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G09F 9/30(11)
(43)2002 - 0077139
2002 10 11(21) 10 - 2002 - 0016703
(22) 2002 03 27

(30) JP - P - 2001 - 00092818 2001 03 28 (JP)

(71) 가 가
가 4 6

(72) 1 - 5 - 1 가 가

(74)

:

(54)

1 2

.

2	(CD)	1	(AD)	(端緣)	(OLE)	(ILI)
(OLE)				(ILI)	(OLE)	가

1

1

1

1

.

2		1		1	
3			1		
4		2	1		
5		3	1		
6		4	1		
7			1		
8			5	1	
9	8			1	
10					
11	10				
12			1		
13	12				
14				13	
15			1		
16	15	A			

< >

SUB : PSI :

IS1 : 1 GL : ()

DL : CSL :

TFT1 : 1 ()

TFT2 : 2 ()

CPR : DE :

IS2 : 2 SD :

IS3 : 3 PSV :

AD : 1 ILI :

CD : 2 OLED :

OLE :

L() LED() E
 , (Car Navigation), , 가
 , 가 EL LED 가
 , 가 ,
) EL (LED : OLED
 LED 가 OLED 2 가 , O
 OLED 가 TFT OLED (Active Matrix)
 OLED , 4 - 328791 , 8 -
 241048 , 5550066 , ,
 WO 98/36407 .

OLED 1 2 2 TFT (1 TFT ,
 2 TFT) 1 (:) (()
)가 M , 가 OLED () N
 $\times M$.
 N () ()
) , 1 (Tf) , (1)
 .
 Tf/N 가 1 T
 f 1/60 가 ()가 M
 () .

(
() (), 1 (1))

가 OLED . OLED 가
1 μ s ()

1 . TFT
OLED ,

OLED 가 1
가

OLED 1

OLED

12 OLED () (SUB) , 13 12 (DL)
(CRR) (GL) (ARR,),

(DDR) N P TFT N P
(CSS)

12 (AR) (COML) (COMB) (COMT)
(COML) (COML)

13 (PX) (DL) (GL)
1 (TFT1), 2 (TFT2), (CPR)
(OLED) (TFT1) (GL) , (DL)
(TFT2) (TFT1) (CPR)
(+)

(TFT2) (CSL) , (OLED) (AD)
(CPR) (-) (COML, 12) (DL)
(DDR) (, GL) (GDR) (CSL)
() 1 (CSS)

13 (PX)가 (GL) (TFT1)가 (DL)
가 (CPR) (TFT1)가
(TFT2)가 (CSL) 가 (OLED) 1 (1
,) 가 (CPR)
. (CPR) (COML) .

(COML) 가
. (COML) 가 .

14 OLED 13 13
(CPR) (CSL) (TFT1, TFT2) (CPR)

(PX)가 (GL) (TFT1)가 (DL)
가 (CPR) (TFT1)가 (TFT2)가
(CSL) 가 (OLED) , 13 1
가 . (CPR)
(CSL) .

12 ~ 14 (OLED) 1 (, AD)
(TFT2) ITO(: Indium Tin Oxide)
, (PX) 1 (AD) (AD) (: e
dge) 가 2 (, CD) (Leak) 가 가 .

15 1 (SUB)
L), 2 (IS2), (PSI), 1 (IS1), (, G
(OLE), 2 (CD) (SD), 3 (IS3), (PSV), 1 (AD),
(PXI) (GL), (SD)
)가 , (SD) 1 (AD) (OLE) 2 (CD)
가 (L) (SUB) .

1 (AD) (: edge) 2 (CD)
(OLE) 2 (CD) 2 (AD) .

가 .

16 15 A 1 (AD) 2
(CD) 가 2 (CD) 1 (AD) (OLE)
(X)가 . (X)가 (CSL) 가
. 가 .

(SUB) , 2
2 가 가 1
2 가 가 .

(ink jet) , (spin coat) .

가

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가

가

가 .

1

2

가

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2

1

2

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1

2

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가

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(1)

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가

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가 ,

1

1

2

가 ,

1

2

1

2

.

(2) (1)

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(3) (2)

.

(4) (3)

.

(5) (1) ~ (4)

1

가

.

(6) (1) ~ (5)

1

.

(7) (6) 1 .

(1) ~ (7) 1 2 가

(8) 가 ,

가 ,

1 1

2 가 ,

1 2 1

(9) (8) .

(10) (8) (9) 1 .

(11) 1 .

(12) (8) ~ (1) 1 ITO .

(8) ~ (12) (1) ~ (7) 가

가 , 가 .

가 가

() , ,

1 1 1 1

(OLED) (SUB) (PS

I) 가 .

