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(72) 716-1

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가 가 4-39-3-303

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1		1		TFT		
2	1	2-2				
3		1		TFT		1 3-3 TFT
4	1	4-4				
5	1	5-5				
6	(a)	(b)	1	TFT		1
7	(a)	(d)	1	TFT		2
8	(a)	(b)	1	TFT		3
9	(a)	(b)	1	TFT		4
10		2		TFT		
11	10	11-11				
12	(a)	(c)	2	TFT		2
13	(a)	(b)	2	TFT		3
14		3		TFT	1 TFT	3
15	(a)	(c)	3	TFT		3
16		4		TFT		
17	16	17-17				
18	(a)	(c)	4	TFT		3
19		5		IPS		TFT
20		5				19 20-
21	19	21-21				
22		6		IPS		TFT
23		6				22 23-
24	22	24-24				

in Film Transistor : , TFT)가 , TFT (Th
 6-202153 , TFT ,
 (Photo-Process : 가 가
)
 TFT TFT TFT
 ; (i ,), (n+) , (Reversed Staggered type :
 TFT 10-232409) , (

) TFT 5

(, IPS) TFT 4

9-90404

TFT

()

6-202153

10-232409

TFT

가

5

()

10-232409

IPS

TFT

4

가

가

, ITO)

()

6-202153

i , n+

, TFT

i

가

가

가

i

가

가

i

9-90404

TFT

, 가

5

TFT

IPS

()

1

2

1

2

1

1

, (1)
, (2)

, (3)

, (4)

(a)

(b)

가

)

(, n)

(

TFT 4 1
 2 3
 4
 (a-Si)
 , n+ a-Si, i a-Si , TFT
 1
 가 1 가 가
 2 1 4μm
 2가 i a-Si, SiN 가 n+ a-S
 T (i a-Si) 가 , n+ a-Si, i a-Si TF
 SiN , n+ a-Si
 3 , a-Si 가 , TFT 4
 ,) , 2 () 가 , 1 (Mo Ta, Ti, W i a-Si,
 SiN (, ITO) i a-Si SiN (,)
 , SiN , SiN 가 2 , i a-Si
 , SiN , 150 200
 , ITO i a-Si i a-Si 가
 , 가 가 가 , i a-Si ITO
 , 가 가
 ITO , TFT (a-Si), (IZO) , TFT
 , TFT TFT , TFT 가 , TFT
 < 1 >
 1 1 TFT 2 TFT PX,
 Cstg 1 2-2 3 1
 3-3 4 6 9 1 4-4 5
 1 5-5 () TFT
 TFT , 2 SUB1
 , Mo(), Cr(), Al() Mo SiO₂ SiN g1 GL
 i a-Si a-Si GL SiN a-Si AS n+ a-Si GI
 a-Si d0 Mo Cr, Mo, Al, Mo SD1 SD1,
 SD2가 a-Si d0 a-Si AS TFT DL
 , a-Si a-Si AS TFT SD1, SD2 a-Si a-Si
 AS , TFT SiN PSV CN

, TFT SD2 ITO ITO1 PX ITO1, ITO 2
 가 1 CN ITO1 가 SD2 a-Si AS, d0 d1 , 2
 a-Si AS가 SD1 d1, a-Si , a-Si d0 ,
 a-Si AS PSV ,
 ITO1 Cstg 1 2 , ITO1 PX가 GL
 Cstg , PX ITO1 ,
 GL g1 GI PSV ITO1 ,
 1 3 DL , Mo-Cr
 Mo, Al, Mo SD2 가 , d1 d1 a-Si d0, AS
 SD2 가 , d1 a-Si AS가 DL
 GL SKD가 S
 KD PX DL 가 , ORI LC
 TFT SUB1 SUB2 ()
 BM () 3 FIL , CX ITO ITO2
 , TFT POL .
 DL d1 , 가 , d1 Cr a-Si
 d0, a-Si AS 가 , d1 Cr 가 ,
 Al Mo HI , Al 3 PX
 ITO1 Cr (比抵抗) Mo Mo a-Si Al Mo
 d1 , Mo a-Si , d0, AS가 d1
 a-Si d0 , d0, AS d1
 가 3 ORI 가 가 가
 d1, a-Si d0, a-Si AS 가 가
 , a-Si AS, a-Si d0, d1
 1 1 DL(SD1) Cr, Mo DL (GL
 DL d1 , a-Si AS가 , i a-Si AS
 d1 GL a-Si AS GTM 1 4 TFT SUB1
 GL PX g1, GI PSV,
 DL DTM 1 5 , DL 가
 d1, a-Si d0, a-Si , PSV, DL PSV 가
 d0, AS PX , Mo ITO1 GI 가
 GTM DTM DL, DL
 2 TFT TFT 6 (a) 9 (b)
 TFT 1 가 1 가
 (b) 6 (a) 6 (b) SUB1
 , 1 200nm , Cr, Mo , MoW
 g1 PRES1 GL, SKD, g1
 g1 1 GT

