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(22) 2002 08 28

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(72) 3550

3550

705-30

716-1

(74)

(54)

‘MOS TET’ 가 가

1

, , MOS , IPS

1 TFT

2 1 2-2'

3 1 3-3'

4 1 4-4'

5 TFT

6 1

7 2

8 3

9 4

10 5

11 LCD

12 LCD PCB TAB

13 LCD TAB

14 TFT-LCD 가

15 TFT-LCD

16 TFT

17 16 17-17'

18 TFT

19 18 19-19'

20 18 20-20'

21 TFT

22 21 22-22'

23 21

24 TFT

25 24 25-25'

BM :

CJ :

CL :

CPAD :

CPM :

CPT :

CSTL :

CPML :

CNT1 : Si

CNT2 : Si

CNT3 :

CNT4 :

CNT5 :

CPM :

CPT :

DDC :

DL :

EPX :

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 , ,
BS , , , , DVD , ,
 , , , , 가 , , , , TV
 , , , , 가 , , , , (BL)
 , , , , , , , , 가 , , , , TN , , MVA
 , , , , , , , , (IPS) , , 가
 , , , , , , , , IPS
 , , , , , , , , 2701698
 , , , , , , , , TFT가

, TFT가

BL 가 가 TFT 가 가 ,

2682997

가 , , , , , , ,
가 , , , , , , ,
가 , , , , , , ,

7-244296

BL

가

TFT , , , , , , , TFT , , , , , , ,
TFT , , , , , , , TFT , , , , , , ,

, TFT
, TFT가

MOS , , , , , , , TFT , , , , , , , TFT가
가 , , , , , , , TFT , , , , , , , TFT가

, IPS

가

, IPS

TFT

가

, IPS

가

가

가

가

가

가

가

, BL

가

TFT , TFT

IPS

가

, IPS

가 가

TFT

가

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TFT

TFT

1

1 2

가
가
TFT

, 1 , , TFT , , TFT

가 가

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1 2

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가
TFT

, 1 , , TFT , , TFT

, 가

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1 2

가
가

, 1 , , TFT , , TFT

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, , , TFT , , TFT

, 가

4

1 3

1

, 가

5

1 4

1

1

6

1 5

, SiO₂

8

1 7 , 가 ON
9
1 7 , 가 T
FT
10
1 7 ,
11
10 ,
12
1 11 ,
13
12 , p-TFT n-TFT , TFT
14
1 12 , 1
15
14 , 8000cd/m²
16
1 2 , 1 ,
가 , TFT , TFT ,
가 ,
17
16 ,
18
16 17 ,
19

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IPS, TFT가 1, , , ,

26

25 TFT 가 n MOS 가 .

27

25 , TFT가 n MOS 가 TFT 가
3 , , 가 .

28

25 TFT, TFT가 p MOS, , , , 가

29

25 , TFT가 p MOS 가 , TFT 가
3 , , 가 .

30

25 29

31

25 30
TFT

32

25 31

33

1 2

가

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1

1

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1

$$4-4' \left(\begin{array}{c} 1 \quad 1 \\ \end{array} \right) , \quad 2, \quad 3, \quad 4 \quad \quad \quad 1 \quad \quad 2-2', 3-3',$$

1 , 1 GL, DL
GL GL PSI PSI TFT
, TFT / DL PSI
GL . 가) 1
SPM (SPT 가

1 , DL 1 CNT1
PSI , 2 CNT2 , SPM
, SPM 5 CNT5 , SPT

SPT DL CNT3 PAD CPT
CL , 3 GL (5 .
DL, CPT).

TFT , (BL) 가 , PSI
CSTI PSI

CSTL GL CL SPM 1 CNT2 PSI SPM
 . 1 , SP CSTL 가 , ,
 가 1 , SP CSTL 가 , ,
 1 가 IPS , , CSTL CSTL 가 ,
 . , CPT , CPT GL, DL, CSTL 3 , ,
 ,
 2 1 2-2' 670 , DL 1 GLS1 가 50nm Si₃N₄
 . 2 120nm SiO₂ Na ULS , ULS TFT TFT
 4 GLS1 SiO₂ ILI 가 ILI GI 가 Ti/AI/TI 3 ,
 DL , , , ,
 PSI SPM
 200nm Si₃N₄ FPAS CPT PAS 2μm DL
 (IZO), CPT 가 (ITZO) FPAS FPAS (ITO) ITO ,
 SPT CNT5 , ,
 1 5 , ,
 , ,
 DL CPT DL SPT SPT ,
 ,
 IPS , LC SPT CPT 가
 . , ITO , 1.5μm , 가 3μm ,
 가 ,
 LC (CF) GLS2 GLS2 (B), (R), (G)
 CF (R) FIL(R) (FIL) 가 , , OC
 OLI 가 , ,
 POL GLS2 GLS1 LC GLS2 GLS1
 , ,
 3 1 3-3' CNT1 TFT PSI 2 CNT2 1 가 , ,
 CSTL CSTL 가 , ,
 CL 5 SPM CNT5 , ,
 ,
 3 , TFT DL, SPM GI GL SPM
 DL CNT2 GL SPM PSI GI ILI ,
 , ,
 1 MOS TFT CNT1, 2
 n PSI(n+)