(SD), 3 (IS3) 가 (PSI) 1 (IS1), (, GL), 2 (IS2),

ITO (PSV) 1 (IS3)

Contact Hole) (SD) (AD) (PSV) 3 (IS3) (

(PSV) (OLE) (ILI) (ILI)

가 (ILI)

1 (AD)

(ILI) (taper) 1 (AD)

(OLE) (OLE)

(OLE) (ILI) 1

(AD)

(OLE) (ILI) 2 (CD)가 2 (CD)

(OLE) 2 (CD)

1 (AD), 2 (CD)

1 2 가

가

2 1 (top gate) 1

(bottom gate) (1) ~ (11)

(1) (SUB) (PSI) (laser Anneal)

(2) 1 (IS1)

(3) (Ti) (W) (, GL)

(4) 2 (IS2)

(5) (SD) (Ti) (W)

(6) 3 (IS3)

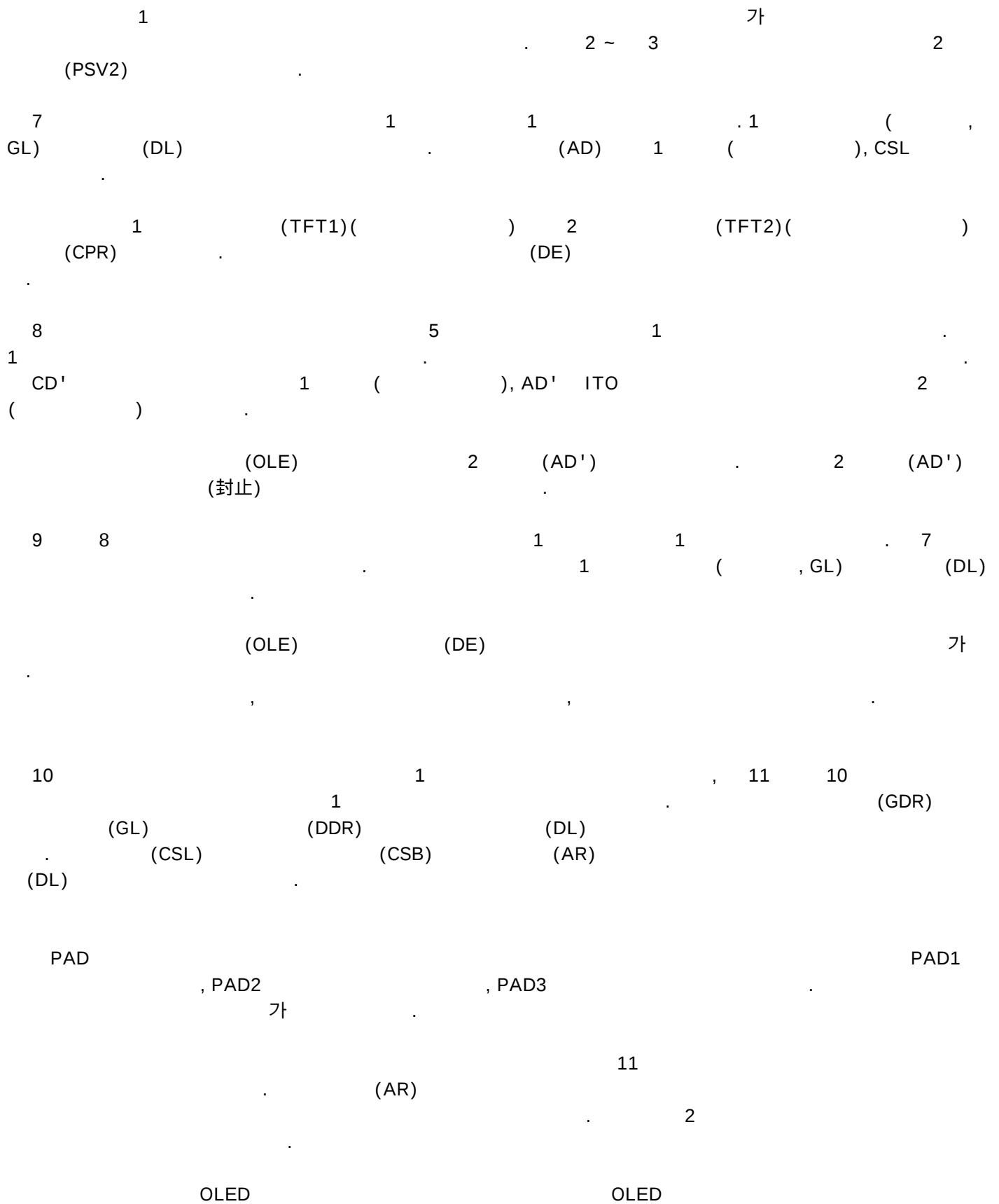
(7) (PSV) p - SiN (PSV) 3 (IS3) (SD)

(8) ITO 1 (AD) 1 (AD) (SD)

(9) 1 (AD) (ILI) (ILI)

가 가

- (10) (OLE) . (OLE) , .
- (11) (OLE) 2 (CD) .
 (封止) , .
 3 1 1 .
 (I) .
 (TFT) (TFT)가 (GL) ()
 (I)가 (TFT) (OLED) 1 (AD) (14) .
 (OLED) (OLE) 2 (CD) 1 (AD) (hole)
 (OLE) (CD) 1 (AD)
 2 (TFT) (OE) 2 (CD)
 가 가 .
 4 2 1 1 . 1
 2 ~ 3 μ m (OLE) (ILI) 가 1 μ m
 (OLE) (OLE)
 1 (AD) .
 () 가 .
 (taper)
 (OLE)
 5 3 1 1 . 1
 (OLE) () (IS) (PSV)
 (ILI) (OLE) 1 (AD)
 (OLE) 2 (CD)
 (OLE)
 (OLE)
 6 4 1 1 1 1
 PSV1) 2 (PSV2) 가 1 1 1 (PSV)(= 1



가 1 2
가 .

