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10-0437947  
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2002 02 25

(30) JP-P-2000-00223942 2000 07 25 (JP)

(73) 가 가 가 4 6

(72) 486

401-28

(74)

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(54)

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가

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TFT

가  
가

(D)

5 1  
 6 5  
 7 5  
 8 6, 7  
 9 6, 7  
 10 9 OP-  
 11 9 OP-  
 12 7  
 13 1 (IC)  
 14 1 (COFA)  
 15 2 (IC)  
 16 (IC)  
 17 (IC) 2  
 18 3 (IC)  
 19 3 (COFA)  
 20 4 (IC) (BUMP 1)  
 21 5 (IC) (BUMP)  
 (COFB)  
 22 21  
 23 21  
 24 TFT  
 25 가  
 26

< >  
 20 : (a) 21 : (b)  
 22 : 23 :  
 153 : 157 :  
 158 : 262 :  
 COFA :

가 가 ( )  
 ( )  
 : .) 가 ( 가 가  
 TFT(Thin Film Transistro) (TFT-LCD)  
 TFT (TFT-LCD) TFT  
 24 TFT (TFT-LCD)(10) (130)가  
 (10) (140)가 (R), (G), (B) 3 ( )  
 ( , )



가

가

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(正)

(負)

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[ 1 ]

< 1 >  
 1 TFT (LCM) (TFT-LCD)(10) (130)가  
 1 (10) (140)가  
 (10) 1600 x 800 x 3 (R), (G), (B) 1 (Pix) (R), (G), (B) 3 ( )  
 (TFT (110) (100) 24 TFT (301) 24  
 (130) 24 (302) (140) (IC) (Tape Ca  
 rrier Package) (130) (Chip On Film) (140) (310) (10)  
 (IC) (Chip On Glass)

< 1 >  
 2 1 (10) 가  
 2 2 (10) 가  
 G) 2 (D) (G)) 2 ( ( ( (D)) (TFT 1, TFT 2) (TFT 1, TFT 2)  
 (ITO 1) (ITO 1) (ITO 2) (ITO 1) (ITO 2)  
 (CLC) 가 (G) 가 (CADD)  
 (TFT 1, TFT 2)  
 3 1 (10) 가  
 2 가 (G) 가 (CADD)  
 3 가 (CN) (CSTG)  
 가 (ITO 1) 가 가 가 (CADD) 가 가

, 2, 3 가 2, 3 AR  
 , 2, 3 (10) (TFT 1, TFT 2)  
 2, 3 (D) (D)  
 가 (130) (TFT 1, TFT 2) (G)  
 ) (G) 1 (TFT 1, TFT 2) (TFT 1, TFT 2) (G)  
 ( (140)

< 1 >  
 1 (100) (110) (120)  
 (110) 1 (LSI) (R · G · B)

(130) (140) 가 ( )  
 (110) (135) 1 (130) 1  
 ) (133) (130) (130)  
 (110) (CL 2)( , (CL 2) .) (131)  
 TFT (301) 24 (302) (110)  
 1 (R), (G), (B) (130)  
 (130) (130)  
 1 (130) 1 (130)  
 (130) 가 2 (130) 2 (130)  
 (130) 가  
 (110) 1 가 (130)  
 (CL 1)( , (CL 1) .) (D) (132) ( )  
 130) (110) 1 가 1  
 (G) (110) (142) 1 (140)  
 (CL 3) 가 (141) (10)  
 (10) (G) (TFT 1, TFT 2)가 1  
 < 1 (10) >  
 1 (120) (121) (122) ( )  
 (123), (120) (124) (122)  
 (121) (正) 5 (V' 0 ~ V'4) , (122) (負) 5  
 (V' 5 ~ V'9) (V' 0 ~ V'4) (負) (V' 5 ~ V'9) (130)  
 (130) (110) ( ;M) (134)  
 (TFT 1, TFT 2) (123) (ITO 2) 가 (124) )  
 가 가 ( ) 가  
 가 가 가 /  
 가 가 2  
 가 가 가  
 (ITO 1) 가 2 가  
 N 가 가

4 (D) ( , (ITO 1) 가 ) (130)

(VCOM) (130) (D) (ITO 2) 가 (偶數) (D)

가 (ITO 2) 가 (VCOM) ( 4 ) ( 4 ) (D)

(130) (D) 가 (D)

(130) (D) 4 가 (D)

(130) (D) 가 (D)

(D) 가 가 (D) 가 (I)

TO 2) (TFT 1, TFT 2) 가 가 (ITO 2)

(ITO 2) 가 가 (ITO 2)

< 1 (130) > 가 (130)

5 1 (130) (LSI) (121) 5 (V'0

~ V' 4) (151) (64) (122) 5 5

64 (V'5 ~ V' 9) 64 (157) (CL 2)

(153) (152) (154)

(110) (154) (152) (154)

(1)(155) (153) (154) (110)

(CL 2) (154) 6 (1)(155)

(2)(156) (110) (CL 1) (157)

(2)(156) (157) (157)

(157) 64 (64) (158) (D)

(158) ( ) (130) (D)

6 5 , 153 5 157 5 (263)

(262) 5 (1)(155) (2)(156) (263)

5 (264) (2) (264) (265)가 5 (157)

(261) (265) (M) (D)

, Y1, Y2, Y3, Y4, Y5, Y6 1 2 3 4 5 6

6 (130) (261) (262)(

5 (1)(155) (262)

(262) (157) (151) 64 (262)

( 5 (2)(156) (151) 64 (25

(262) (251) (151) 64 (25

2) (262) (251) (252) (262)

(264) (271) (272)

(271) (271) (251)  
 (271) (272) (252)  
 (272)  
 (271) (272)가 (261) (264) (262)  
 (262)  
 (271) (272) (265) (Y1) 2 가  
 (Y2) (D), (D) 1  
 7 5 (130)  
 7  
 (261) (262) (271) (272)  
 (262)  
 1 (Y1) 4 (Y4) 가 1/2  
 6, 7 (IC)  
 8 6, 7 (251) (252)  
 8 6 (251) (252) MOS  
 MOS 가 (TRP 2, TRP 3) MOS  
 6, 7 (271) (272) 9 O  
 P (Operational Amplifier)(OP) (BUMP)(-) (BUMP)가  
 (BUMP)(+)가 (BUMP)가 (Voltage Follower) (OP) (OP) 10 11  
 (271) OP- OP- (OP)  
 12 7 (265)  
 7 (265) (271) (n + 3) (271) n  
 (Yn) PMOS (PM1) (PM 2) (n + 3) (272)  
 (Yn + 3) (Yn + 3) PMOS (PM 2) (272)  
 (n + 3) (Yn + 3) NMOS (NM 1) (272)  
 n (Yn) NMOS (INV) 가 (NOR Circuit) PMOS  
 PMOS (PM 1) (INV) (NOR 2) (LS)  
 (PM 2) (INV)  
 NMOS (NM 1) (INV) (NAND 2) N  
 MOS (NM 2) (INV) (NAMD 1)  
 (LS)  
 (NAND 1) (NOR 1) (M)가 (NAND 2) (NOR 2)  
 (INV) (M)가  
 (NAND 1, NAND 2) (ENB)가 (NOR 1, NOR 2) (INV)  
 (ENB)가  
 1 (NAND 1, NAND 2) (NOR 1, NOR 2) MOS (P)  
 M 1, PM2, NM 1, NM 2

[ 1 ]

| ENB | M | NOR 1 | PM 1 | NAND 2 | NM 1 | NAND 1 | PM 2 | NOR2 | NM 2 |
|-----|---|-------|------|--------|------|--------|------|------|------|
| L   | * | L     | OFF  | H      | OFF  | OFF    | OFF  | L    | OFF  |
| H   | H | L     | OFF  | H      | OFF  | OFF    | ON   | H    | ON   |
|     | L | H     | ON   | L      | ON   | ON     | OFF  | L    | OFF  |