5 (c) DL CSTL 가 CSTL Vst . 5 (c) , ,
 5 (c) Vd Vth , , V
 x , , CSTL Vst CSTL (c) Vy(), Vy() CL
 , 가 Vc , , 5 (c) Vy() CSTL Vd CSTL PSI(p) CL Vst
 , , , , , , , ,
 Vst Vd Vy() CSTL Vd CSTL PSI(n+) CSTL
 5 (c) Vy() Co Vsig 1/2 TFT Vth
 가 , , , , , , ,
 CL SPM SPT , CSTL PSI ON
 , , , , , ,
 00cd/m² , BL 8000cd/m² , , 가 100
 , , , , ,
 , , , , ,
 , CSTL ON , ,
 , , , , ,
 , 3 , n TFT TFT
 , , 6 10 3 , ,
 , , , , ,
 H₃ N₂ 0.7mm, 730mm, 920mm 670 TFT GLS1 , , SiH₄ N
 가 , , , , , ,
 ULS CVD CVD 120nm Si₃N₄ , ,
 N₄, SiO₂ 400 GLS1 SiO₂ Na , , ULS Si₃
 , , , , ,
 , SiH₄, Ar 400 가 CVD 5at% , , 450 1at% 30 50nm
 , , (300) , , , ,
 , , 308nm , PSI , , 400mJ/cm² , , 0.3mm, 200mm
 , , , , ,
 가 , PSI , , CF₄ O₂
 , ,
 7 2 , ,
 , ,
 가 , CVD 100nm SiO₂

GI B 가 33KeV, O₂ 1E12(cm⁻²) 1:50, n TFT 400 PSI(p) 가 PSI(p)

Mo MoW 200nm Mo 가
GL, CSTL CL

Mo PSI(n+) PSI(p) P GL 60KeV, 1E15(cm⁻²) GL P
n TFT P PSI(n+) PSI(p) n+ P PSI(n+) PSI(n+) p n LDD PSI(p), TFT
(cm⁻²) n TFT LDD 0.8μm LDD Mo P Mo 65KeV, 2E13
(RAT)

PSI 가 가 , 450
가 .
8 3

ILI 가 O₂ CVD 500nm SiO₂ 350
CNT1, 2 CNT2 1 3 CNT3 1
9 4

, BCI₃ Cl₂ Ti 50nm, Al-Si 500nm, Ti 50nm PAD , , DL
SPM, 1 가 .
10 5

SiH₄ NH₃ N₂ 가 CVD 300nm Si₃N₄ PAS
, , 3.5μm , 230 20
, , 2.0μm Si₃N₄ FPAS , ,
4 1 4 CNT4, 5 CNT5 CF₄ FPAS
FPAS 가 , Si₃N₄
2 , 1
3 6

ITO 70nm SPT , ,
CPT 1 , ,
(3).

(57)

1.
1 2

가 가 , TF

TFT

가 가

2.
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2

가 ,
가

TFT

가

3.
1 2

가 ,
가 ,
TET TET TF

2

TFT

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가

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가

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6.

1 3

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가,

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SiO₂

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가,

ON

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1 3

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가,

TFT

10.

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16

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, 가 1 ,

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1 , , 2 , ,
2**24.**

22

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25.

IPS

TFT

, TFT가

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TFT가 n MOS , , , 가 TFT
가**27.**

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TFT가 n MOS , , , TFT 가 3
,

가

28.

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TFT가 p MOS , , 가 TFT

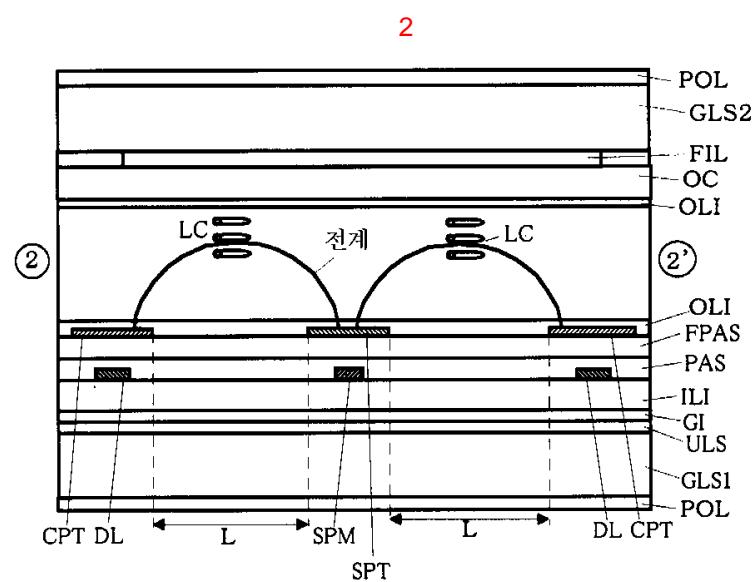
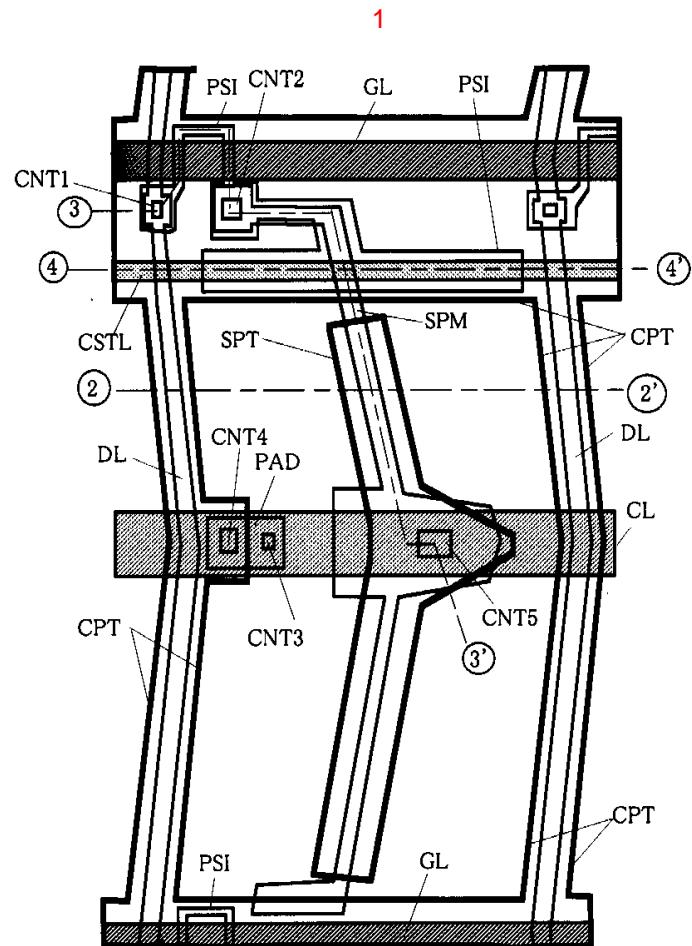
29. 25 ,