(57)

1.

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가

가 ,

1

1

2

가 ,

1

2

1

2

가

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2.

1

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3.

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4.

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1

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5.

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1

가

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6.

1 ,

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7.

1 ,

1

8.

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가

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가 ,

1

1

2 가 ,

1

2

1

2

9.

8 ,

10.

8 ,

1

11.

8 ,

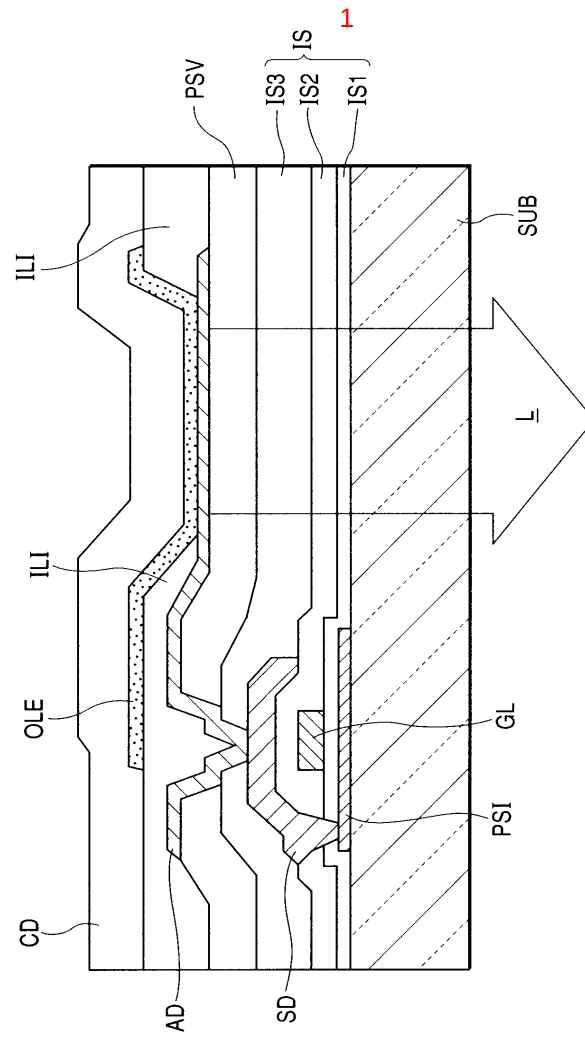
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12.