\* (M)  
 1 ( , H ), (ENB)가 LOW ( L ) (NAND 1, NAND 2) High  
 가 (NOR 1, NOR 2) L MOS (PM 1, PM 2, NM 1, NM 2)  
 (ENB) (271) (272) (D)  
 (ENB) (CL 1) (CL 2)  
 1 (ENB)가 H (M) H L  
 (NAND 1, NAND 2)가 H L (NOR 1)가 H , PMOS (PM 2)  
 NMOS PMOS (PM 1) NMOS (NM 1)가 , PMOS (Yn + 3)  
 (NM 2)가 (271) (271) (Yn) (Yn)  
 (272) (272) (Yn + 3)  
 < 13 > (IC) (262) (157)  
 (158) (153) (IC) (262) (157)  
 13 (IC) ( ) (a)(20)  
 2 (262) (153) (a)(20) (158) (157)  
 (IC) (23) 2  
 ( ) (a)  
 2 가 22 (153)  
 6, 7 (130) (130)  
 가 (153) 가 2  
 가 2 (130) (IC) 26  
 (IC) (1/2 ) 가  
 26  
 (IC) 2 가 (IC) 가  
 가 (IC) 가 (IC) 가  
 가 (IC) 가 (IC) 가  
 가 (IC) 가 (IC) 가  
 (IC) 가 (BUMP 1) (IC) 가 13 (a)(20)  
 (IC) (IC) (IC) (b)(21) (IC) (IC) (IC)  
 (BUMP 1)가 (IC) (BUMP 1) (10) (IC)  
 (COFA) (COFA) (IC) 14  
 13 (310) (COFA) (IC) (BUMP 1)가 가  
 (IC) (BUMP 1) (10) (D) (BUMP 1)가 가

15 2 (130) (IC)

(1) 2

(157)가 (251) (264)가 (271) (157)가  
 ( 16 (252) (264)가 HV ) ( 16  
 LV )

(153) (254)

15 (153) (BUMP 1) 15  
 15 (M) (H L ) No. 1 No. 2 No. 2가 No. 1  
 (153) 3 (BUMP 1) 1  
 가 (153) 6 (BUMP 1) 1

64  $\times 2 = 128$  (157) 6  $\times 6 = 36$   
 (262) 가

16 (IC) (157) 64 64  
 16 128 ( , AL ) (150) 가  
 ( 高 ) 128 가

64 64 64

(a  $\times$  b)  
 17 (IC) (157)  
 17 64 가 (271) 가 64  
 (272) 17 (157)

AL (150) 가 AL  
 (150) (a  $\times$  b)/2 17 (157) (1/2)  
 (262) 가

[ 3] 가

18 3 (130) (IC)

1 (BUMP 1) 4  
 (20) 1 2 (157) (262)  
 가 ( ) (IC)

가 (BUMP 1)가 (IC) 2 (BUMP 1) (10)  
 (IC) (COFA) (IC) (IC)

18 (IC) (310) (COFA) 19 (IC) (BUMP 1)가 가  
 (IC) (BUMP 1) (10) (D)

[ 4] (4) (130) (IC) (BUMP 1)  
 (310) (COFA) (BUMP 1) 2 (BUMP 1)  
 (10) (D)



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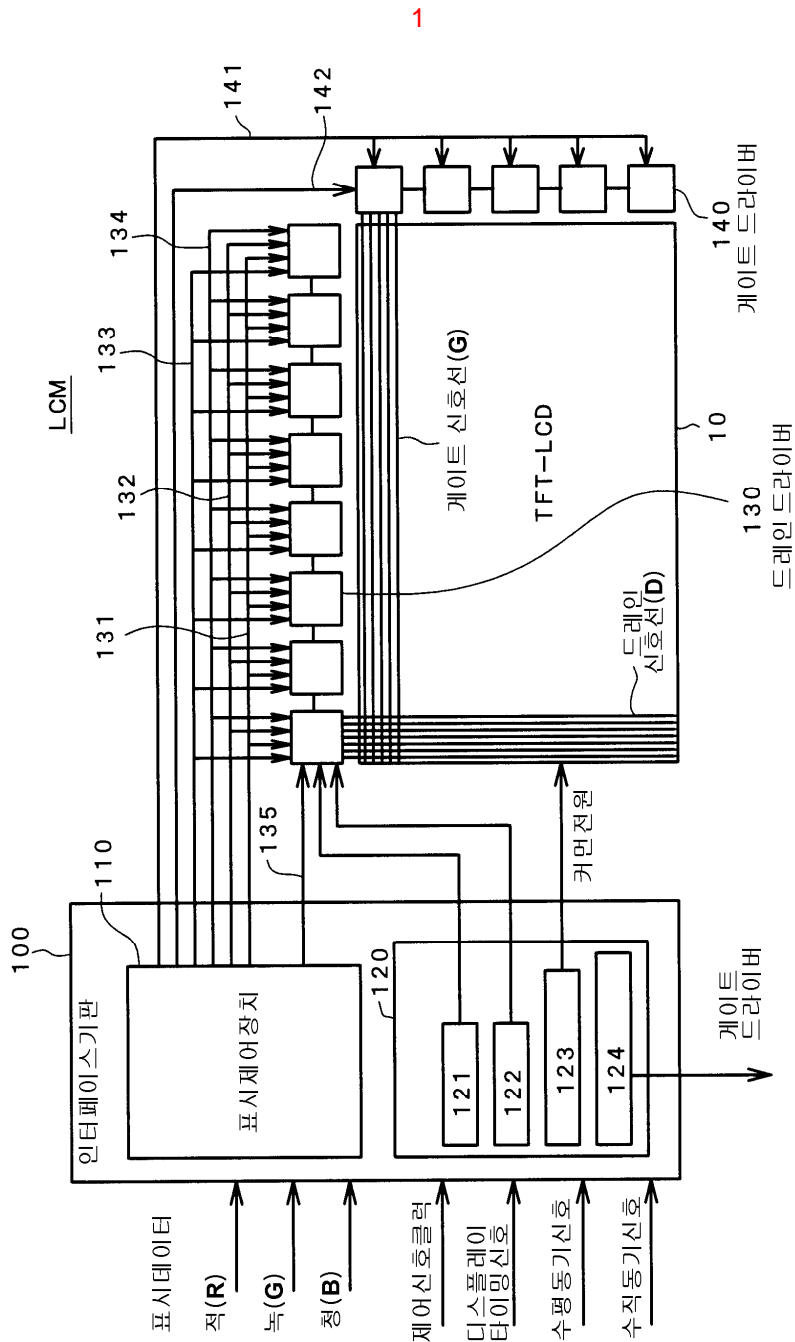
18.

가

19.