1, PRES1, PSV, CN, GTM, DTM 가, SF 6, CF 4, PSV, GI, 140nm ITO IZO, ITO1 가, PX, PRES1, 1, 4, 5, ITO, 5, 4, TFT, a-Si, 가, 가, TFT, TFT, 10, 13 (b), 1, 11, 10, 11-11, 12 (, TFT, TFT, 2, 3, 1, 2, 1, Cstg, GL, PSV, GI가, 11, CNS, PX, ITO1, ITO1, GL, Cstg, GI, i, a-Si, AS, ITO1, 가, CNS, i, a-Si, AS, GL, 12, 13, 11, 10, ITO1, PX, 4, 2, 1, 6, 9, 가, ITO1, SUB1, GL, CVD, GI가, SiN, a-Si, AS가, i, a-Si, a-Si, GL, d0, n+, a-Si, DL, d1, [12 (a)]., 7 (a), SD2, SD1, SD2, d1 가, PRES1, PRES2가, Cstg, [12 (b)]., 7 (a), 7 (d) 가, SD1, SD2, d1 가, a-Si, d0, a-Si, AS 가, PRES2, a-Si, AS, d0, a-Si, Cstg, PRES2, a-Si, a-Si, AS, [12 (c)]., CVD, SiN, PSV, PRES1, SD2, PSV, 가, SD2, CN, [13 (a)]., CNS, a-Si, AS, 가, SF 6, CF 4, 가, GL, GI, GI, 100% a-Si, SiN, 가, GL, GI, ITO1, 9 (a), 9 (b), ITO1, PX, Cstg, 1, GL, SiN, GI, SiN, a-Si, SiN, ITO1, AS, 1, a-Si, 12, SiN, 7, GI, SiN, 1, 10, a-Si, GL, a-Si, n+, a-Si, 6-202153, i

가 . 가 , TFT i a-Si , n+ a-Si 가 , i a-Si
 가 , TFT가 i a-Si
 가 , i a-Si
 , 11 Cstg a-Si AS , ,
 , a-Si d0 PX ITO1 a-Si AS , ,
 () , a-Si AS ,
 3 3 TFT 14 15 (c) . 14
 3 3 TFT TFT ITO1 Cstg 3
 , 15 (a) 15 (c) 14 4 TFT 10, 11 2
 , TFT , 가 가 Cstg
 , 1 , 2 TFT 가 , SUB1
 14 GL, GI, a-Si AS가 , TFT SUB1
 GI ITO1 PX PSV CNS 2 11
 , a-Si . a-Si AS PX CNS
 CNS a-Si
 , 3 3 15 (a) 15 (c) . TFT
 SUB1 i a-Si , a-Si d0 n+ a-Si A
 S가 i a-Si , a-Si SD1, SD2, DL d1 , , SD1, SD2
 CVD SiN 가 PSV가 Cstg , 2 a-Si 가 AS가 가 ,
 TFT PRES1 SD2 CN, Cstg CNS
 , CNS PSV , SD2 CN , Cstg
 , CNS 가 , a-Si AS 가 PSV SF₆ CF₄
 , N GL 가 , GI SD2 . PSV 100% a-Si Si
 (15 (b)).
 N 가 가 PRES1 GI Cstg SF₆ a-Si CF₄ AS CNS , Si
 Cr 가 가 가 SD2 Mo Mo HCl Cr
 , a-Si AS 가 , SD2 가 Cstg a-Si AS ,
 , TFT , 15 (a) Cstg a-Si ITO1
 , CVD i a-Si 250nm , SD2
 d1 AS 200nm , 15 (c) Cstg CNS a-Si
 SD 250nm 100 150nm ,
 가 Cstg PSV a-Si Mo Mo , a-Si
 , PSV a-Si , AS가 , a-Si
 , CVD SiN 가
 Si PSV PSV , PX Cstg CNS PSV, a-
 stg , ITO1 , , GL , GI C
 CNS CNS GI, a-Si AS, PSV 3
 CNS GI

