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(22) 2002 09 27

(30) JP - P - 2001 - 00304723 2001 09 28 (JP)
JP - P - 2001 - 00375002 2001 09 29 (JP)

(71) 가 가
1 1 1

(72) 1 - 9 - 2가 가
1 - 9 - 2가 가
1 - 9 - 2가 가

(74)
:

(54)

EL

1

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EL

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50%:50%

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14

12

60%:40%

2

15

6

EL

16

7

EL

17

8

EL

18

9

EL

19

18

20 19 EL

21 19

22 (a) (c) 19 EL

23 10 EL

24 (a) (b) 23

25 11 EL

26 19 1

27 19 2

28

1, 2 : EL

10 : EL

11 :

12 : EL

13 :

14, 19 :

15 :

16 : EL

17 : ()

18 :

20 :

가
가 EL(Electro Luminescence)

EL
EL
가
가

EL
EL
SiO₂ SiN

EL
가
100000cd/m²
ITO
EL 10V 가 100

EL
12
가 12
EL I-V
Vgs
Vgs가
V1 가 I1
I-V
Vgs I1
I-V
EL

가 12 I-V
가가
X
Vgs
EL
가

EL
EL
가
가

/ ,
 가 ,
 , 1/2 EL , 가 , ,
 EL , 가

가 .
 , 가 1/2 , 가 1/2 .
 () 가 .
 가

1 EL 1 EL
 , 2 EL PX EL
 (11), EL (10) EL (10), EL (10) EL (12), EL (10) EL
 (13) EL (10) EL P
 DS PX, PX Y,
 X YD, DS X DS X YD
 PX , (15), EL (16), (17) (15) Y
 X (17) (15) X
 VDD VSS EL (16) EL (16)
 6) (R), (G), (B) 3 가 (15) N (1)

(15) (17) P (17) N YD P XD ,
 , .

YD (13) 1 1 (1F) Y XD
 (13) Y 1 . XD
 X .

가 1 (15) Y 1 (17) (15) ,
 EL (16) .

PX YD XD VDD, VSS EL (12) (11) ,
 .

EL (12) PX VDD (14)
 (14) (13) SC 가
 / 가 (14)가 , ,
 EL (16) 가 (14) 1/2 EL (16) 가
 1/2 .

L (12) EL (16)가 (17) (14) E
 , EL (16) 가 1/2 (14) 1/2
 , EL (16) 가 .

, (14)가 EL (10) EL (10)
 , 가 가 , 가 1 .

, 2 EL 3 EL
 PX EL 가 1 EL ,
 1 (14) EL 가 3 1 EL ,
 , PX가 3 (14) 가 1 EL
 (19) EL (16) (17) (19) .
 SC (19) SC가 (17) 가 P (13)
 , (19)가 EL (16)
 4 1/4, 1/2, 5/8, 3/4 ,
 EL (16) 1/4, 1/2, 5/8, 3/4 .

, 1 가 (19) 가 .
 EL 가 .

5 2 PX , 6 5 PX
 (21) PX가 5 (20) ,
 (13) (21) (17) (20)
 (15) 가 N (20) 1 (20A), 2
 (20B), (20C) (20A 20B) VDD VSS
 P N , (20C) Y
 P (21) (17)
 (21) (20A) (20B) (20A)
 (20C) (20B) (20A)
 21) (17) , (

Y가 (15) X (17) 가
 (21) (20) .
 (20C) Y가 , Y가 ,
 가 (20)

1 (14) , PX가 (20)
 가 , (20) 가가 ,
 XD (20) YD VDD , VSS1
 VSS

7 3 PX PX가 5
 (20) (19) , (19) (20)
 PX 가 , 1 (14) (20)
 가가 , 5 가 YD
 XD

, 5 7 (20) 1 2 ,
 2 가 .

, 3 EL , 8 EL EL (10)
 PX , 9 EL EL , 1 EL
 EL 가 8 9 EL , 1 EL
 (22)가 (14) 1 가 1 (14)
 (10) 1 PX (22) 8 EL , EL
 VDD P

EL (10) , (22)가 9 ,
 PX / (22) (13) SC VDD 1
 PX EL (16) (22) (22)
 1/2 , 가 EL (16) 가 (14)
 1/2 .

EL , EL (16)가 (17) (22) E
 L (12) , 가 (22)가 1/2
 , EL (16) 가 1/2 , (14)
 EL (16) 가 .

4 EL 10 EL E
 L (10) , 11 EL
 9 EL , 9 EL 가
 10 11 EL PX가 11
 (22) 10 EL (1) EL (2) 2
 SC1 SC2 EL (1) EL (2) 2 , (1)
 SC SC1 SC2 3

