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(51) . Int. Cl. 7
H05B 33/08

(11)
(43)

2003-0077474
2003 10 01

(21) 10-2003-0018937
(22) 2003 03 26

(30) JP - P - 2002 - 00087223 2002 03 26 (JP)

(72) 가 243-0036 398가 가 c/o

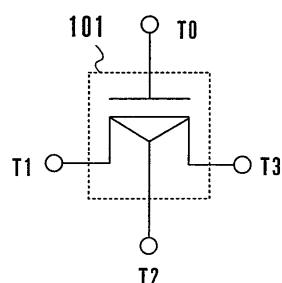
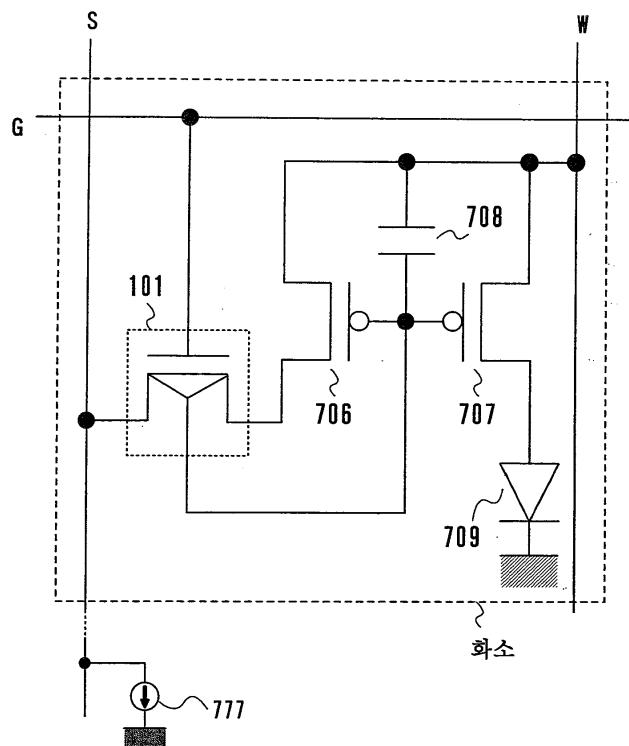
가 243-0036 398가 가 c/o

가 243-0036 398가 가 c/o

(74)

(54)

EL EL . . . EL EL EL
(short-circuiting) EL EL EL (bank)
EL EL EL



EL , EL , EL , , , .

1a 1b

2a 2d

3

4a 4b 가

5

6

7a 7b 가

8a 8b

9 EL

10

11a 11c - 가

12 가

13a

14a 14d EL

15

16

17a 17c

18a 18c

19a

19b

20a 20b

21a

가

가

가

가
(TET)

1 2 , 1 2 가 가
 . , (electroluminescence) (EL)가 . EL
 () EL OLED(organic light-emitting diode) (OLE Device, OED)
 LD () (EL)가 .

, EL , 가 EL 가 . 가 EI

, , TFT(706) 가 , , TFT(706) I Video 가 .
 , (TA2) , 2 (I Video) (GH) 가 (I Video) TFT(705) 가 (I Video) (W) TFT(707) (I Video)
) TFT(707) . EL (709) . EL (709) (I Video) (I Video)
 10 L (709) 가 , , TFT(706) EL (709) (709a) (709b) 가 . E
 . , TFT(707) 2 2 , 1 ,
 (TA3) , 1 (G) 가 , , TFT(704) TFT(707) TFT(704) 가 .
) , EL (709) (I Video) (W) TFT(707) EL (709)
 (TA1 TA3) EL (709) (I Video) , (I Video)
 - , TFT(707) , , TFT(707) TFT(707)
 TFT(706) (S) , , TFT(707)

EL , 가 (I-V) EL 가 EL
EL . EL .
9 EL 가 EL (L) , 가 (t) EL (900) EL 100% 가 EL .
EL . . EL . EL .

가 , EL

Fl

가 타

1 , 2 1 2 EL EL ;
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EL 1 2 2 - EL ,
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n m(m 3 n)
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 m 2 - ;
 2 TFT 1 TFT ,
 1 TFT ,
 1 TFT 1 , 1 TFT 1
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 가 ;
 EL , EL - , 1 TFT ,
 2 TFT ;
 , ;
 1 - n(n 3) ;
 n m(m 3 n) ;
 n ;
 m 2 - ;
 ,
 2 TFT 1 TFT ,
 1 TFT ,
 1 TFT 1 , 1 TFT 1
 , 2 TFT 1 가 EL , 1 TFT 2 2 TFT 2
 , - EL .
 - 1 , 2 - .
 EL 1 EL 1 EL 1 EL 2 , 1
 , - , EL .
 - 1 2 1 1 가 , 2
 EL 1 , 2 1 2 1 1 EL , EL 1 1

EL
- 1 , 2 2 EL 가 , 3
EL
, - 2
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1 , 2 1 2 EL EL ;
EL 1 2 가
1 EL EL 2 EL ;
1 , 2 1 2 EL EL ;
1 ;
EL 1 2 2 ;
1 EL 1 1 2 EL 2 ,
1 , - EL
- 2 , 2 .
EL 1 , 2 , 1 2 EL , EL 1 1
EL
- , 1 2 EL 2 2 1 EL 가 , 3
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EL 1 1 2 가
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1 , 2 1 2 EL EL ;
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EL 1 2 2 ,
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EL 1 2 ,
EL EL
가 ,
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EL 1 2 2 ,
EL 1 2 ,

EL	EL	()	-	20	가	,	EL
1 ()	(singlet excitons)	()	-	3	가	,	(triplet excitons)
EL						,	
(1)						,	
1	1a	-	-	-	1a	, 10	1a
FT(707)	TFT(706)	P	TFT	,			
1a 1) (T0) (T2)	10 (101) (T3)		TFT(704) 1b	TFT(705)		(101) (101)	(T0)
(T0) (T2)	(T3)	, (T1)	, (T3)	(101)	(T1)	(T1) T3)(	(T1) (T2)
		, (T0)		, (T1)		(T3)가	
1a (S)	가 (101)	-	(101) (T2)	(T0) (T3)	(G)		TFT(706) TFT(706)
1a 가	TFT(706)	2	TFT(707)	2	2 (W)	TFT(707)	2
	(708) 2		TFT(707)			(708) 2	(W)
	TFT(707)			TFT(706)		TFT(707)	가
	TFT 2						
1a 707) 7)	1b N	EL 가	가	, EL	가	, TFT(706) TFT(706)	TF
	, 2a	2d	1a	1b	-	(101)	
	, 2a	-	2d	2b	2a		가
	2c	2b	A-A	(201),	2d	2b	
	(101) (200)	(201)		(220) (201)	(221)	223)	
a 203c) 2c)	, (204)	(221 223)		(220)	(205)		(204)
	, (221)	(203a (T1)	203c)	, (220)	(206)	(220)	, 2a (T0) (223)
				(222)	(T2)		