GL 1, 2, a-Si AS
 PX GI가 SiN 2 GI PSV, PSV
 4 4 TFT 16 18 (c) 16 3
 c) 17 4 TFT 17 16 17-17 3 18 (a) 18 ()
 16 1 Cstg GL 1, 2 GL 10 가 g1
 CL ITO1 PX가 DL
 DL
 PX ITO1 Cstg 17 TFT
 PX 2 PSV2 1 PSV1 PSV1 ITO1
 PX가 2 PSV2, 1 PSV1 CNS GI
 가 Cstg PSV2가
 1 2 17 2 PSV2 200 400nm 2μm 10 가
 DL 1, 2 PSV1, PSV2 7 PX 16 DL PX
 가 Cstg GI, 1 PSV1, 2 PSV2 3 가 Cstg
 g1 CL 가 Cstg
 GI TFT 9-90404 가 TFT
 a-Si 가 TFT 가 5
 4
 c)] 4 18 (a) 18 (c) [18 (a) 18 ()
 가 3 1, 2 4
 CL GI a-Si AS가 SiN
 1 PSV1
 2 PSV2
 TFT SD2 Cstg 2 PSV2 [18 (a)].
 GI) SiN 1 PSV1(2 PSV2
 SF₆ HCl Cl₂ Cstg a-Si 가 AS GI a-Si AS CF₄ 4 [18 (c)].
 CN CNS SUB1 200 가 가 가
 PSV2 (18 (c)). 4 ITO1 , 2 3μm
 SiN 1 PSV1, Cstg 2 PSV2 CNS PSV2
 PX GI GL GI, a-Si AS, 1 PSV1, 2 P

SV2 Cstg a-Si 4 PSV1, PSV2 CNS

5 5 19 21 19 1 20 21

19 20-20 (IPS) 21-21 PX () CX가 CT LC

1 19 20 PX () CX가 CT LC

1 가 1 4 DL TFT, SUB2 PX TFT SD2

가 GL, DL ITO1 TFT, PX TFT CT 4 SD2

가 GL PX GL CX g1

CT 4 CL Cstg PX CX PX

20 DL PX CX DL

GI a-Si a-Si AS, a-Si d0, Mo, Cr d1

CX a-Si a-Si AS AS d1 TFT

a-Si AS, a-Si d0, d1 1 CVD, a-Si

AS d0 d1 2 가 가 , a-Si

21 TFT PX CT Cstg 가 , 11 Cstg 가 GL PX

PX CT Cstg 가 , 11 IPS SiN GI

a-Si AS CT 가 ,

IPS IPS CT 가 ,

AS GI PSV 가 GI Cstg AS a-Si

6 6 22 24 22 1 23 24

22 23-23 24-24 6 5 가 IPS

1 20 22 PX CX가 CX LC 가

CT 5 PX TFT 가 SD2 PX 가 GL GL CX

g1 , PX , CX

Cstg 5 ITO1 PX CL CX

CNC DL PX PX CX DL, d1

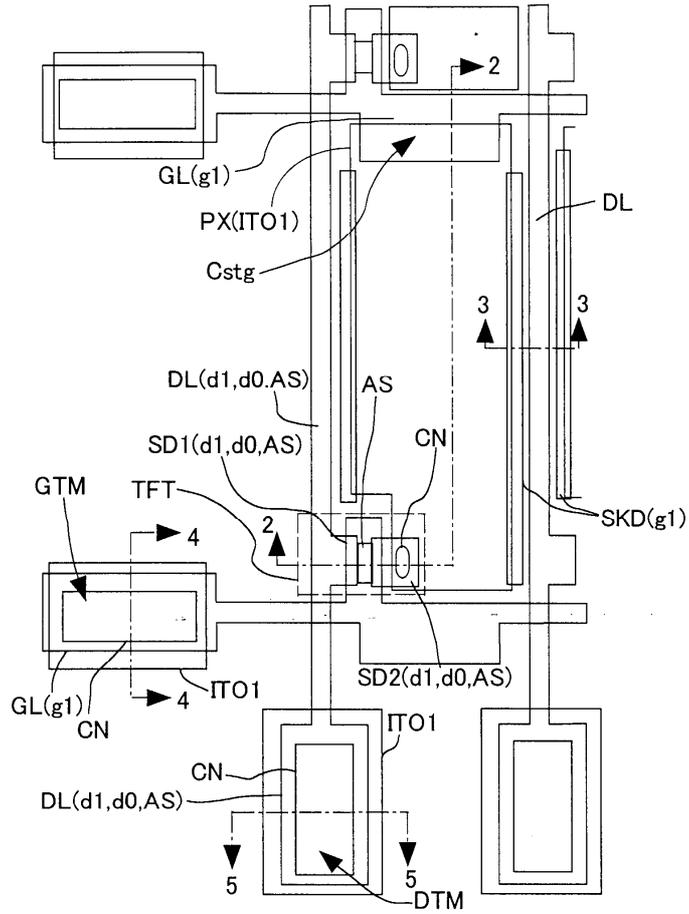
23 PX DL GI a-Si a-Si AS, a-Si d0, Mo, Cr d1