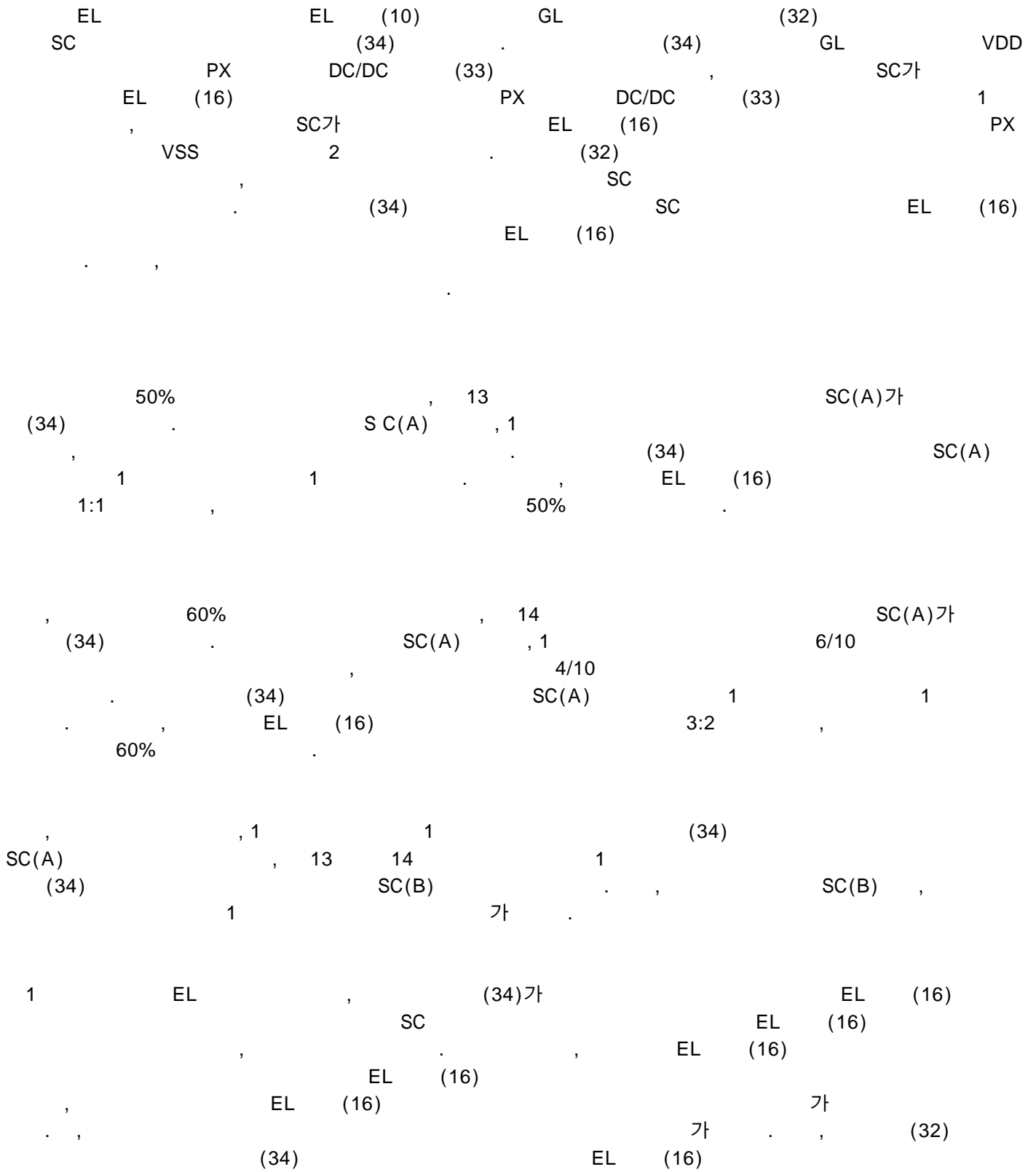
VDD , PX , VDD ,
 EL (12) VDD
 가 (22) EL 가 (22) (22) 가

(22) (13) SC1 SC2 VDD 1
 PX / (22) (22) VDD (22) 1
 PX EL (16) , 가 EL (16) 가 (14)
 1/2 , 가 1/2 .

EL , EL (16)가 (22) EL (12)
 (16) , 가 (22)가 1/2 , EL
 L (2) , EL (16) 가 가 , EL (1) E
 , 가

SC, SC1, SC2가 (13) (14,
 19 22) , EL (13) (14, 19)
 22) ,

, EL (16) SC
 (13) EL (16)
 SC
 , 5 EL EL 12 EL
 (30) EL (10) EL (10)
 EL (10) , GL
 PX, PX Y, PX
 X, Y X (15),
 Y YD, X XD
 PX EL (16), VDD, VSS EL (16) XD
 (17) (17) (18) (15)
 n
 X (17) 가 (17) (18) Y
 p EL (16) , , EL (16)
 가 EL (10) EL (16) EL ()
 16) , EL (16) , EL (16)
 (30) EL (10) ()
 30) , XD DA (DAC)(31) , YD, V
 XD, DAC(31) (32) , DC/DC (33) V
 EL, VCR EL (10) PX VDD, VSS 가
 (32) , , DAC
 YD, XD DAC(31)
 DAC(31)
 DAC(31) IC , DAC
 YD X Y
 (15) 가 Y 1 1
 , 가 1 . 1
 (17) (15) X
 EL (16) .



