

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.⁷
G09G 3/36

(11)
(43)

10-2004-0070537
2004 08 11

(21)
(22)

10-2003-0006683
2003 02 04

(71)

416

(72)

1 1035-10

(74)

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(54)

， a-Si TFT LCD 가 1 2 1 2

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， 1 2 1 2

RC a-Si TFT LCD

12

， ， ， RC ，

1 poly-TFT LCD TFT

2 a-Si LCD TFT

3 a-Si TFT

4 a-Si TFT LCD TFT

5 4

6 4

7 6

8 7

9 6

10 6

11

12

13

14 11

15a 15b
, 15c

가

FT LCD 가 , a-Si T

(TFT) (LCD) a-Si TFT LCD , poly-Si TFT LCD
poly-Si TFT LCD , 가 a-Si TFT TFT
, poly-Si TFT LCD IMT-2000

a-Si TFT LCD

PC, LCD , HDTV

1 poly-TFT LCD TFT

, 2 a-Si LCD TFT

1 , poly-Si TFT LCD 가 (10) (12)
(14) , (16) (20) (18)
가 ,

, 2 , a-Si TFT LCD (32) COF(Chip On Film)
(34) , (32) (36)
(40) , (38) COF (40)
(42)

, a-Si TFT LCD a-Si

, poly Si-TFT LCD

a-Si TFT LCD

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가

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가

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a-Si TFT LCD

RC

3

a-Si TFT

3

(140)

(100)

(110),

(120),

(130)

(110)

(112) TFT

(112),

(112a)

(116),

(112b)

TFT

(112a)

(118)

a-Si TFT

(1

12b)

TFT

(112a)

(112b)

(116) (116) (118) TFT (112a)
 (116) TFT (112a) (116) , ,
 (120) (122), (124), (126), (128) (129)
 4 a-Si TFT LCD TFT
 4 , TFT (112a) (150), (160),
 (170), (162, 163), (169)가 TFT
 (150) m (DL1~DLm) n
 (GL1~GLn)
 2 525(, 176×3)×192 가
 (ST)가 (STi)
 (DLi) , (GLi) (STi)
 (PE) (PE) (112b) (CE)
 (LC) (PE) (CE) 가
 (160) (164) 528 (SWT) . 528
 (SWT) 66 8 (BL1~BL8)
 (BLi) 66 (163) 66
 66 66 가 (164) 8
 528 (SWT) 가 , 66
 a-Si TFT MOS
 , 528 66 8 (164) 8
 (164) 3 (162) 1 (CKH), 2 (CKHB),
 (STH) (164)
 5 4
 5 (164) 9 (SRH1~SRH9)
 (OUT)가 (IN)
 8 (SRH1~SRH8) (SRH9) (IN),
 (OUT), (CT), (CK), 1 (VSS), 2 (VDD) 가 . 8
 (SRH1~SRH8) (BL1~BL8) (DE1~DE8)
 (SRH1, SRH3, SRH5, SRH7, SRH9) 1 (CKH) (SR
 C2, SRC4, SRH6, SRH8) 2 (CKHB) . 1 (CKH) 2 (CKHB)
 가 CKH, CKHB 1/66ms

(CT) (CT) 가 (CT) . ,

(CT) 가 .

(,) 가 ,

(SRH9) (SRH8) (CT) .

6 4 .

6 , 4 (170) , (IN

) (SRC1~SRC193) . , (OUT)가 (SRC1~SRC192) (IN

(SRC193) . 192 (OUT), (CT), (CK), 1

(VSS), 2 (VDD) 가 .

(SRC1) (IN) (STV)가 . (STV)

(Vsync)

(GOUT1~GOUT192) (SRC1, SRC3, ...) 1 (CKV) , (SRC2, SRC4, ...) 2 (CKVB) (SRC1, SRC3, ...) 1 (CKV) 2 (CKVB) 가 . 1 (CKV) 2 (C

KVB) 16.6/192ms .

(170) , (164)

(170) 8 .

(SRC1, SRC2, SRC3, ...) (CT) (SRC2, SRC3, SRC4, ...) (G

OUT2, GOUT3, GOUT4)가 (CT) . , (CT)

가 .

() 가 ,

7 6 , 8 7

7 , (170) (171), (172), (173)

(174) .

(171) (CKV) , 3 (N3) 가 , (GOU

T[N]) 가 1 NMOS (M1) .

(172) (GOUT[N]) , 4 (N4) 가 , 가 1

(VSS) 2 NMOS (M2) .

(173) (C), 3 5 NMOS (M3~M5) . (C) 3 (N

3) (GOUT[N]) . 3 NMOS (M3) 2 (VON)

, 가 (IN), (M4) 3 (N3) 가 3 (N3)

, 4 NMOS (M4) 3 (N3) , 가 4 (N4) ,

가 1 (VOFF) . 5 NMOS (M5) 3 (N3) , 가

4 (N4) , 가 1 (VOFF) . , 3 NMOS (M3)

5 NMOS (M5) 2 .

(174) 6 7 NMOS (M6, M7) . 6 NMOS (M6)

가 2 (VON) , 가 4 (N4) . 7 NMOS (

M7) 4 (N4) , 가 3 (N3) , 가 1 (VOFF)

, 6 NMOS (M6) 7 NMOS (M7) 16

8 (Tdr1) , 1 (SRC1) 2 (OUT) (CKV, CKVB) (ST) (ST)가 (CKV) ,
(GOUT1) 1 (STV)

1 2 (CKV, CKVB) .

9 6 .

