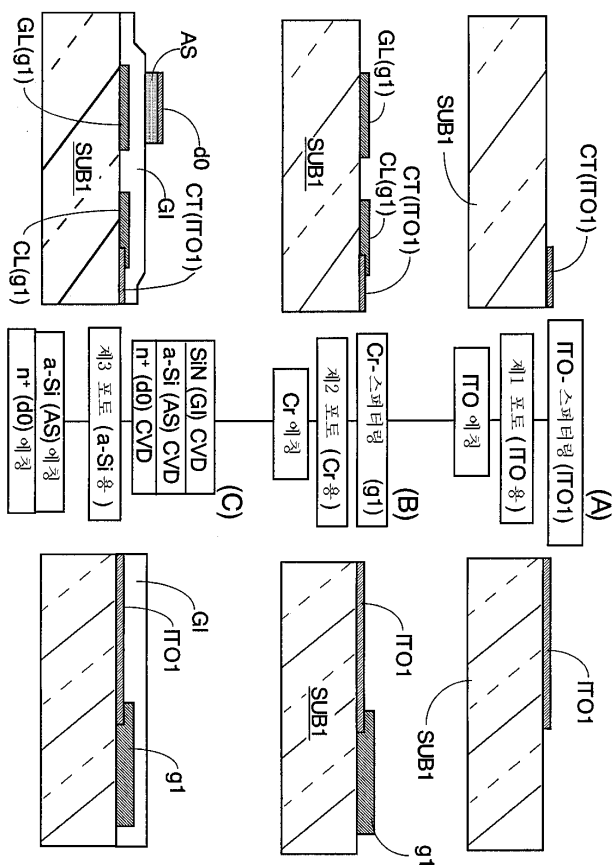
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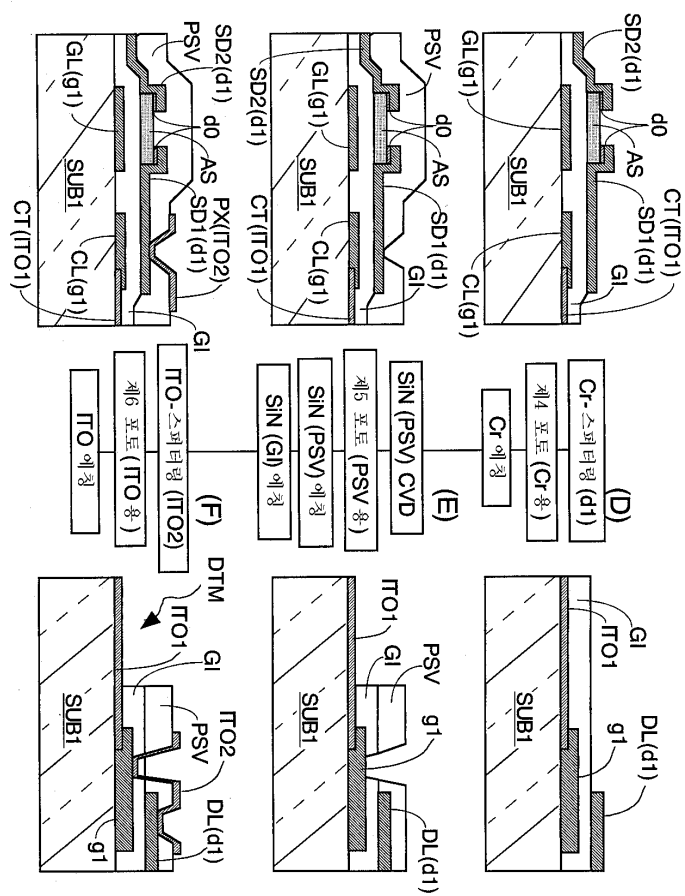


12

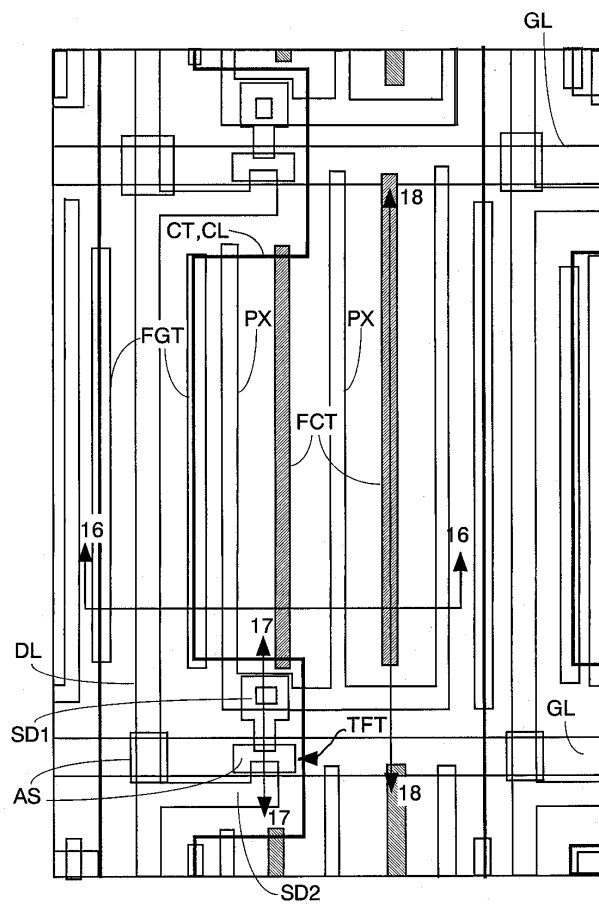


13

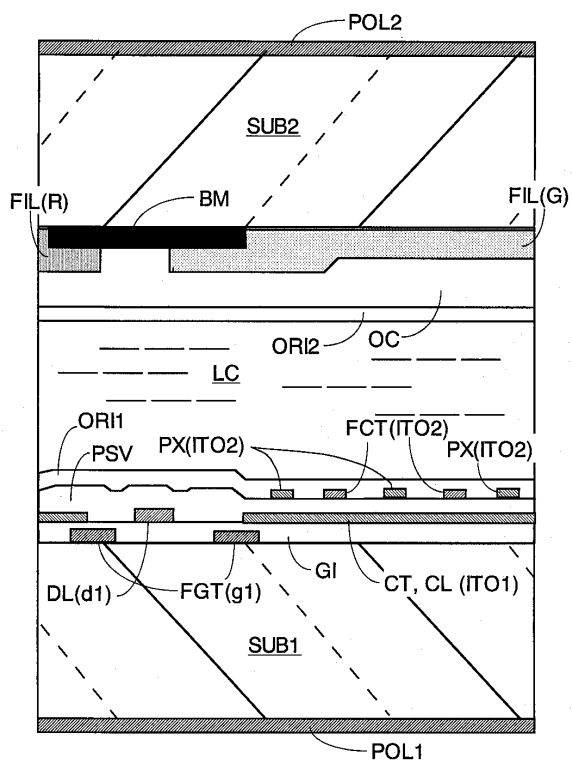




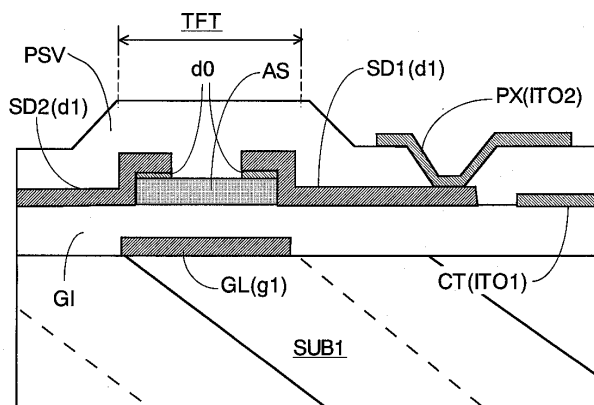
15



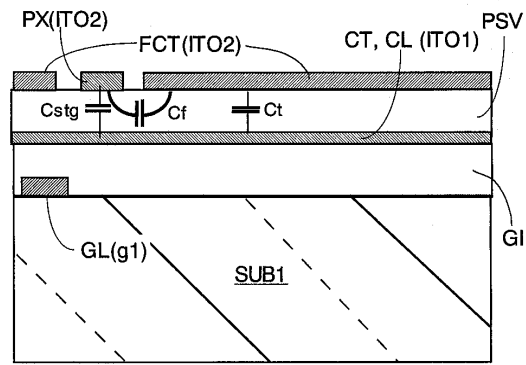
16



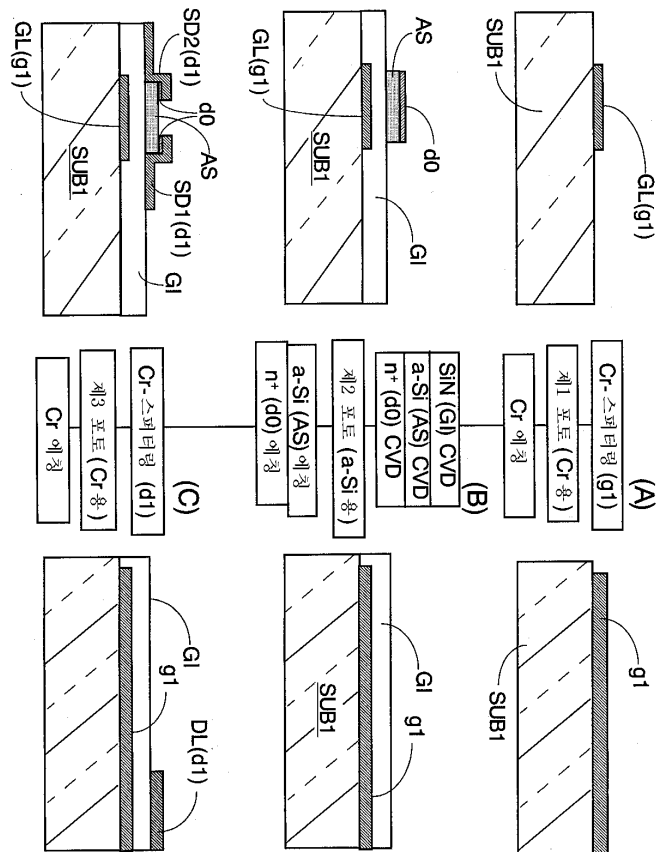