, , EL (10)
 , , , 가
 (15), (17), (34)
 D GL YD, X

 15 EL (34) EL (10) EL (30)
 6 VEL 15 , 12 가

 (34) VEL VDD , 5 가
 (32) SC VDD (34) SC가
 1 EL (16) SC가 EL (16) V
 DD VSS 2 (32) SC
 (34) EL (16)

 (32) , , D
 AC , , DAC
 YD, XD, DAC(31)
 DAC(31) YD GL ,
 YD GL YD , XD DAC(31)
 TCP(Tape Carrier Package) IC , DAC(31)가 DAC
 X , XD가
 DAC(31) X

 6 EL (34)가 , 1 SC
 가 EL (16) EL (16)
 EL (16) 가 (32)
 (34) EL (16)

 , DAC(31), YD XD (34)가 (30)
 , 5

16 EL (10) 7 GL, EL (35) (36)가 EL (34) 5 EL
 16, 12 가 ,
 (35) EL (10) , (36) (32)
 SC SC (35)
 SC (34)
 7 EL (10) ,
 EL (36) EL (10) (35) ,
 SC
 17 EL 가 8 , EL (35)가 (30) EL 6 , 12
 (35) EL (10) , (32)
 (35)
 SC (34)
 8 EL (10) EL ,
 , (34)가 EL (16)
 PX DC/DC (33) GL VDD PX 가 (34) EL
 (16) , (34) 가 EL (16) EL
 EL (16) (16) PX 가 , (34) VSS , EL
 EL (16) PX 2

18 9 EL . EL
 1 EL (30)가
 12 가 , (39)가 (34)
 , 12 가 DAC(31), DC/DC (33), 18 ,
 XD , 18
 YD,
 EL (32) , (30)가 (37) (38)
 , (38) (38) (38) (32)
 SC (39)

VC3 (37) SW1 SW3 VSS R VC1
 (32) B1 B3 R SW1 SW3 B1 B3 가
 " 0" B1 B3 " 1" ,
 000" , " 001" , " 010" , " 011" , " 100" , " 101" , " 110" , " 111"
 1 SW3 8 가 SC (32) SW
 (37) SC
 8 , SC
 (38) , EL (10) SC가 (32)
 (39)

(39) PX (30) (32)
 SC (39) 19
 VDD, VSS EL (16) (17)
 (15) N (17) (39) P EL (16)
 (39) SC가 () EL (16)
 SC가 () EL (16)
 (32) SC
 (39) SC EL (16)
 EL (16)

PX 20 EL (16)
 (17) 20 (17) (17)
 Vds (17) - Ids가 (17)
 (17) Vgs (17) Ids= EL
 (16) leL (39)가 , EL (16)
 leL

21 (39) PX =100%
 SC가 A (39) Y
 (15)가 A X 가 (15) (1)
 7) (17) 가 Vgs (15), (39)
 EL (16) , VDD, VSS 100% EL (16)
 Y (17) (18)
 (39) EL (16) (15)가 leL A EL (16)

, =0% , SC가 B (39) (39)
 leL (17) B EL (16)
 , =50% (39) , SC가 C (39)
 B 1 EL (16) 1:1 leL
 22 (a) 22 (c) (39)
 SC EL (16) SC가 22 (a) (1
 7) leL EL (16)가
 , SC가 22 (b) (39)
 3:1 leL EL (16) (17)
 L (16)가 SC 3:1 가 E
 EL (16) 75% SC
 75%
 , SC가 22 (c) (39)
 1:1 leL EL (16) (17)
 (b) 가 SC 1:1 EL (16)가 가 22
 EL (16) 50%
 SC 50%
 가 6 , 3 8
 23 EL 10 EL 5
 EL 23 , 12 가 (30)가 EL
 23 YD, XD , 12 가 DAC(31), DC/DC (33),
 EL , (30)가 (38), (41), (43)

(42) , 6 가 , (32) (38)

(39) VM VCR (38) (32) SC (41) R1, R2
 가 VM VCR (38) (32) SC (41) R1, R2
 R1 , R2 VSS , 가 VM VC
 (42) , (42) Vsaw VM
 (43) (43) (32) Vsaw
 (42) Vsaw 가 VM
 Vref SC
 SC Vref > Vsaw , Vref < Vsaw

24 (a) , Vref , SC
 (38) SC , EL (10) (39) SC
 10 , 가 VM Vref
 SC 가

25 11 EL EL 9
 EL (10) (39)가 EL
 25 , 18 가 , 12 가 DAC(31), DC/DC (33),
 YD, XD

EL , EL (10) (32) (38)
 SC SC RG
 (32) SC SC (32) 3
 SC SC 3:1 , (32) 3
 SC (45) (32) 1
 SC SC RG (32)

8 , (39)가 ,
 , DC/DC (33) 가

26 19 PX 1 , (39)가 V
 DD EL (17) , EL (16) SC
 가 EL (16) EL (16)

27 19 PX 2 . (39)가 V
 DD (17) , (46)가 EL (1
 6) . (39) SC EL (16)
 , (46) SC' EL (16)
 , SC' SC 가 EL (16)
 SC' 가 . (46) .

EL (16) 가 LED 가 .
 (39, 46) , (34)

, DAC가 , IC TCP ,
 , 가 ,

, EL ,
 , 가 .