9 (CKV) , 2H 1 1 (CKV) 1 (GOUT1, GOUT2, GOUT3, ...) TFT-LCD 2 (CKVB) 가 1 2 (CKV, CKVB) a-
TFT () 0 3V , -8 24V

525(176 × 3) × 192

6 (CKV, CKVB) , 2H 1 2 . n

가 n-1 n , n+1 (Voff) . (

가 n n-1 (IN) 가 n-1 .

가 n-1 10 , n-1 , n

RC

가 가 가

RC 가 가 가

가

11 ,

11 , (SRC1, SRC2, SRC3, ..., SRCg, SRC(g+1)) , (CB1, CB2, ..., CBg)가 (GOUT) (CT) (SRC(g+1))
(IN), g (OUT), (CT), (CK), 1 (VSS)
(VDD) (CRR) .

(SRC1) (IN) (STV)가 (STV)
(Vsync)

(SRC2, SRC3, SRC4, ...) (IN) (CRR)

(GOUT1~GOUTg) (SRC1, SRC2, SRC3, SRC4, ...) (CKV) (CKVB) (SRC2, SRC4, ...) (CKV) (CKVB)
 C3, ...) 1 (CKV) 2 (CKVB) 가 1 (CKV) 2 (CKVB)
) 16.6/g[ms]

(SRC1, SRC2, SRC3, ...) (CT) (SRC2, SRC3, SRC4, ...) (G
 OUT2, GOUT3, GOUT4)가 (CT) , (CT)

, () 가 ,

, (CB1, CB2, ..., CBg) 가
 (Carry) (CB1, CB2, ..., CBg)

12

12 (271), (272), (273), (274) (275) , 7 가

(271) (CKV) (N3) 가 (GOUT[N])
 T[N]) 가 1 NMOS (M1) , 3 (N3) 가 , (GOUT[N])

(272) (GOUT[N]) (N4) 가 , 가 1
 (VSS) 2 NMOS (M2) , 4 (N4) 가 , 가 1

(273) (C), 3 5 NMOS (M3~M5) (C) 3 (N
 3) (GOUT[N]) 3 NMOS (M3) 2 (VON) (N
 , 가 (IN), (GOUT[N-1]) 가 3 (N3)
 , 4 NMOS (M4) 3 (N3) , 가 4 (N4) ,
 가 1 (VOFF) 5 NMOS (M5) 3 (N3) , 가
 4 (N4) , 가 1 2 (VOFF) , 3 NMOS (M3)
 5 NMOS (M5)

(274) 6 7 NMOS (M6, M7) 6 NMOS (M6)
 가 2 (VON) , 가 4 (N4) 7 NMOS (M6)
 M7) 4 (N4) , 가 3 (N3) , 가 1 (VOFF) (M7)
 , 6 NMOS (M6) 7 NMOS (M7) 16

(275) (TR1) , (TR1) 1 2 (CKV/CKVB)
 3 NMOS (M3) , (TR1) (274) (273)

, (M1) (TR1) (GOUT[N]) ,
 (CKV CKVB)

13 , 11

12

2

13 (271), (272), (273),
 (274) (275) 12

가

13

(M1)

(CKV)

(TR1)

(GOUT[N])

3 NMOS
가

(M3)

가

(TR1)
가

가

2

(VON)

3 NMOS
가

(M3)

(VOFF)

1

14

14

(SRC1, SRC2, SRC3, ...)

(174)

(150)

OUT)

(GOUT1, GOUT2, GOUT3, ...)

가

(

(SRC1, SRC2, SRC3, ...)
(CA)

(IN)

1

(CKV)

1

2

(CKVB)

(OUT)

가 가

가

15a

15c

15a

15b

, 15c

가

12

(M1))

5 NMOS

(M3~M5)

(

(M2))

6

7 NMOS

(

3

(M6, M7)

(M1)

(M2)

15a

15c

(finger type)

+1])

(M2[N], M2[N+1])

, N+1

2

N

(M1[N], M1[N

(M1[N], M1[N+1])

(ACIVE)

(ACTIVE)

(W)

5 μ m

5 μ m

(L) TFT

(M2[N], M2[N+1])

(M1[N], M1[N+1])

(M2[N], M2[N+1])

(CNT1)

(CNT1)

(CNT2)

(bridge)

(CNT1)

ITO (ITO1)

가

가

(CKV CKVB)

(M1)

(TR1)

(M1[N], M1[N+1])

(M1[N], M1[N+1])

(M1[N], M1[N+1])

(M3)

(TR1)

(M3)

(CNT3)

ITO (ITO2)

(C

TFT LCD

RC

가

RC

가

(57)

1.

가 2, 가 1, 1, 2, 2

,
1 2 ;

1 2 ;

1 ;

- , 1 1 2
- ;

- , 1 2 1
- , 1 2 -

1 2. , 가 1 2 가
,
.

2 3. , 가 1 2
가 .

2 4. , ,
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4 5. ,
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6. , , ,
,