TFT(501) , TFT(707) TFT(707)가

, TFT(501) , TFT(707) TFT가 , TFT (708)
, , () TFT
, TFT(707) TFT(707) (708) 2 TFT(707)가 P , TF
T(707) , (708) (708) TFT(707)
, (Tus) . . .
09) / , EL (709) , , (Ta) , EL (7)
W) (W)
s) EL (709) 가
(W)
(Tus)
(3)

1 2 8a 8
b 3
7) TFT(706) P
8a 8b , TFT(706) 2 TFT(707) 2 (S)
(101) 8b , TFT(706) 1 , TFT(707) 1
() TFT(706) 2 TFT(707) 2 (W) TFT(706) 1
501)가 (708) TFT(707)
TFT(501) 1 (W) TFT(501) 2
8a 8b , TFT(706) 2 TFT(707) 2 (W) TFT(707) , 2
가
, TFT(707) (708) 2 (W)
, , TFT(707) , TFT(706) , (708) 2 TFT(707) .
TFT(706) TFT(707) 2
, 8b , TFT(501) 1 (W)
TFT(707)
, 8 , EL , EL
TFT(706) TFT(707) N TFT

(4)

(5)

EL 1 4
EL 1 4
EL
(7)

EL
16 EL EL EL 3
EL TFT 1a 1b 5 TFT (707)
16 (1900) TFT (1901-R, 1901-G, 1901-B) 가 , TFT (1901-R,
1901-G, 1901-B) , 1a 1b 5 TFT (707)
TFT (1901-R, 1901-G, 1901-B)
TFT , 16 , TFT (1901-R, 1901-G, 1901-B) TFT
, 16 , TFT (1901-R, 1901-G, 1901-B) (top)- , TFT
, (bottom) TFT (dual) TFT
1 (1910) TFT (1901-R, 1901-G, 1901-B) TFT (1901-R, 1901-G, 190
1-B) 1 (1910) , 2 (1911)
(1919-R, 1919-G, 1919-B) , 2 (1911) (1919-R, 1919-G, 1919-B)
(1919-R, 1919-G, 1919-B) ,
, 2 (1911) (1912-R, 1912-G, 1912-B) (1919-
R, 1919-G, 1919-B)
, (1914-R), (1914-G) (1914-B) , EL
(1614) (1915) EL 가 , (1914-R) , EL
(1915) EL 가 , (1914-G) , EL
5) EL 가 . (1914-B) , EL
EL (1914-R, 1914-G, 1914-B) (1914-R, 1914-G, 1914-B)
(1990;) , EL
(margin)

16 , , 3 , EL EL ,
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1 6 , EL EL , 1 4
EL , EL , EL , 5 , 6 , 1 , EL , 4 , EL
EL , , 5 , 6 , , 1 , EL , 4 , EL
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EL EL 가 . ,
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EL 가 , 가 , - (spin-coating method)
(ink-jet method)

, EL . EL . 가 , 20

, ELL () S ()

1 7

(9)

13a 13d , 2a 2d 1 -
- . 13a 13d , 2a 2d

(223) . . , (221) (T3) . , (222) (T1) ,
 (203a, 203b, 203c 230c) 3 - (204a, 204b 204c) 1
 . , (LDD) - (204)
 4b, 204c) (203a, 203b, 203c 230c) - (204a, 204c)

- (101) TFT . 13c 13d
 , - (101) (220) TFT .
 , TFT (201) (204a, 204b, 204c) (203)
 a, 203b, 203c 230c

, (201) (220) -
 (T1 T3) (203a 203c)
 , - (T1 T3)

(220;) 가 , 13a 13d - (101)
 (204a, 204b, 204c) (T1 T3) ()
) . , (220) , - ,

203b, 203c	13a 230c)	13d 가	, N		(T0)		-	(101) (203a, 203b, 203c)	(203a)	1
2	.	.	.	.	(101)	N	.	,	(T1)	(T3)
203c	13a 230c)	13d 가	, P	.	(T0)	.	.	(101) (203a, 203b, 203c)	(203a, 203b,	1
2	.	.	P	.	.	.	.	,	(T1)	
T3)	,	13a	.	.	(101)	3	,	,	,	(T1)
1	9	.	.	.	.	.	가	.	1	4
.	5	6	.	.	.	EL	,	EL	EL	.
EL	.	EL	.	.	.	.	.	.	.	.
(10)										
18a	18c, 19a	18c 19a	19b	1a	20a	20b	가	가	17a 17a	17c, 17c
,	19a	19b	,	,			.	.	18a	.
B)	17a EL	(991) (709)	EL	(709)	.	.	(992)가 (991)	.	,	(V)
	.	.	.	.	EL	.	(709)	EL	,	.
,	17a	.	.	.	.	.	가	가	.	.
1	가	.	.	.	.	.	가	가	.	.
(709)	가	가	.	.	가	.	1	(991)	.	.
.
가	,	가	.	.	18a, 19a	20a	.	.	.	.
.
17a	.	.	.	.	.	.	17b	.	17a	.
2	17b	.	.	.	.	.	가	가	.	.
가	EL	(709)	.	.
,	가	가
2	,	(991)	(991)	.
.
가	,	가	.	.	18b, 19b	20b
.
17c	17b	가	(991)	TFT가	.	.	가	.	.	.
(991)	TFT(501)	가	TFT(501)가	.	.	.	,	(991)	.	.
.	(RG))	.	.

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18c

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CPU

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Versatile Discs(DVD))

Digital

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, EL

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2 TFT ; , 1 TFT, , EL EL

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1 TFT

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1 EL EL 2 EL EL ,

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EL 1 1 , 2 1 1 2 2 EL 가 , EL ,**28.**26 ,
EL EL 1 2 , , EL ,**29.**26 ,
EL EL , , , ,**30.**

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32., ,
1 , 2 , 1 2 EL EL ;
EL 1 2 가 , ,
EL 1 1 2 , 가 ,**33.**32 ,
, 1 1 EL 1 EL 1 2 EL 2 EL ,**34.**