, EL

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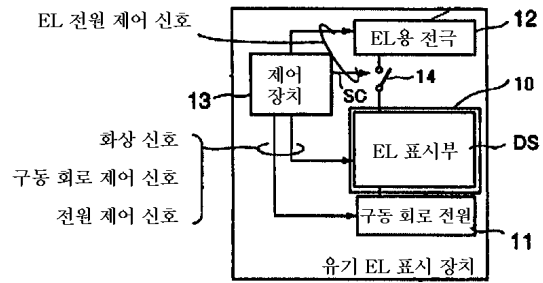
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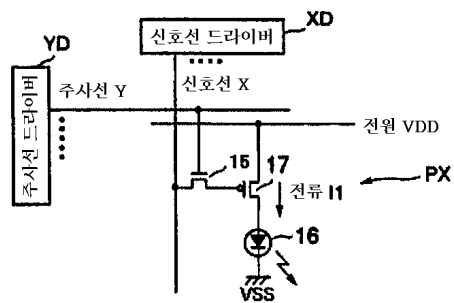
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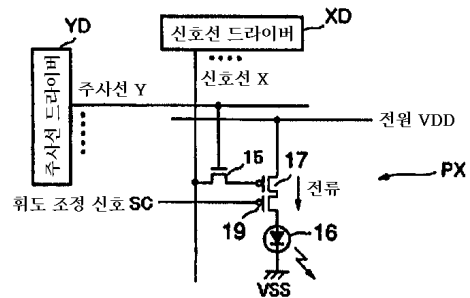
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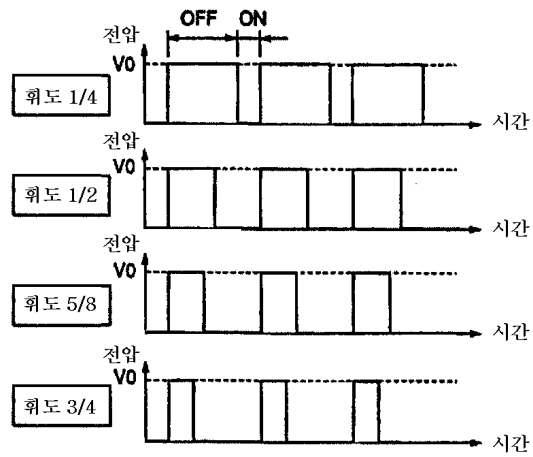
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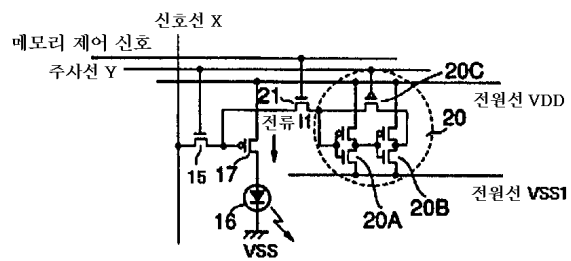
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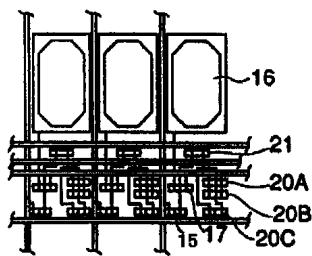
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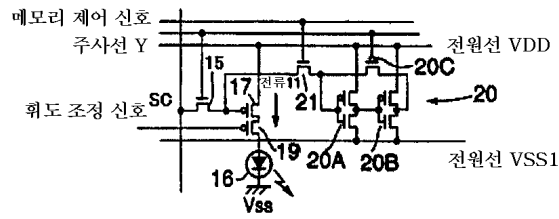