17



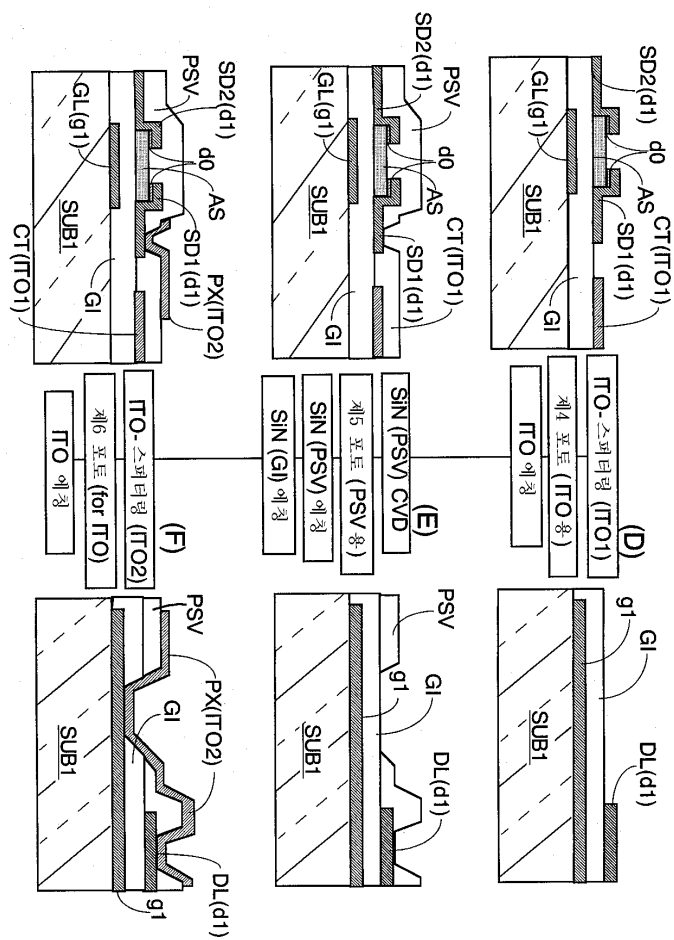
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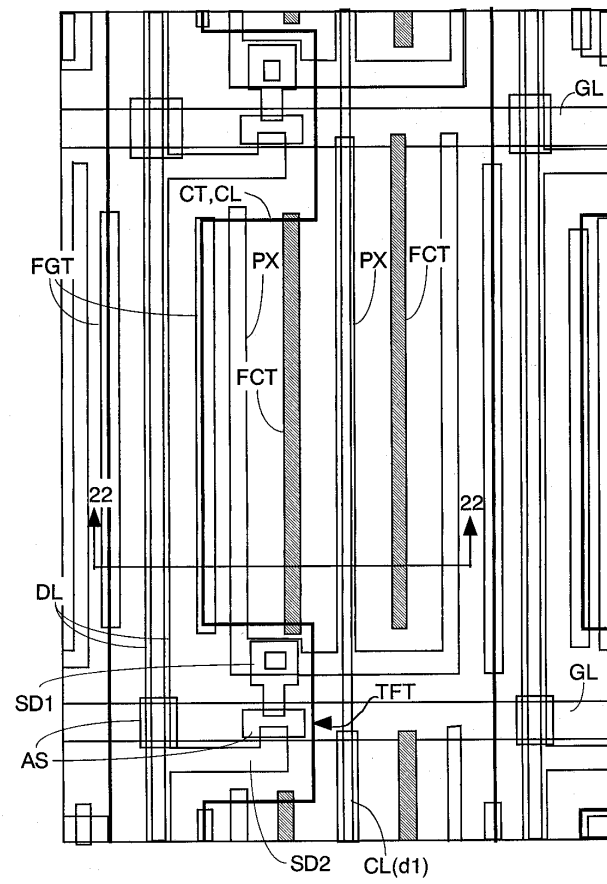
19



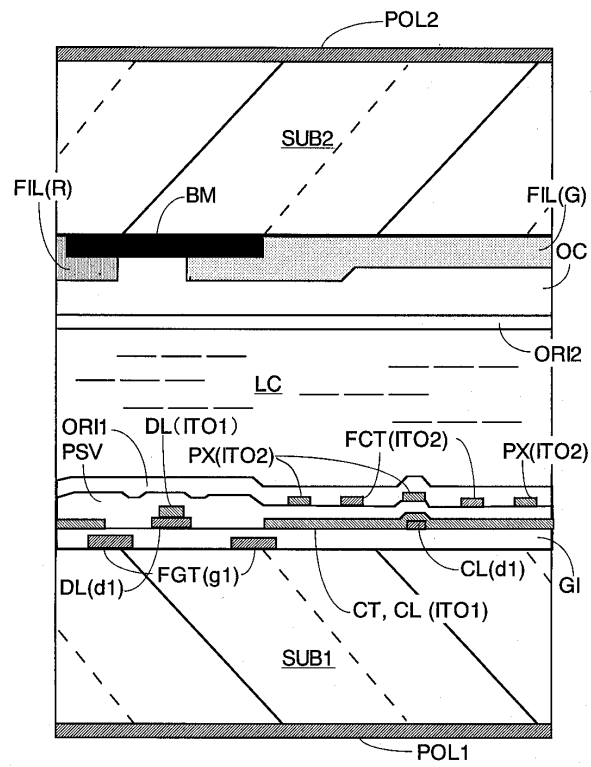
20



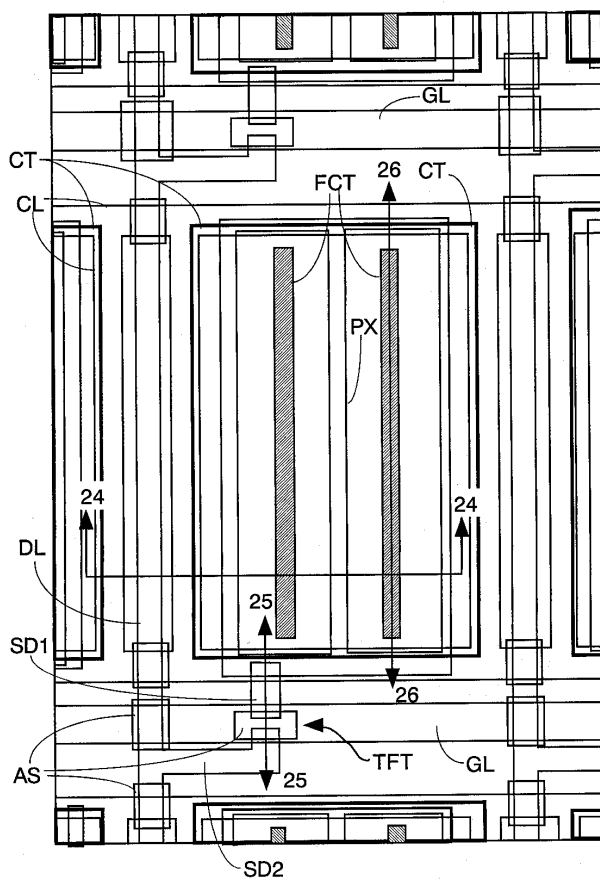
21



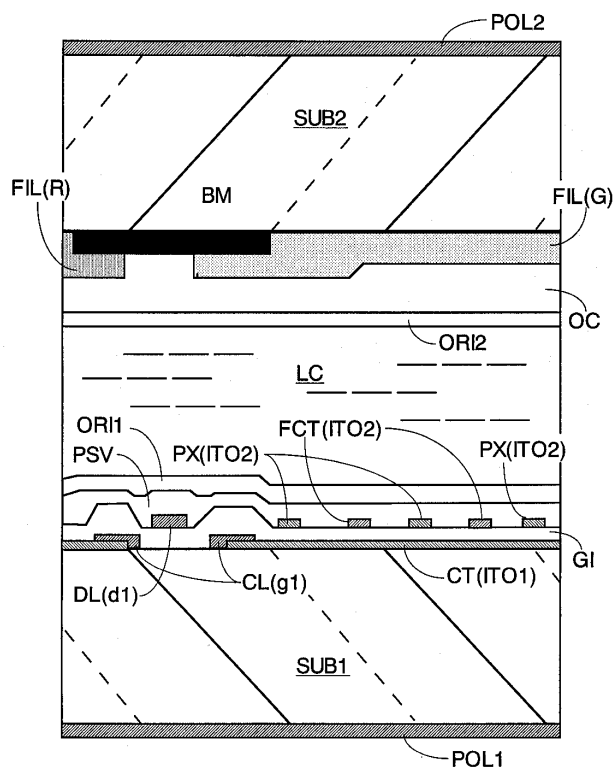
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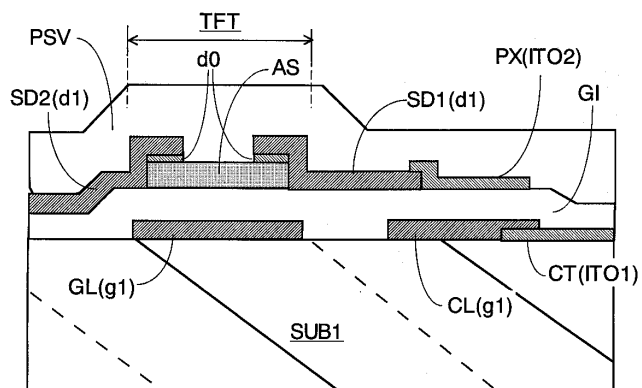