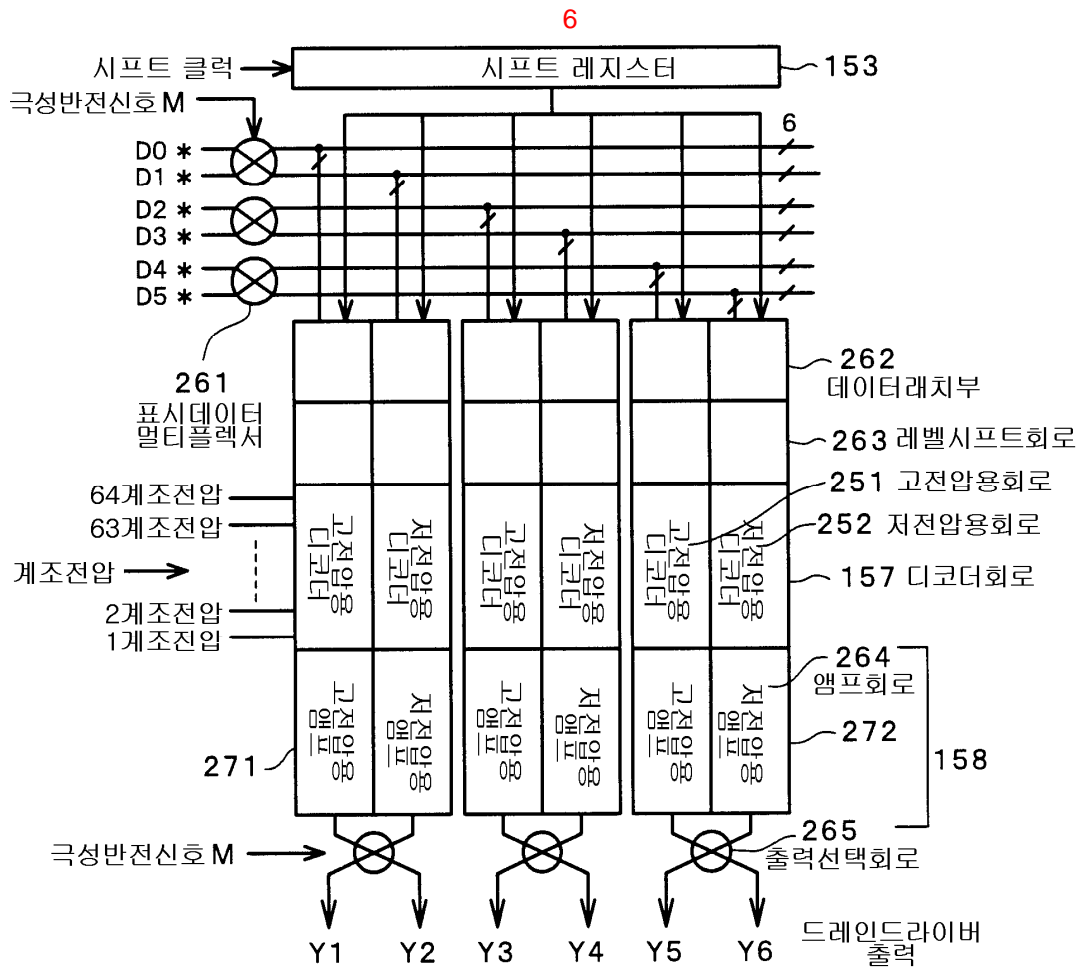
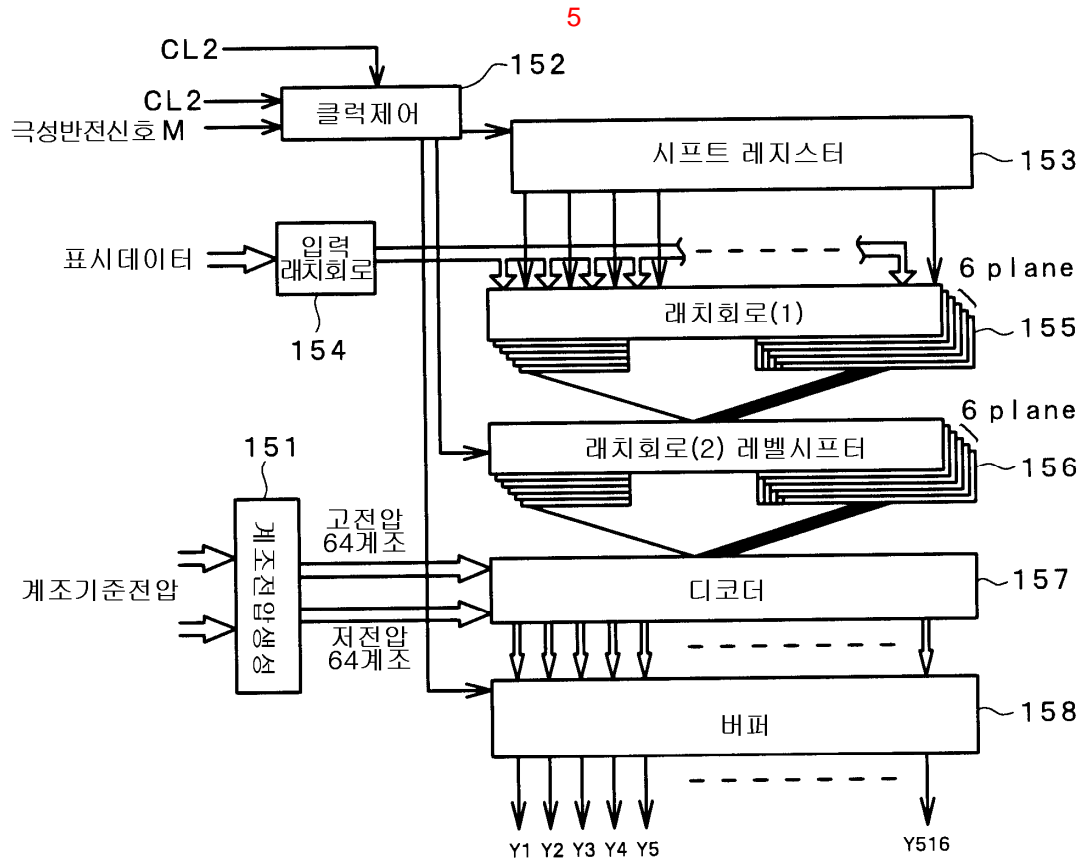
가