CX GL a-Si a-Si AS AS 가 , d1 TFT

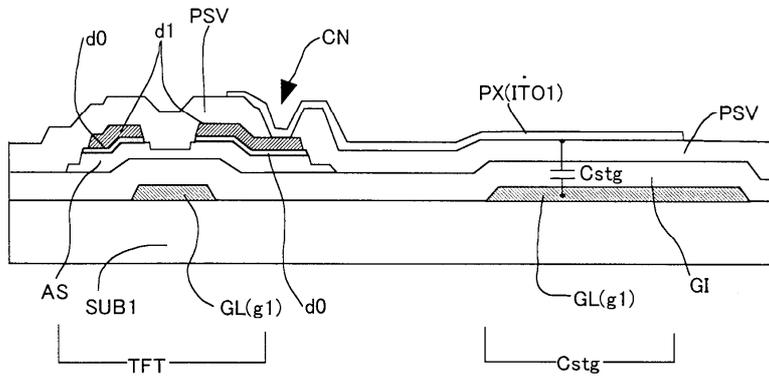
a-Si AS d0 a-Si AS, a-Si d0, d1 가

가 , a-Si 가 가 , ,

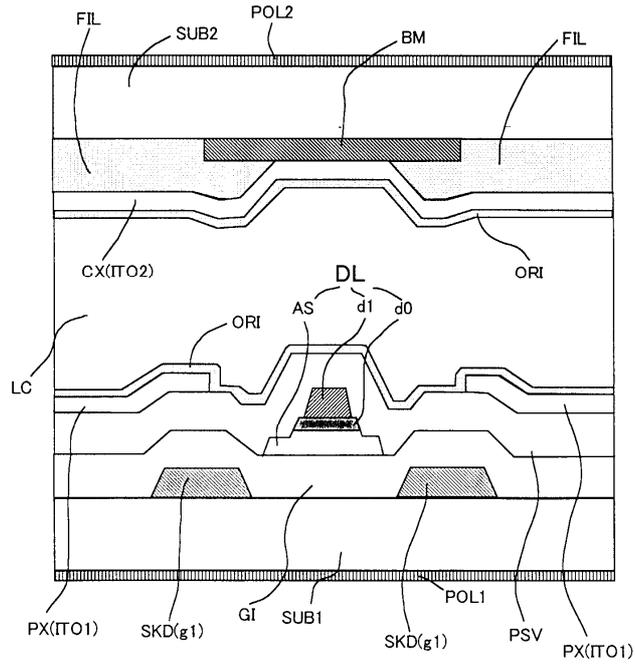
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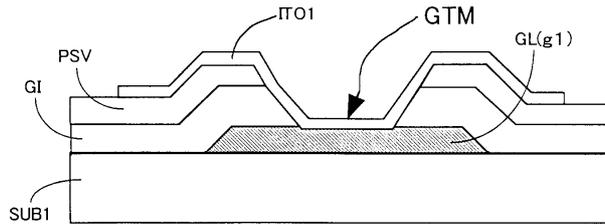
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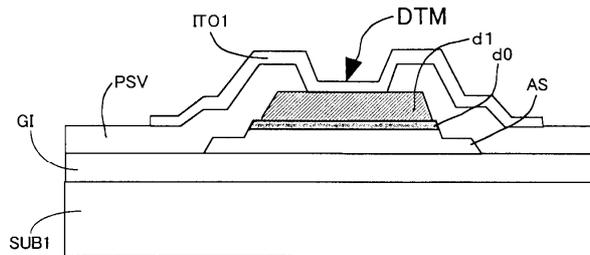