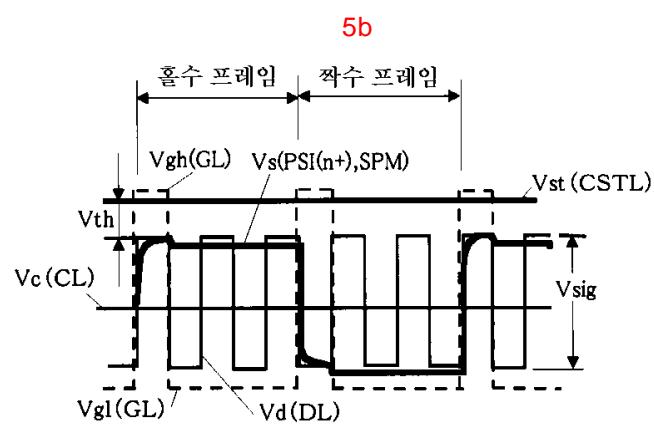
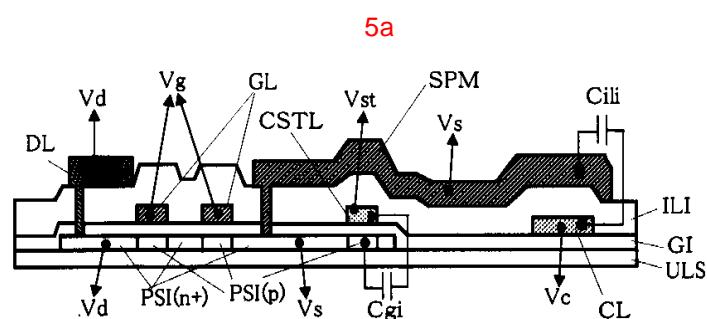
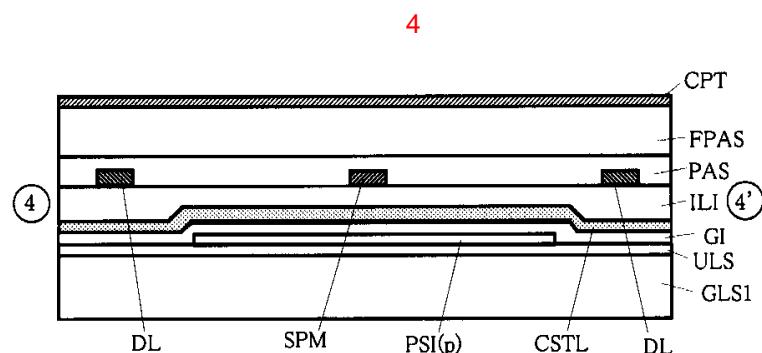
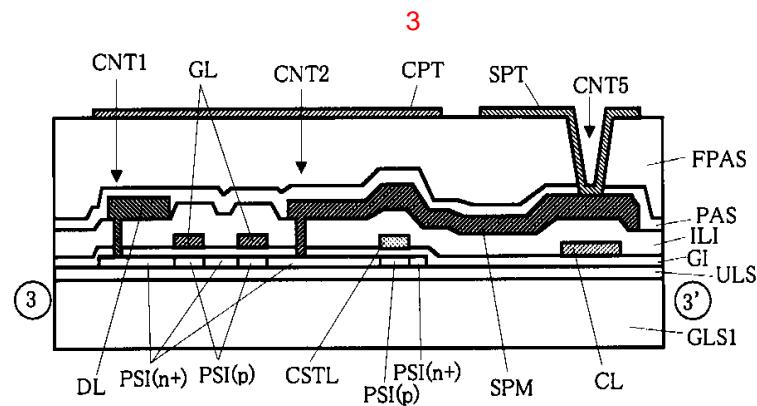
TFT가 p MOS , 가 , TFT 가 3