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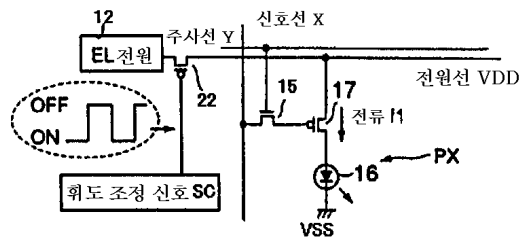
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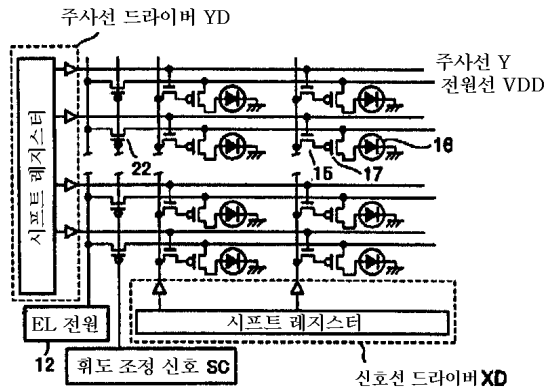
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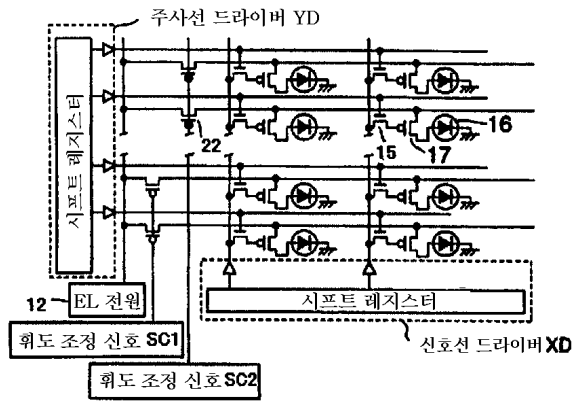
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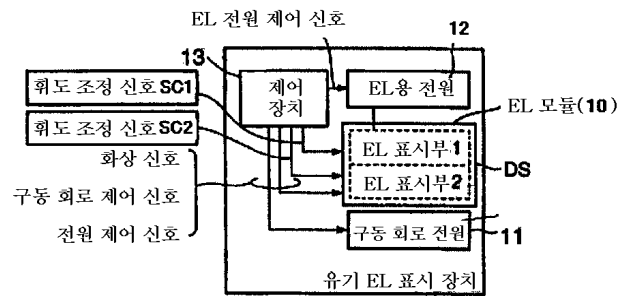
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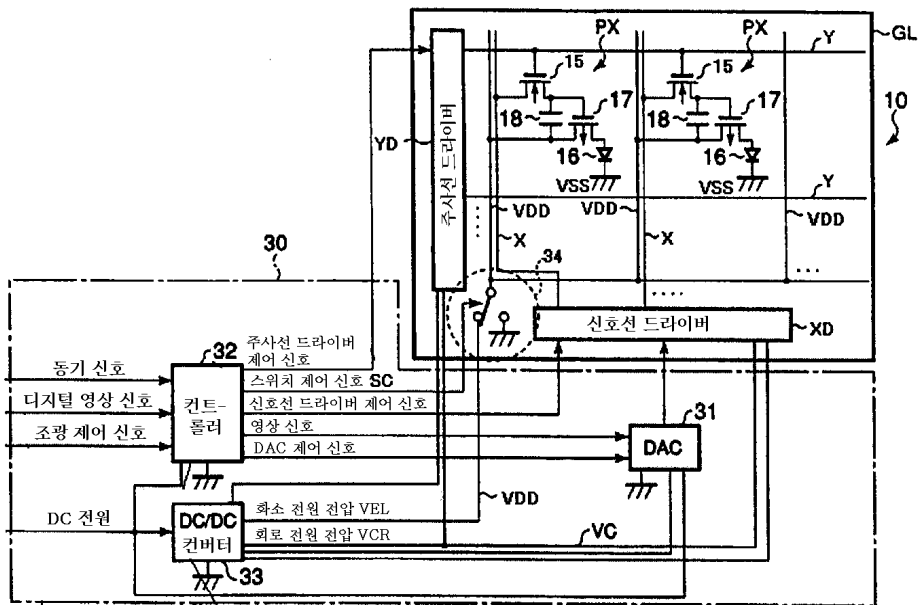
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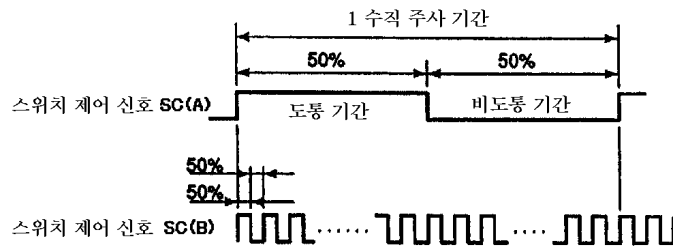
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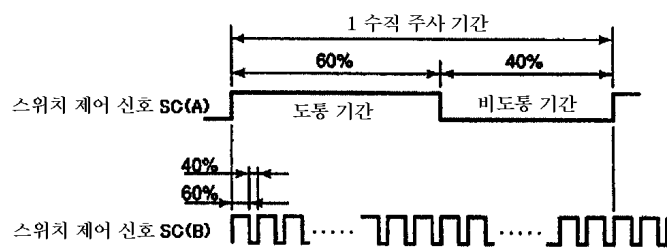