가 가

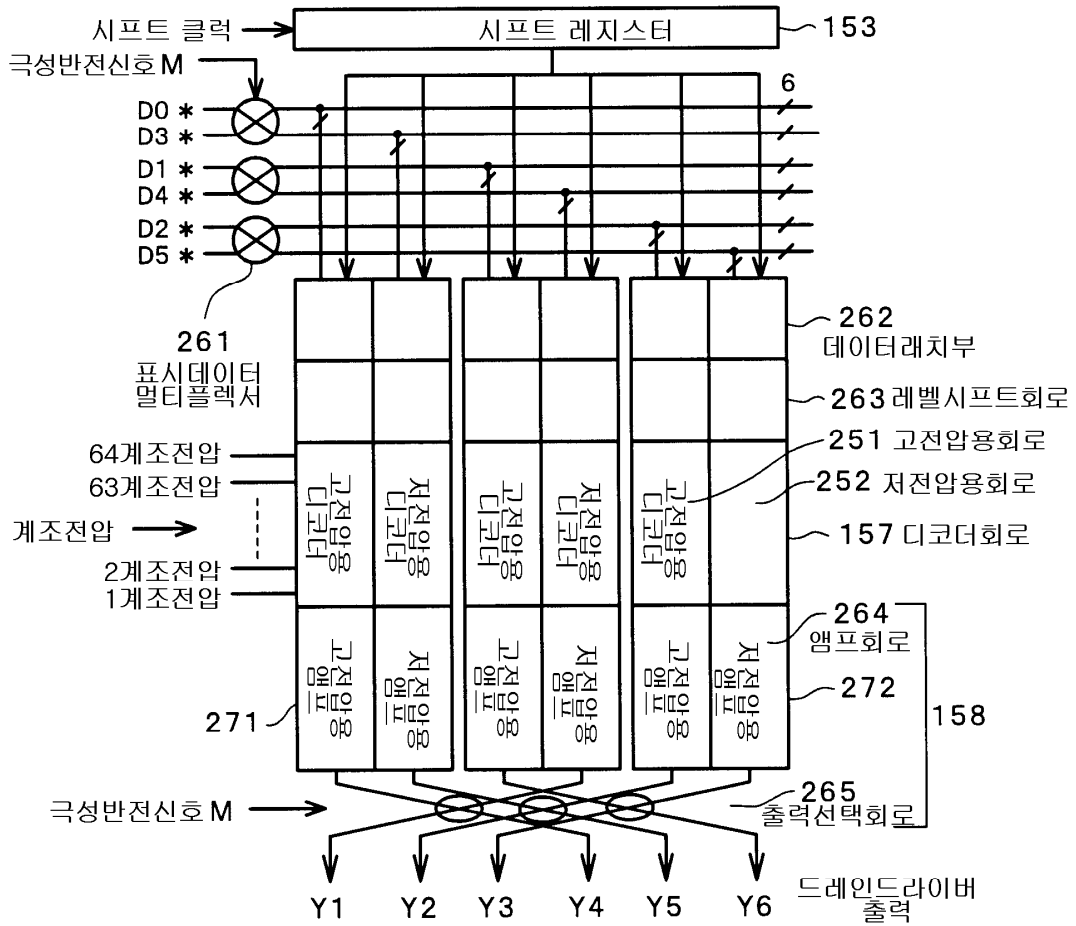


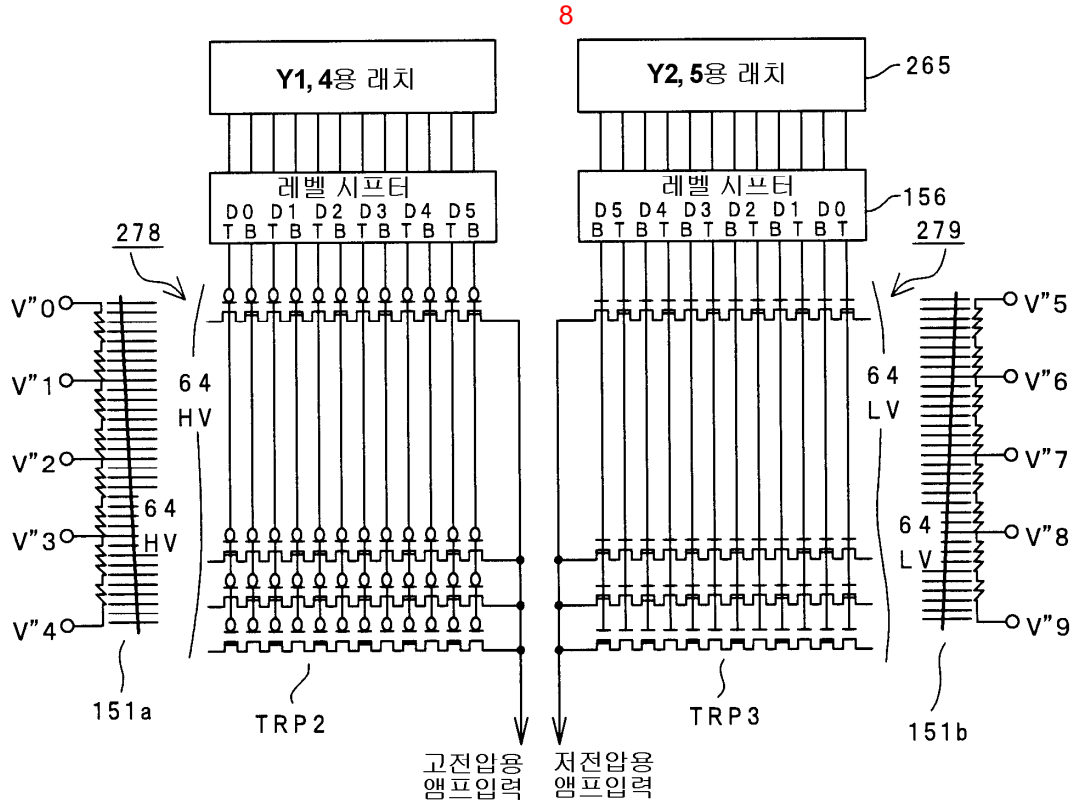








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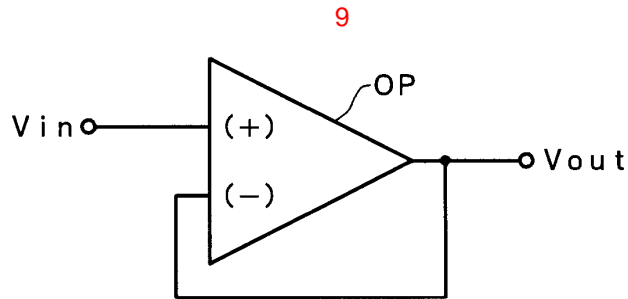


 N채널 MOS

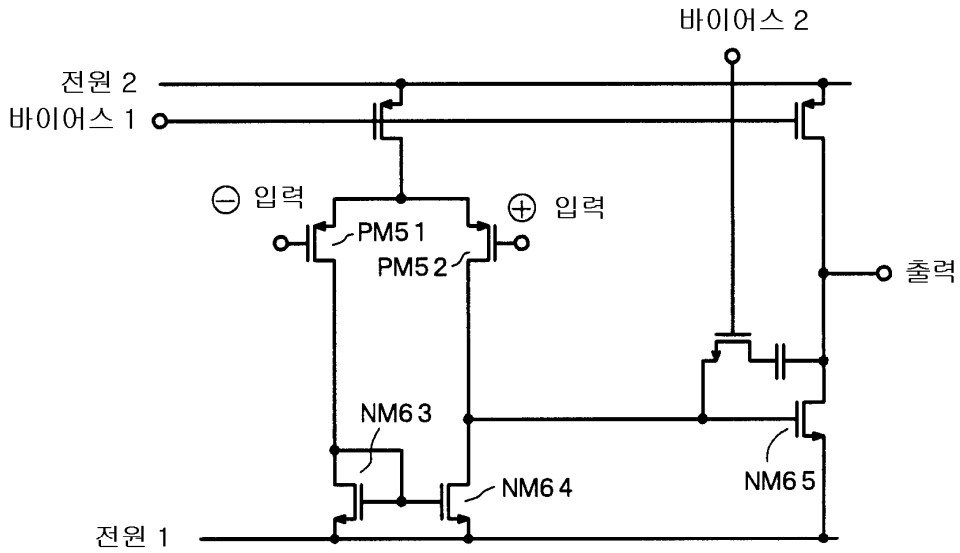
 P채널 MOS

 디플리션형  
N채널 MOS

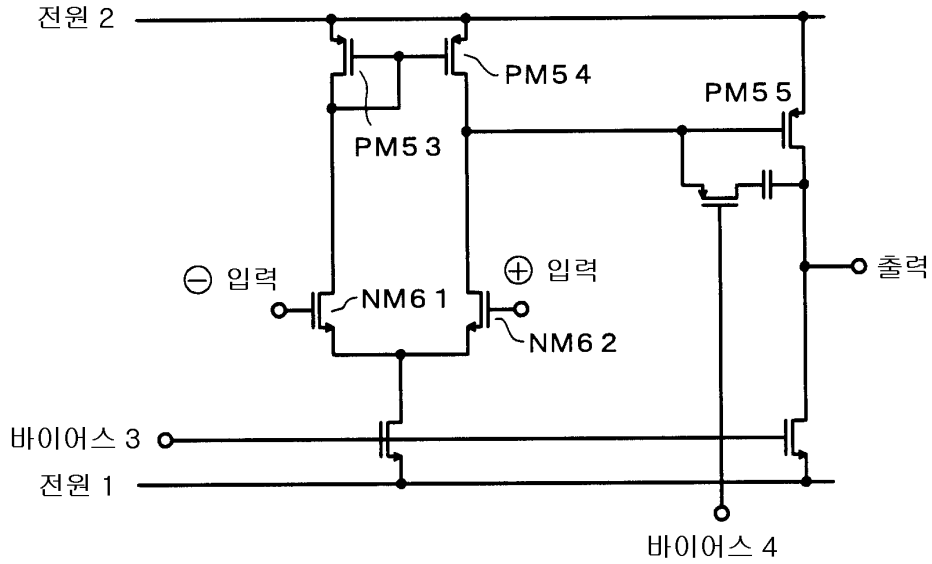
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P채널 MOS