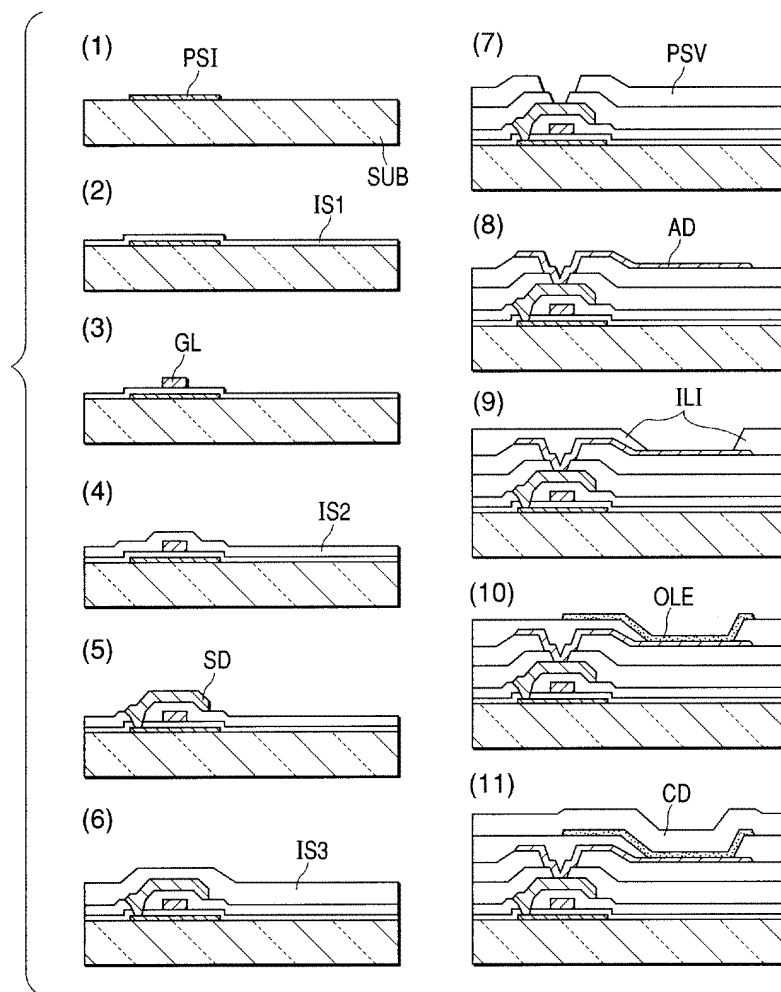
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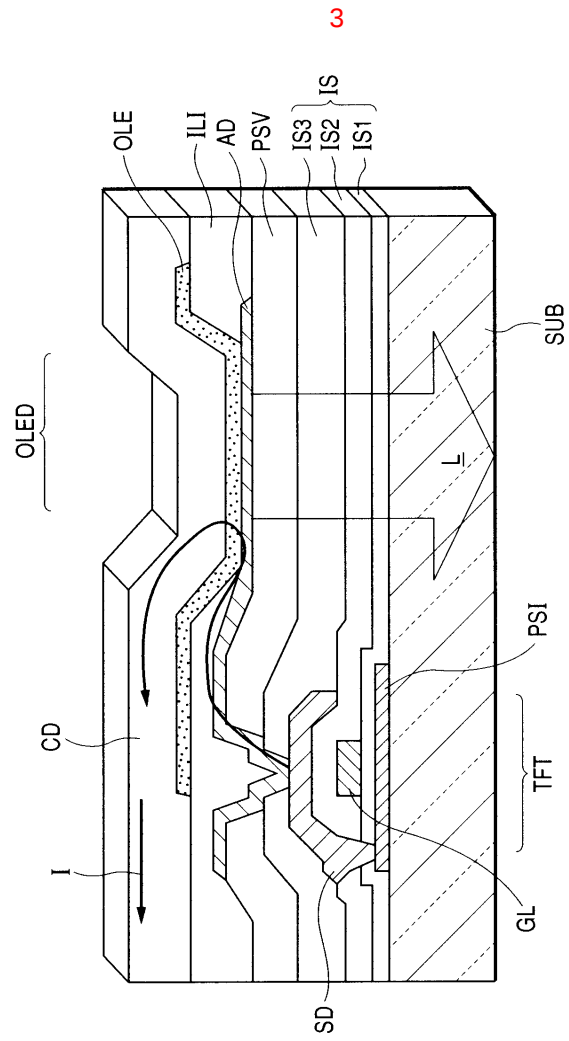
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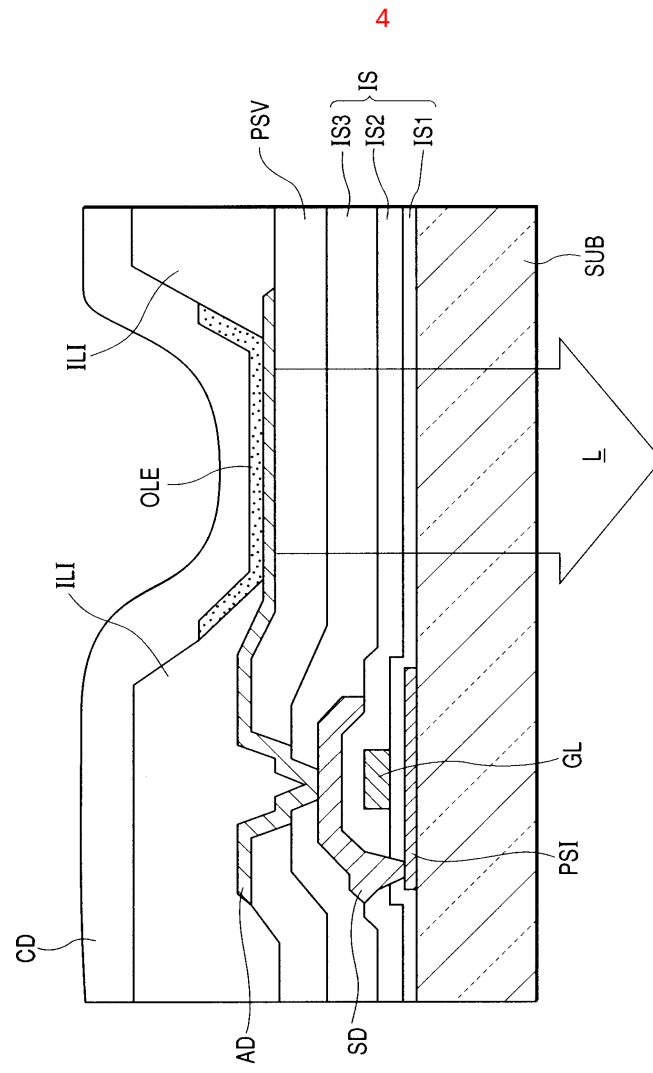
ITO