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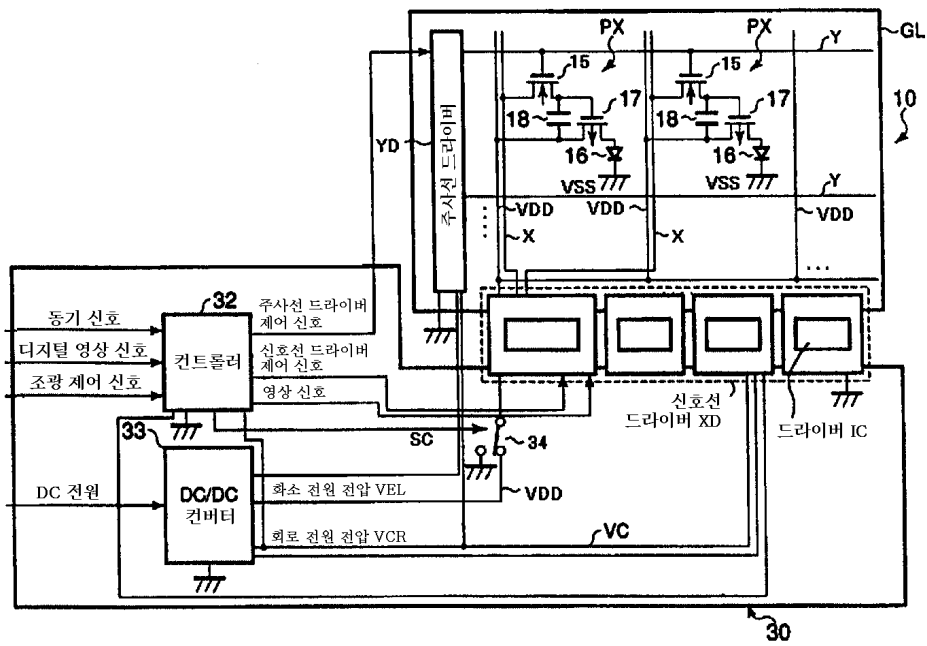
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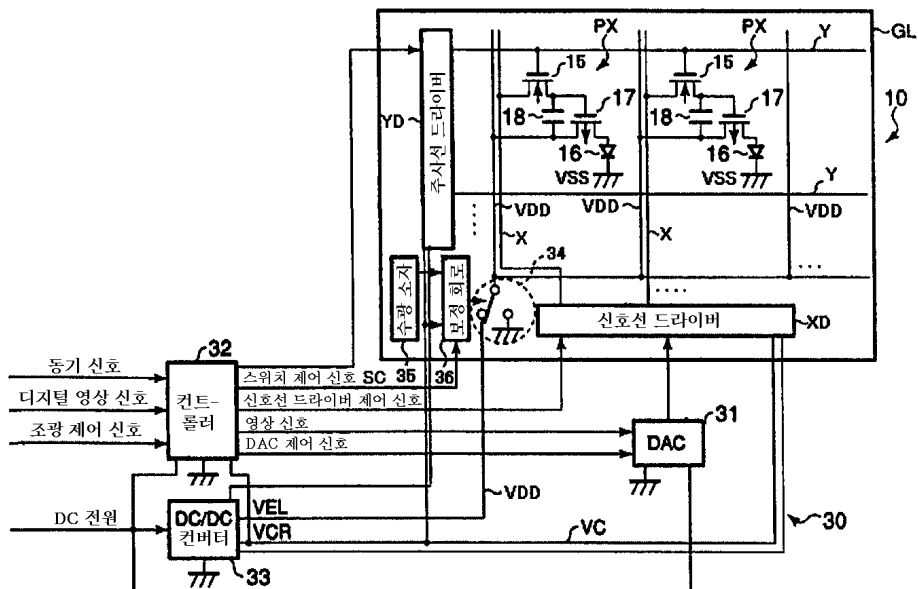
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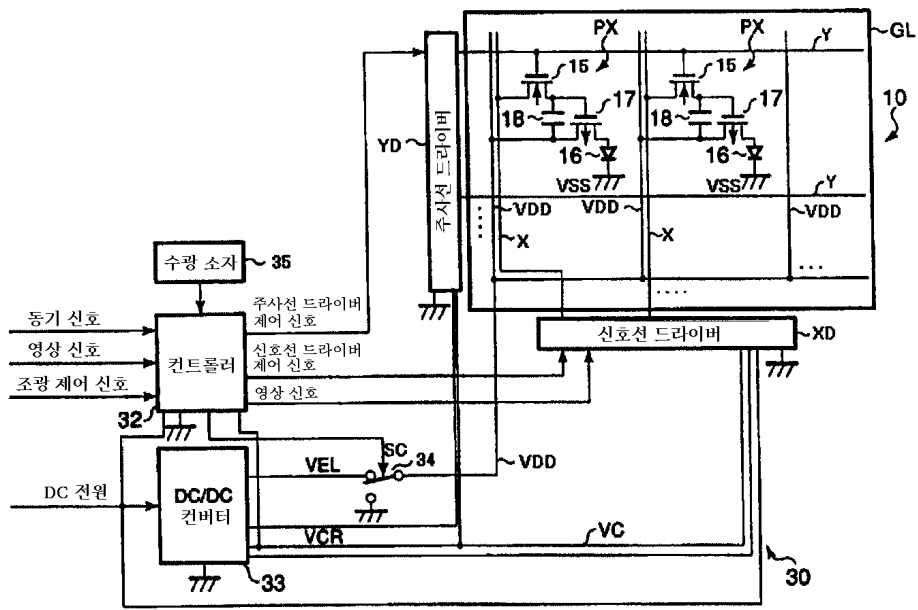
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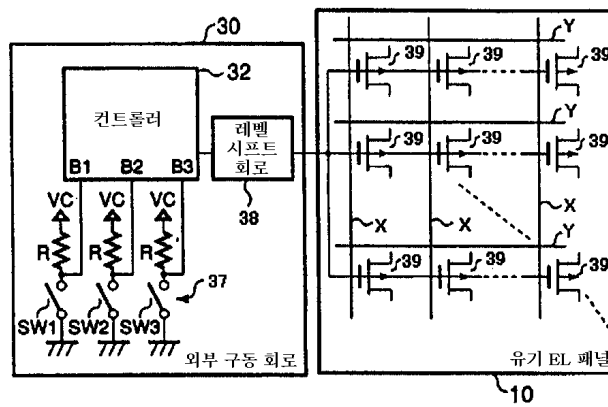
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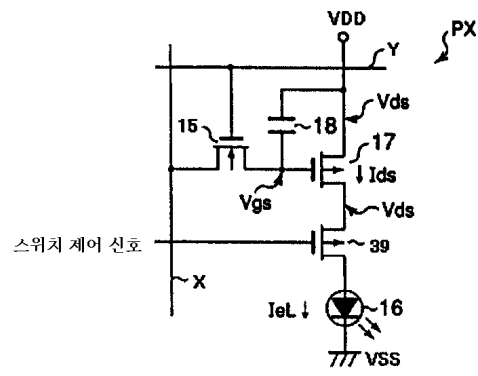
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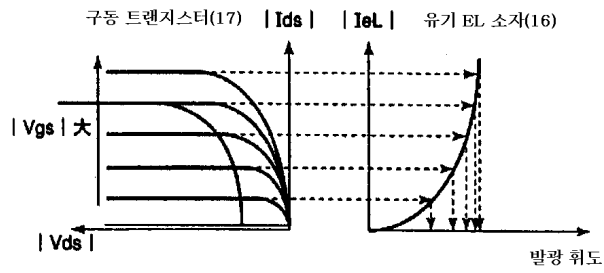
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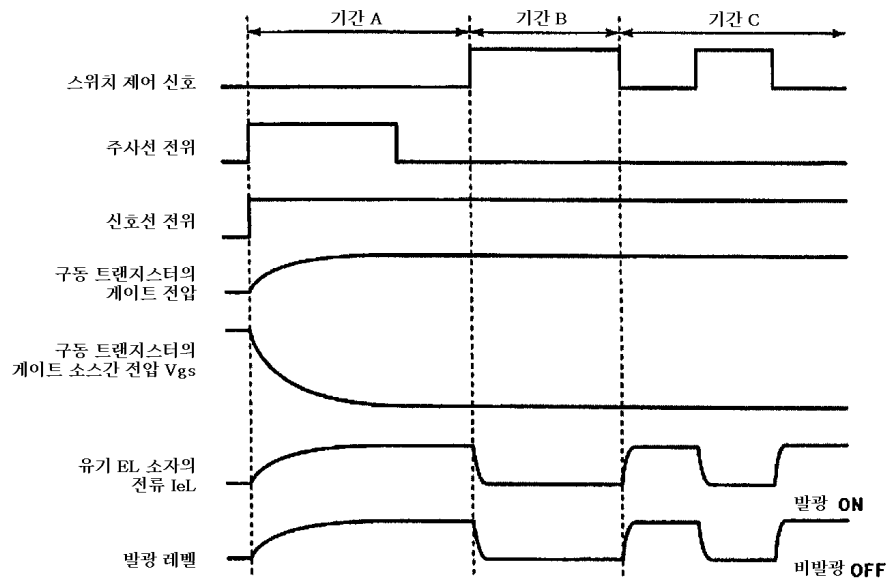


