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2004 08 05

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2003 05 16

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(74)

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IPS 1 4

1

[illegible]

BM :
CJ :
CL :
CPAD :
CPM :
CPT :

CNT1 : Si
 CNT2 : Si
 CNT3 :
 CNT4 :
 CNT5 :
 CPM :
 CPT :
 DDC :
 DL :
 EPX :
 CF :
 FIL :
 FPAS :
 GFPC : FPC
 GI :
 GL :
 GLS1 : TFT
 GLS2 : CF
 IDC :
 INJ :
 ILI :
 LC : ()
 LCB :
 MDL :
 OC :
 OLI :
 PAD :
 PAS :
 POL :
 PSI : p-Si
 PSI(p) : p p-Si
 PSI(n⁺) : n⁺ p-Si
 RM :
 SPB :
 SPC :
 SHD :
 SPM :
 SPT :
 SSC : ,
 TCP :
 ULS :

(TFT)

VTR

, DVD

BS

가

(IPS)

가

IPS, 7-36058, 2
TN, LCD
9-230378
TFT, TFT가

IPS, TN, 가, 가, 가
(ITO)
()
가, 가
IPS, TFT
가, 1
TFT, TFT, TFT, IPS, ()
가, 2, IPS, ()
가, 4, 3
TFT, TFT

(1) 1, 2, 1, 가, TFT
가, TFT, 가, 가, TFT

(2) 1, 가, TFT
(3) 1, 2, 가
(4) 1, 3, 1, 가
4, 가
(5) 1, 4, 가
(6) 1, 2, 1, 가, TFT, TF
T, 가, 가

가 가

(7)
6 ,
(8)
6 ,
(9)
1 2 , 1 ,
가 , TFT 가 , TF
T 가 , 1 ,
4 ,
(10)
1 2 , 1 ,
가 , TFT 가 , TFT
가 , TFT 가 , 1 ,
4 ,
(11)
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가 , TFT 가 , TF
T 가 , 가 , 1 ,
4 , 4 ,
(12)
1 2 , 1 ,
가 , TFT 가 , TF
T 가 , 가 ,
가 가 가 ,
(13)
12 ,
(14)
1 2 , 1 ,
가 , TFT 가 , TF
T 가 , 가 , 1 2 ,
4 ,
(15)
1 2 , 1 ,
가 , TFT 가 , TF
T 가 , 가 ,
가 ,

, SiO₂ CL ILI가 , ILI Ti/Al/Ti
 3 DL 200nm Si₃N₄ PAS 2μm DL
 - (ITO) FPAS CPT가 FPAS ITO
 SPT SPT
 , (1) DL CPT SPT , (2)
 SPT 1 GL CPM SPM CPT
 , (3) SPT , (4) SPT CPT가 DL CPT
 4 LC (CF) GLS2 . CF GLS2 , (B), (R), (G)
 , (FIL)가 . CF GLS2 T
 (FIL(R)) . CF GLS2 T
 FT GLS1 LC CF GLS2 TFT OLI가 GLS1 POL
 가 32 PD2 GL PD1 G
 L 가 1 RD GL 가
 C , 1 가 4 (FPAS) SPT CPT L
 , SPT CPM Cstg SPM ILI
 가 , 가 GL Cstg 1 DL
 3 가 1 SPT DL Cstg
 AD Cstg , SPT CPT CL , TFT 2 P
 T2 Cstg PAD SPM PAD SPT 가 1 CL 1 C
 3 NT1 TFT 3-3' PSI 2 CNT2 3 DL 1 PAD 4
 CNT4 DL, GI MOS TFT . ULS p-Si CNT1 2 GL TFT SPM
 PSI GI ILI n PSI(n⁺) CNT2 n PSI(n⁺)
 , GL ON , OFF GL GI , n T
 가 FT 1 PSI GL , PSI GL 가 , 1
 4 PT 1 4-4' Cstg CPM S CL S
 T TFT SPT SPM FPAS PAS 5 ILI CNT

5 CPM SPM SPT , 3 , , , 가 .

5 1 5-5' PAD , , 4 CNT4 가 DL , , CPT가 CL CNT3 CL

26 1 7-7' 가 CPT CL CPM CL , SPT CPT

6 7 1 GL DL FPAS , 6 SPT ,

CPT SPT CPT가 FPAS , 2 , 가

6 CPT X , 4 , CPT SPT , 4 ,

6 SPT FPAS 가 , , ,

가 GL , 10 15 ° 가

6 DL 가 , 6 ° () 가 SPT

GL 가 (disclination) , 가 ,

GL 6 ° SPT CPT , FPAS

SPM CPM CPT 가 , SPT

CPT , , , B-V 가

가 2 , , ,

7 T CPT SPT SPM GL SPM TF

GL CPT SPT , 1 SPT SPT ,

SPM PAD Cstg 가 , Cstg SPM

PAD가 , TH ,

3 NMOS TFT 8 12 3

0.7mm, 730mm×920mm 670 TFT GLS1, SiH₄ NH₃
 N₂ 가 CVD CVD 50nm Si₃N₄ , , SiH₄ NH₃
 O₂ 가 ULS ULS 120nm SiO₂ ULS
 Si₃N₄, SiO₂ 400 TFT GLS1 Na .
 , , SiH₄, Ar 가 CVD 50
 nm , 400 , 5at% . 450 30 50
 , 308nm LASER 1at% 400mJ/cm² ,
 , 0.3mm, 200mm
 10μm .
 , PSI 가 CF₄ O₂ 가
 , CVD (8).
 GI B 가 33KeV, O₂ 1E12(cm⁻²) 100nm SiO₂ 400 .
 PSI(p) , Mo MoW 200nm , Mo 가
 GL 2 CL .
 15(cm⁻²) , n TFT PSI(n⁺) P 가 60KeV, 1E
 n⁺ , PSI(n⁺) p , n LDD , n TFT LDD . LDD Mo 가 65KeV,
 p n⁺ P 가 n⁺ , n TFT LDD 0.8μm .
 (2E13(cm⁻²) , n TFT LDD . LDD Mo (RAT)
 , PSI 가 , 가 , 450
 , 가 (9).
 , 가 CVD 500nm SiO₂ 350 .
 , ILI O₂ 1 : 5, 1
 CNT1, 2 CNT2 1 3 CNT3 (10).
 , Ti 50nm, Al-Si 500nm, Ti 50nm
 BCl₃ Cl₂ 가
 DL SPM, PAD (11).
 SiH₄ NH₃ N₂ 가 CVD 300nm Si₃N₄ PAS
 , , 3.5μm 230 20 ,
 , 2.0μm FPAS CF₄ , FPAS , Si₃N₄
 4 4 CNT4 FPAS Si₃N₄ (12). 가 , 1
 2 가 ITO 70nm , SPT
 가 (3). 6 CPT 1 TFT가
 (AR) 13 GLS1, GLS2
 1 가 ,
 1가 ,

[illegible]

, Vg가 Vd Clc Vd가 가 Clc 가
 , TFT () 가 Clc 16 가
 Cstg , 1, 2, 4 ILI
 TFT SPM 3 CPM PSI
 Cstg 가
 18 MDL SHD , SPB , LCB , RM
 (), LCW , PNL , 18 , LCA
 , BL MDL SHD 가 LC
 A MDL , BL, SPB, LCB, RM, LCB
 BL PNL , BL SPB PCB2가
 (2) BL , 20 GL DL, 1 SP
 M 19 1 가 DL 가 4 IPS
 19 1 가 Cstg TFT가 1 1.5 GL()
 TFT 2 CPT CNT2 SPM PAD GL SPT
 GL SPM SPT
 GL PAD CL SPM SPM
 CL CPM ,
 M 20 Cstg 2 Cstg 가 SPM CP
 CL SPM ILI CPM CL 20 4 3
 KS3 PAD 1 KS1 SPM Cstg Cstg가 1 1
 CL GL CL SPM ,
 CL 1 , SPT (4 SPM 2
 Cstg) , CPM ,
 PSI
 (3) 21 3 , 22 21 22-22'
 , TFT GLS1
 21 , 1 1 가 4
 L1, L2, L3, L4 DL
 CPT SPT 1
 22 21 22-22' 22 (a) 1
 , 22 (b) SPT 88 μ m DL CPT
 μ m 22 (a) DL 8 μ m FPAS
 CPT 16 μ m , DL