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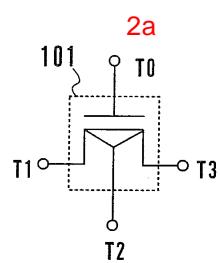
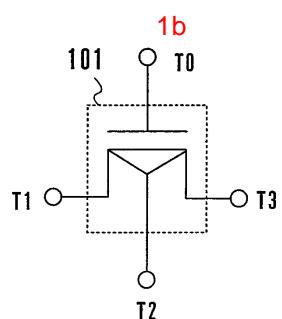
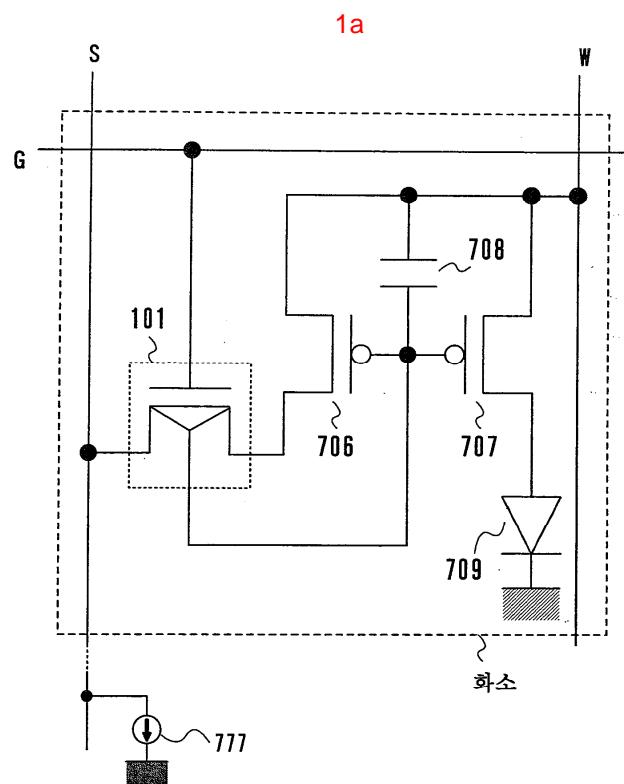
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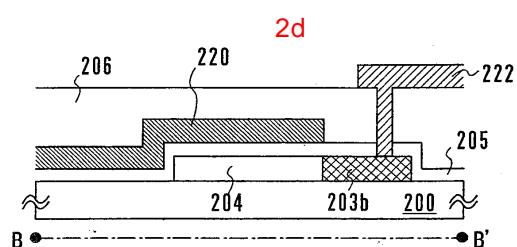
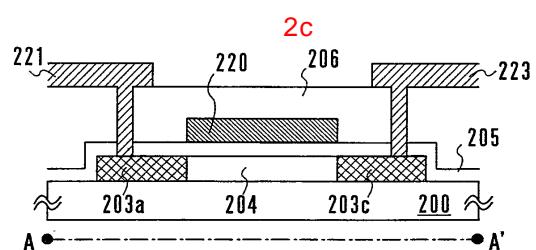
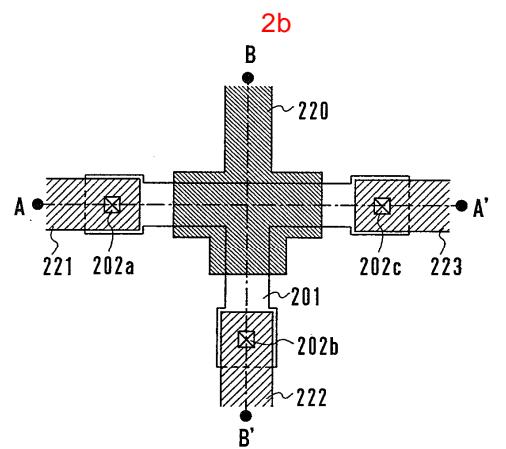
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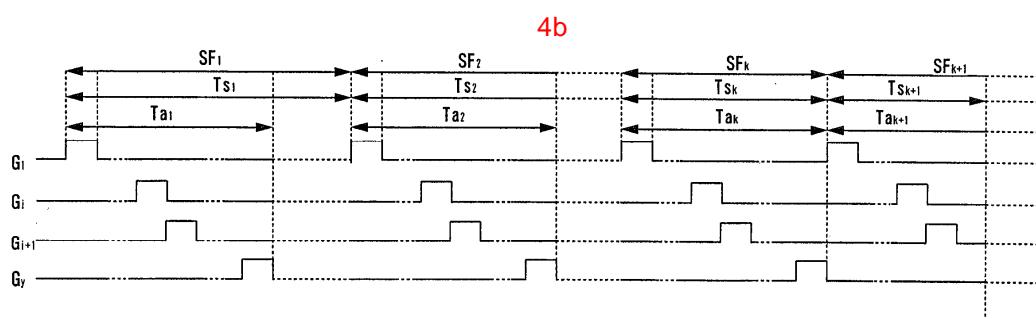
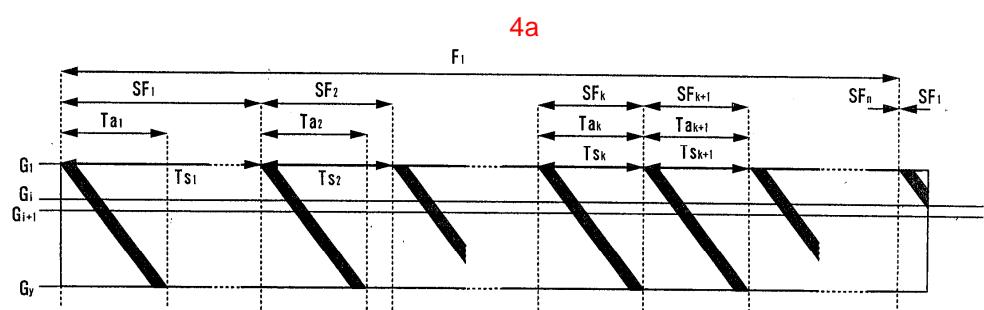