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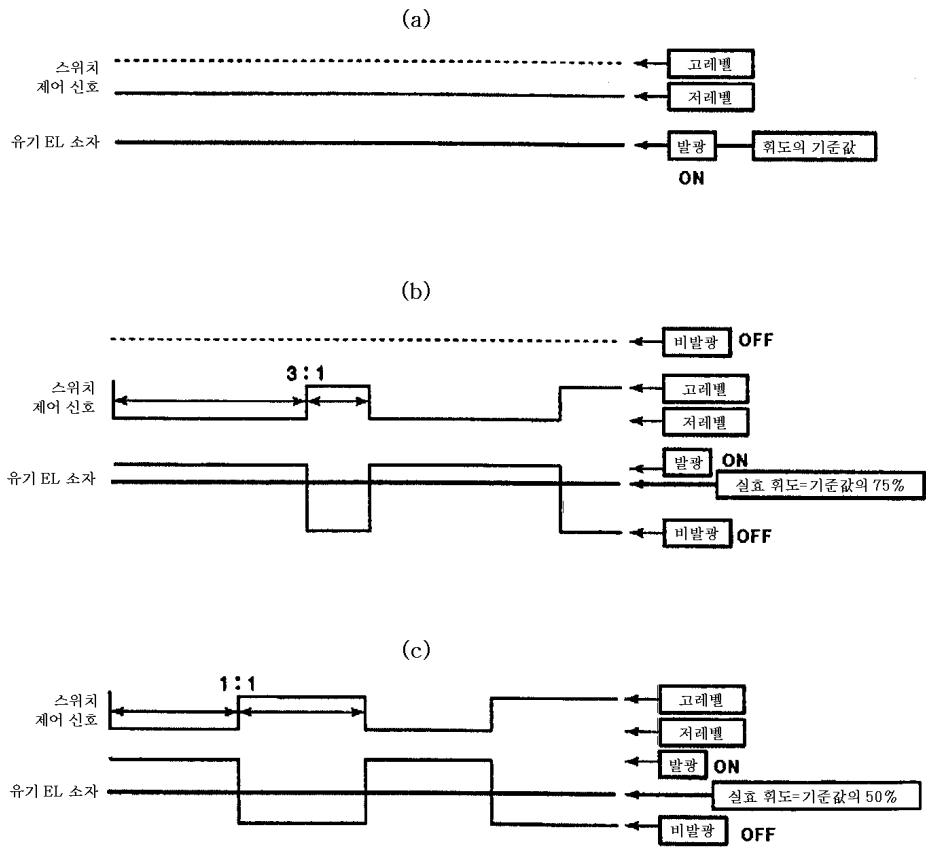