1 2 가 1 2 가 , 1 1 ,
2 , 2 가 ,

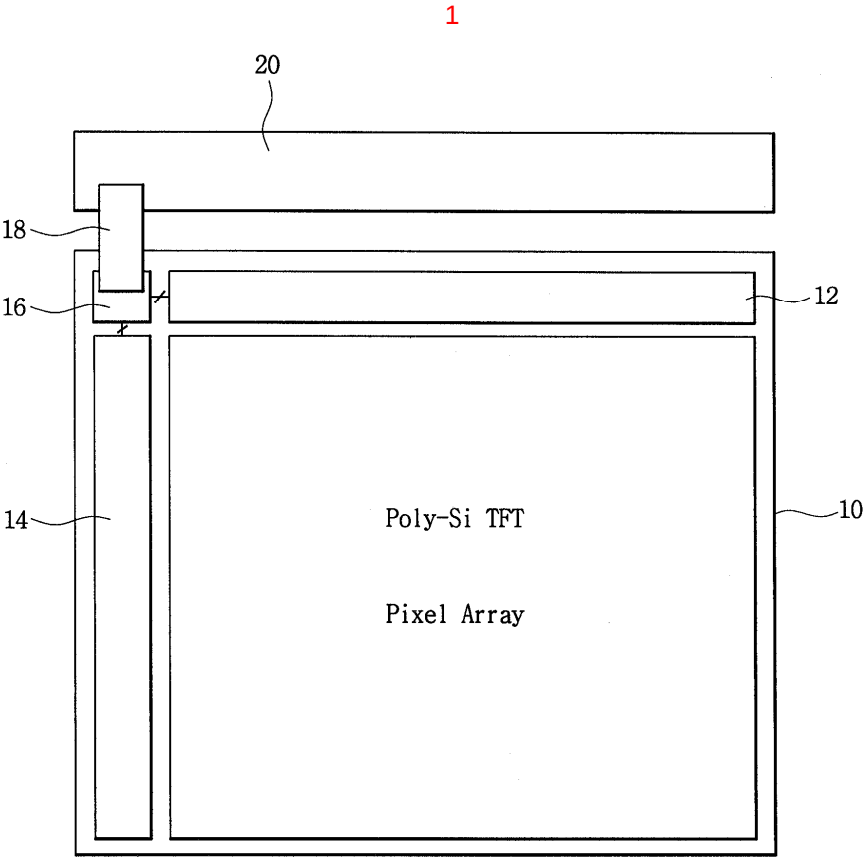
,
1 2 ;

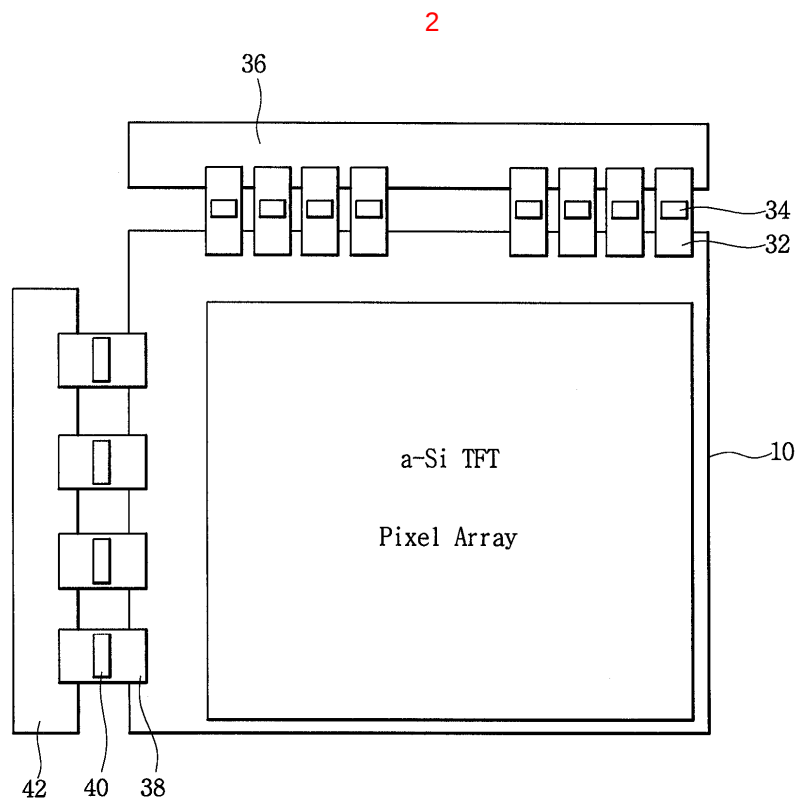
1 2 ;