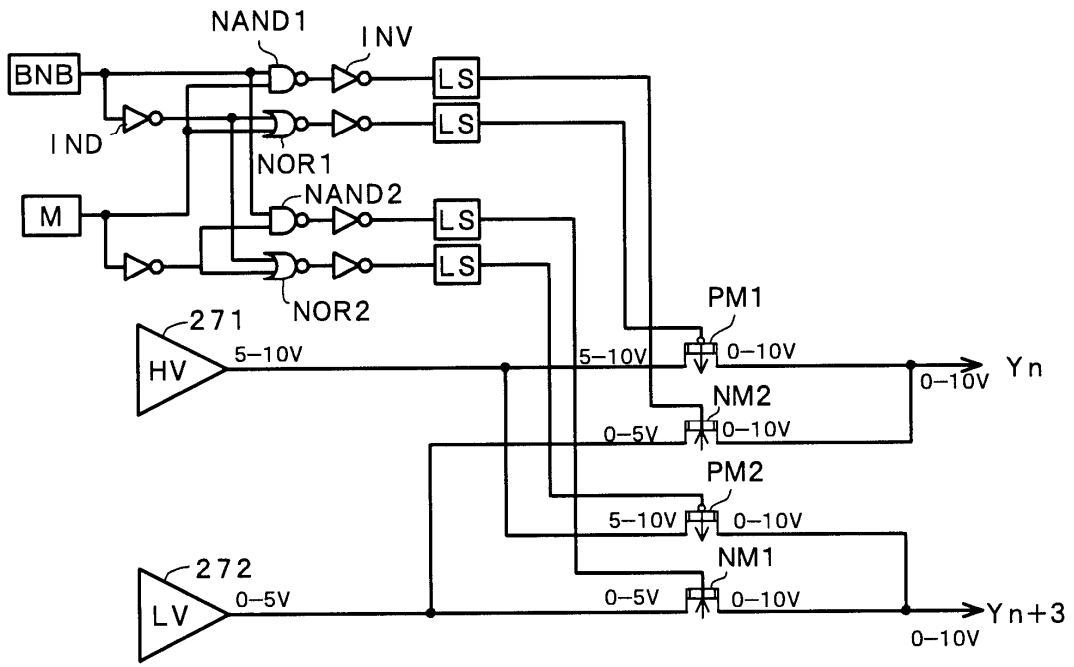


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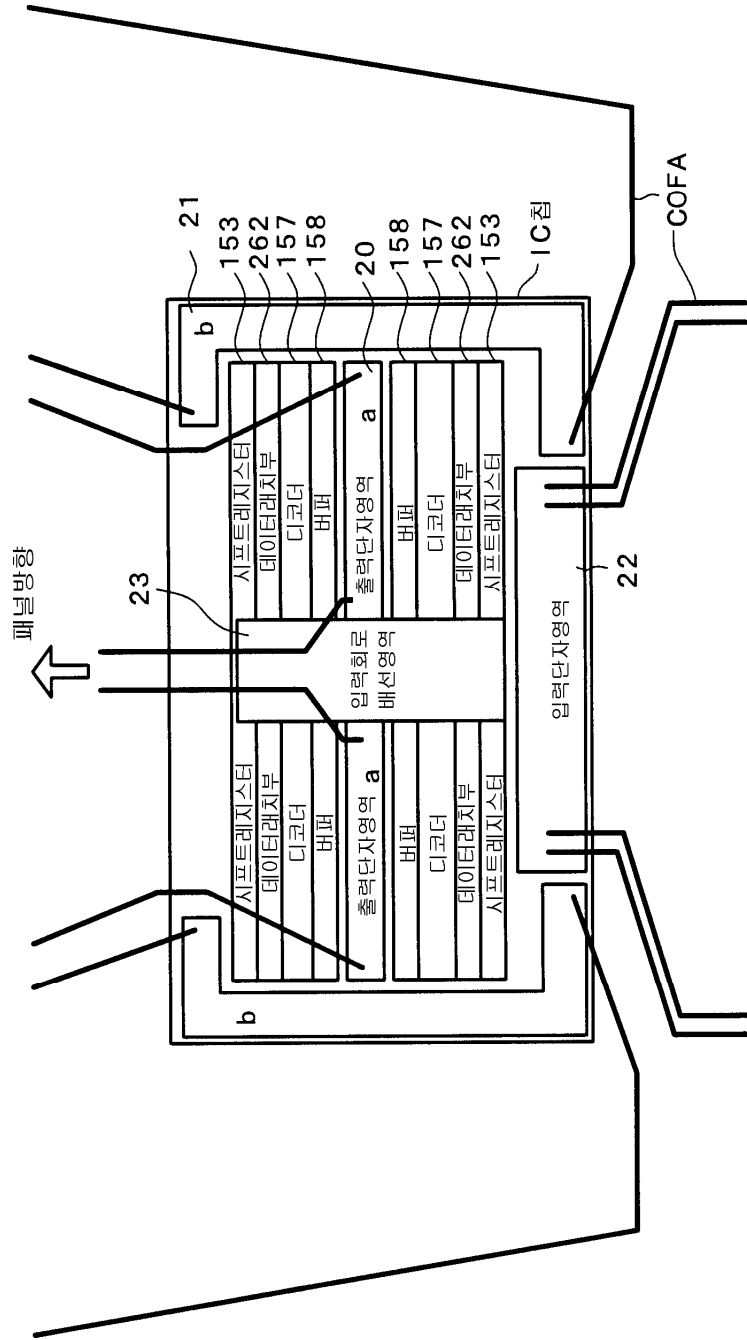


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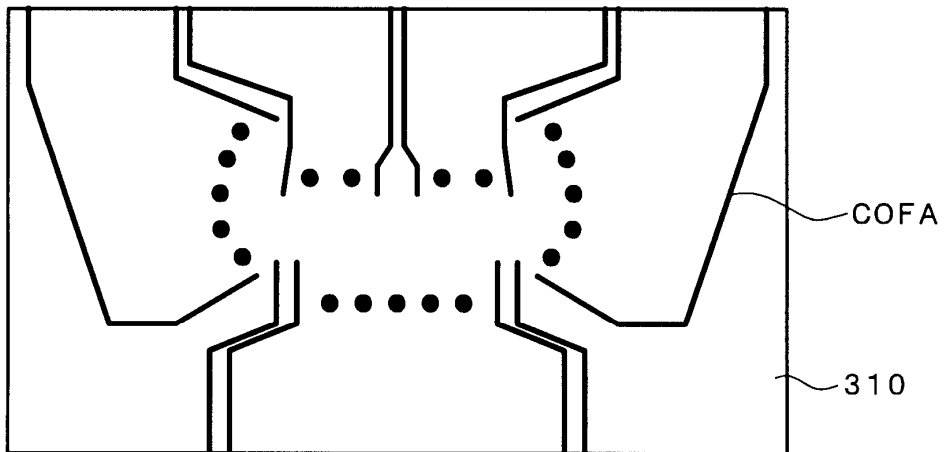




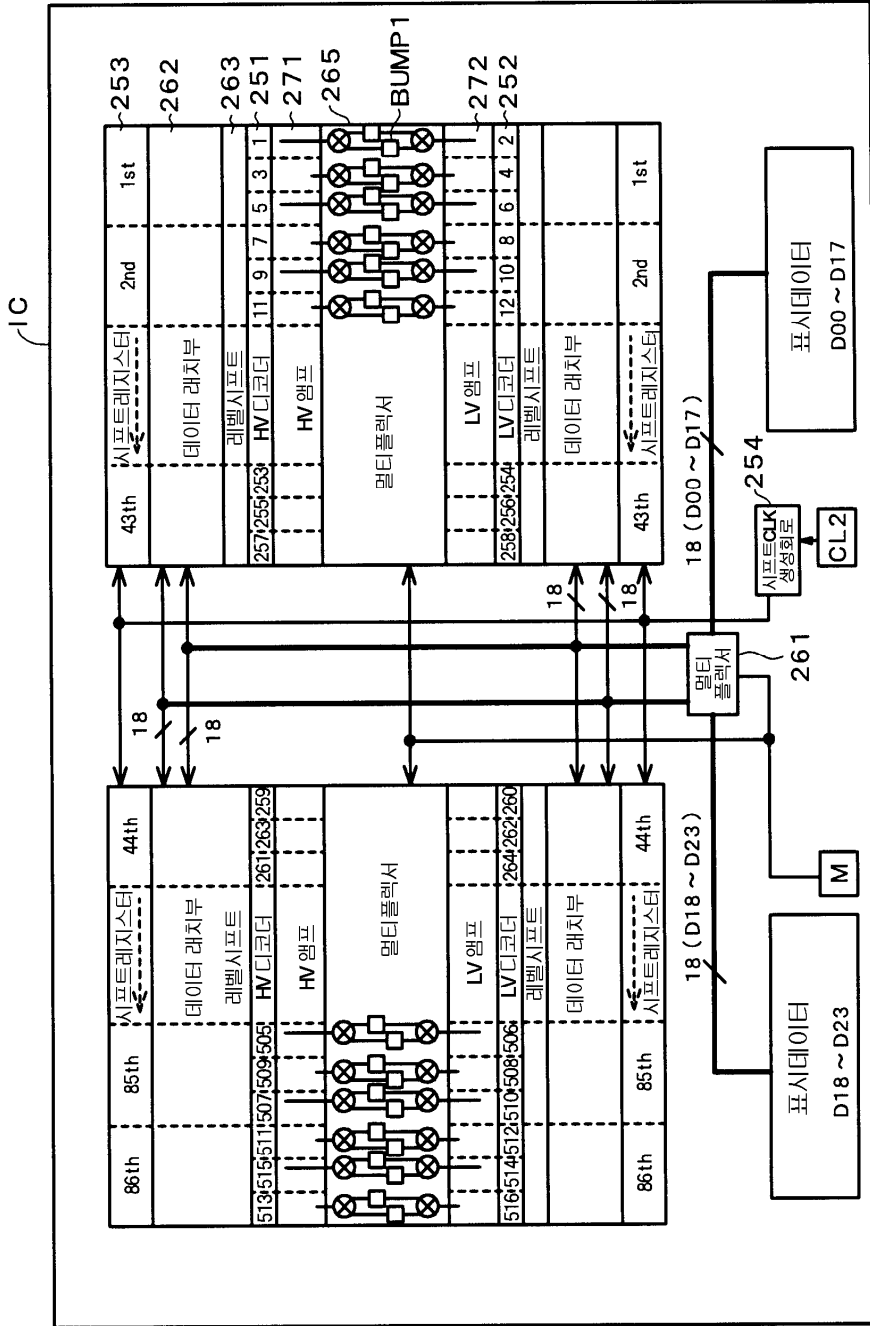
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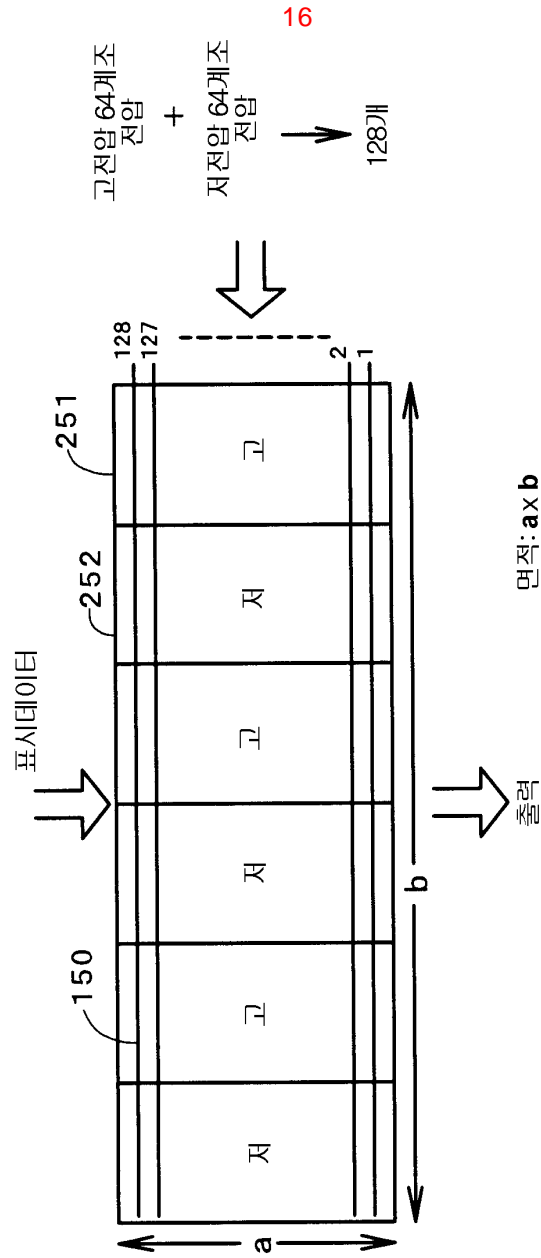