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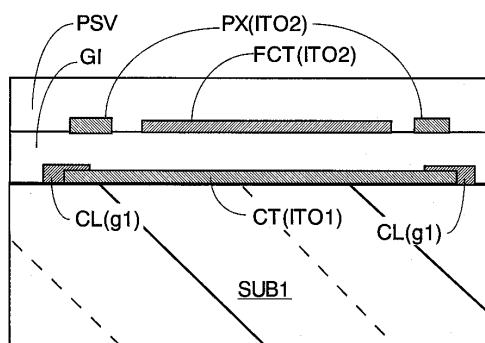
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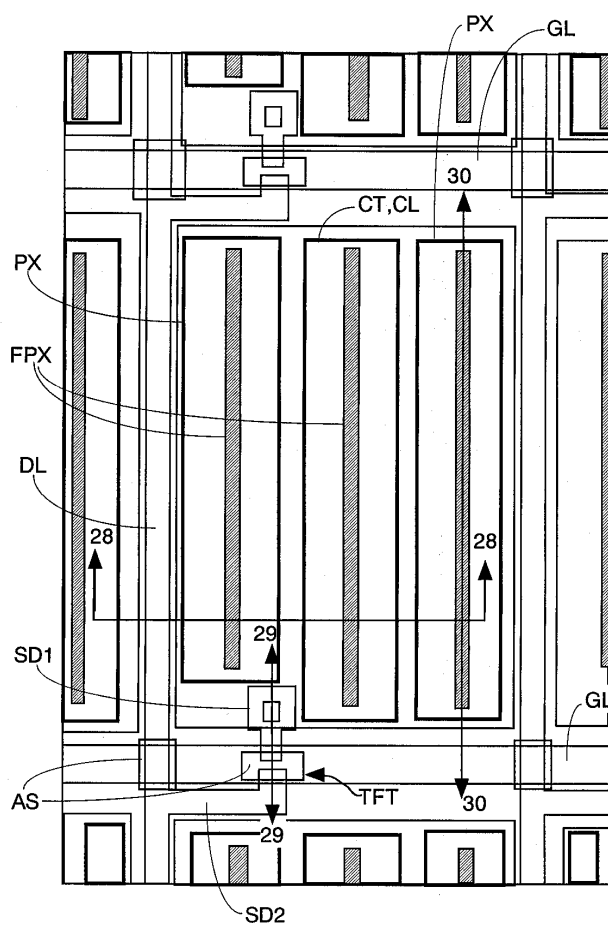
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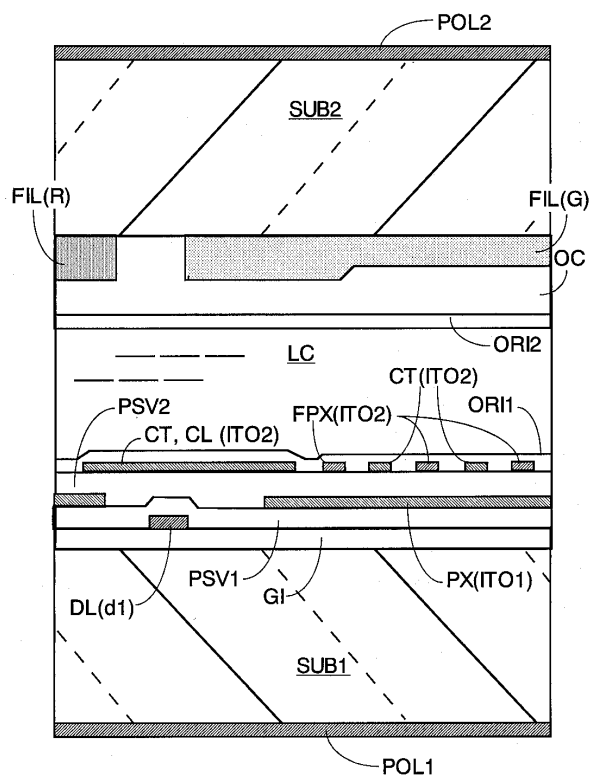