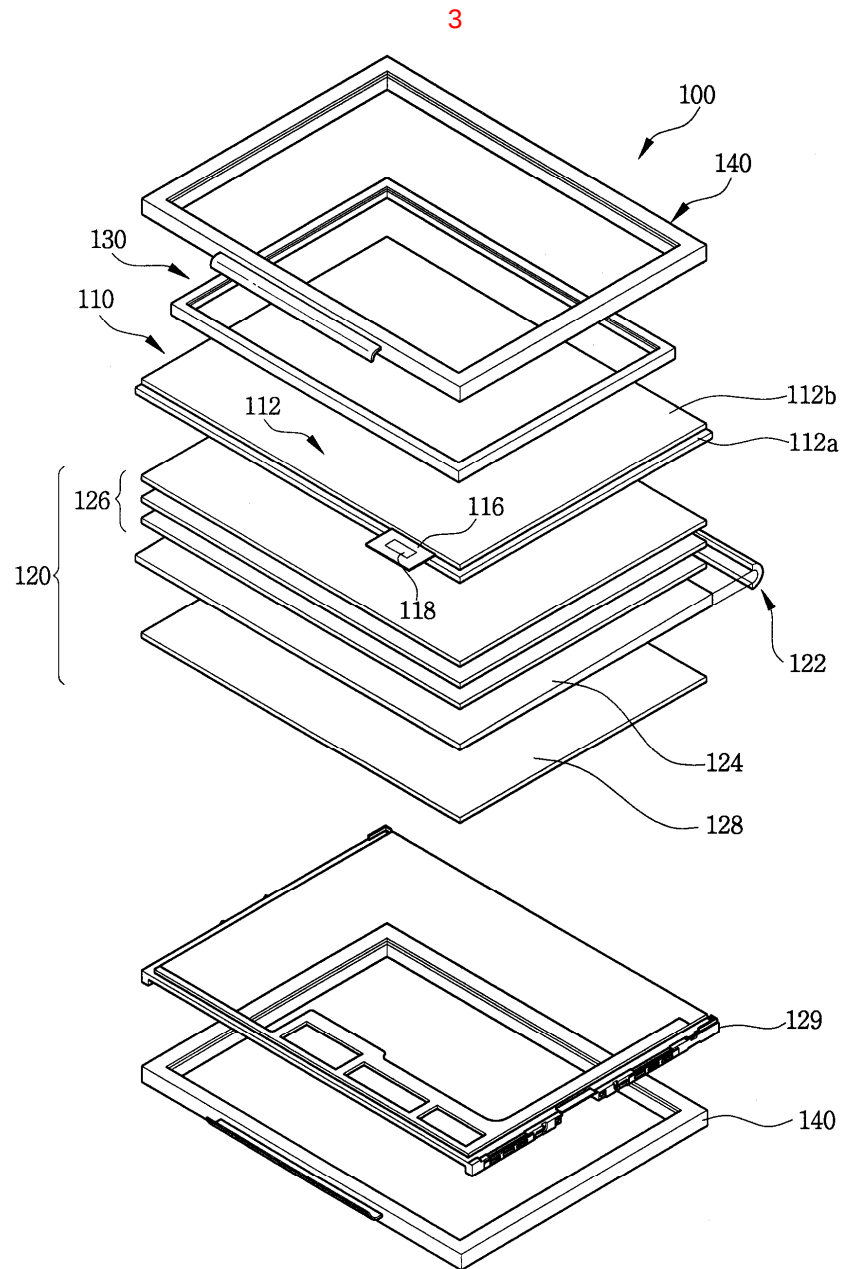
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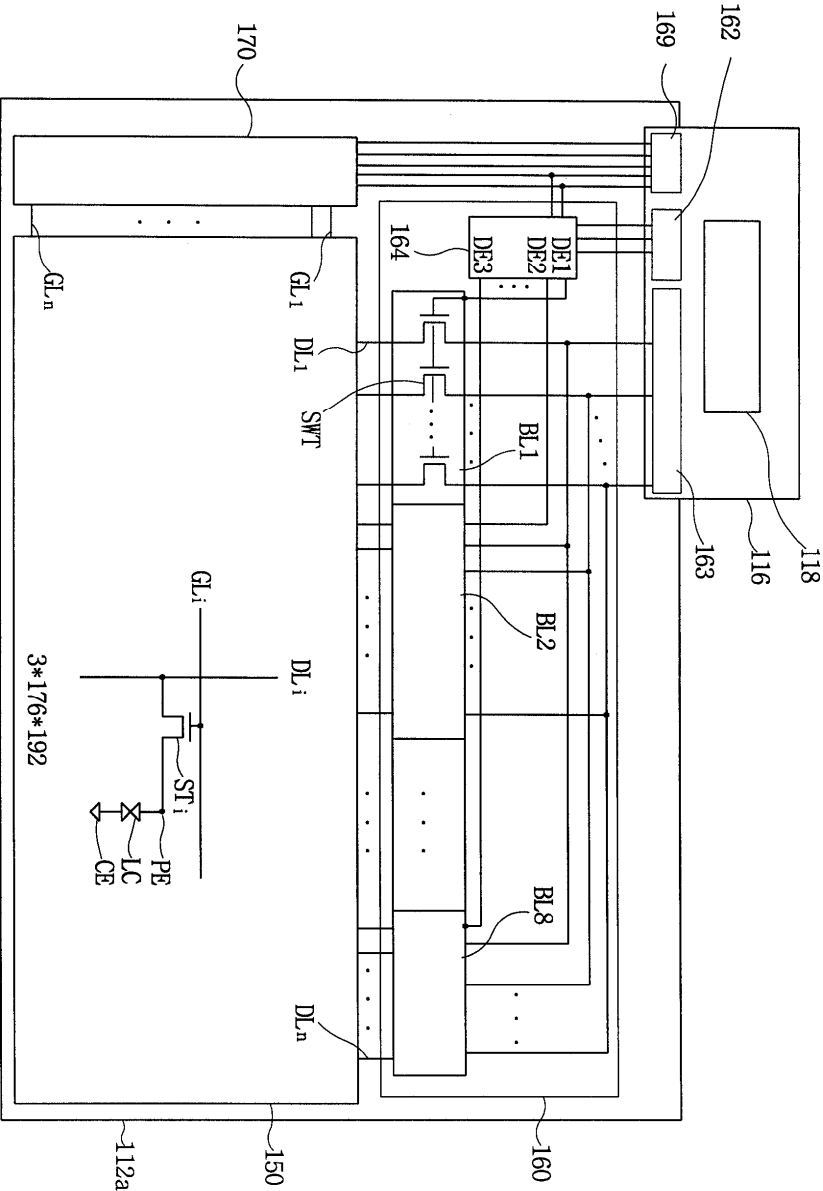
- , 1 1 2
- , ;