30. 25 ,

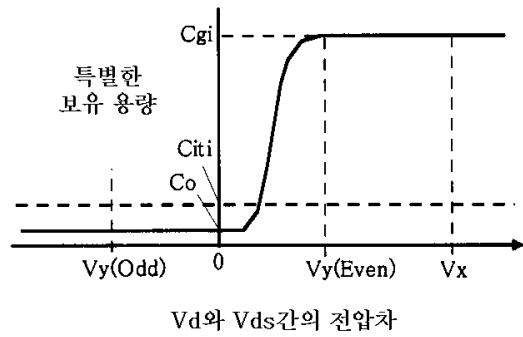
31. 25 ,

32. $1 \quad 2 \quad ,$

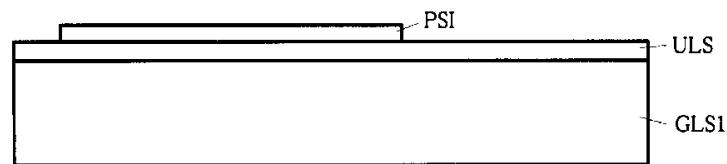




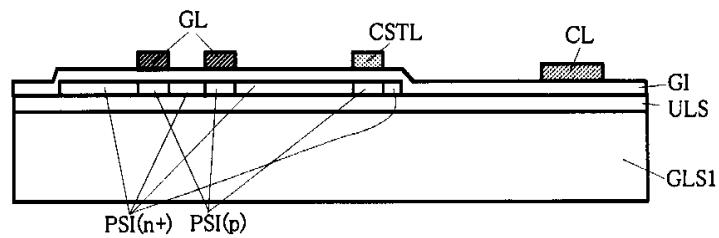
5c



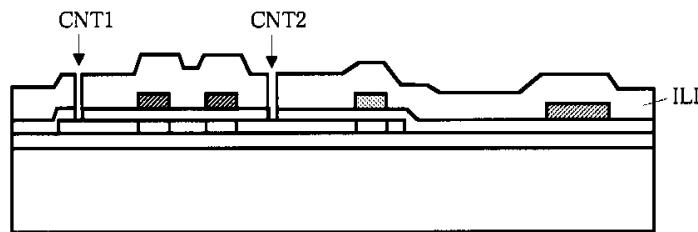