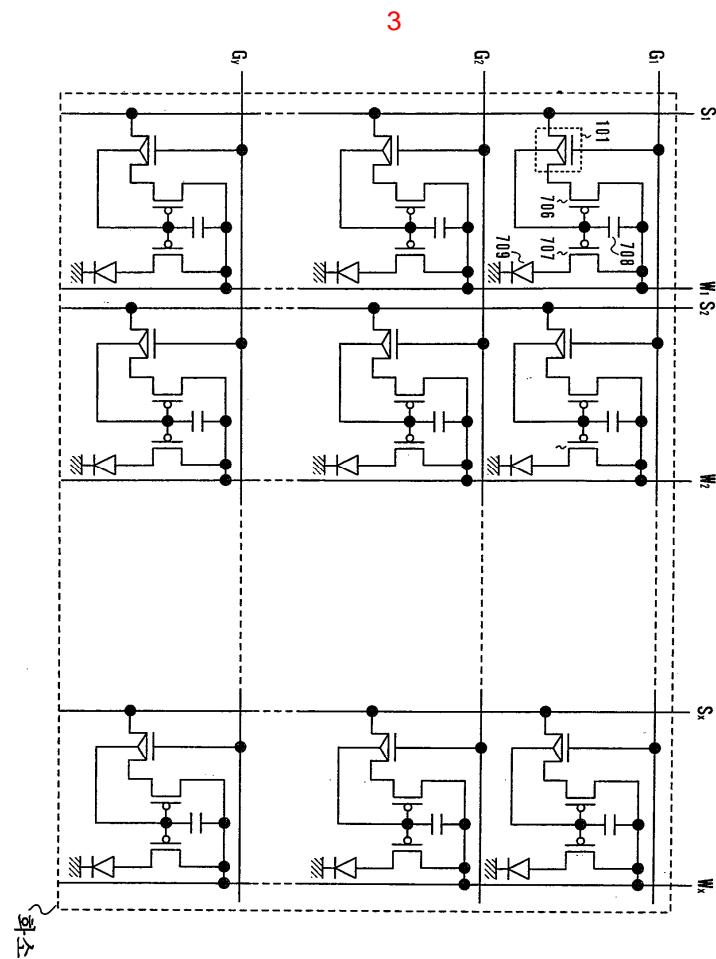
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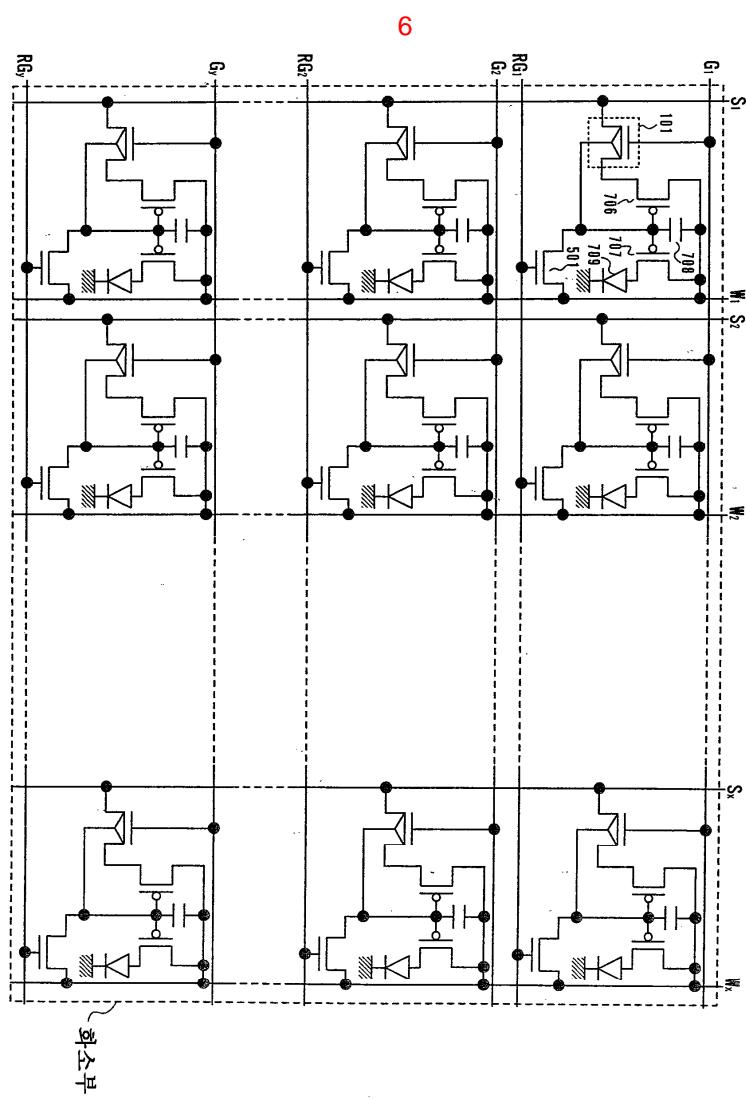
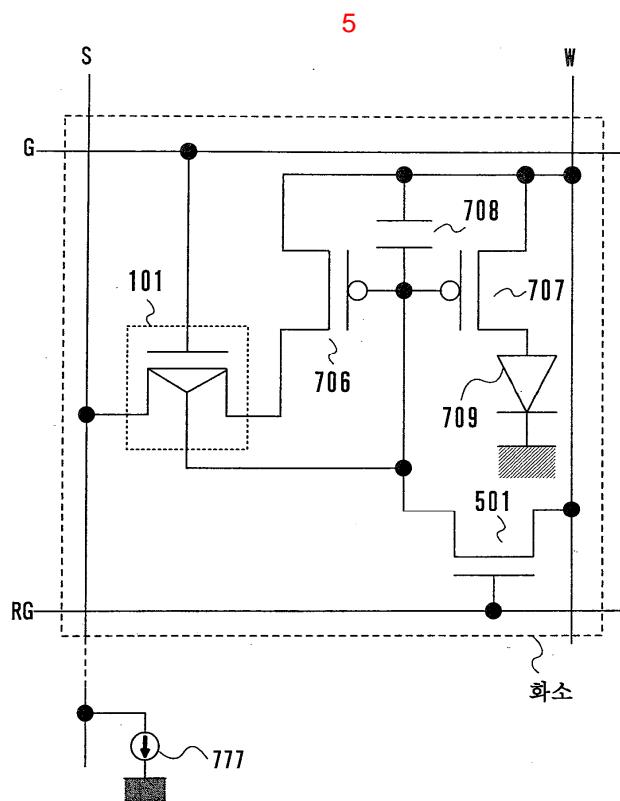
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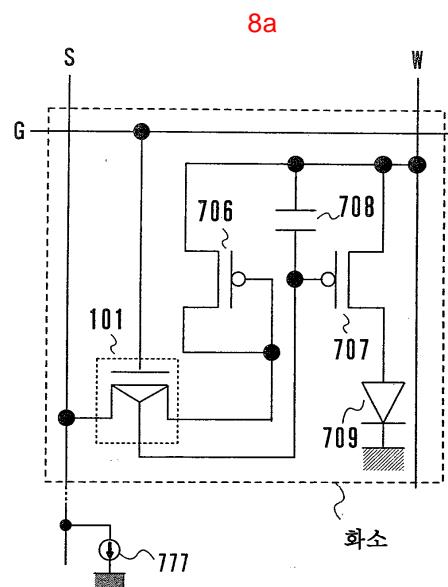
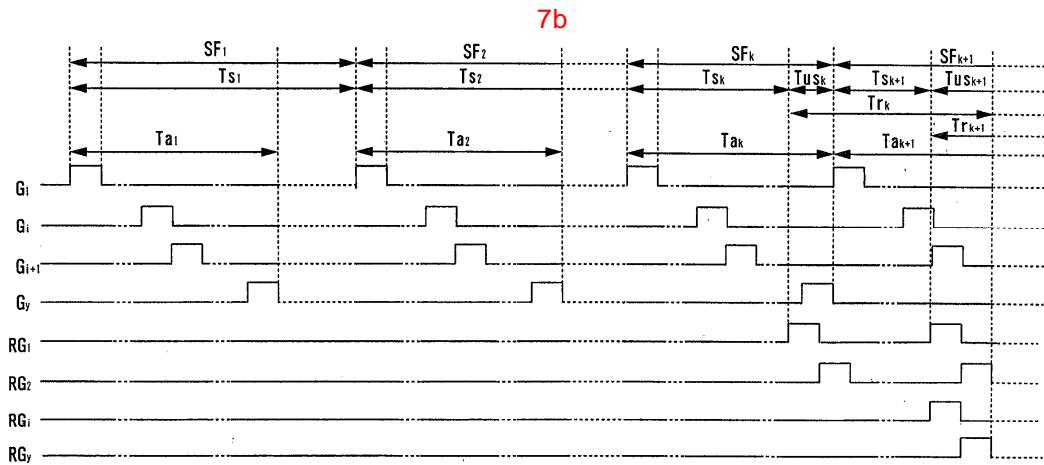
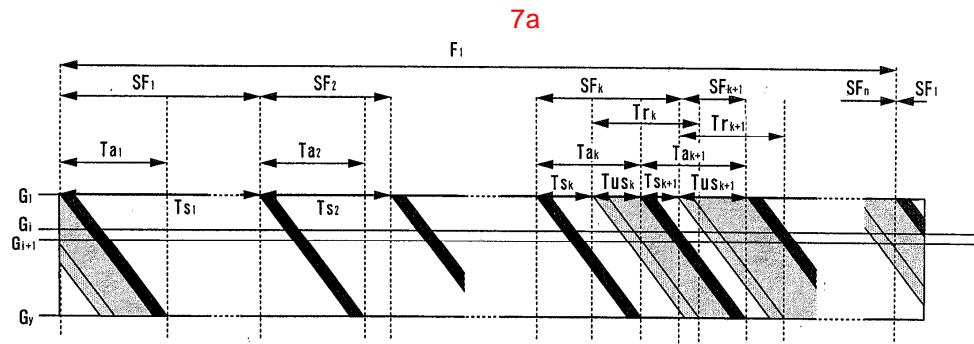
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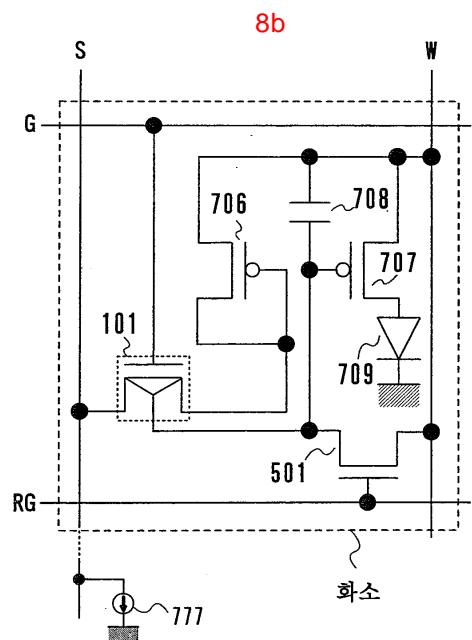