T CPT 가 DL LC CPT 4 SPT
 5 μ m DL Cstg L1, L2, L3, L4 SP
 가 5.5V , L1 L4 , L3 , L2 ,
 가 , L2 가 L1, L4 ,
 22 (a) , SPT CPT ITO
 가 , ITO 1.5 μ m
 22 (b) 3 22 (a) DL 16 μ m 5 μ m SP
 Cstg SPT 8 μ m Cstg L2 가
 T CPT L4 가 , 5 μ m , 30% , 4
 , (L1 L4) 가 70% DL Cstg
 가 ,
 10, L3 13, L4 24 22 (b) , L1 21, L2
 L2<L3<L1<L4 , 22 (b) , L2 <L3 <L1 <L4
 가 , 12.5<13.0<14.0<14.5
 (4)
 23 4 1 , 24 23 24-24'
 , 25 23 25-25' , IPS 2
 23 DL 가 , 1
 DL 23 , 1 가
 1 가 CPT , 가 가 2 ,
 DL Cstg CPT SPT SPT CPM SPM
 24 23 24-24' , (a), (b) 24 (b)
 DL PAS SPT FPAS가 SPM CPT가
 CPM CPM SPM ILI
 SPM FPAS SPT SPM Cstg
 SPM , 가 가 IPS
 SPT CPT SPT CPT
 , SPT W2 , SPM W1 , SPT
 가 , LC가 가 , 가

가 , W1<W2 , W1>W2 , SPT , 가 , 24 (a) , 가 , 24 (b) , CPT , DL , CPT , IPS , CPT , SPT , 가 , SPT , 가 , CPT , 25 , DL 가 , ILI , 3 , CNT3 , PAD , CPT , CL , PAS , SPT , FPAS , 4 , CNT4 , PAS , FPAS , 5 , CNT5 (5) , 27 , GL , SPM , GL , SPT가 , 가 , GL , Cadd , 가 , CPM , GL , CPT가 , (6) , 28 , 27 , GL , SPM , Cstg , , GL , (7) , 29 , 1 , BM , CF , BM , , CF , DL , BM 가 , BM , BL , 가 , BL , 0 , 가 , 가 , 가 , 가 , 가 , 가 , TFT , 29 , BM , BM 가 , (8) , 30 , 29 , PSI , 가 DL , 30 , 가 GL , DL , GL , PSI , (9) , 31 , TV , LCD , JIS , 가 ,

가
가
(10)
33 1 , TFT 33 34-34' 34
PSI CNT1 DL , GL CNT2 SPM
PSI TFT
가
CNT1 CNT2 1 가
가
, PSI DL PSI GL 가 , DL
GL
GL PSI CPT , 1
PSI CPT
, PSI
DL
35 CF
36 가 BM 7 가
(11)
37 38 DL PSI , DL PSI CNT
, CNT 가 가 , DL PSI
DL PSI , DL PS
I 1 CNT CNT 가 , CNT 가 DL
, CNT DL
, GL DL
, GL, DL
(12)
39 38 TFT 33 , DL GL 2
3 PSI CNT1
40 39 CF , DL
, GL DL GL , CF GL
11
(13)
41 40
40 GL CF , DL GL , C
F GL , DL 1 2 가
CF
CF DL, GL, PSI , CF GL , CF
GL DL , CF
CF , CF DL
TFT IPS
가

1.

1 2 , ,
1 ,
가 ,
 , TFT 가 , TFT 가 ,
 , ,

2.

1 , ,

3.

1 , .

4.

2 , .

5.

1 , 1 가 4 ,
가

6.

2 , 1 가 4 ,
가

7.

3 , 1 가 4 ,
가

8.

1 , ,

9.

2 , ,

10.

3 , ,

11.

5 , ,

12.

1 2 ,
1 가 ,
TFT 가 , TFT 가 ,
가 가
13.
12 , 가
14.
12 ,
15.
1 2 ,
1 가 ,
TFT 가 , TFT 가 ,
1 , 4
16.
1 2 ,
1 가 ,
TFT 가 , TFT 가 ,
1 , 4
가 ,
17.
1 2 ,
1 가 ,
TFT 가 , TFT 가 ,
1 4
4
18.
1 2 ,
1 가 ,
TFT 가 , TFT 가 ,
가 ,
가 ,

가

가 가

19.

18 ,

20.

1 2 ,

1 ,

가 ,

TFT 가 , TFT

1 ,

2 ,

21.