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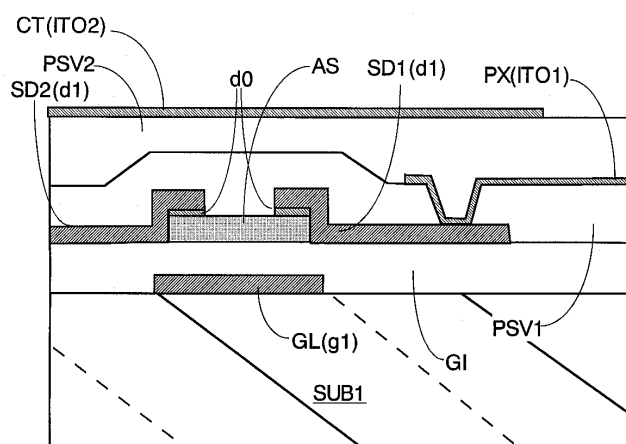
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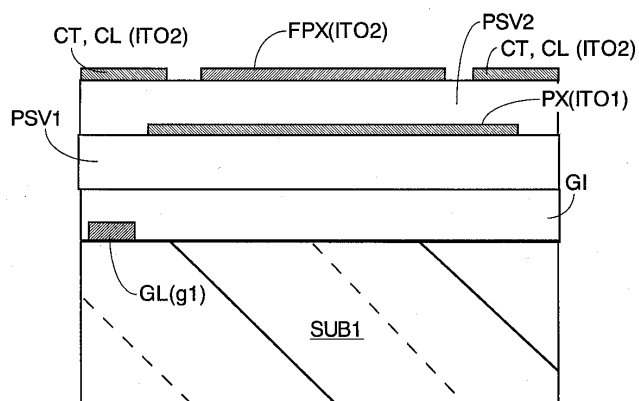
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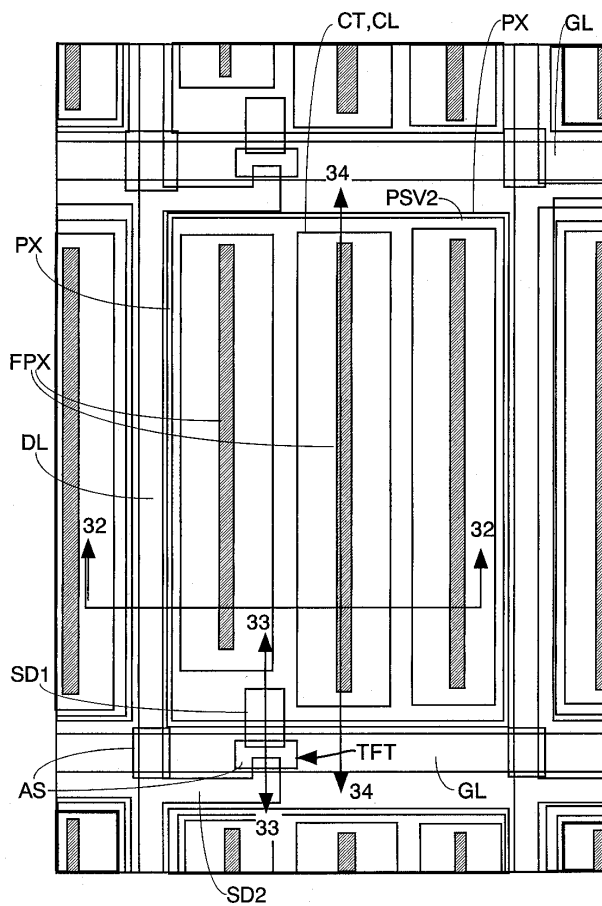
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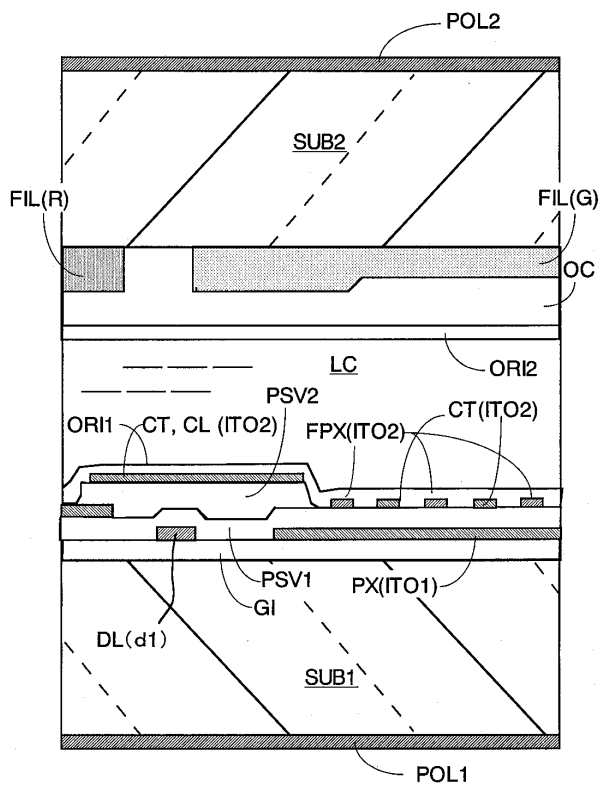