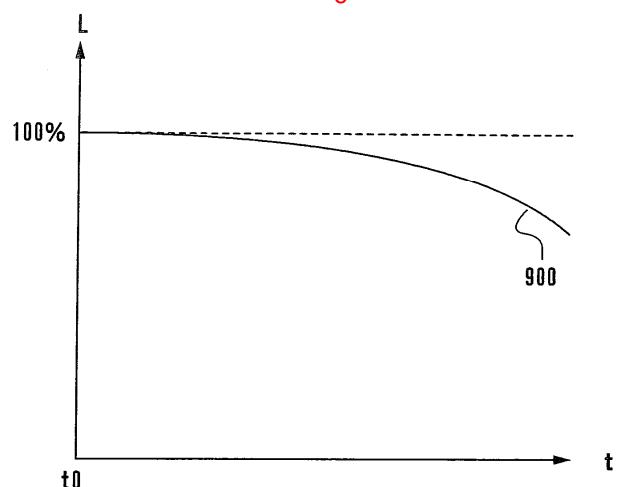


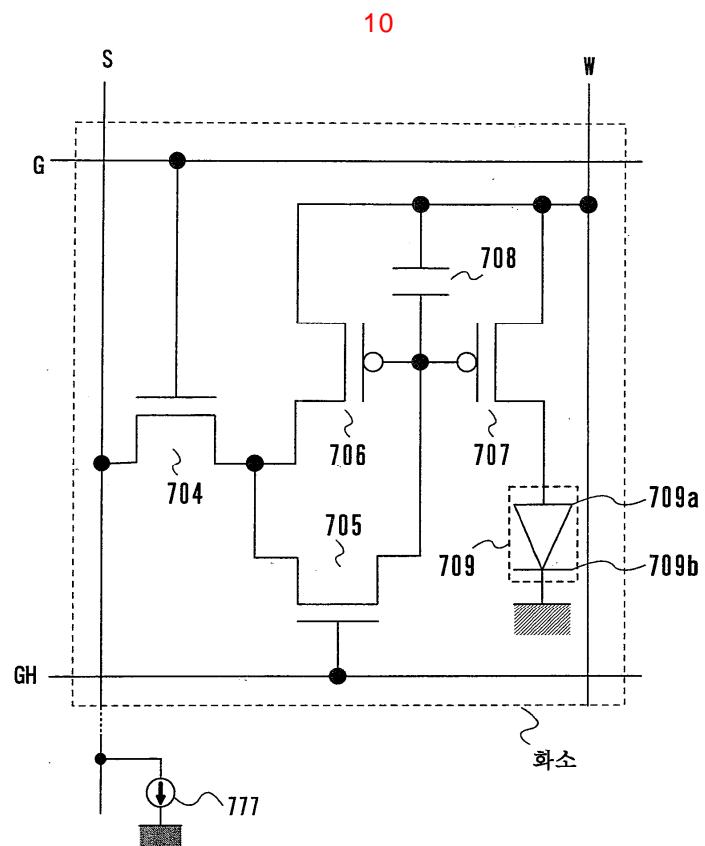






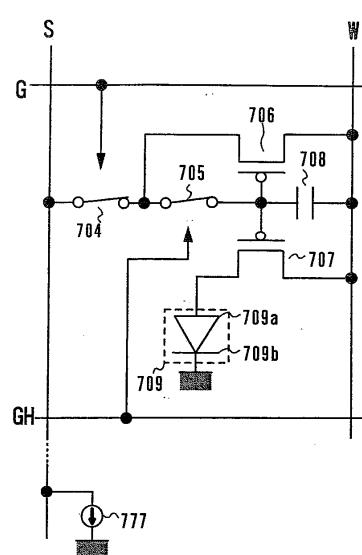
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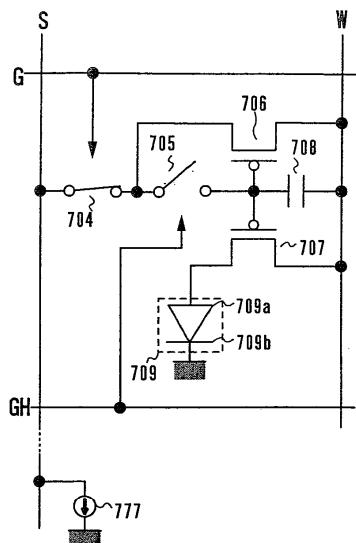