1 2 ,

1 ,

가 ,

TFT 가 , TFT

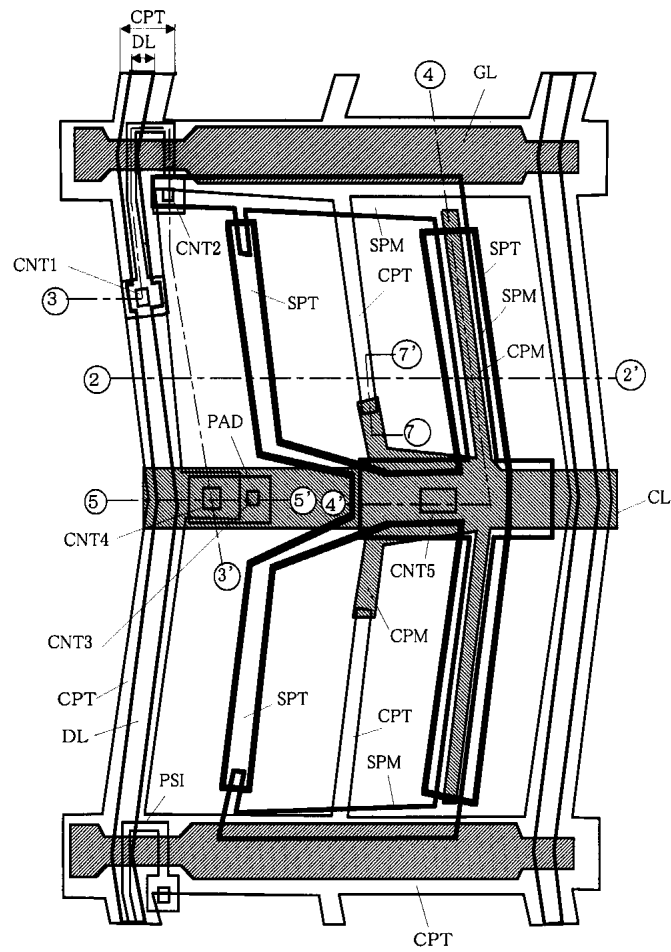
가

가 가

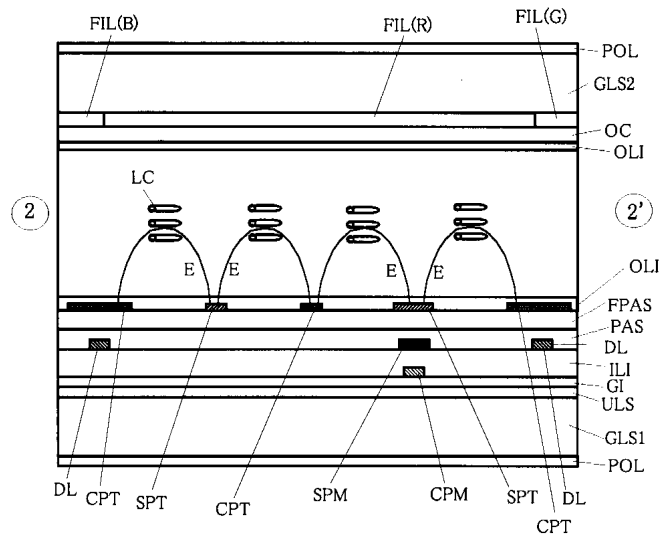
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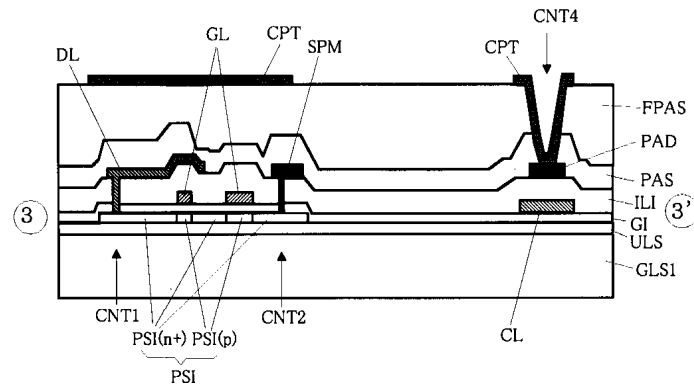
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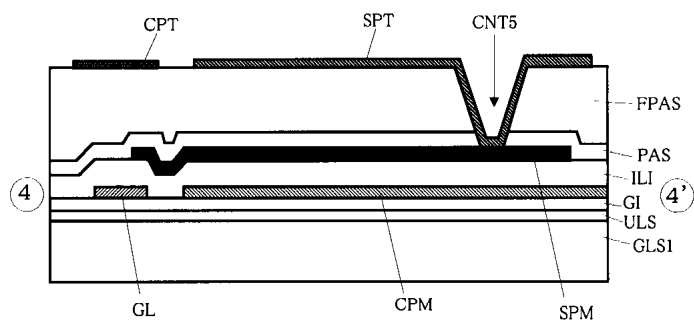
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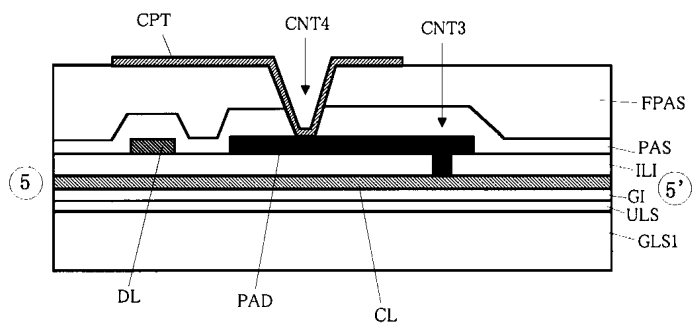
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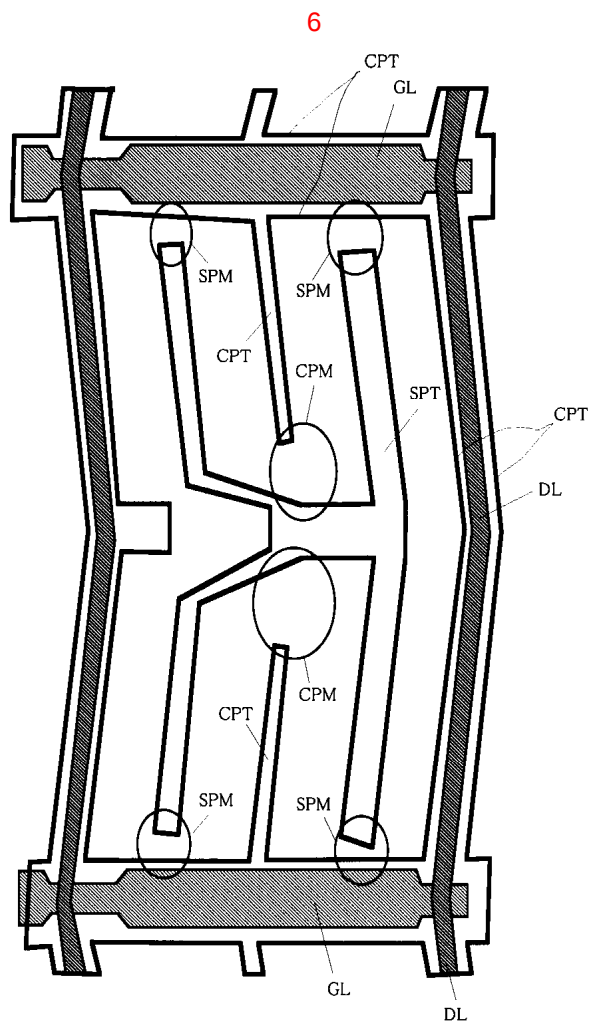


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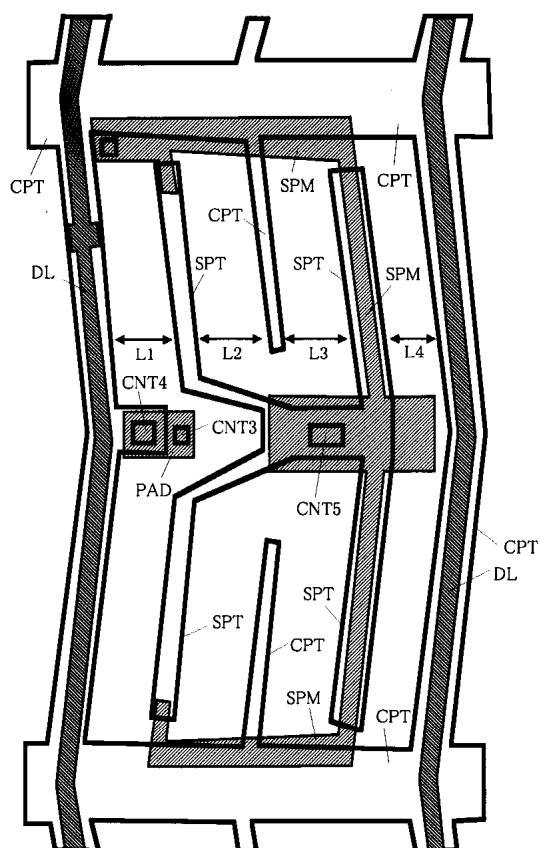


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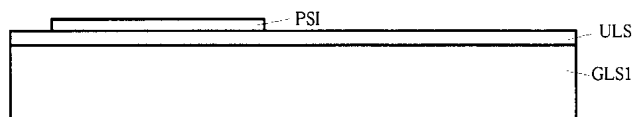