6



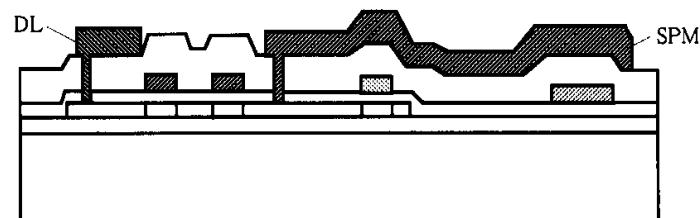
7



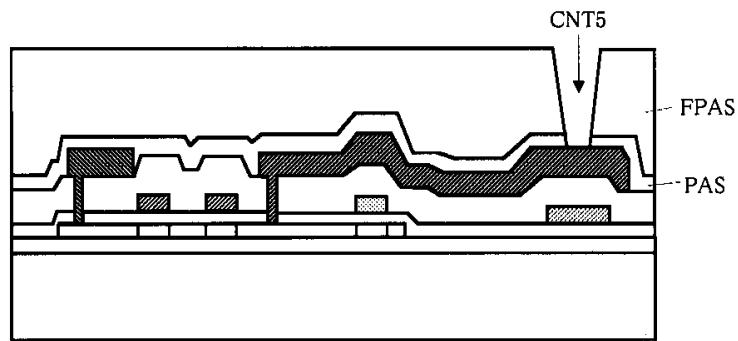
8



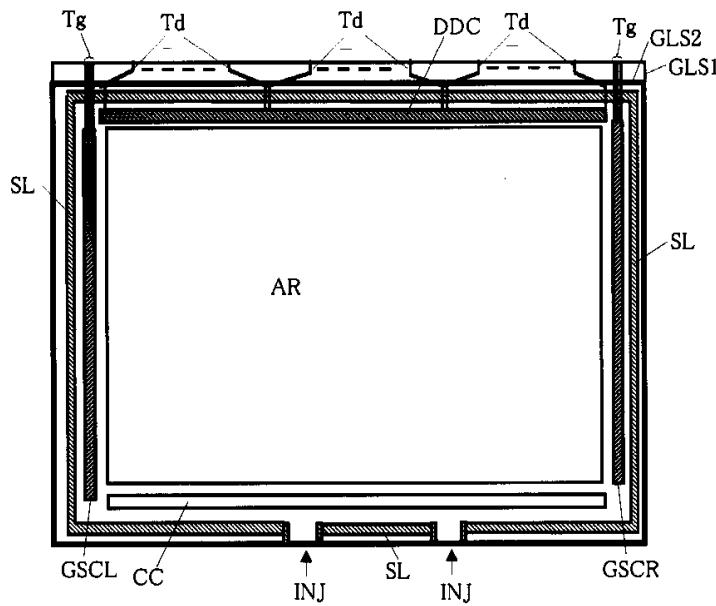
9



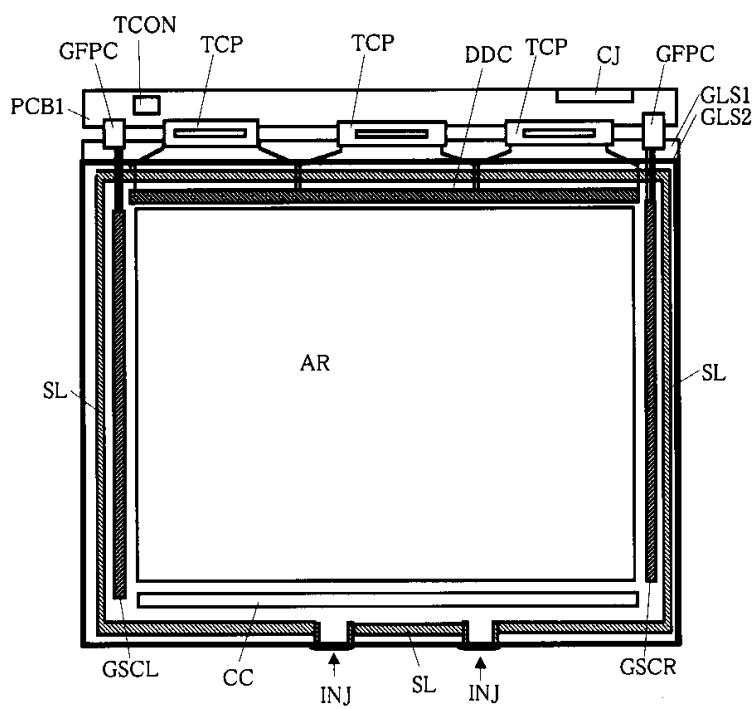
10