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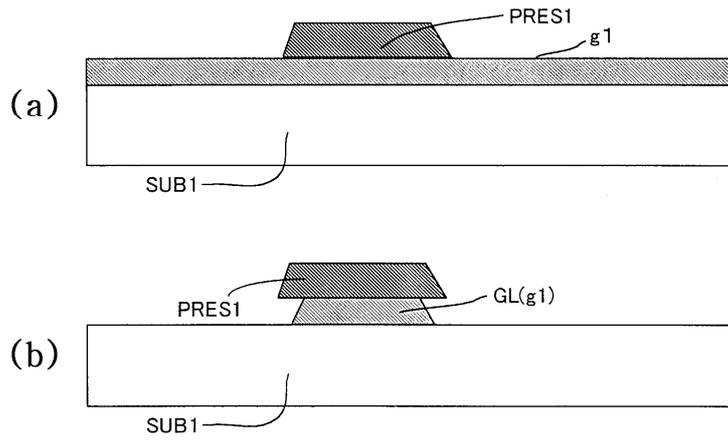
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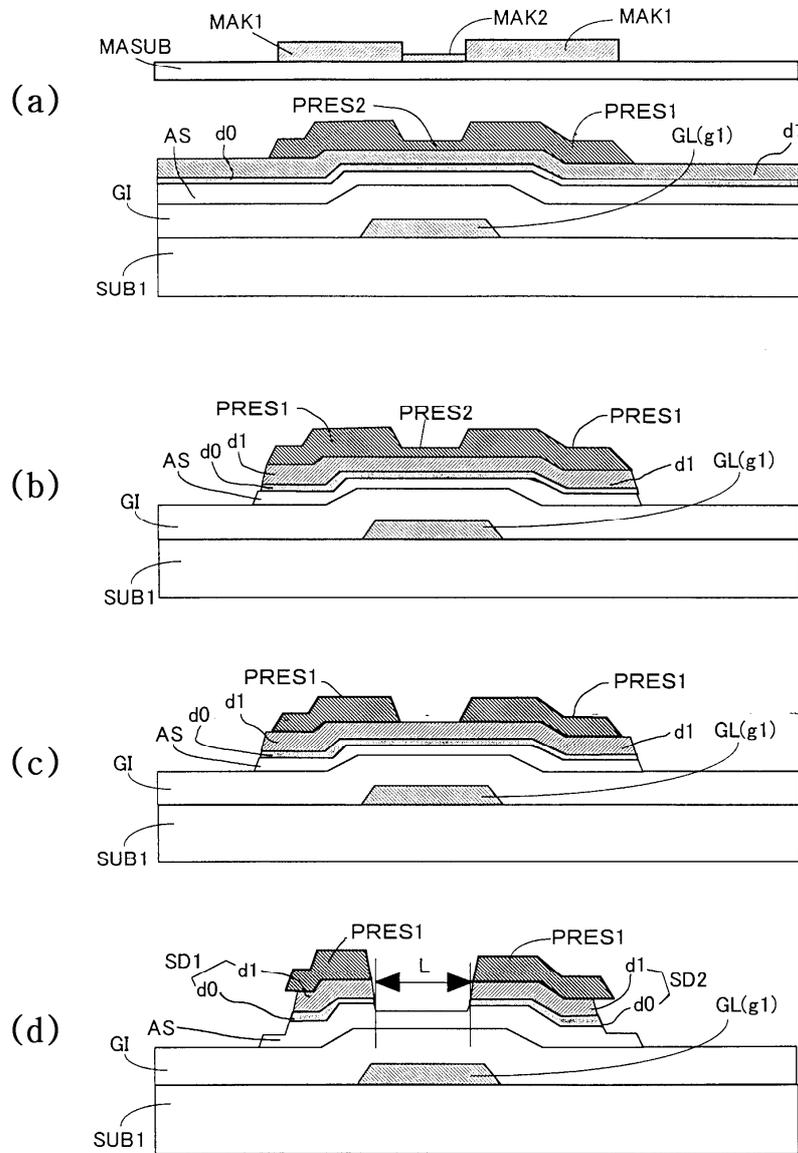
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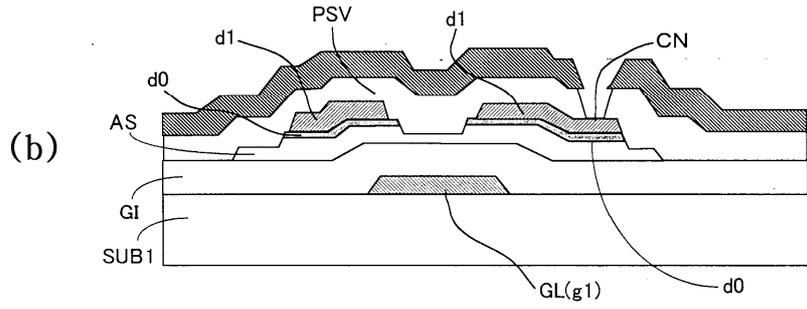