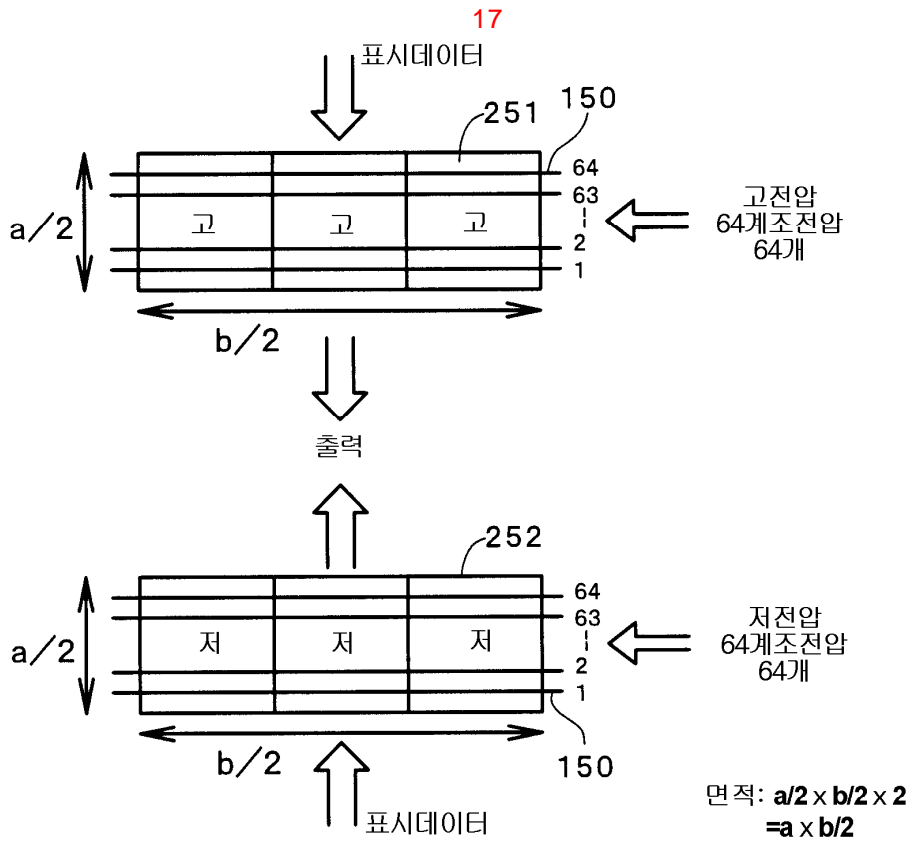
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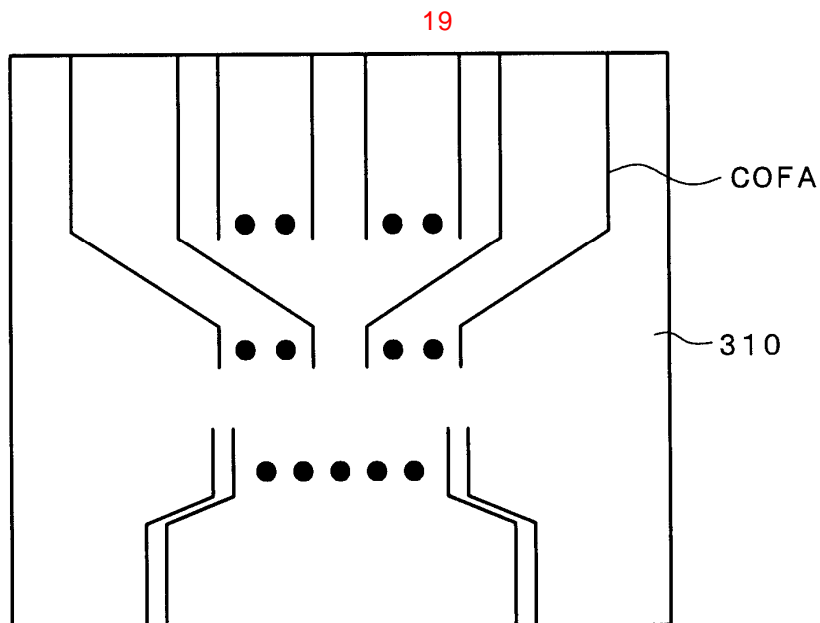
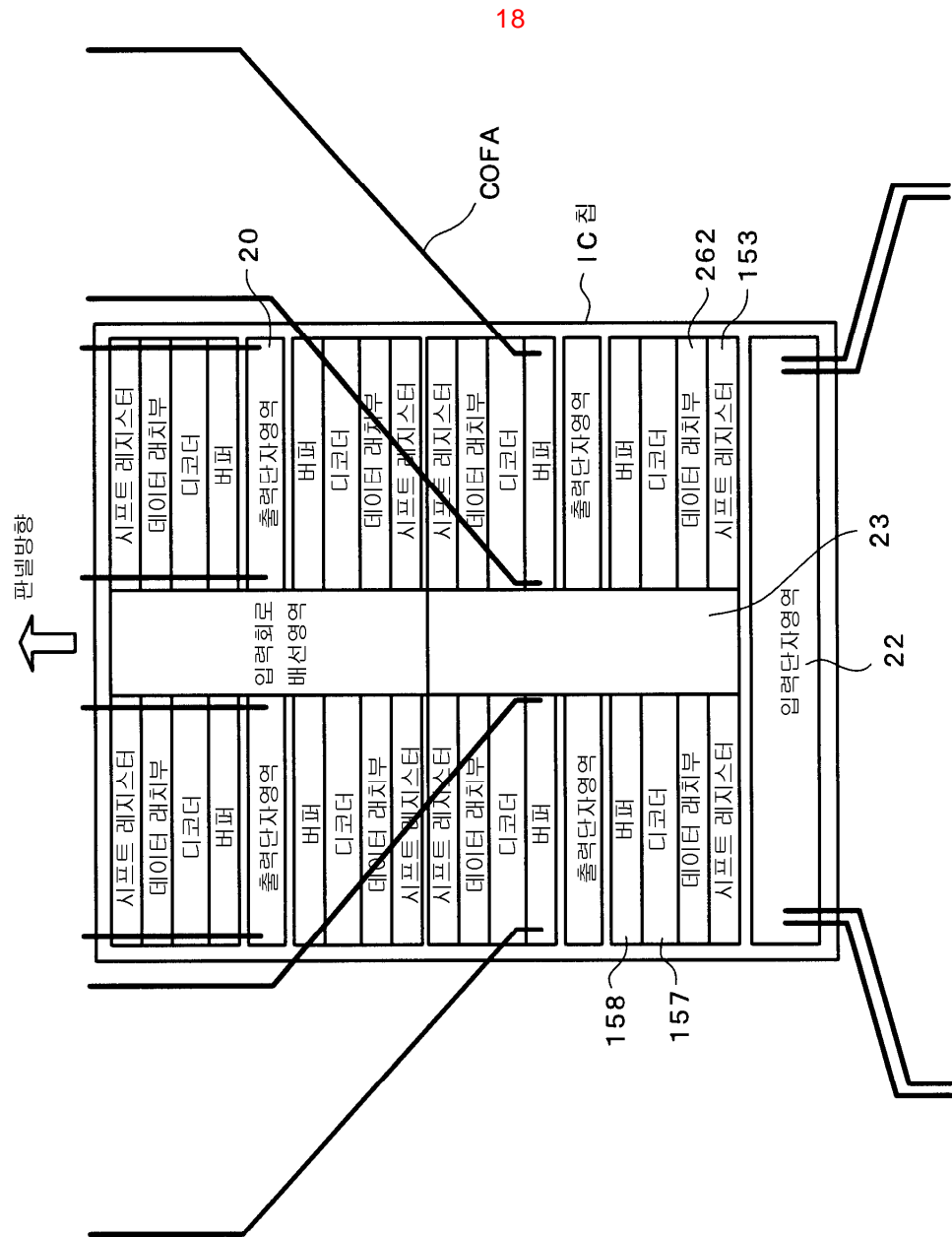