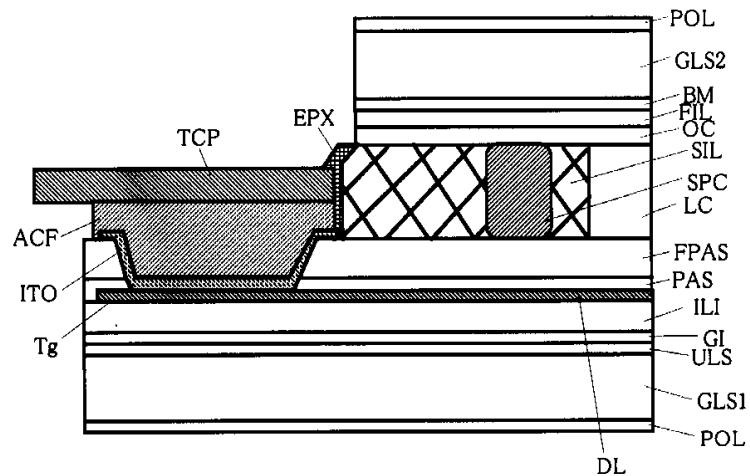
11



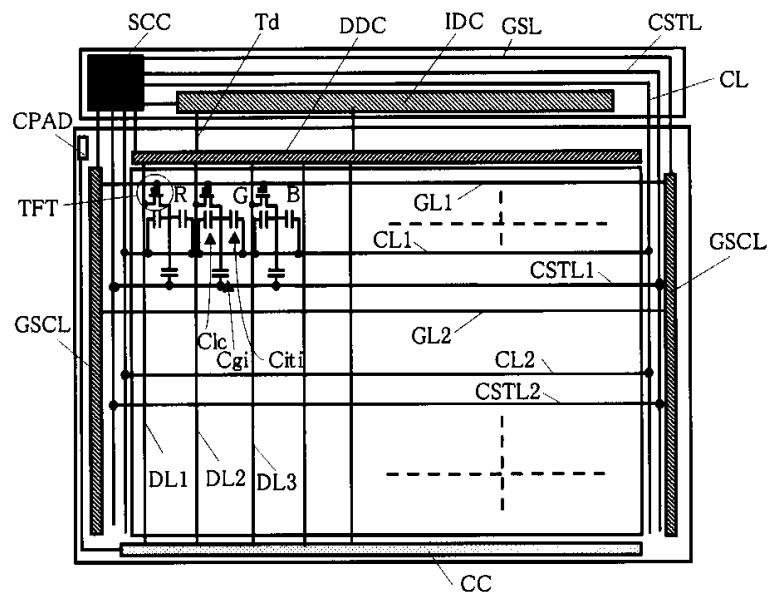
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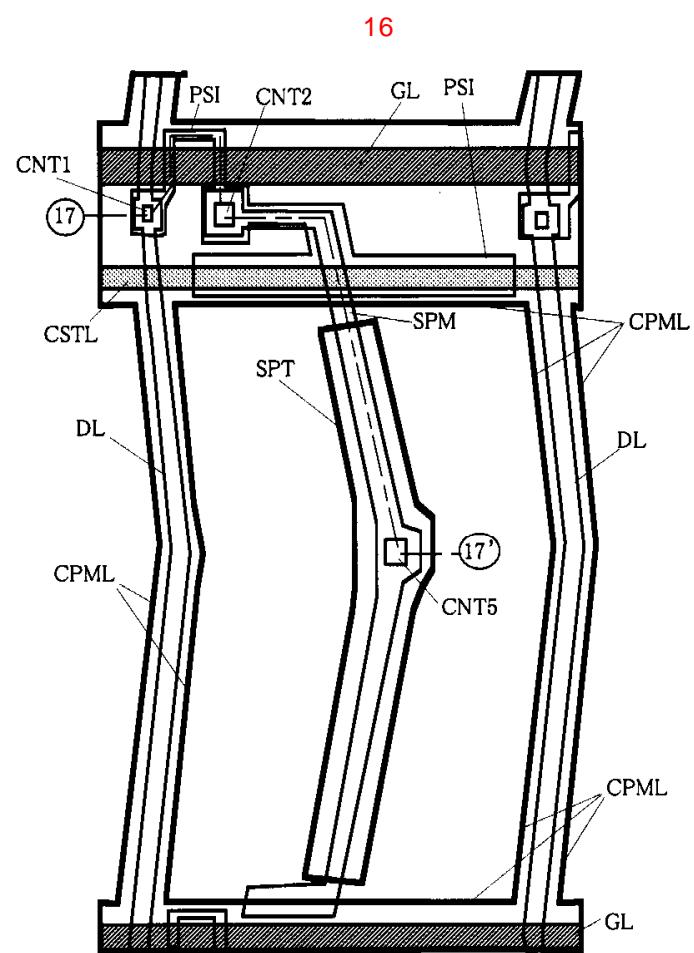
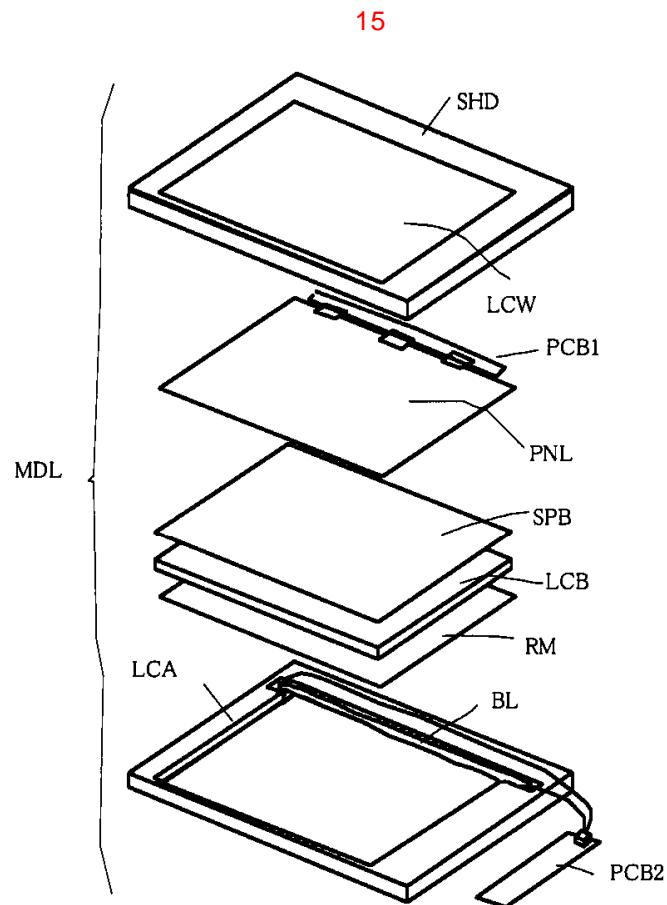