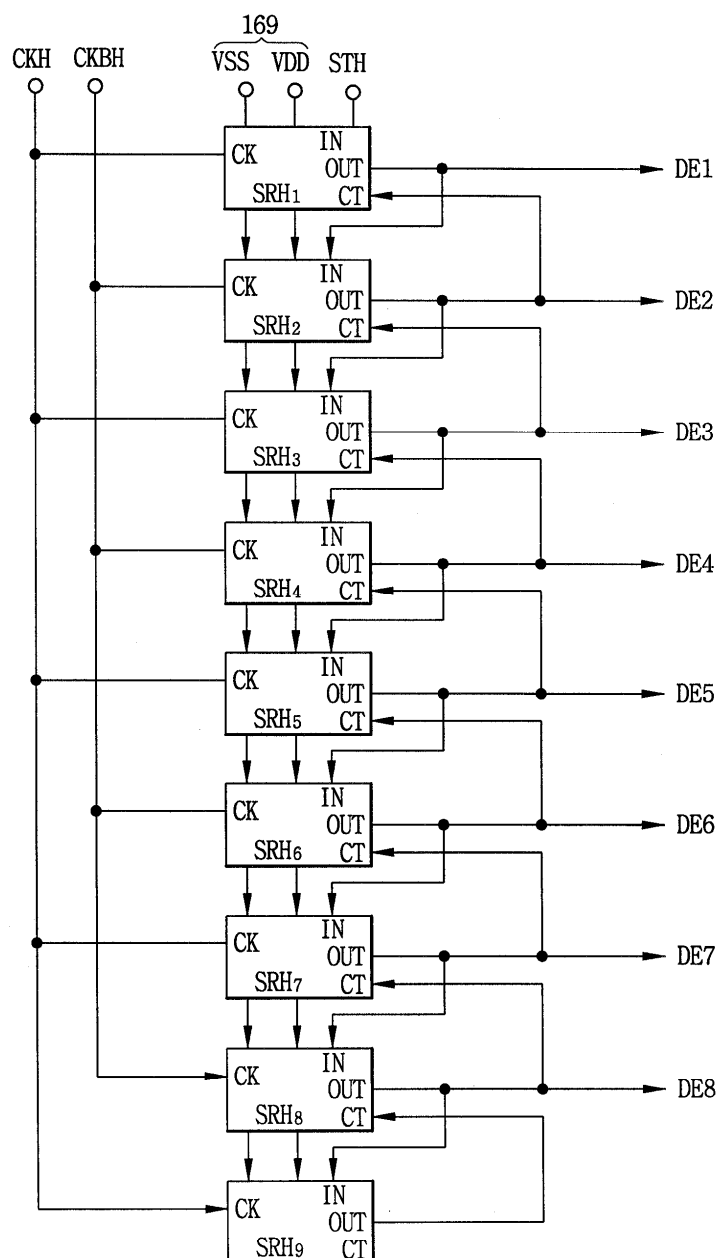
- , ' 1 2 1 -





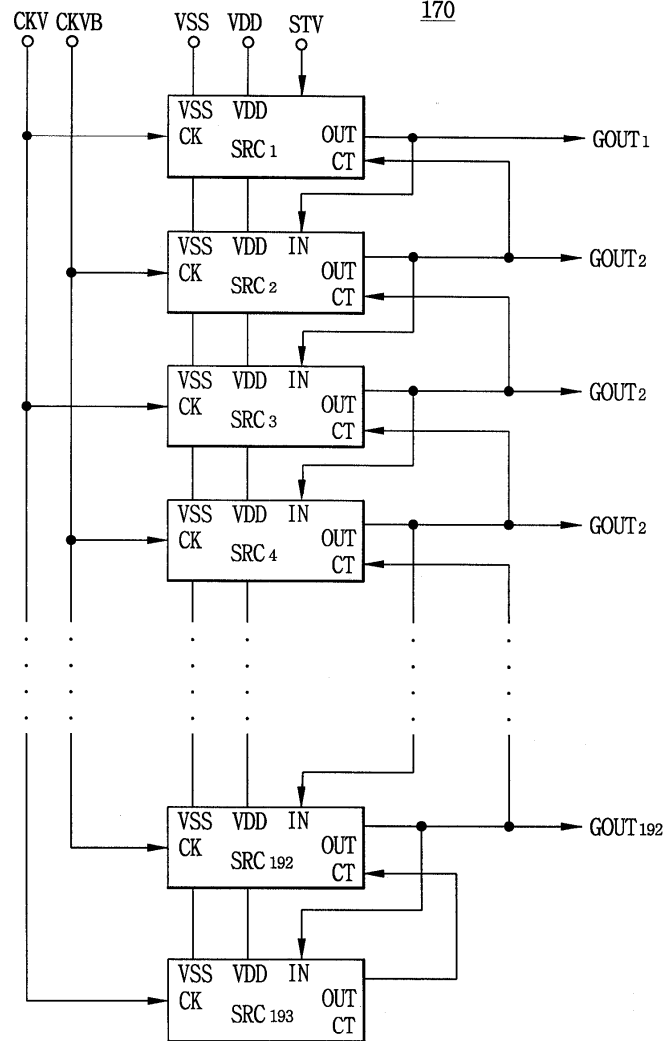