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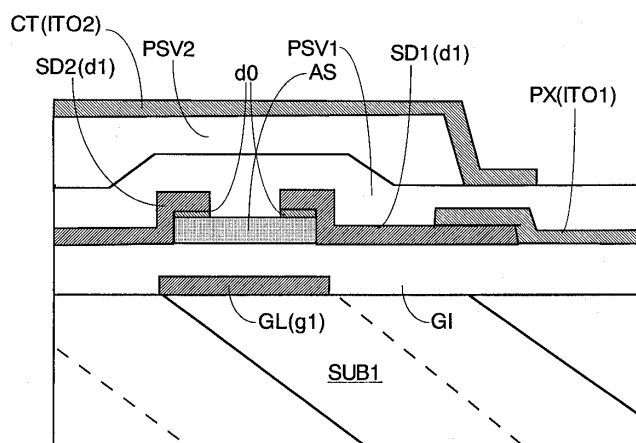
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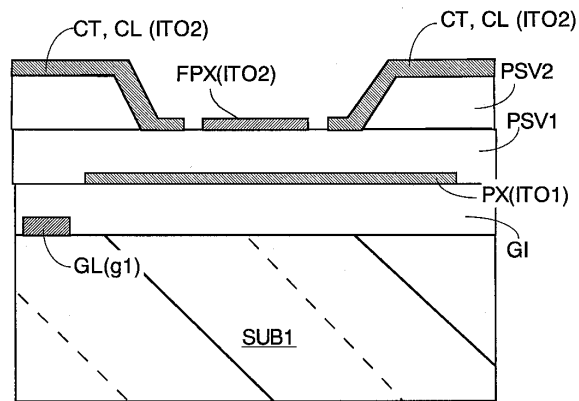
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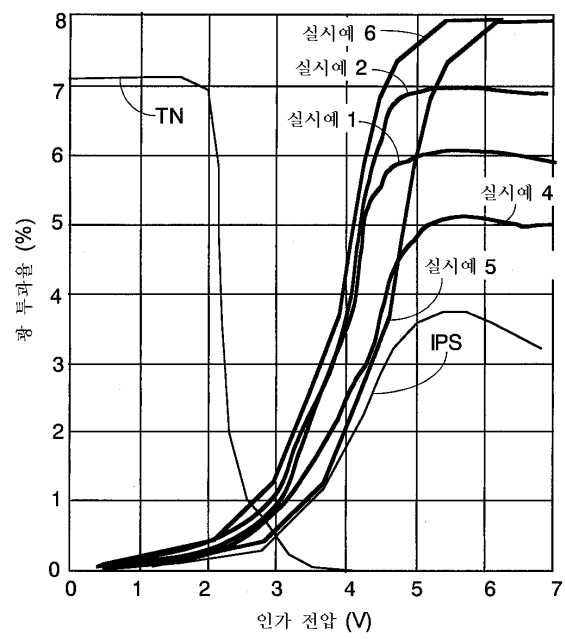
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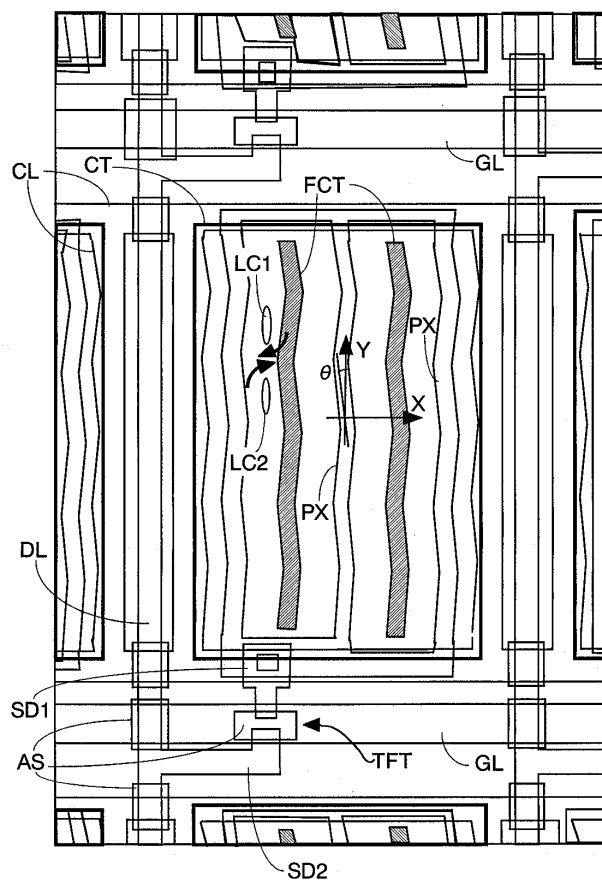