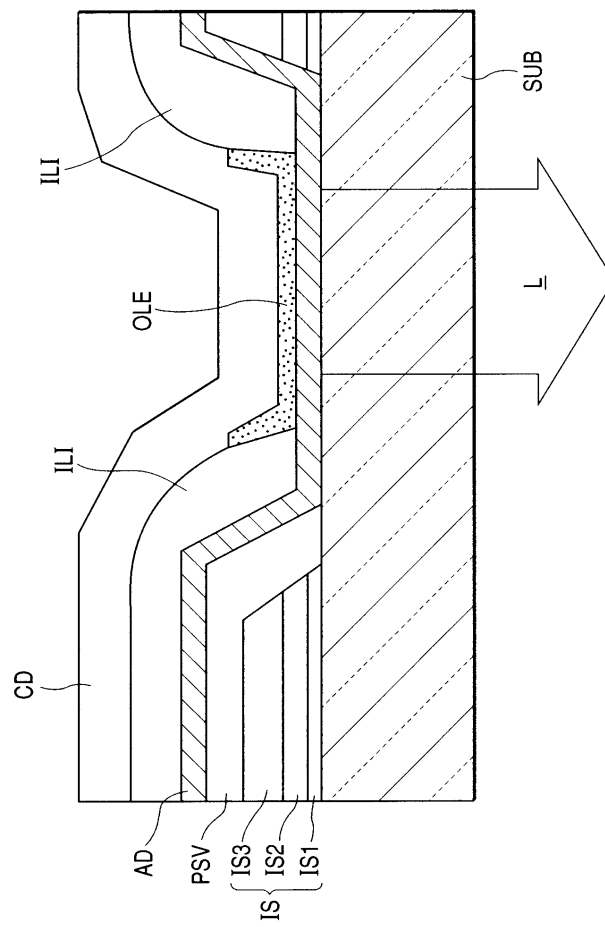
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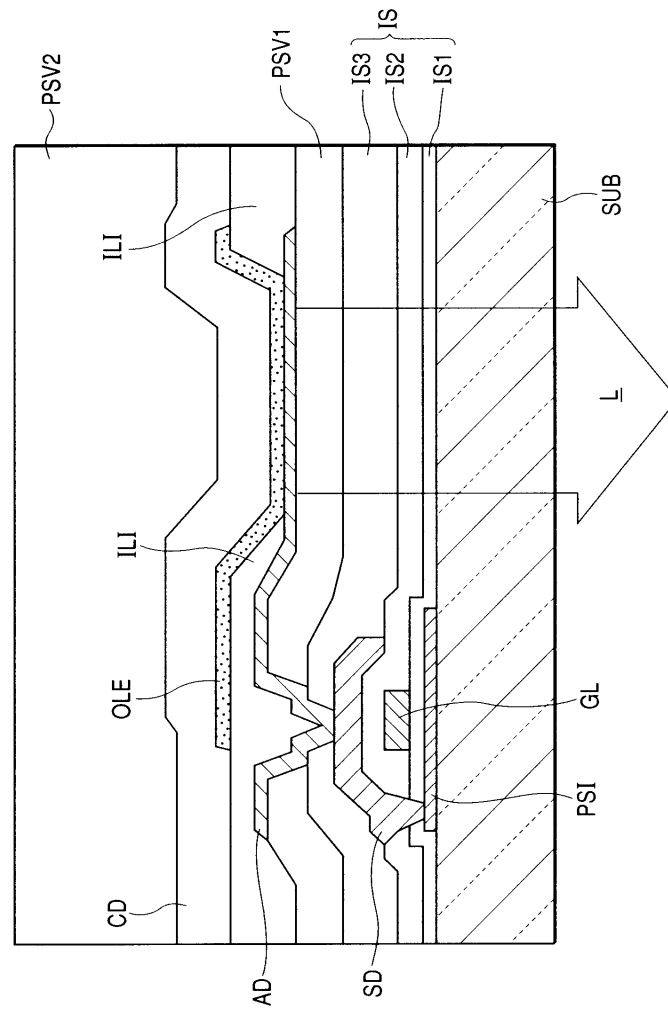