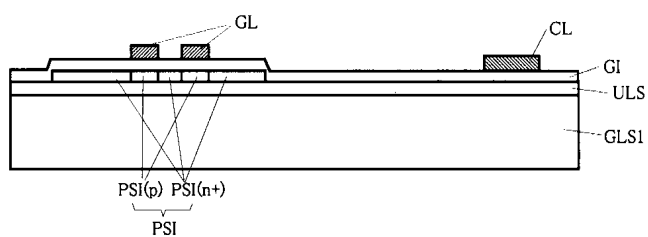
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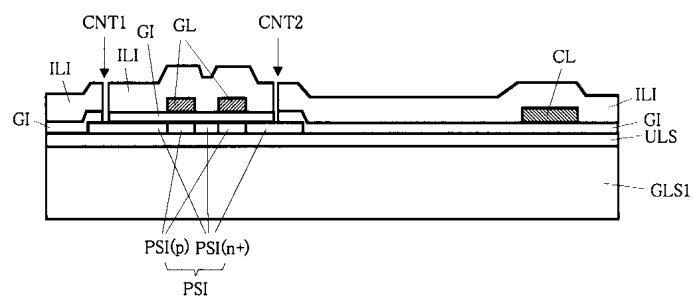
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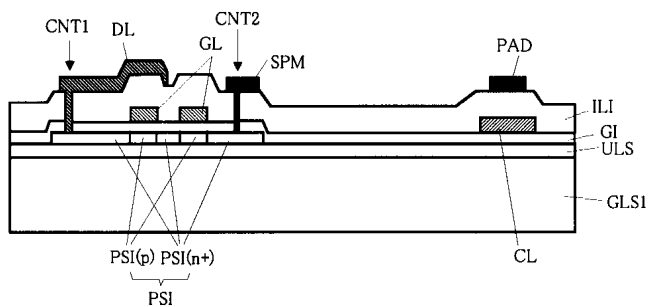
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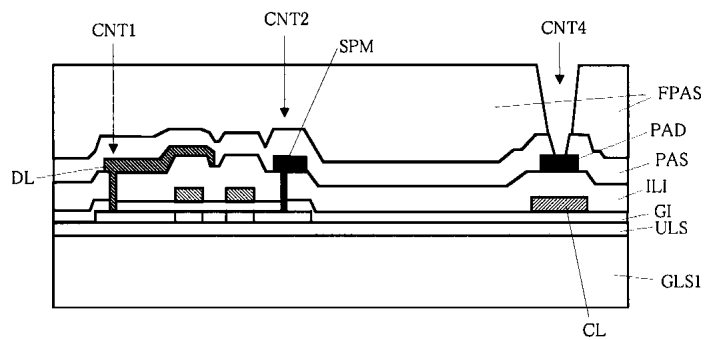
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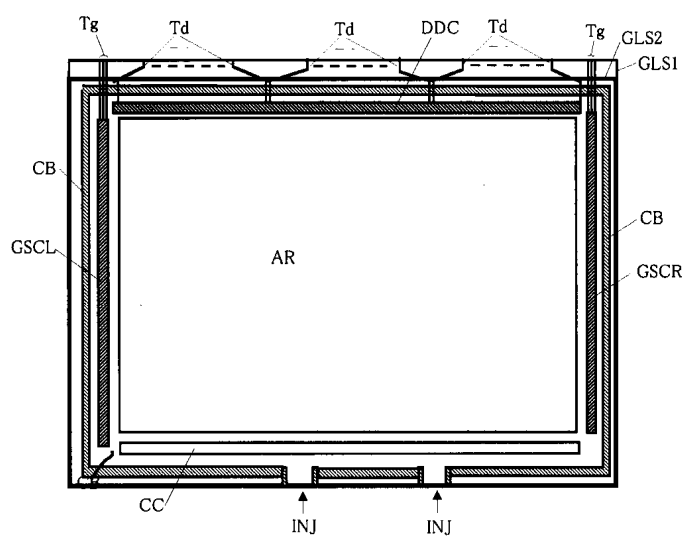
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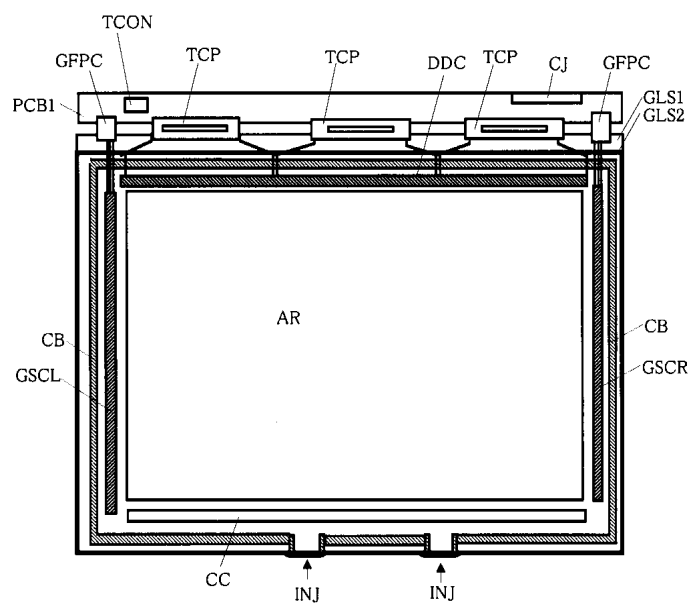
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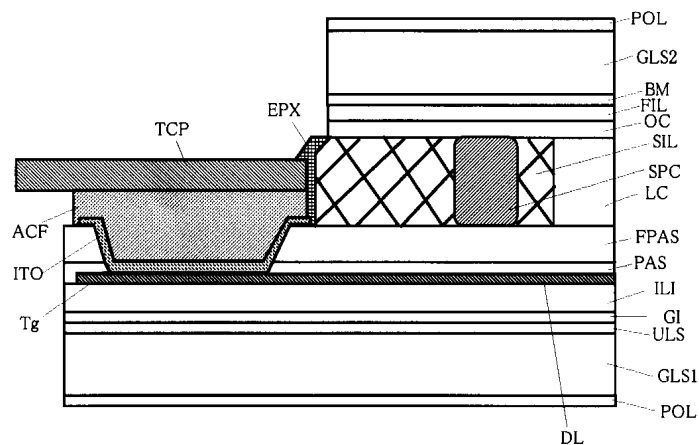
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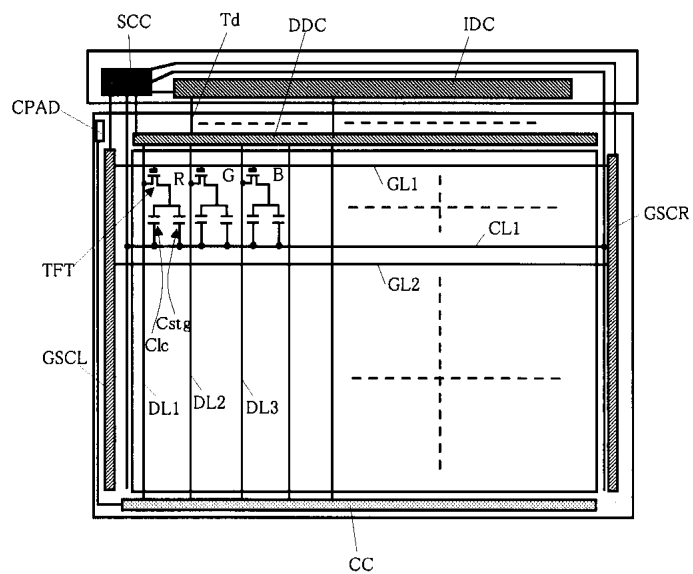
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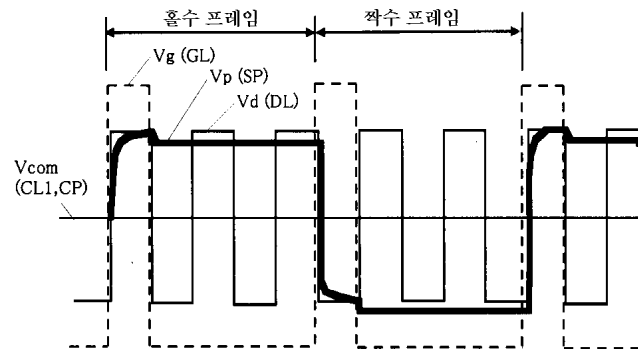
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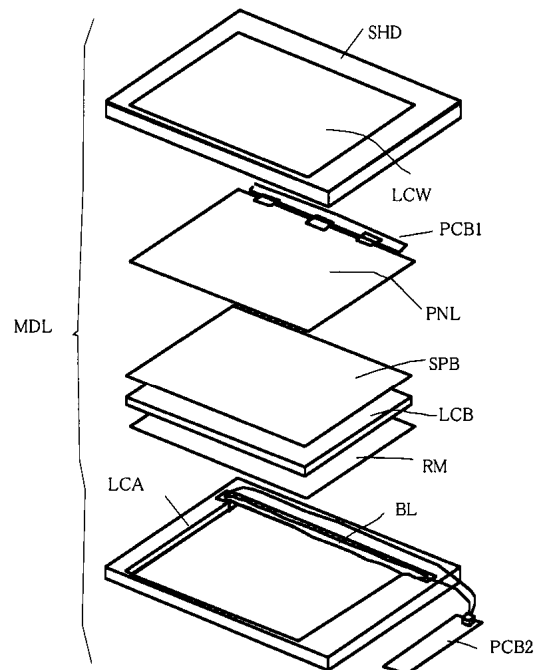
16