13

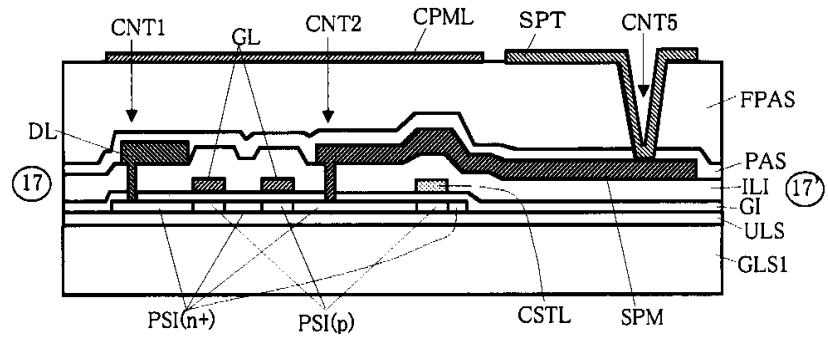


14

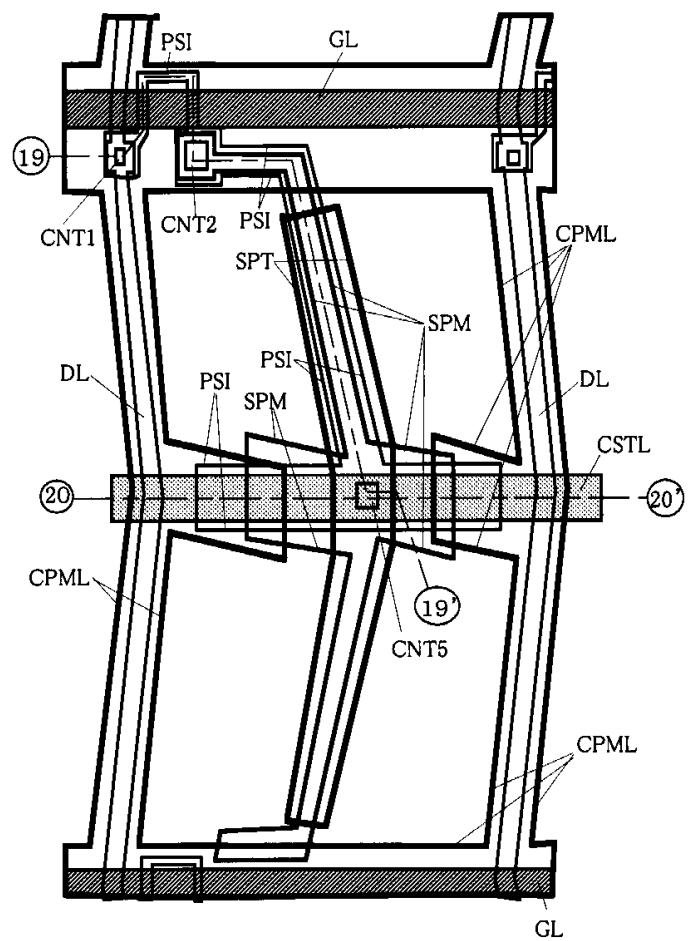




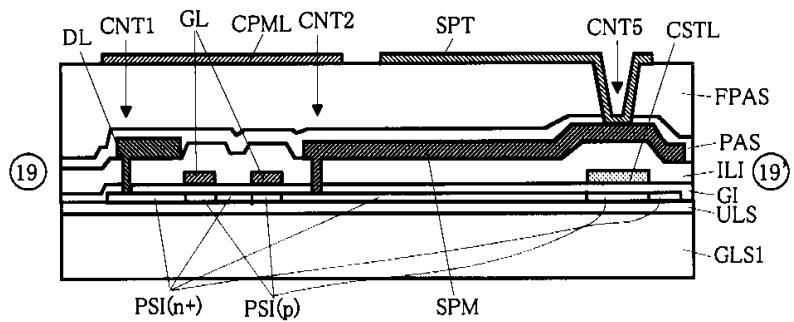
17

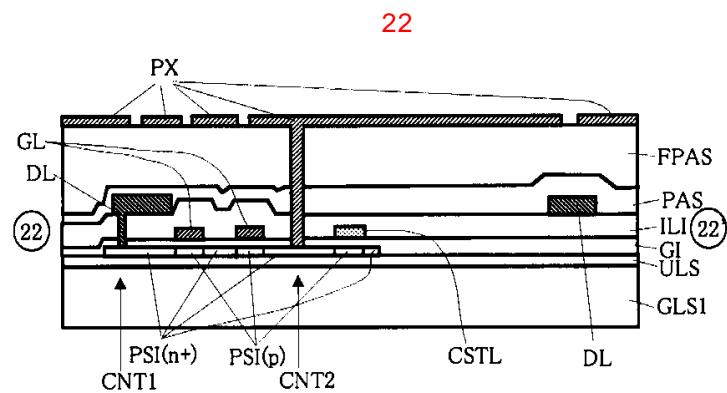
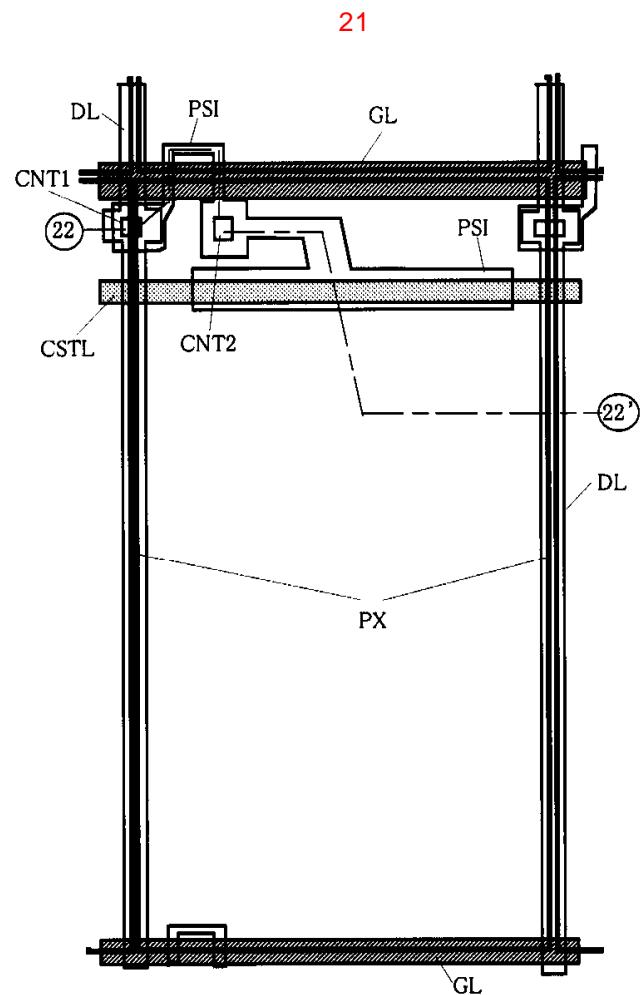
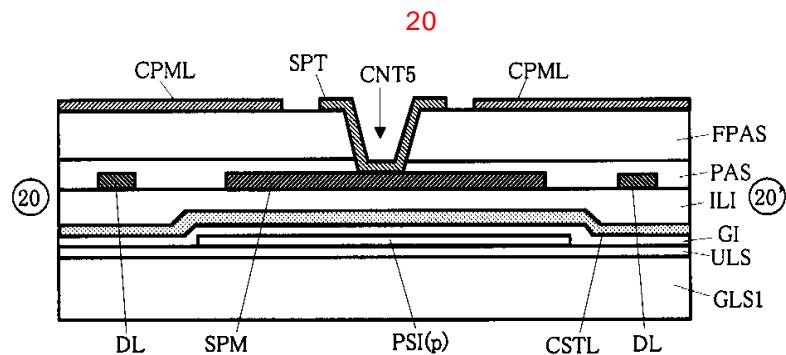