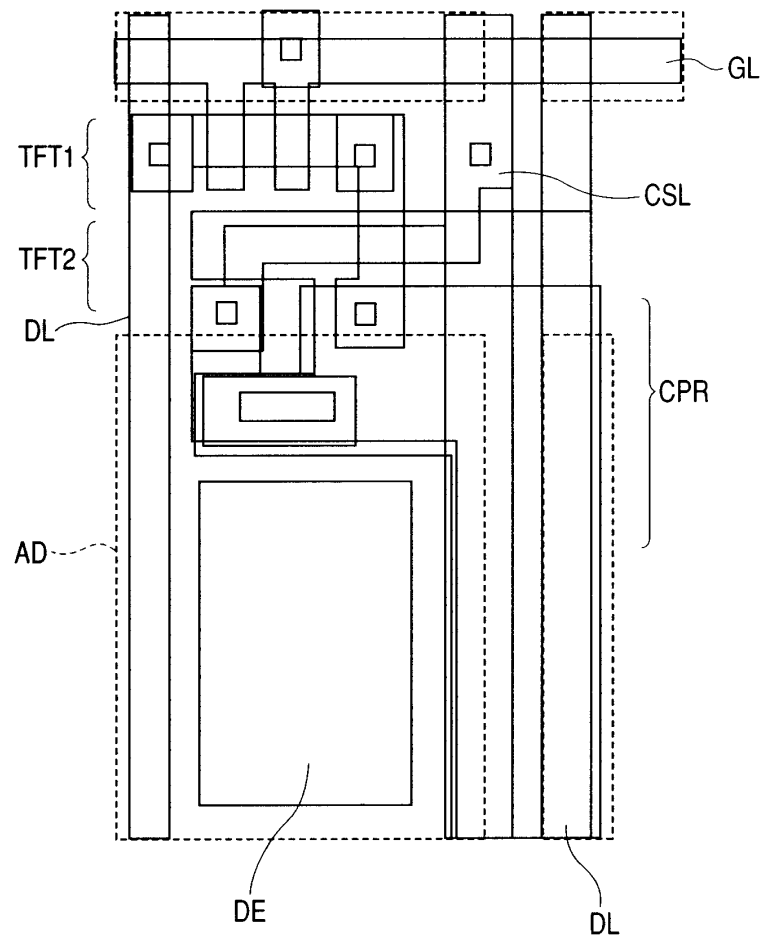


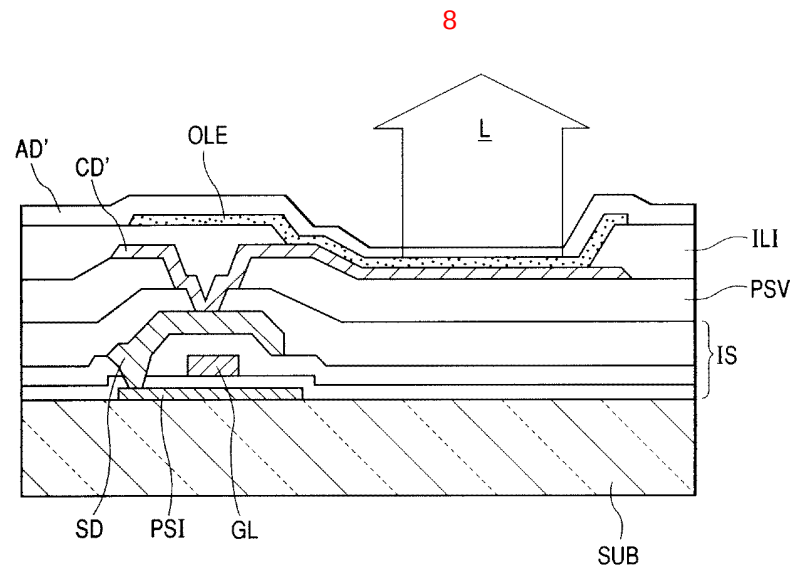
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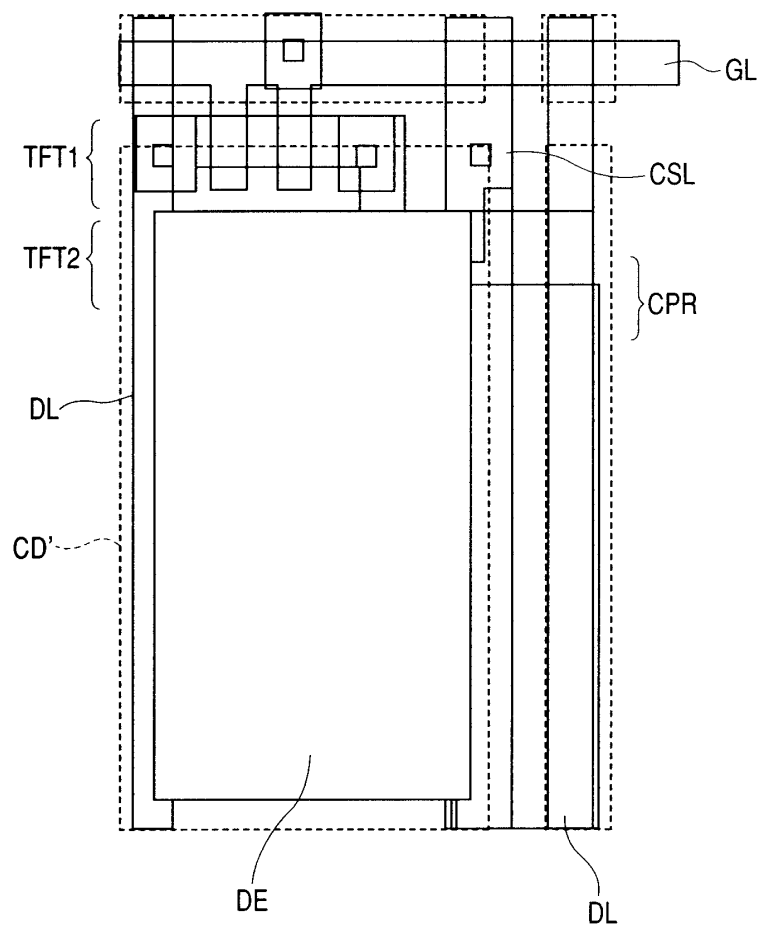