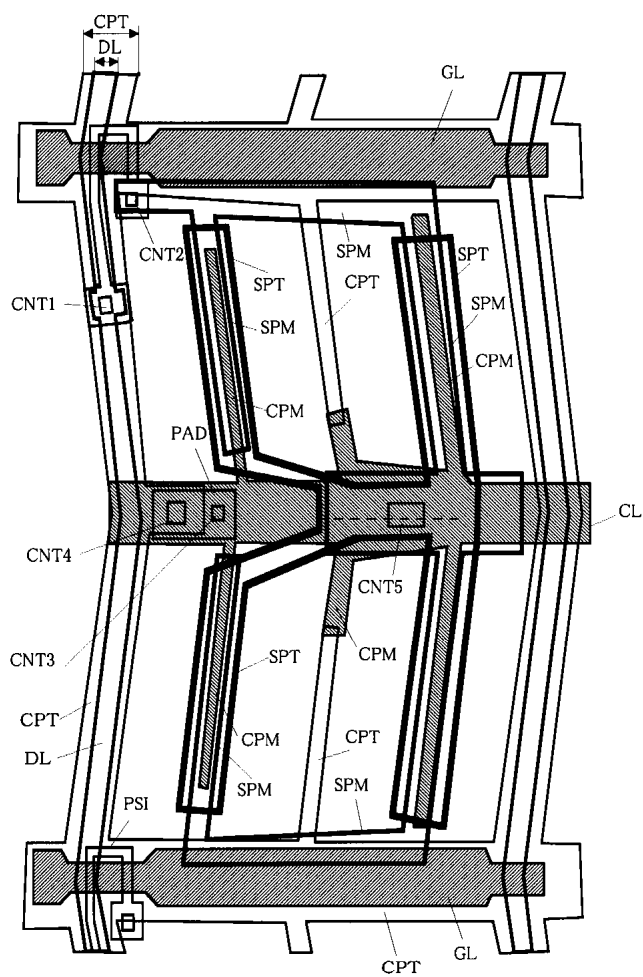
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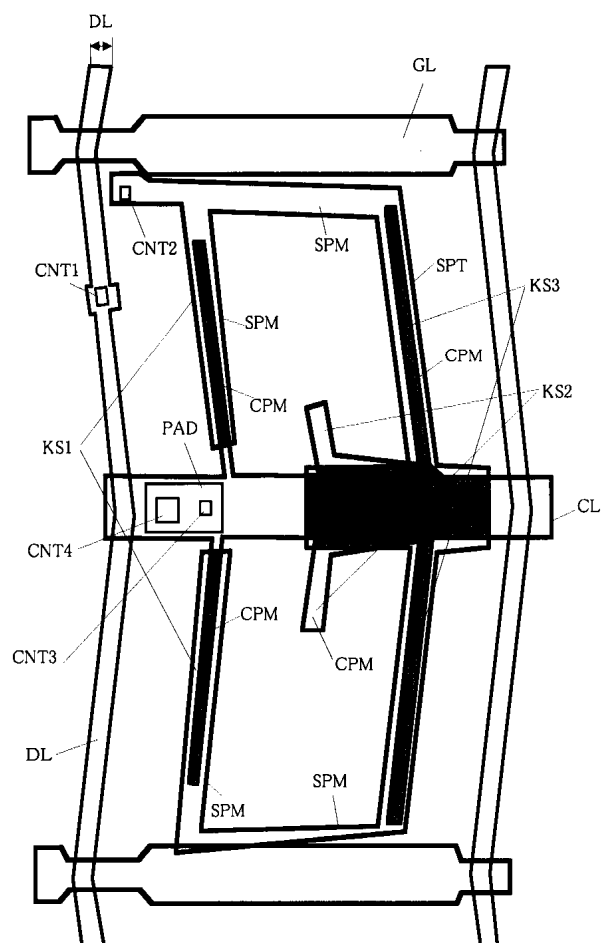
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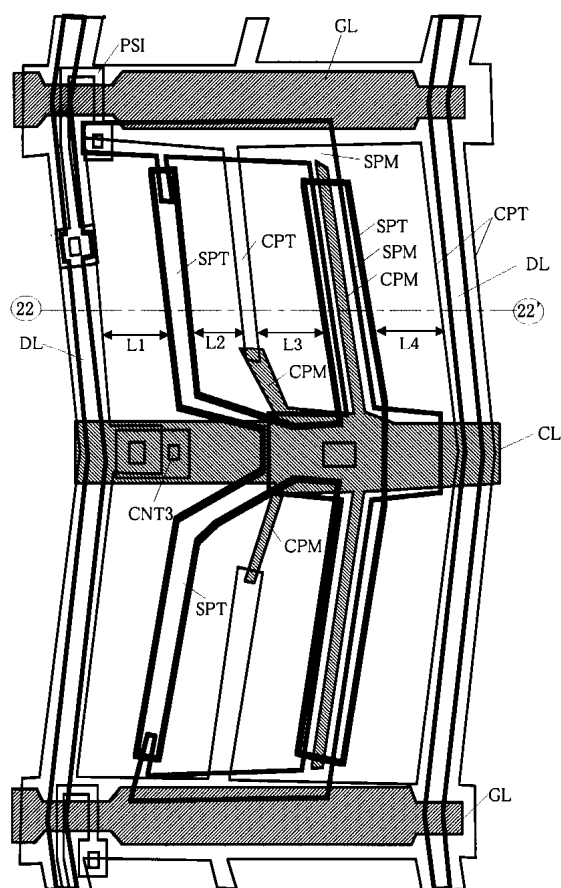
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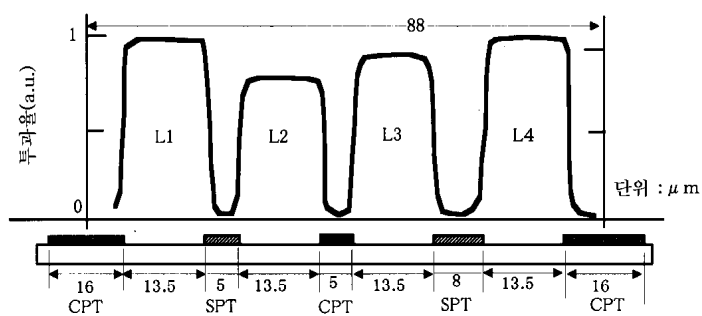
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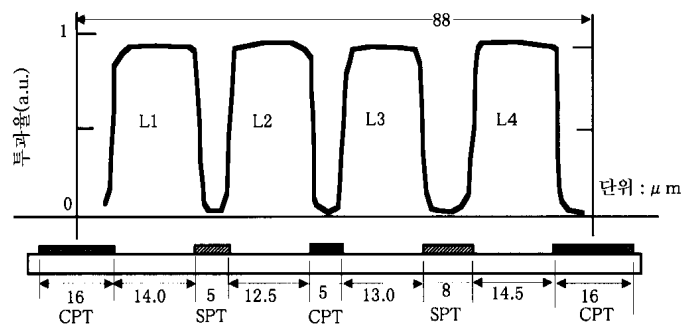
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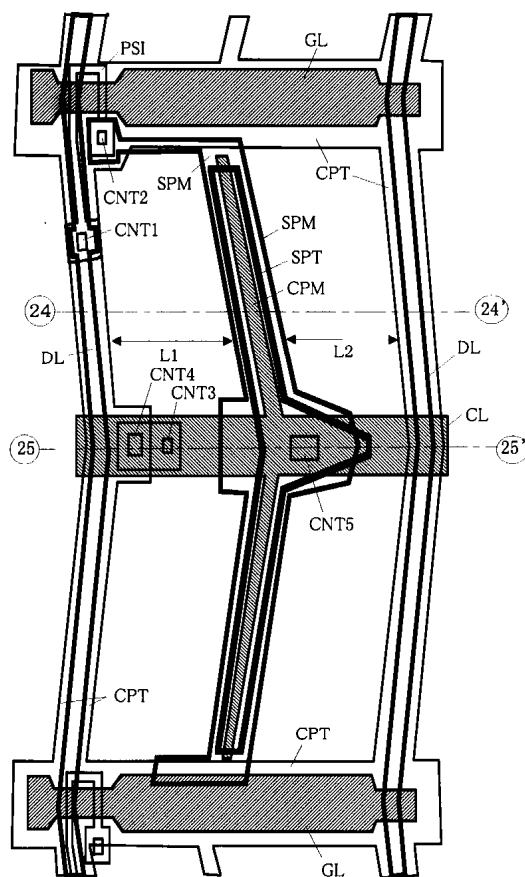
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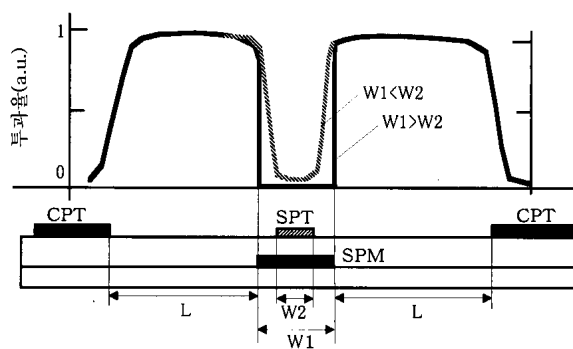
22b