11a

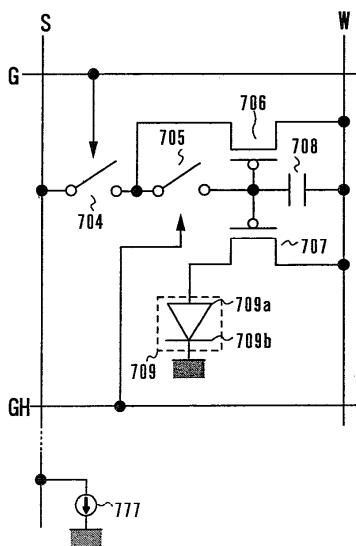
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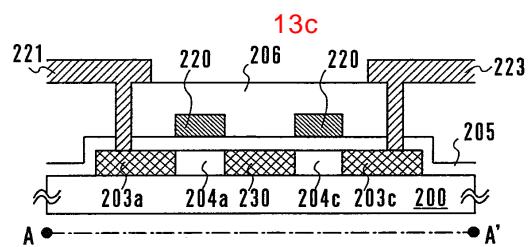
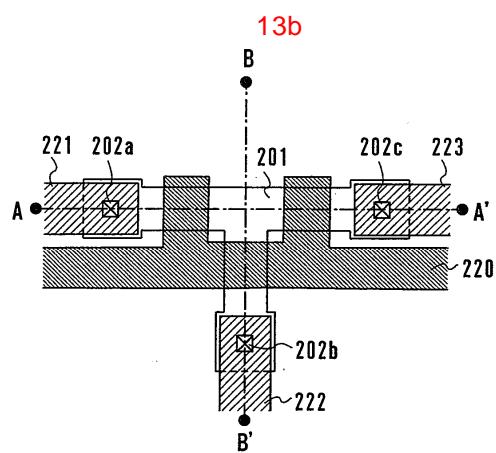
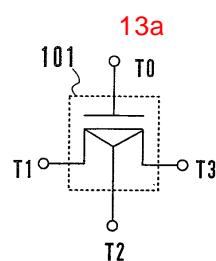
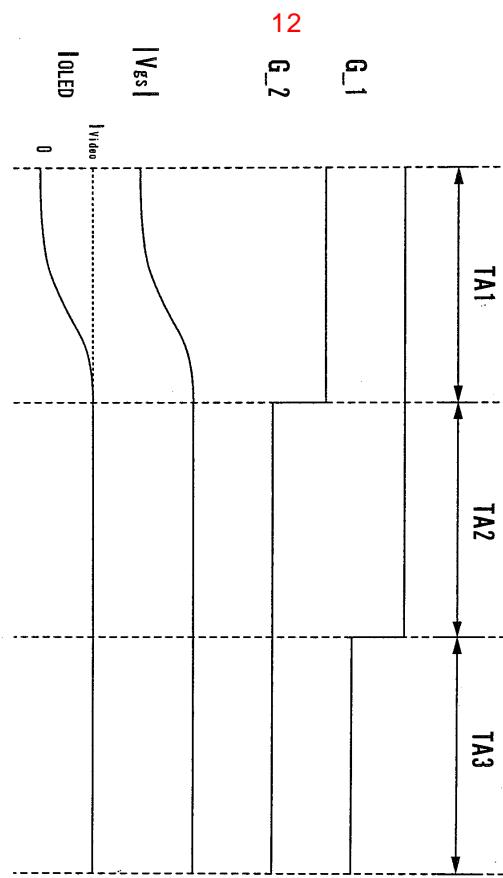


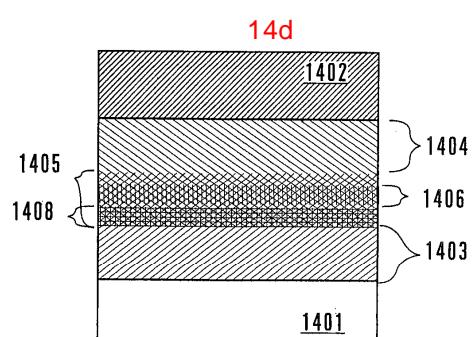
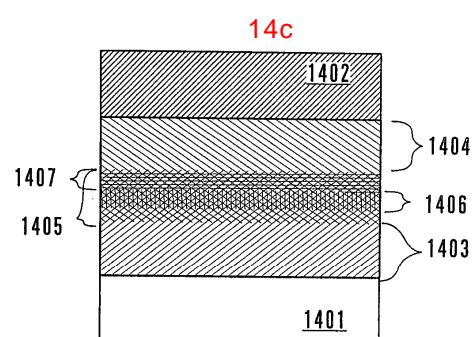
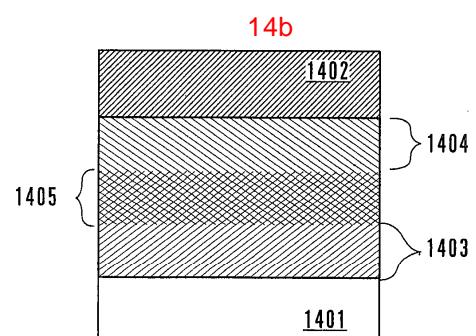
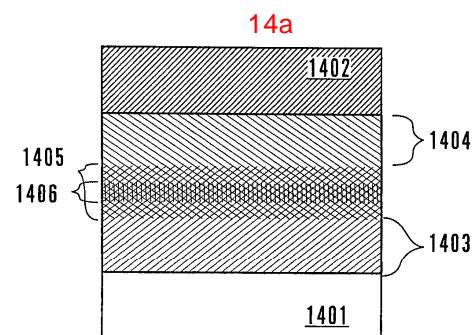
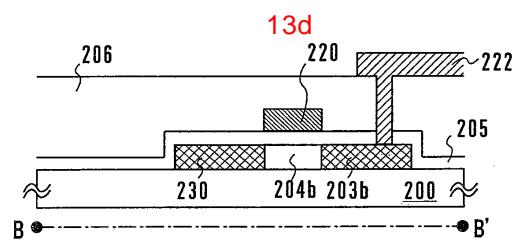
11b
(TA2)

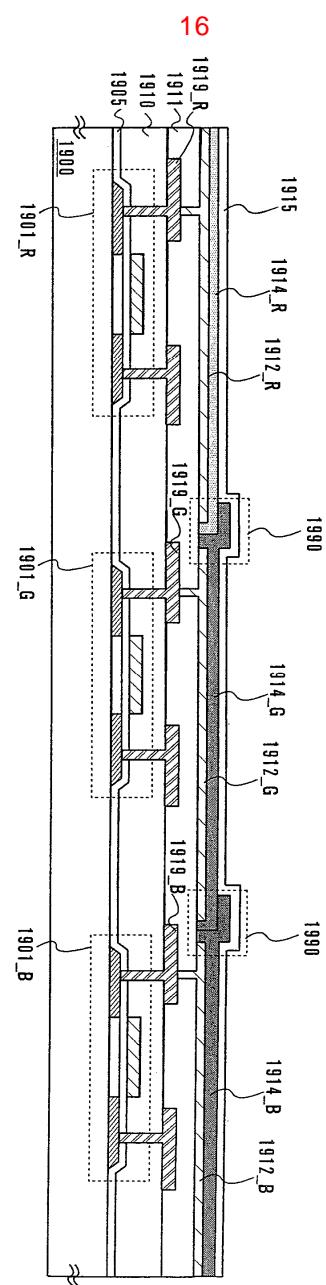
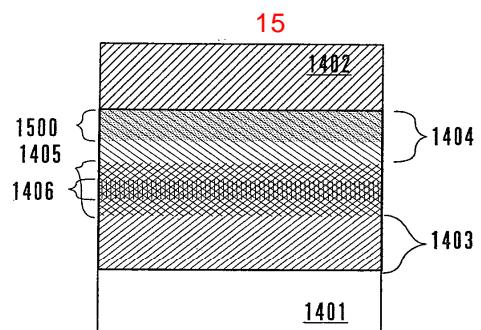