18

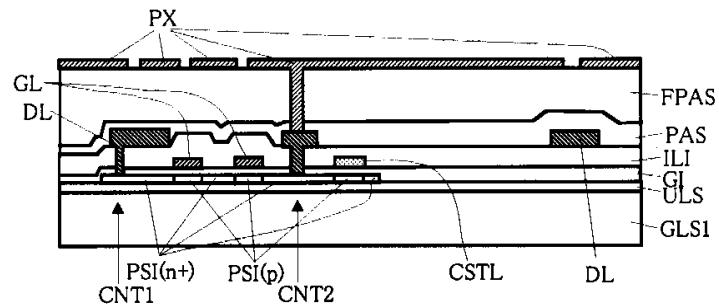


19

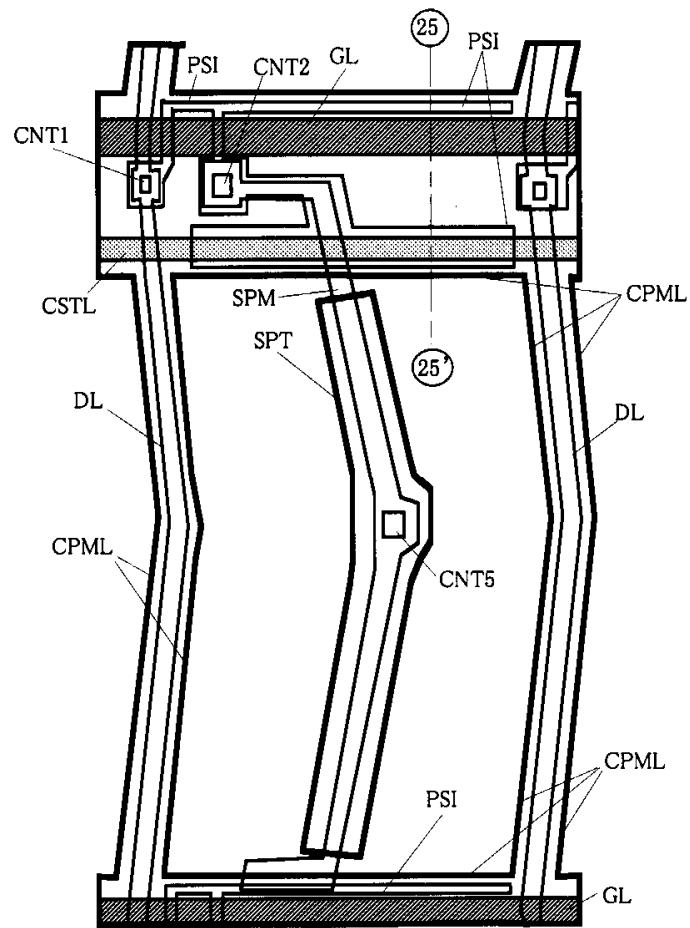




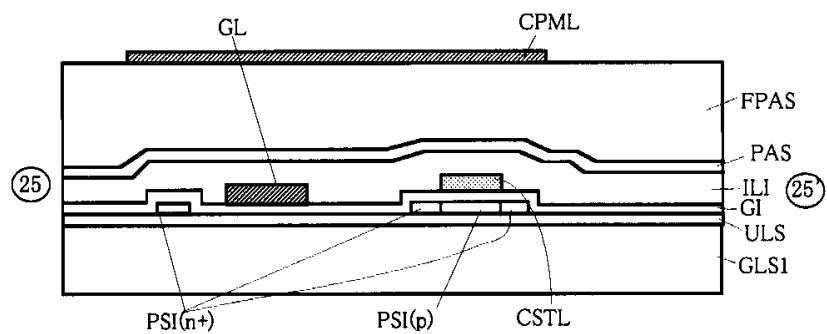
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专利名称(译)	液晶显示器		
公开(公告)号	KR1020030040025A	公开(公告)日	2003-05-22
申请号	KR1020020051066	申请日	2002-08-28
[标]申请(专利权)人(译)	日立HITACHI SEISAKUSHODBA		
申请(专利权)人(译)	株式会社日立制作所		
当前申请(专利权)人(译)	株式会社日立制作所		
[标]发明人	OCHIAI TAKAHIRO 오찌아이다까히로 OKE RYUTARO 오께류따로 IMAYAMA HIROTAKA 이마야마히로따까 ONO KIKUO 오노기꾸오		
发明人	오찌아이다까히로 오께류따로 이마야마히로따까 오노기꾸오		
IPC分类号	G02F1/133 G02F1/1343 G02F1/136 G02F1/1362 G09F9/30 G09F9/35 G02F1/1368		
CPC分类号	G02F1/1368 G02F1/134363 G02F1/136213 G02F2202/104		
代理人(译)	CHANG, SOO KIL		
优先权	2001349571 2001-11-15 JP		
其他公开文献	KR100539336B1		
外部链接	Espacenet		

摘要(译)

关于液晶显示器，它是由半导体层一侧的电极完成的。在该间隔中插入绝缘层，并且在保持电容布线之间组织电容元件。并且在相应的保持电容布线中授权总是使金属氧化物半导体场效应晶体管处于导通状态的电压。保持容量大，并且获得用于稳定指示的TFT显示装置。液晶显示器，储备容量，金属氧化物半导体场效应晶体管，面内切换模式。