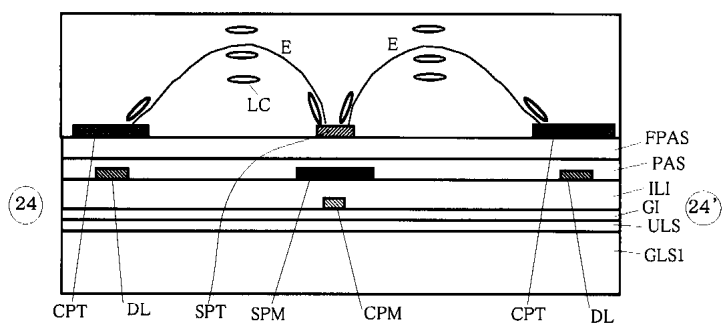
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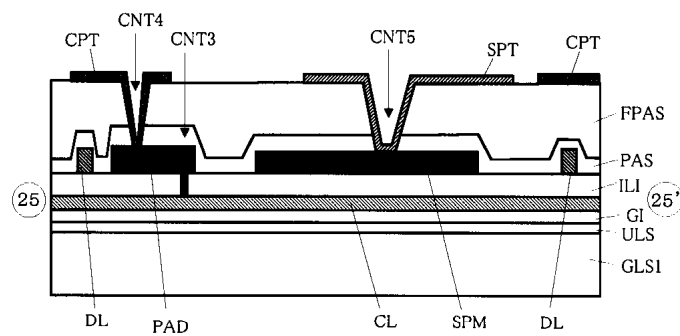
24a