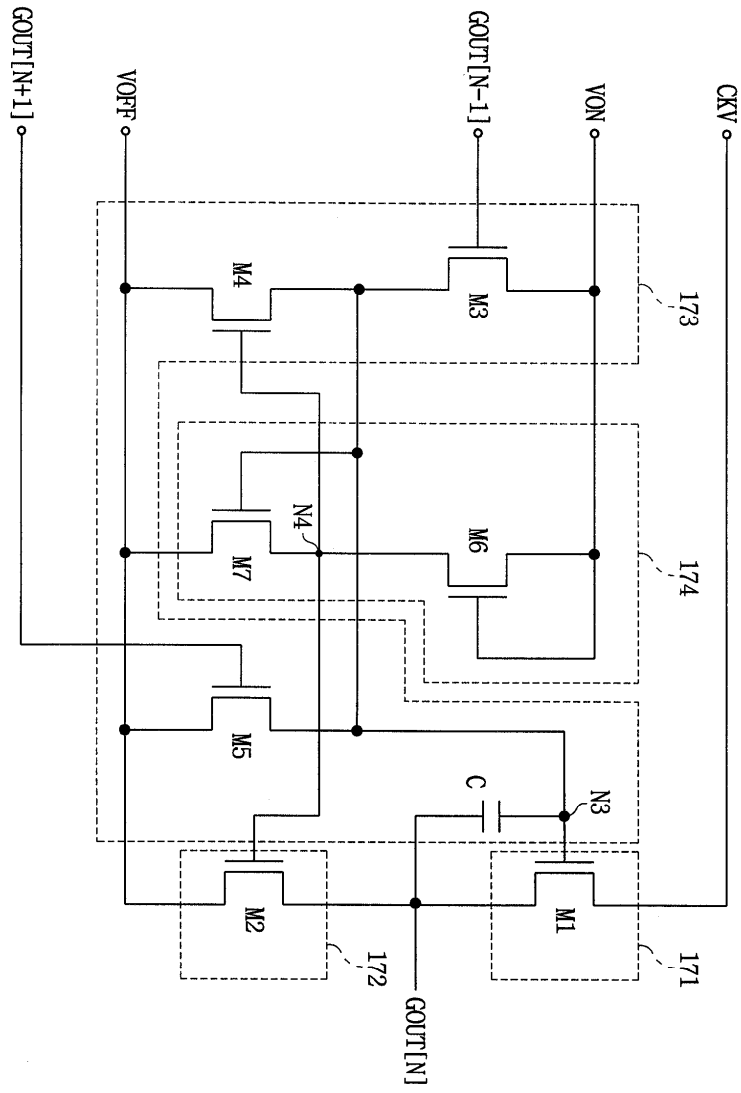


6

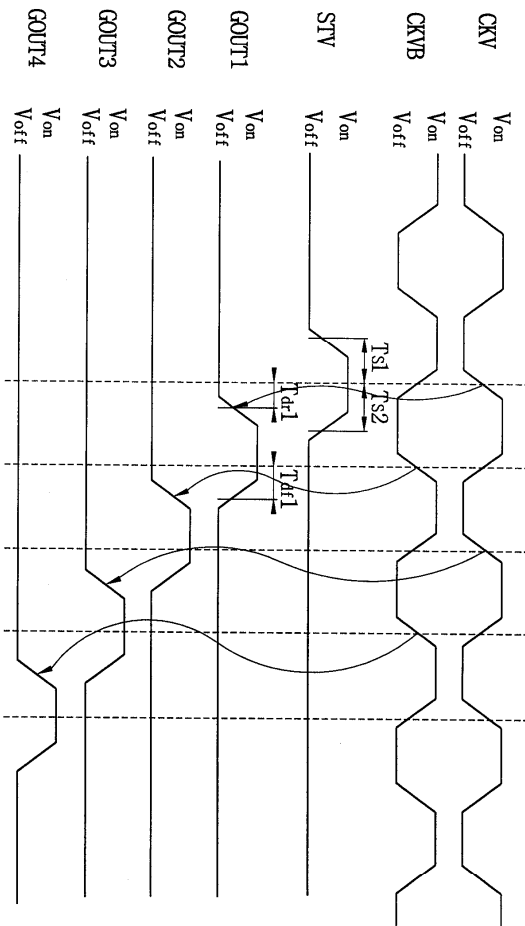
170