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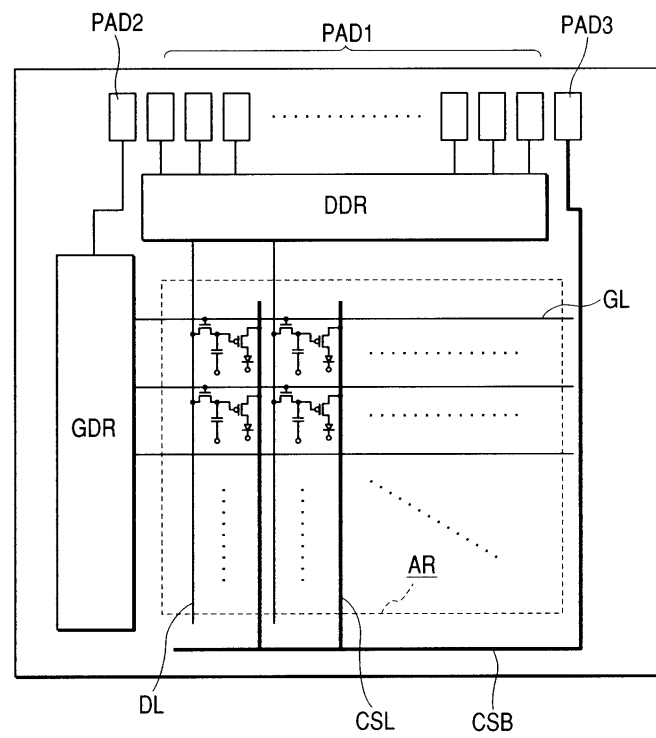




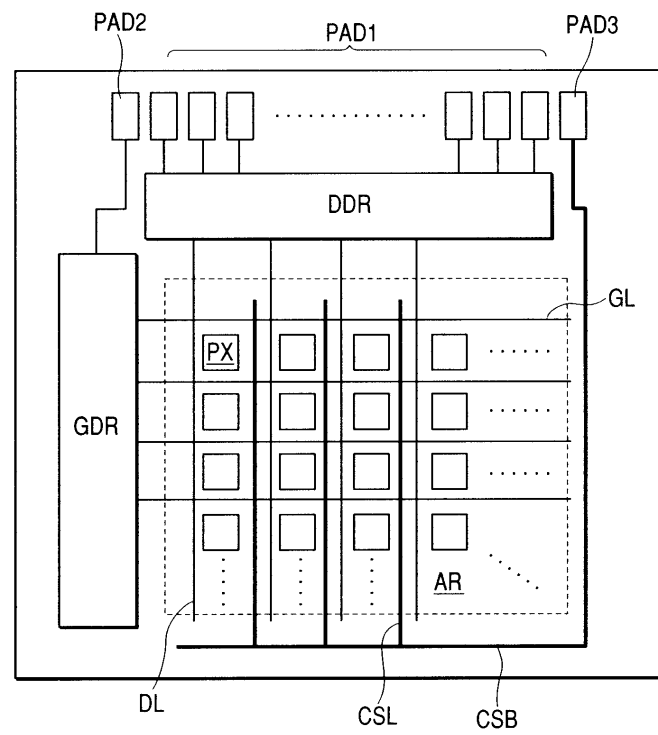
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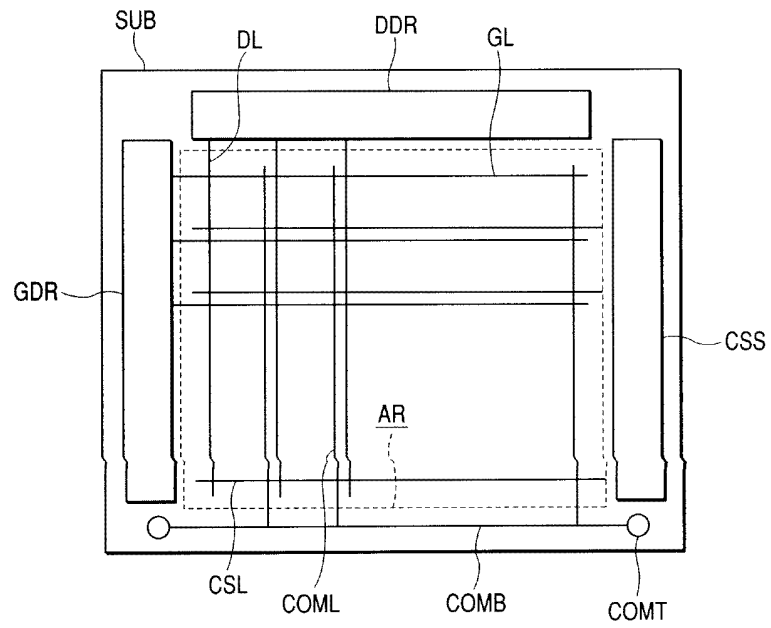
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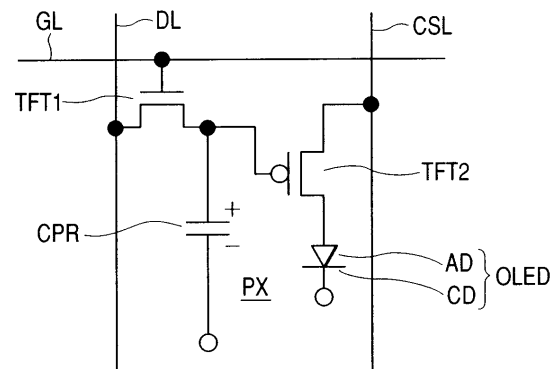
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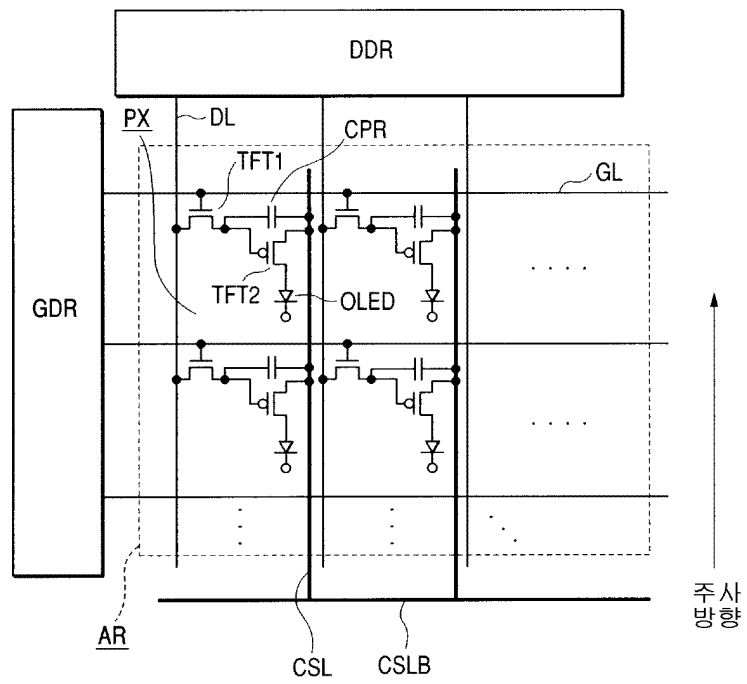
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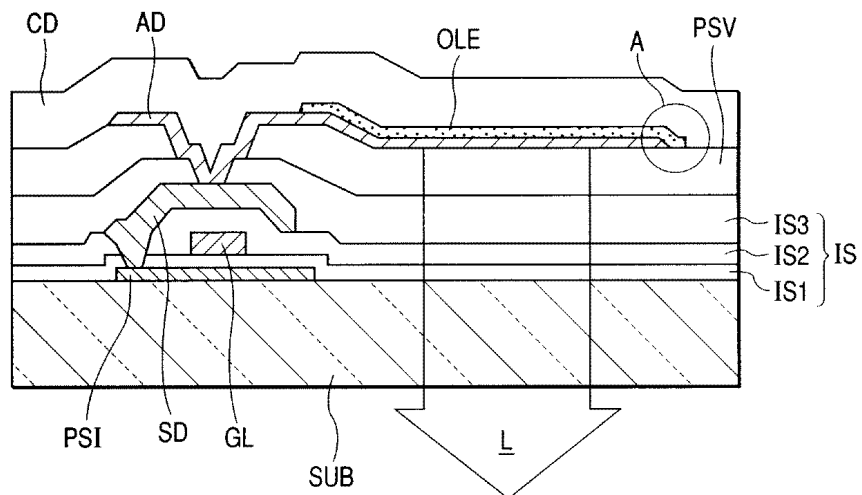
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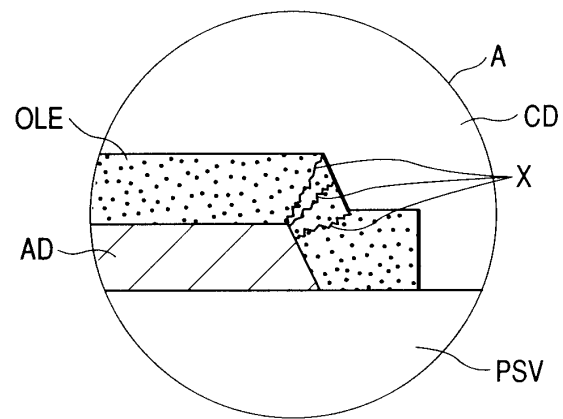
14