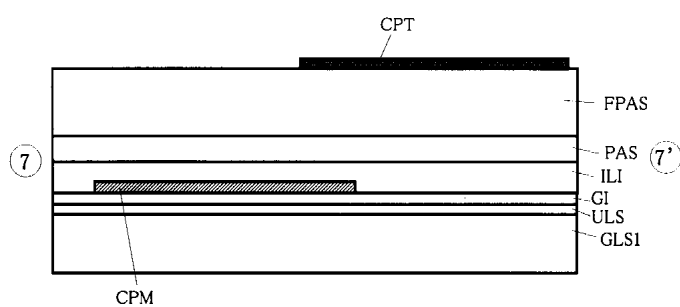
24b



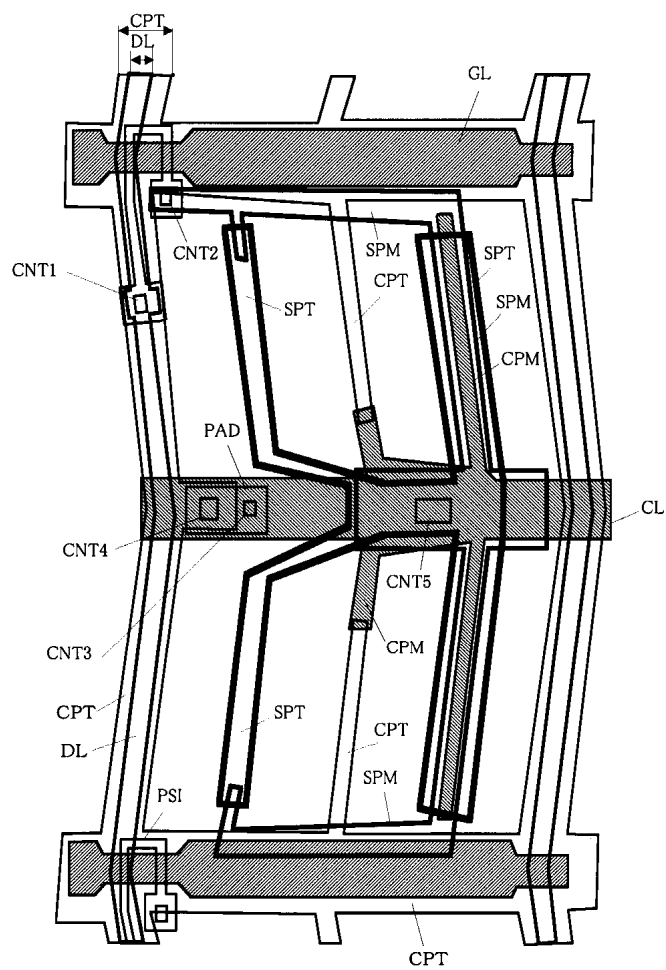
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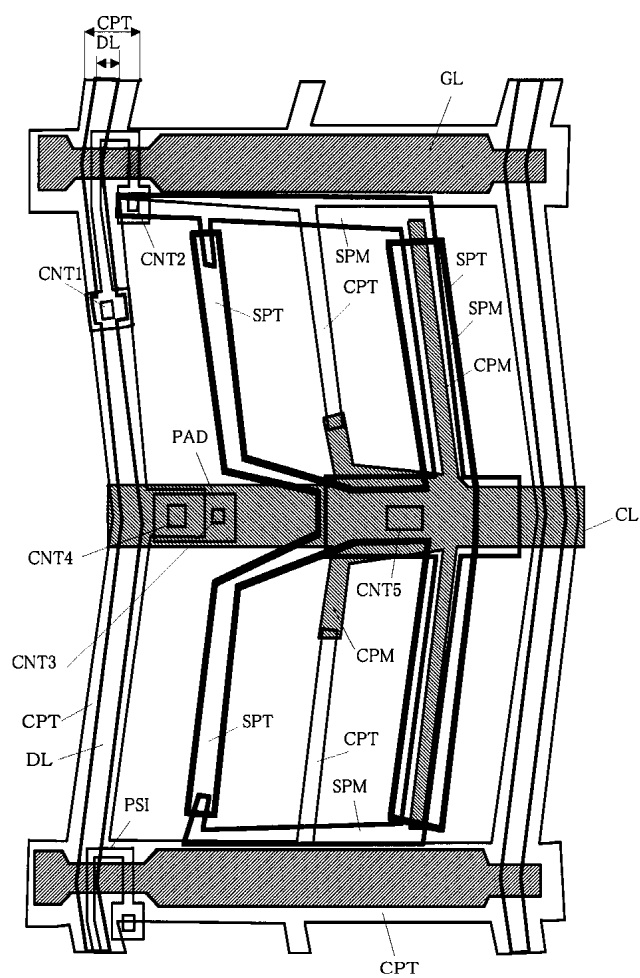
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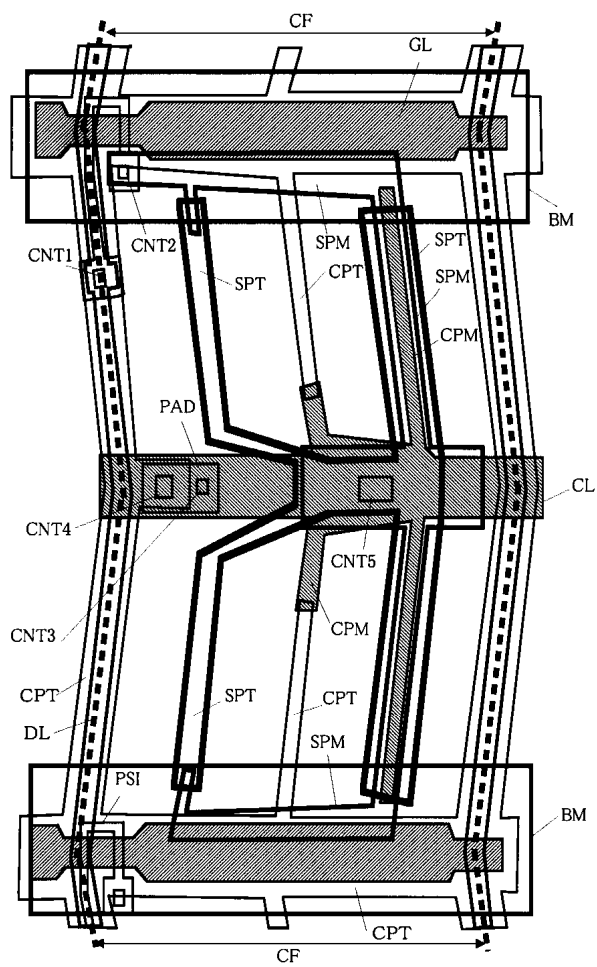
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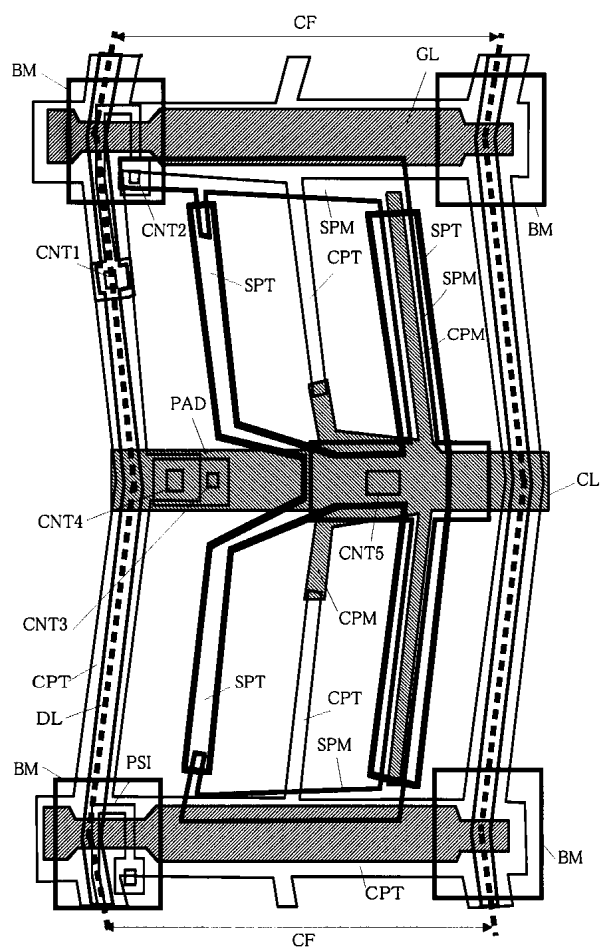
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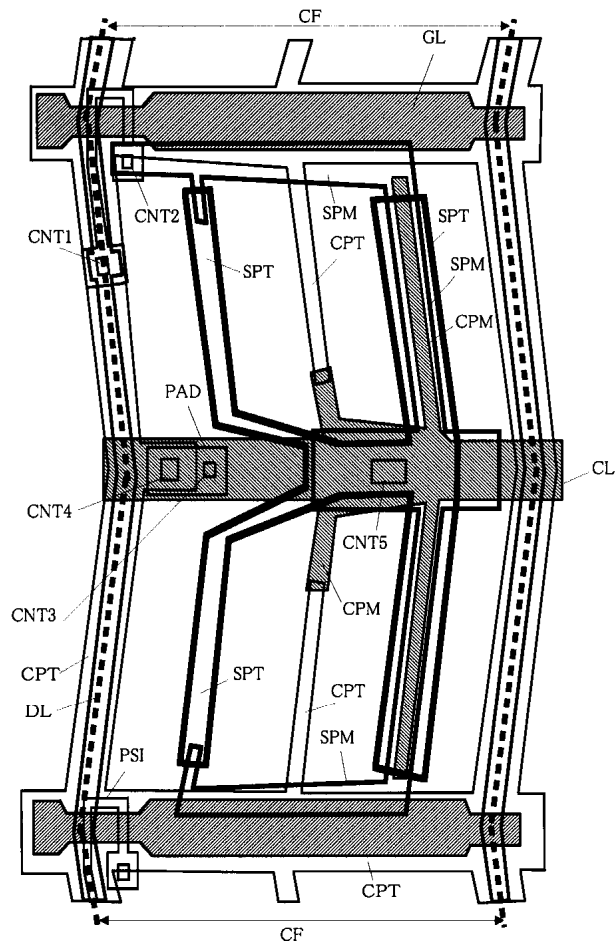
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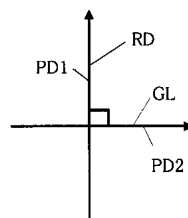
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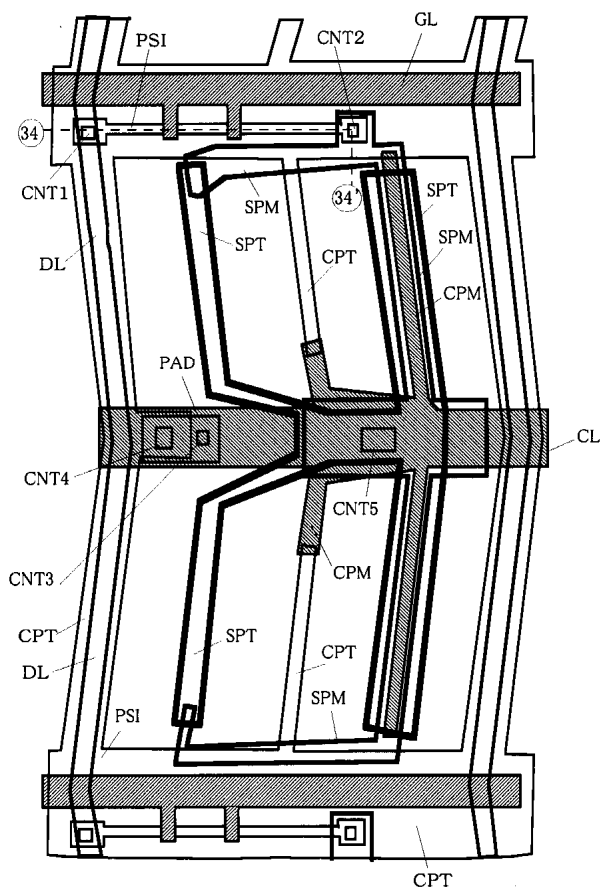
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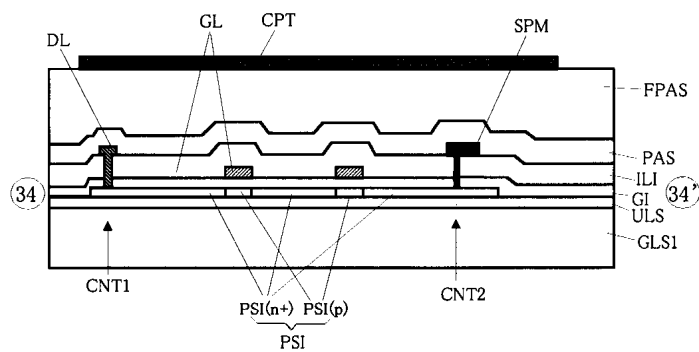
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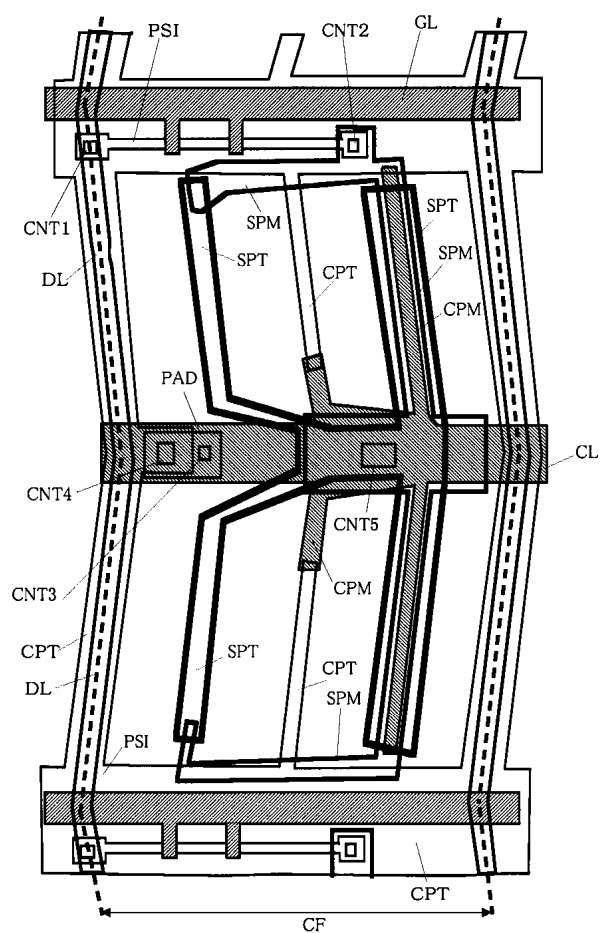
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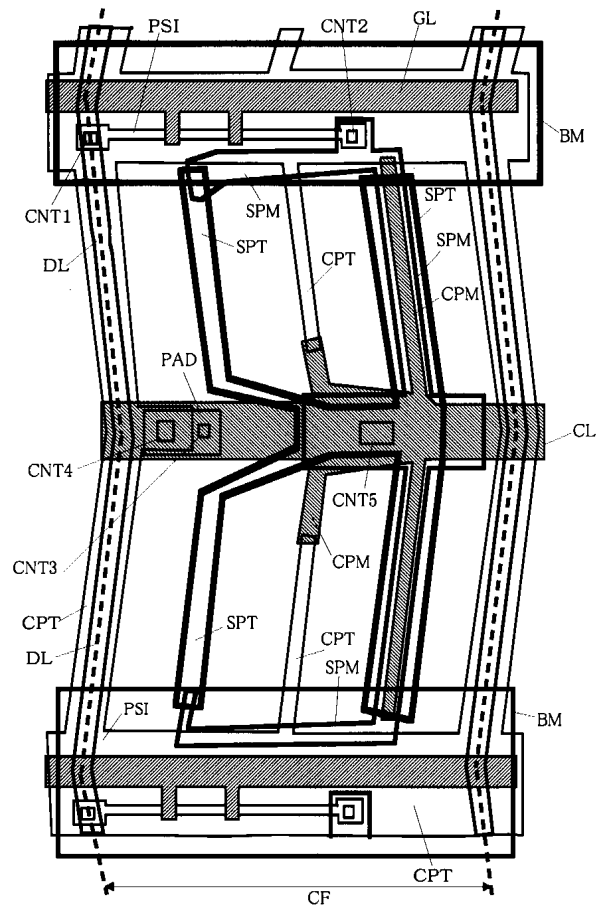
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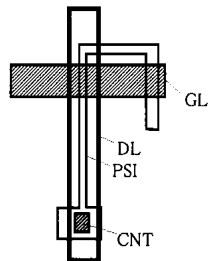
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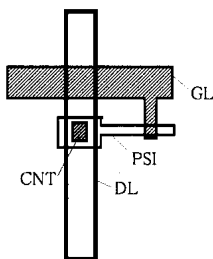
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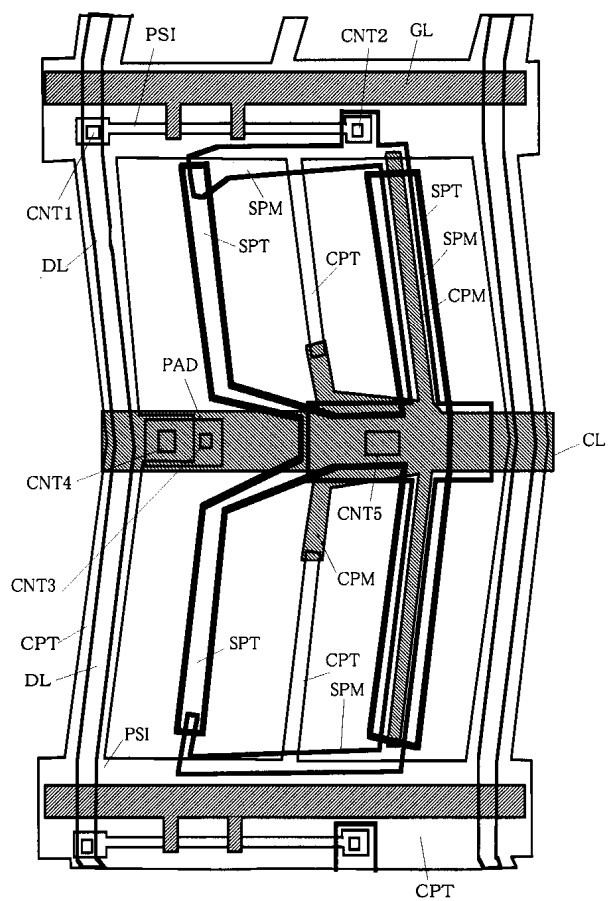
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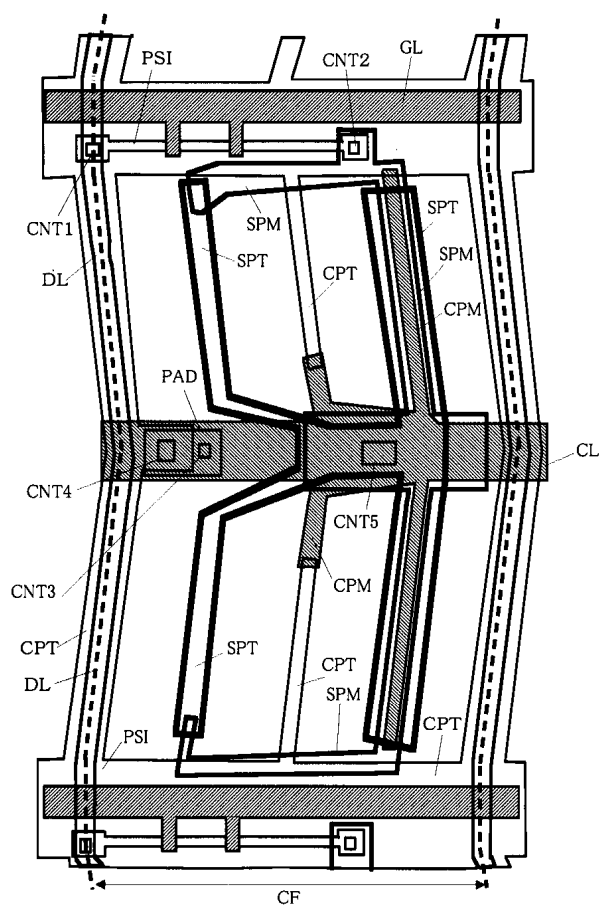
38