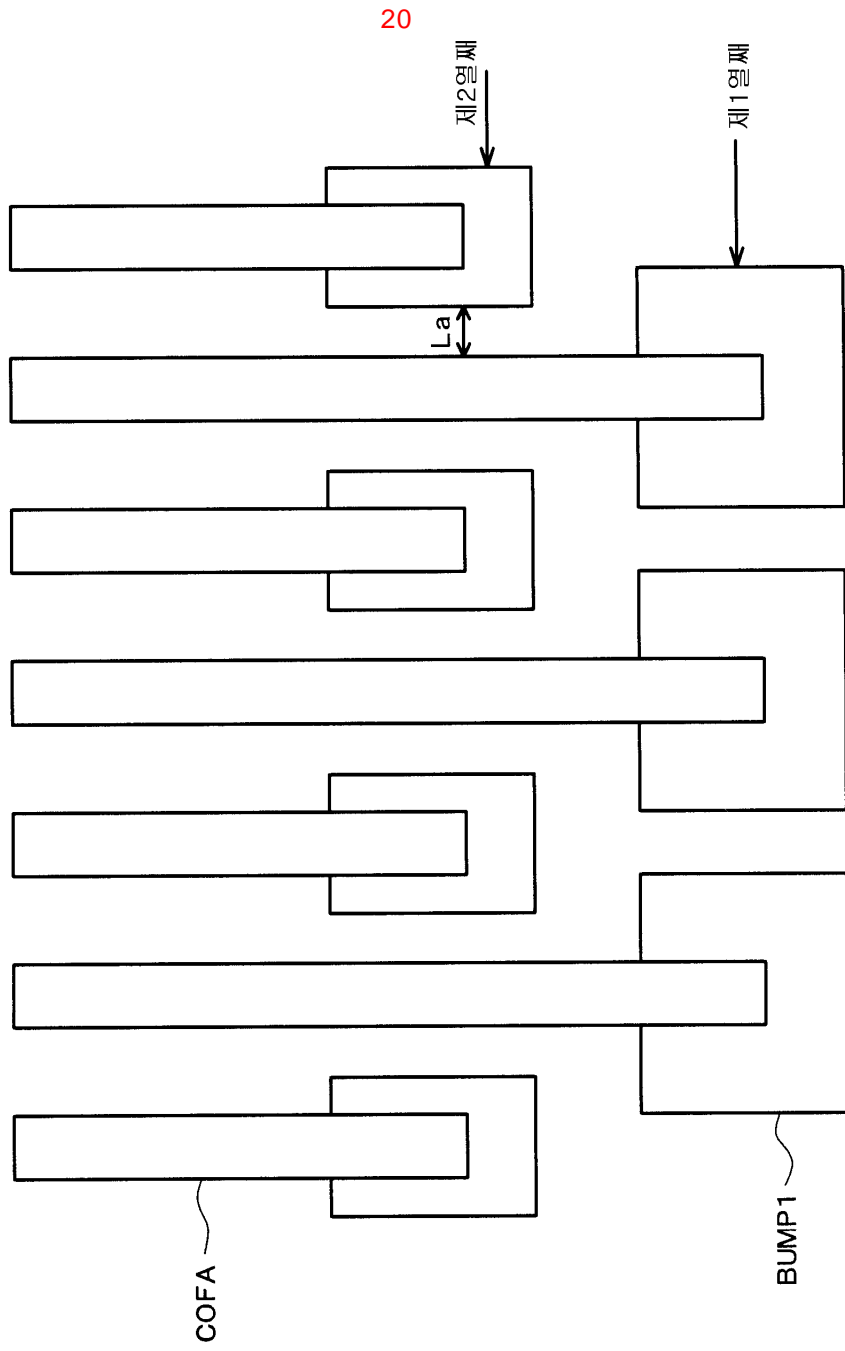
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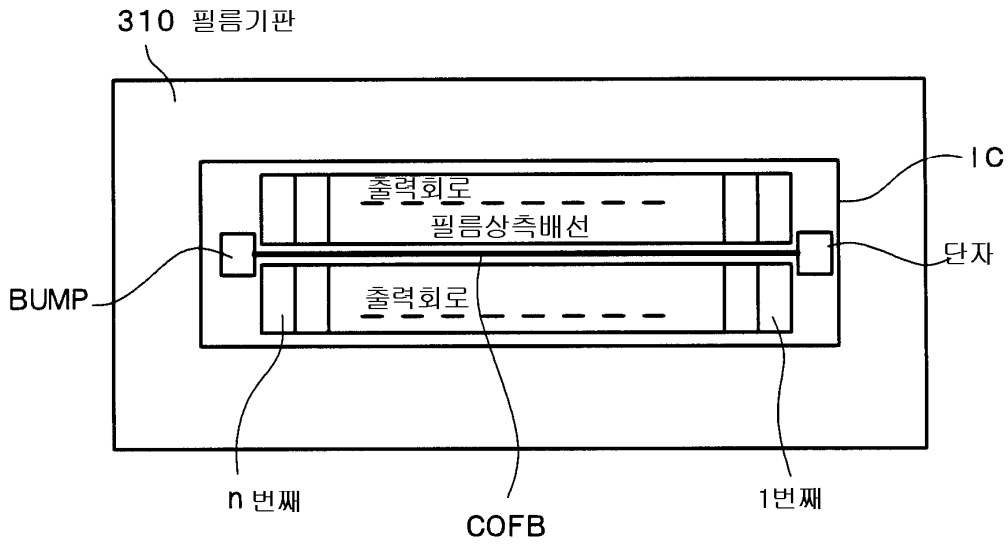