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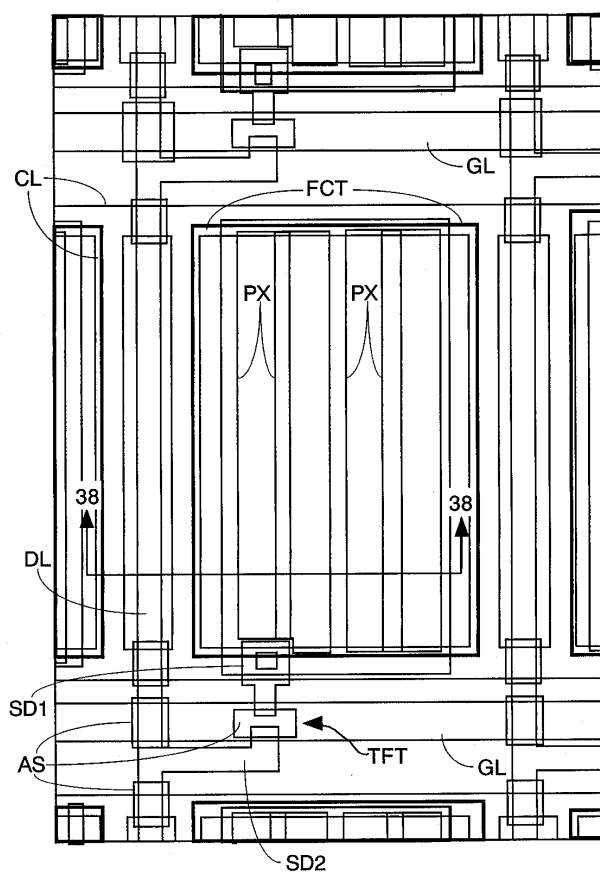
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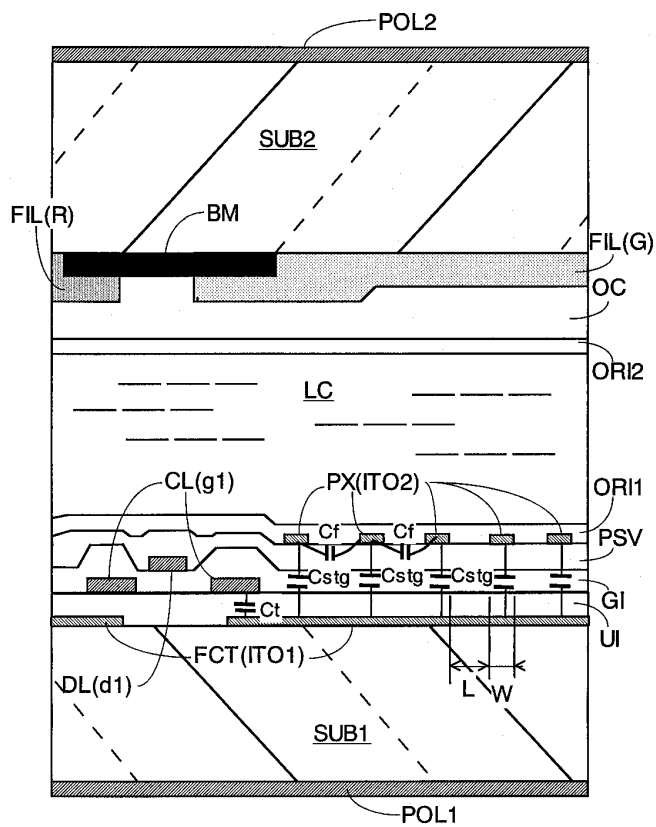
36



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专利名称(译)	液晶显示器		
公开(公告)号	KR100373667B1	公开(公告)日	2003-02-26
申请号	KR1020000053683	申请日	2000-09-09