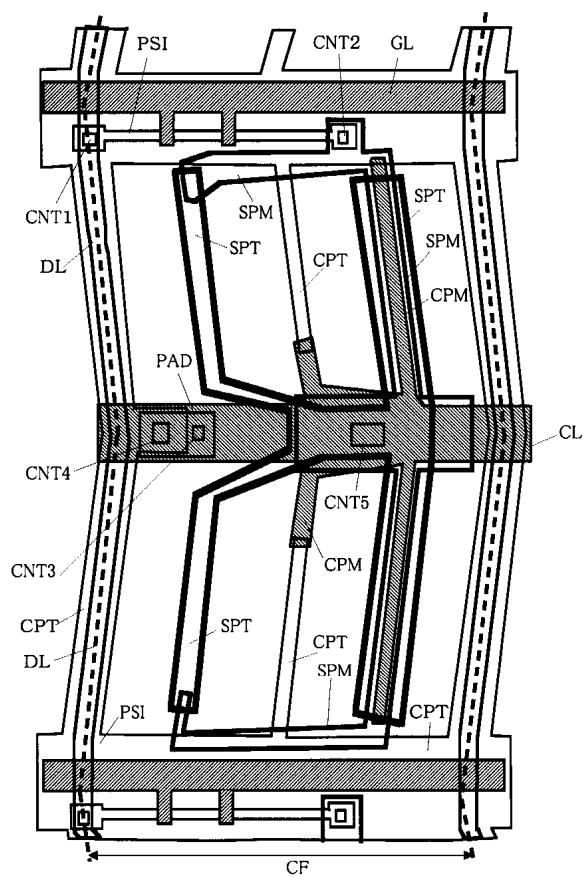
39



40



41



专利名称(译)	有源矩阵型液晶显示器		
公开(公告)号	KR100444538B1	公开(公告)日	2004-08-16
申请号	KR1020020051367	申请日	2002-08-29
[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 OKE RYUTARO 오께류따로 OCHIAI TAKAHIRO 오찌아이다까히로 IMAYAMA HIROTAKA 이마야마히로따까		
发明人	오노기꾸오 오께류따로 오찌아이다까히로 이마야마히로따까		
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代理人(译)	CHANG, SOO KIL		
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摘要(译)

在透明像素电极下方，布置不透明像素电极，同时在透明像素电极和不透明像素电极之间夹入绝缘膜。公共电极布置在不透明像素电极下方，从而在公共电极和不透明金属电极之间形成保持电容。在像素被分成四个或更多个部分的情况下，像素电极和公共电极之间的间隔被设置为在一个像素内的不相等的间距尺寸或不相等的电极宽度。