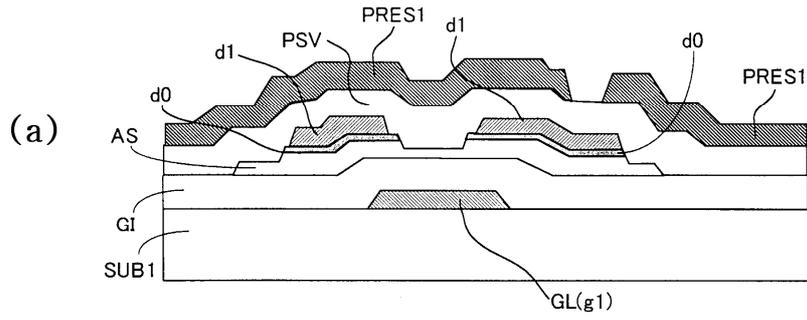
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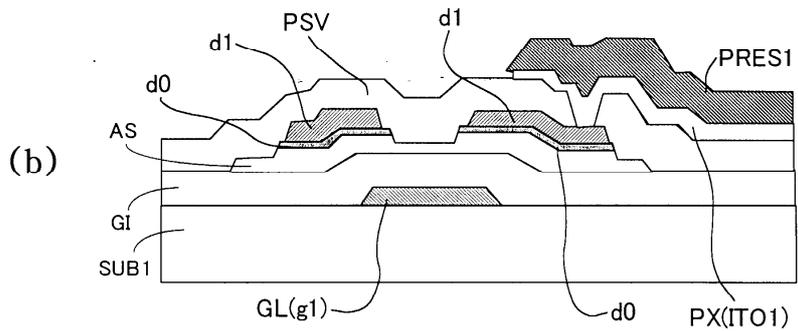
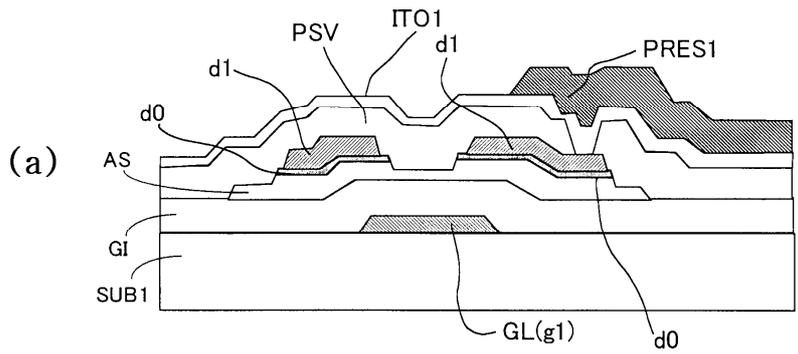
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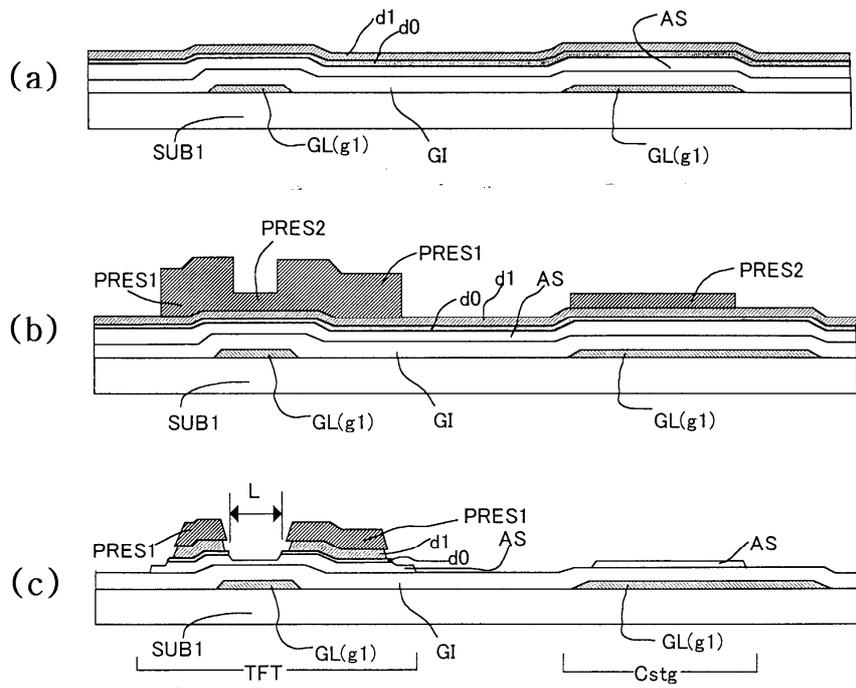
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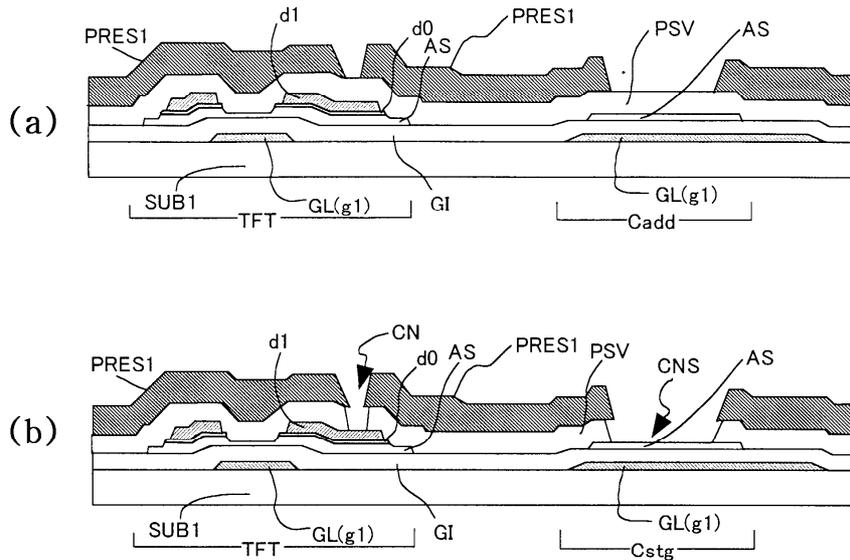