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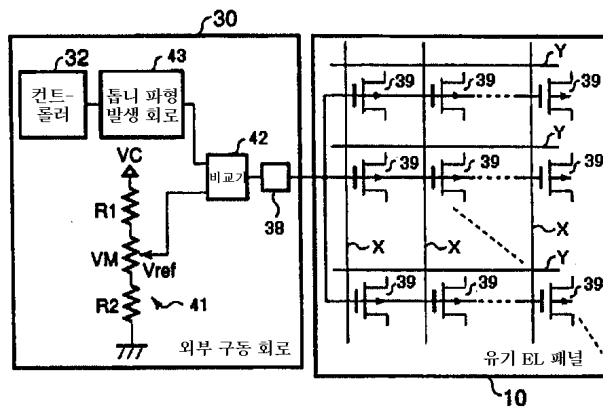




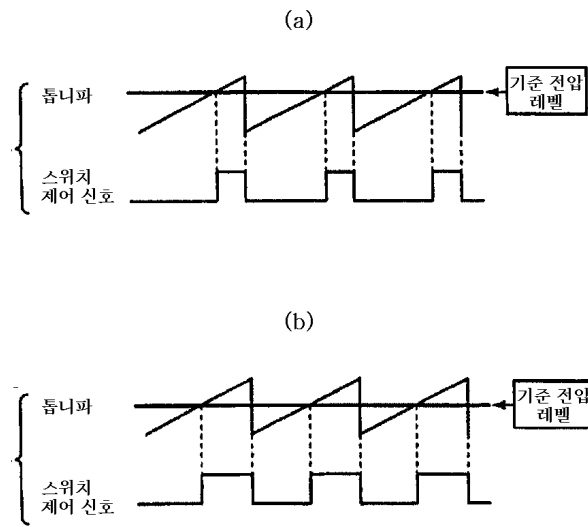
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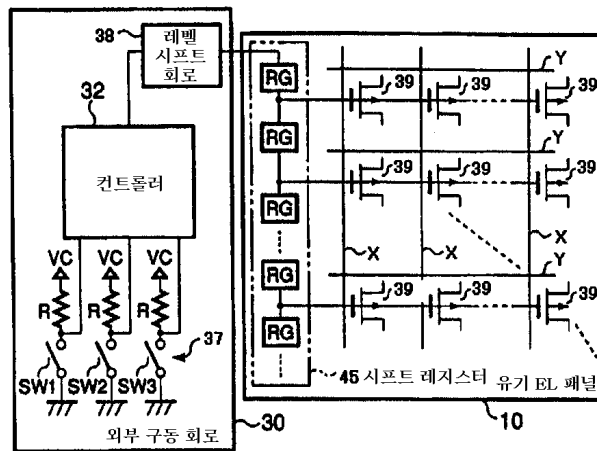
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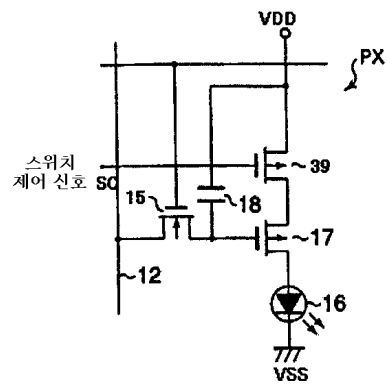
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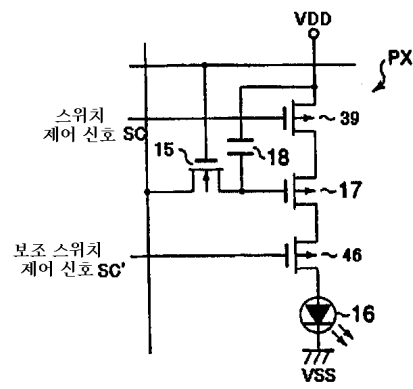
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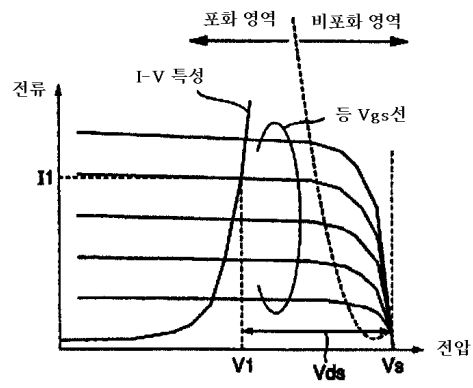
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28



专利名称(译)	自发光型显示装置		
公开(公告)号	KR1020030027804A	公开(公告)日	2003-04-07
申请号	KR1020020058777	申请日	2002-09-27
[标]申请(专利权)人(译)	株式会社东芝		
申请(专利权)人(译)	Sikki东芝股份有限公司		
当前申请(专利权)人(译)	Sikki东芝股份有限公司		
[标]发明人	HANARI JUN 하나리준 MAMETSUKA KOJI 마메쯔까고지 WATANABE MANABU 와따나베마나부		
发明人	하나리준 마메쯔까고지 와따나베마나부		
IPC分类号	G09G3/22 G09G3/20 G09G3/30 G09G3/32		
CPC分类号	G09G2300/0842 G09G3/2081 G09G2300/0857 G09G2300/0866 G09G2340/0428 G09G2320/0626 G09G2300/0417 G09G2330/02 G09G2310/0221 G09G2300/0861 G09G3/3233 G09G3/22 G09G2320/10 G09G2320/0606		
代理人(译)	CHANG, SOO KIL		
优先权	2001304723 2001-09-28 JP 2001375002 2001-09-29 JP		
其他公开文献	KR100512833B1		
外部链接	Espacenet		

摘要(译)

一种有机EL显示装置，包括：多个显示像素，构成显示屏；多个扫描线，沿着所述多个显示像素的一行排列；多个信号线，沿着所述多个显示像素的列排列，每个像素包括发光元件，用于响应于来自相应扫描线的扫描信号从相应信号线获取视频信号的像素开关，以及连接在发光元件和电源之间的像素开关，以及用于将与来自发光元件的视频信号对应的驱动电流提供给发光元件的驱动元件。特别地，每个发光元件还通过调光开关单元连接到电源。 - 1 - 1 指数方面 发光元件，像素开关，驱动元件，调光开关，显示装置