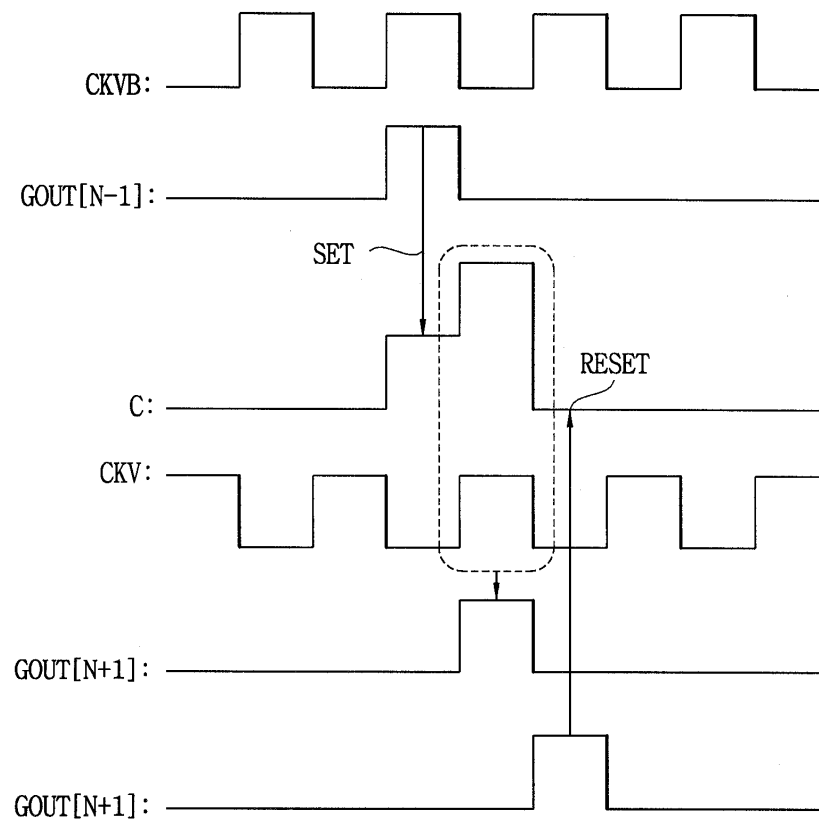
7



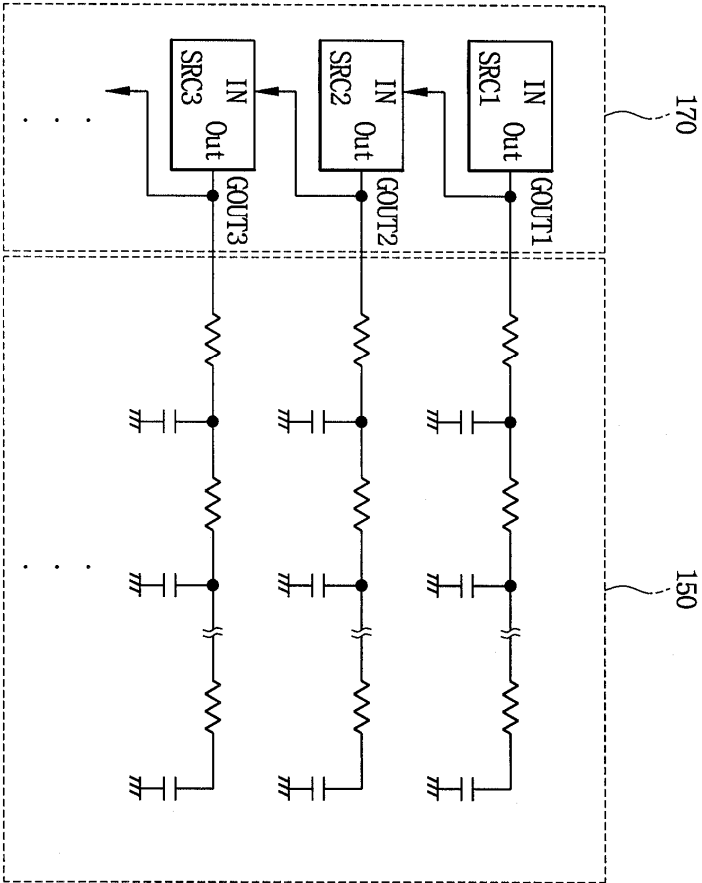
8



9

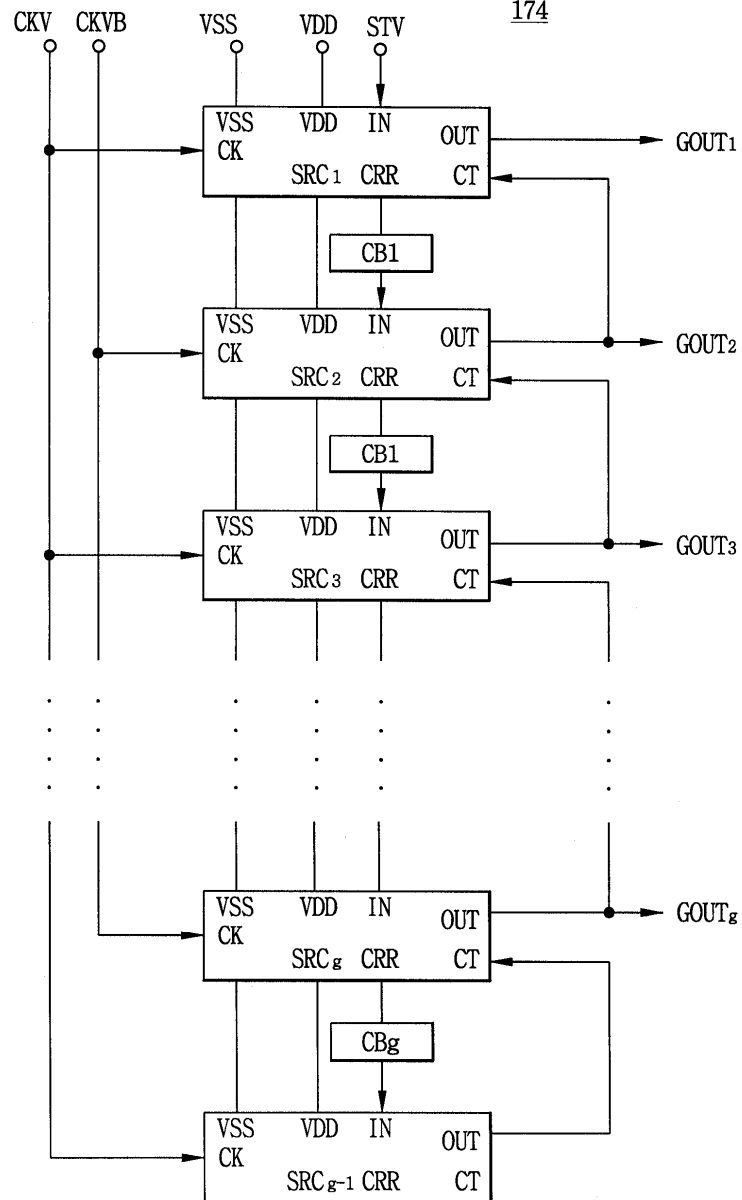