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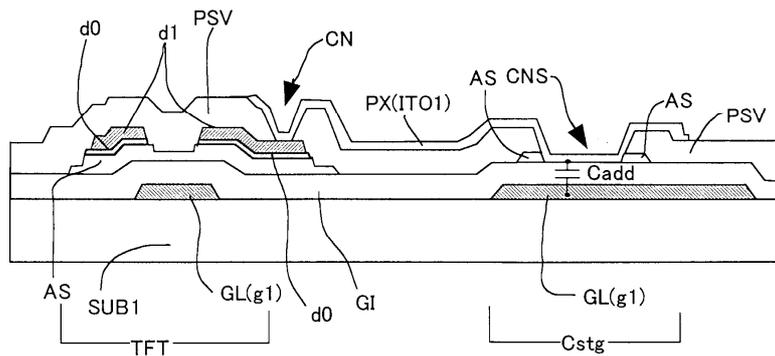
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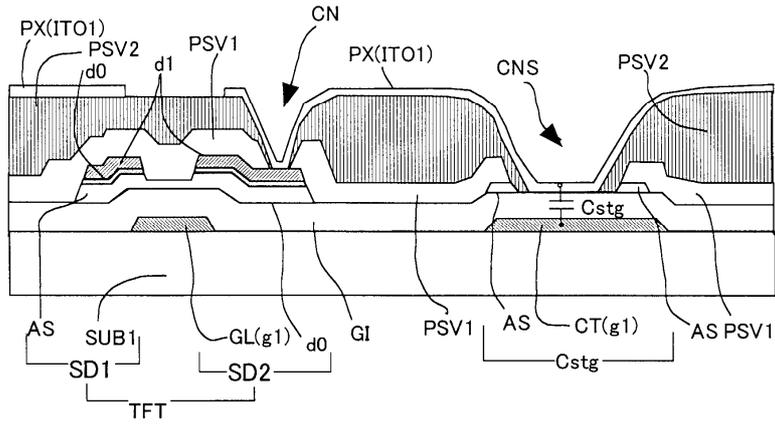
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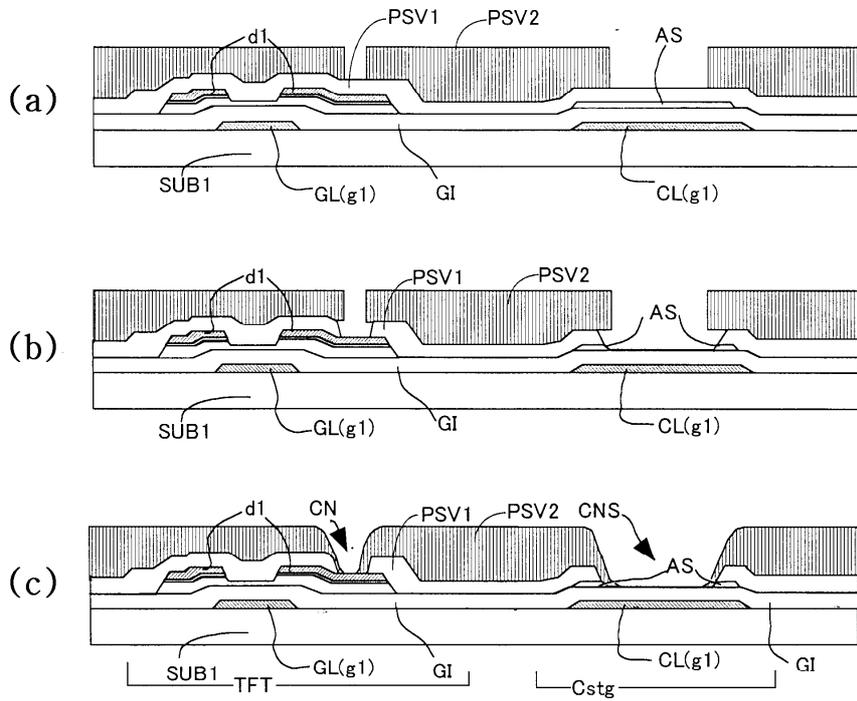