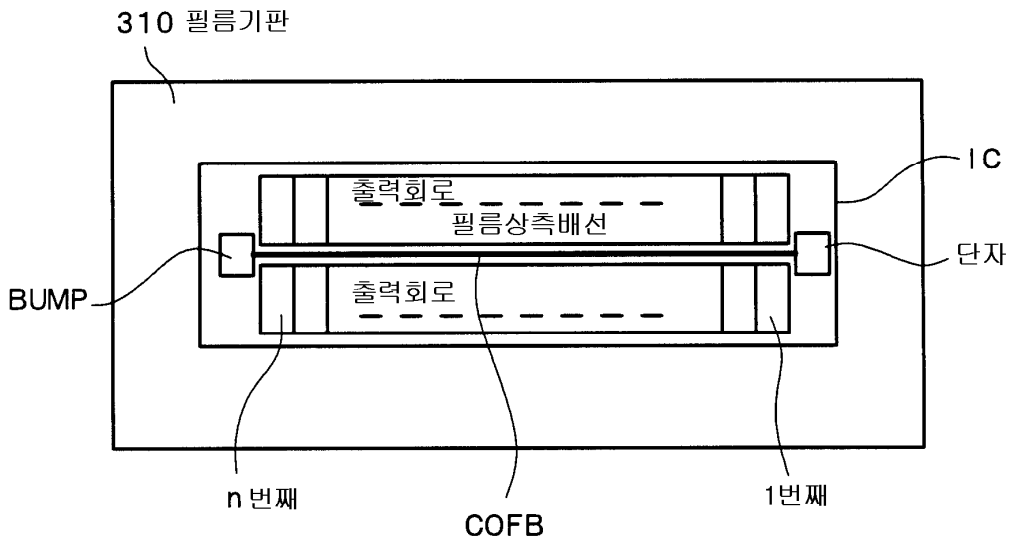




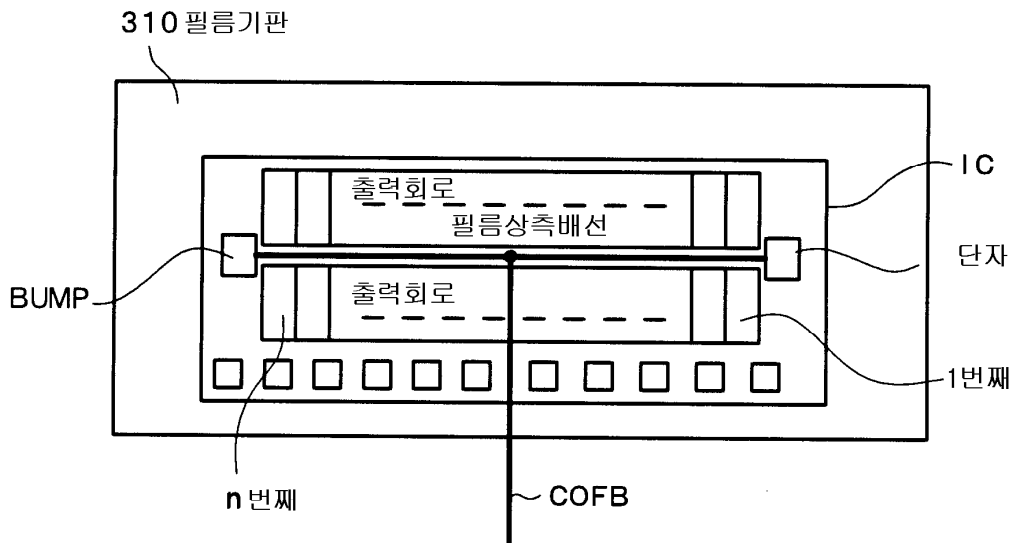
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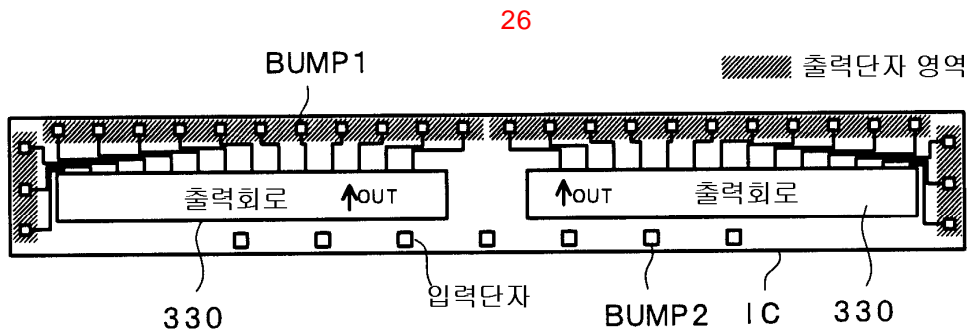
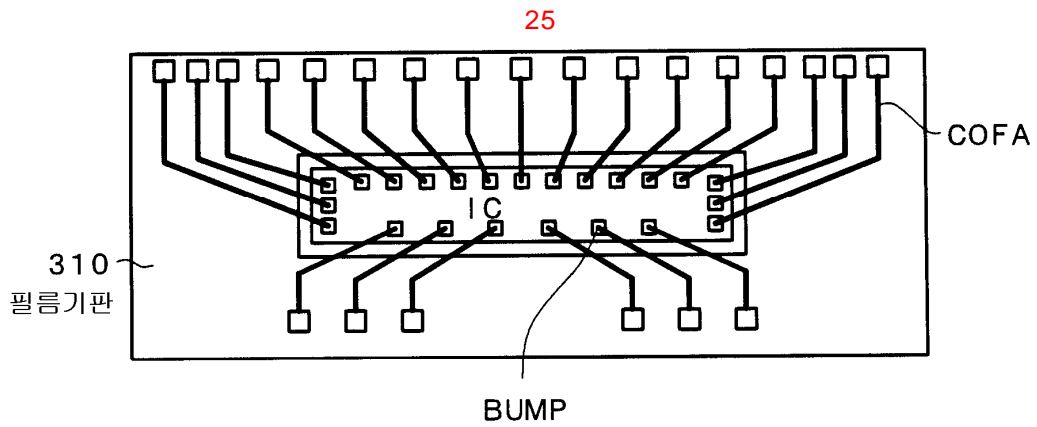
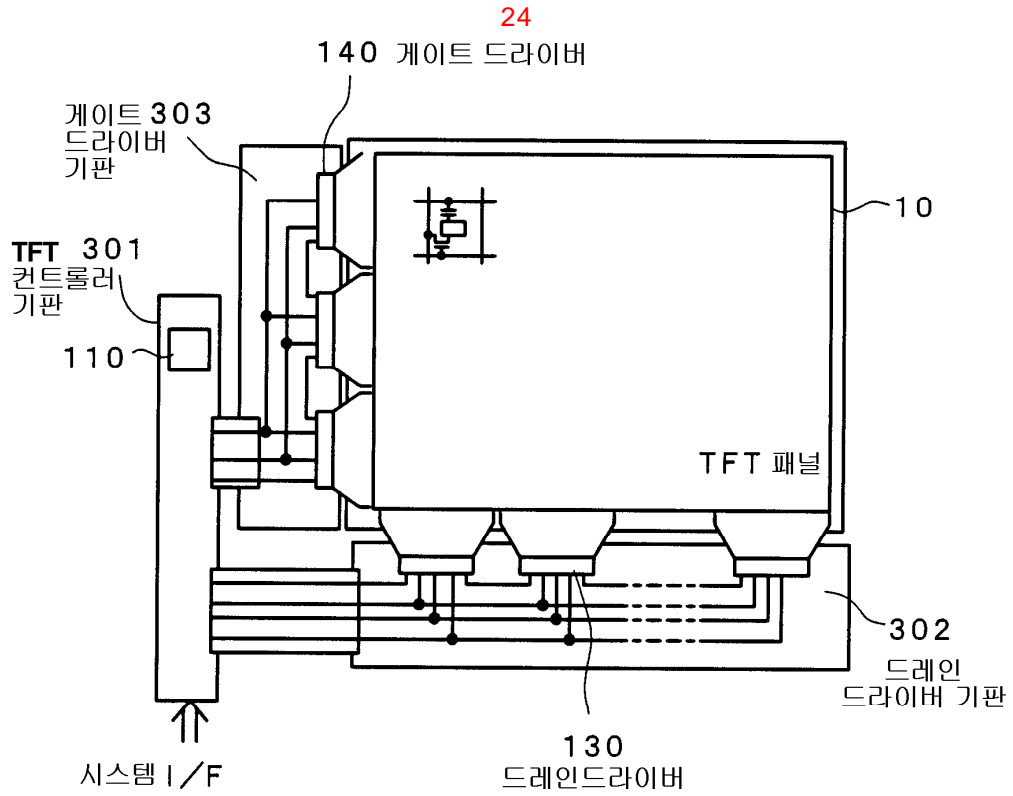


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|                |                                                                                                                                         |         |            |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------|------------|
| 专利名称(译)        | 液晶显示器                                                                                                                                   |         |            |
| 公开(公告)号        | <a href="#">KR100437947B1</a>                                                                                                           | 公开(公告)日 | 2004-07-01 |
| 申请号            | KR1020010044613                                                                                                                         | 申请日     | 2001-07-24 |
| [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         | GOTOU MITSURU<br>고토우미츠루<br>HAYATA HIROKO<br>하야타히로코                                                                                      |         |            |
| 发明人            | 고토우미츠루<br>하야타히로코                                                                                                                        |         |            |
| IPC分类号         | G02F1/13357 G09G3/20 G02F1/133 G02F1/13 G09G3/36                                                                                        |         |            |
| CPC分类号         | G02F1/13452 G09G3/3648 G02F1/133617 G09G3/3688 G02F1/1362 G09G2310/027 G09G3/3611<br>G02F1/13454 G09G2310/0289 G09G3/3614 G09G2310/0297 |         |            |
| 代理人(译)         | 李钟IL                                                                                                                                    |         |            |
| 优先权            | 2000223942 2000-07-25 JP                                                                                                                |         |            |
| 其他公开文献         | KR1020020014685A                                                                                                                        |         |            |
| 外部链接           | <a href="#">Espacenet</a>                                                                                                               |         |            |

摘要(译)

一种显示装置，包括：TFT基板，具有栅极信号线，漏极信号线，与其连接的薄膜晶体管；栅极驱动器，连接到栅极信号线；漏极驱动器，具有连接到漏极信号线的输出端子；以及薄膜基板，第一次接线。第一布线设置在漏极驱动器和膜基板之间。漏极驱动器安装在薄膜基板上，输出端子连接到薄膜基板和漏极驱动器之间的第一布线。输出端子包括与漏极驱动器的较长边缘平行形成的第一组端子，以及与较长边缘平行并且设置在独立边缘和第一组端子之间的第二组端子。