15



16



专利名称(译)	显示设备		
公开(公告)号	KR1020020077139A	公开(公告)日	2002-10-11
申请号	KR1020020016703	申请日	2002-03-27
[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	SATO TOSHIHIRO		
发明人	SATO,TOSHIHIRO		
IPC分类号	H01L51/50 H01L27/32 H05B33/22 G09F9/30 H05B33/10 G09G3/32		
CPC分类号	H01L27/3246 G09G3/3233 H01L27/3258 G09G2320/0233 H01L27/3248 G09G2300/0842 H01L27/3262 H01L27/3265 H01L27/3276 H01L51/5206 H01L51/5234 H01L51/5237		
代理人(译)	李钟IL		
优先权	2001092818 2001-03-28 JP		
其他公开文献	KR100502747B1		
外部链接	Espacenet		

摘要(译)

用途：防止在构成像素的第一电极层和第二电极层之间通过有机发光层产生漏电流并获得均匀的亮度。组成：层间绝缘层IL1形成在第一电极层AD的边缘和有机发光层OLE之间，构成像素，以便在边缘和第二电极层CD之间获得足够的距离。层间绝缘层IL1由具有流动性的树脂材料制成，以便整体上获得优选的平坦度。在层间绝缘层IL1中形成容纳有机发光层OLE的开口，使得施加的有机发光层OLE形成为均匀的厚度和足够的扩散区域。