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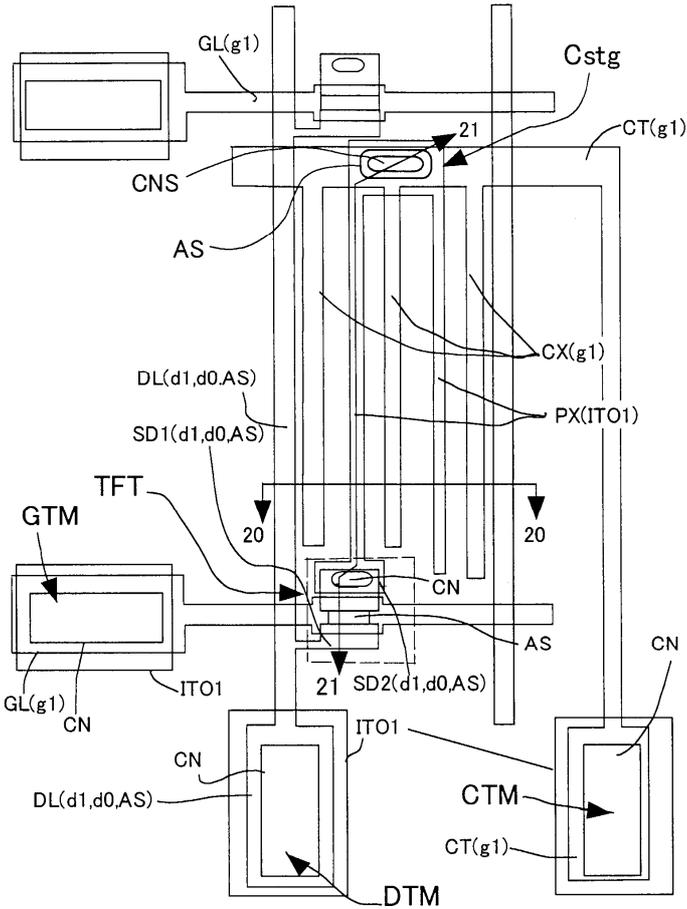
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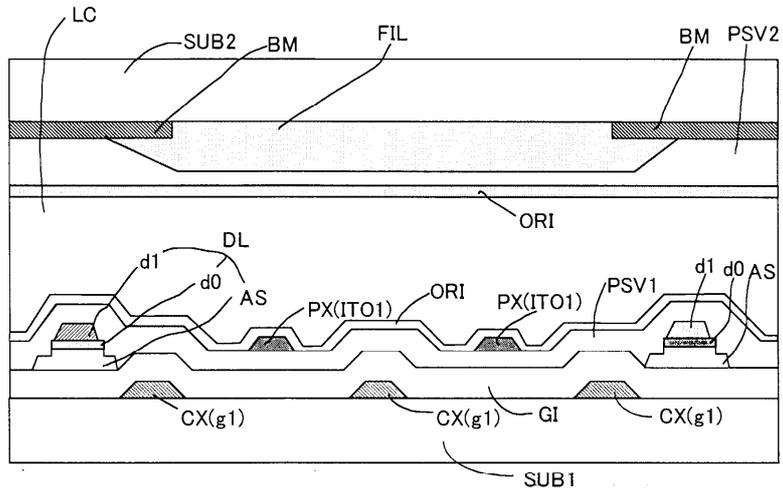
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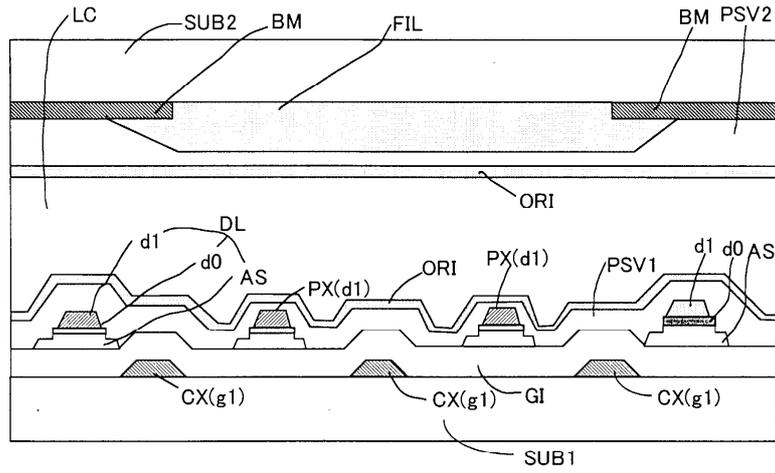
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