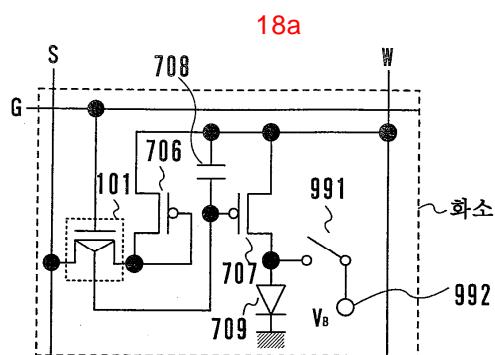
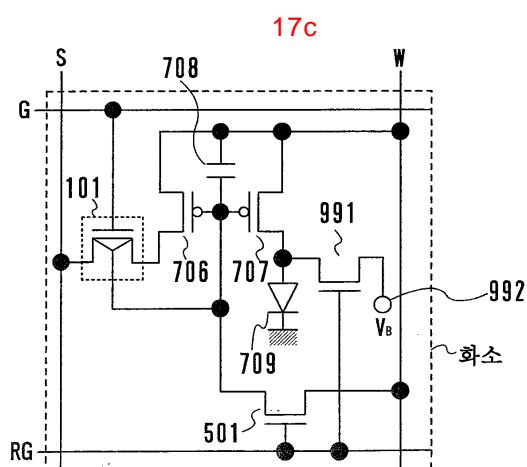
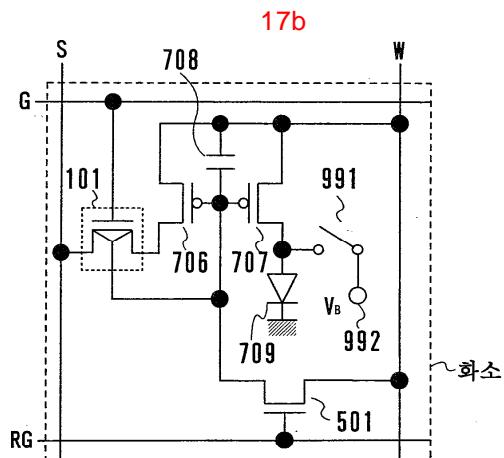
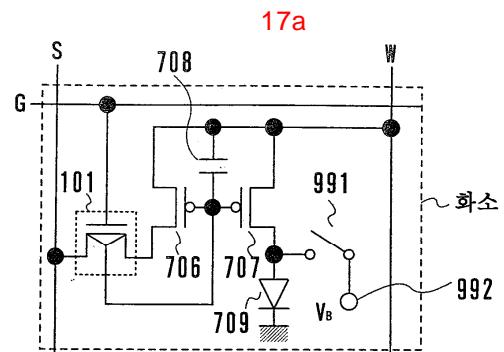
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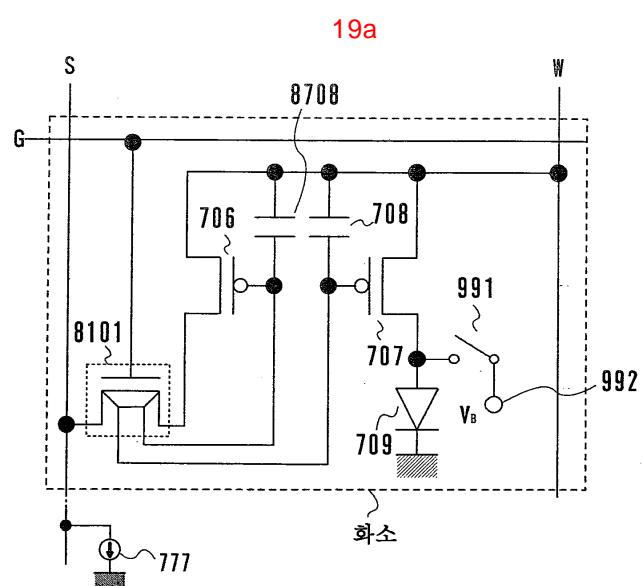
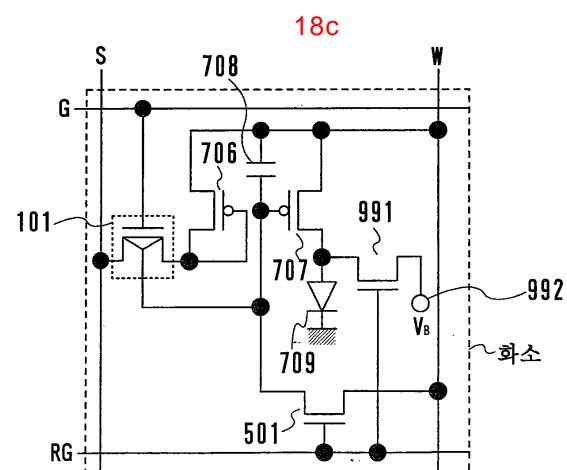
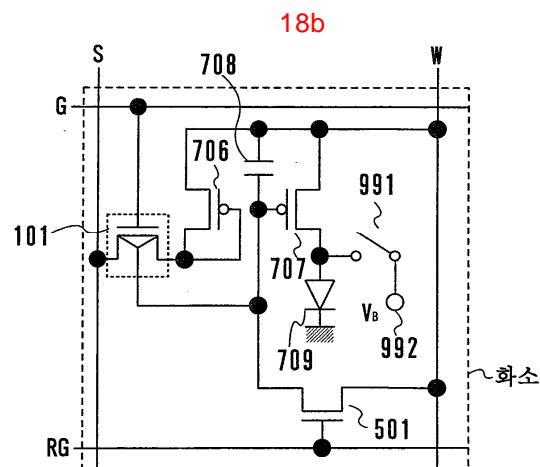