[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	ONO KIKUO 오노기꾸오 YONEYA MAKOTO 요네야마꼬토 YAMAMOTO TSUNENORI 야마모토즈네노리 HIRAKATA JUNICHI 히라카따준이찌 NAKAYOSHI YOSHIAKI 나카요시오시아끼		
发明人	오노기꾸오 요네야마꼬토 야마모토즈네노리 히라카따준이찌 나카요시오시아끼		
IPC分类号	G02F1/1362 G02F1/1368 G02F1/1343 G09F9/30 G02F1/133 G02F1/136		
CPC分类号	G02F1/136213 G02F1/13439 G02F1/134363		
代理人(译)	CHANG, SOO KIL		
优先权	1999266833 1999-09-21 JP		
其他公开文献	KR1020010030357A		
外部链接	Espacenet		

摘要(译)

在设置在透明基板中的一个透明基板的液晶侧中的像素电极之间产生具有与透明基板平行的分量的电场，其中透明基板彼此相对设置，液晶介于其间，并且，像素电极和对电极中的一个形成比另一个更靠近液晶，另一个电极由从与至少一个电极重叠的区域的周边向外延伸的透明电极形成。在液晶显示装置中，在像素电极和对电极之间形成与像素电极和对电极中的每一个电容耦合的导电层，以降低驱动电压并减小像素电极和对电极之间产生的负载电容。 - 1 - 1 指数方面 像素电极，对电极，透明基板，导电层，液晶显示器