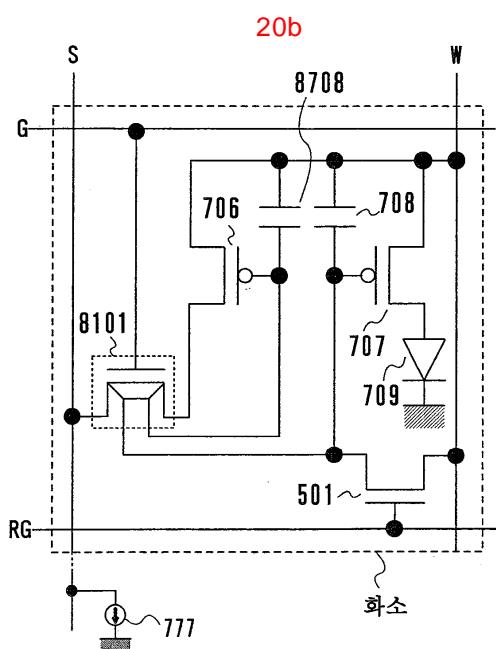
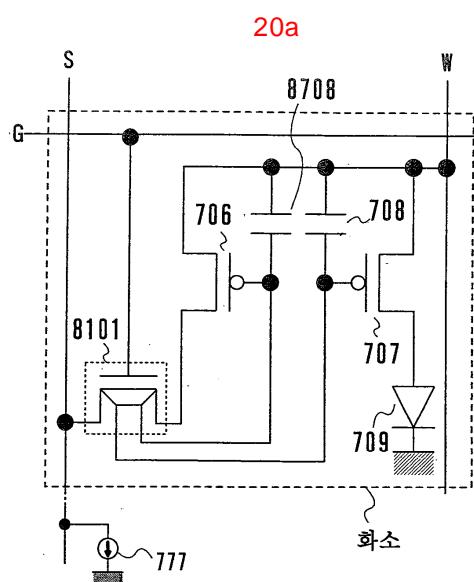
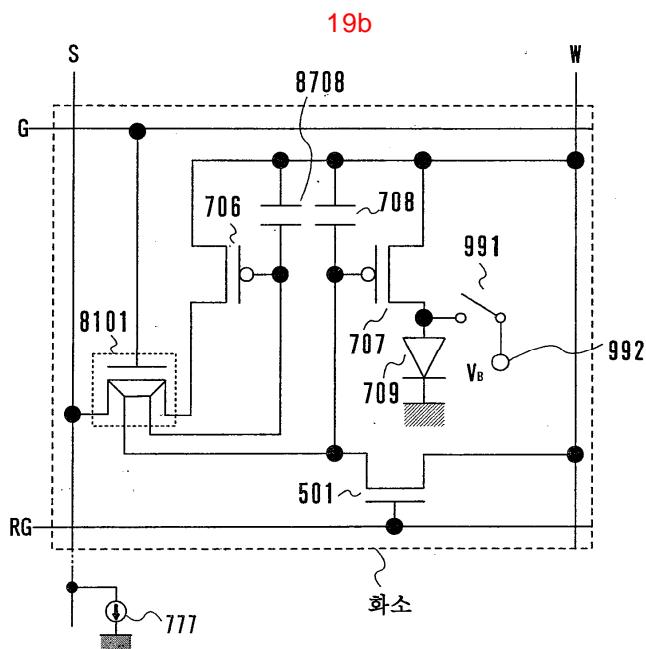


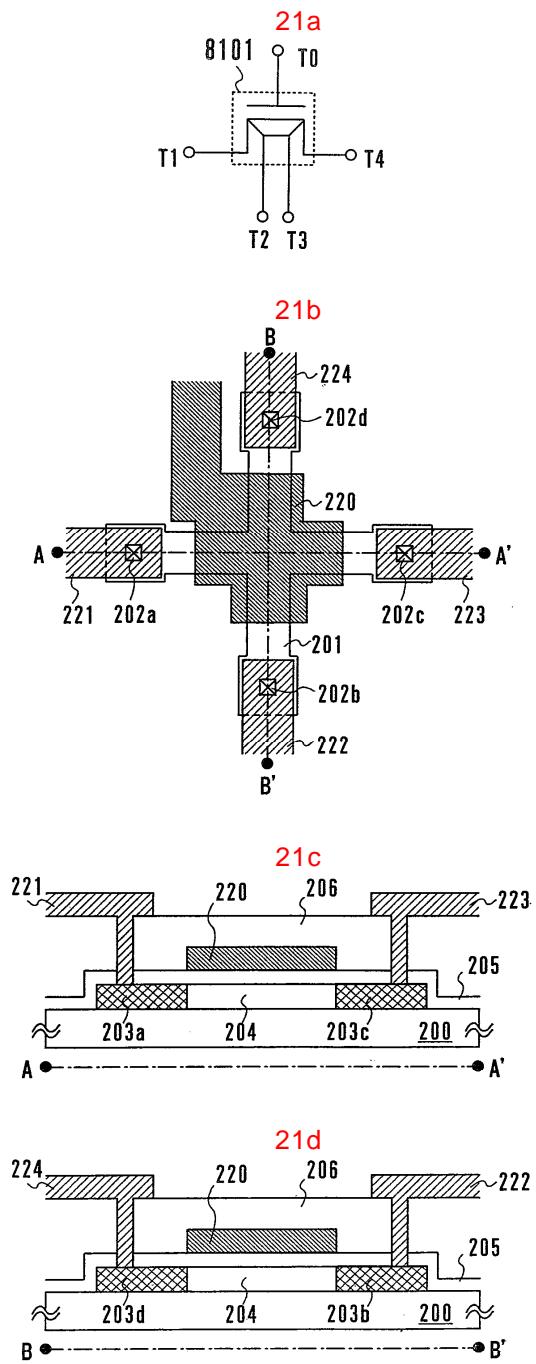












专利名称(译)	显示设备		
公开(公告)号	KR1020030077474A	公开(公告)日	2003-10-01
申请号	KR1020030018937	申请日	2003-03-26
[标]申请(专利权)人(译)	株式会社半导体能源研究所		
申请(专利权)人(译)	株式会社绒布器肯kyusyo极限戴哦		
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IPC分类号	G09G3/30 H05B33/08 H01L51/50 G09F9/30 G09G3/32 G09G3/20 H01L29/786 H01L27/32		
CPC分类号	G09G2330/08 G09G2300/0852 G09G2300/0842 G09G2320/043 G09G2300/0809 G09G3/3241 G09G2320/0233 G09G3/2029 G09G3/2022 G09G2310/0256 G09G2300/0426		
代理人(译)	李昌勋		
优先权	2002087223 2002-03-26 JP		
其他公开文献	KR100936632B1		
外部链接	Espacenet		

摘要(译)

由于电致发光单元的劣化，亮度的分散不是EL装置。显示装置可以由电流控制型像素形成，通过电致发光单元的劣化，通过电致发光单元抑制流动电流的变化。此外，显示装置可以形成，同时，短路（短路）或装置可以打开。电亮度层被分成单独的颜色，但不使用堤。使用混合结型的电致发光单元。反向偏压施加到电致发光单元中的规则间隙。显示装置通过电致发光单元的劣化来抑制亮度的分散。EL装置，电致发光单元，电亮度层，反向偏压，显示装置。