10

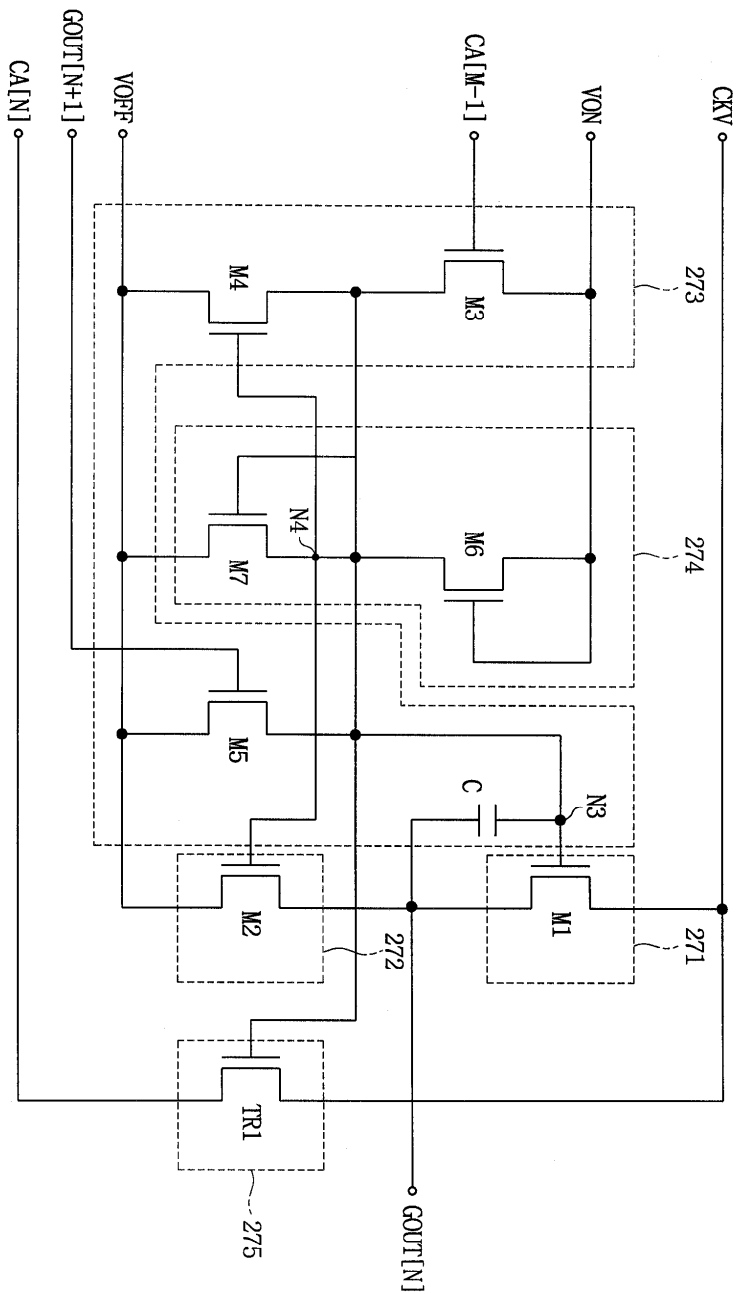


11

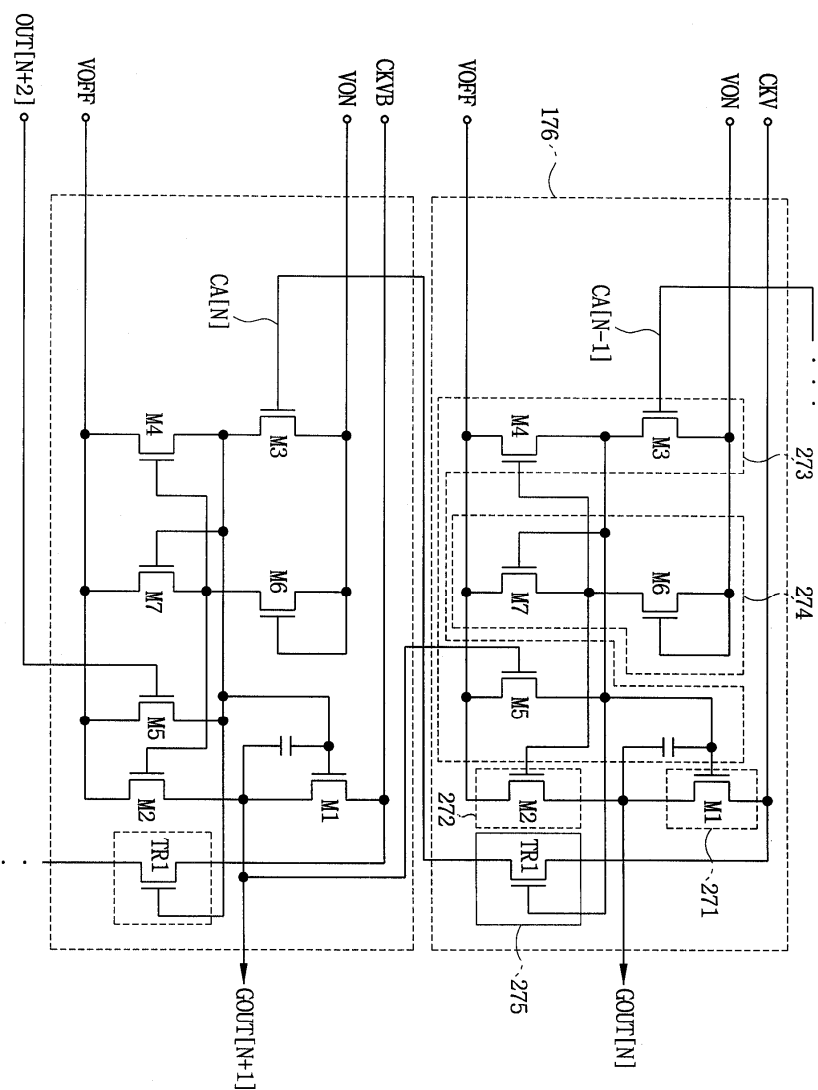
174



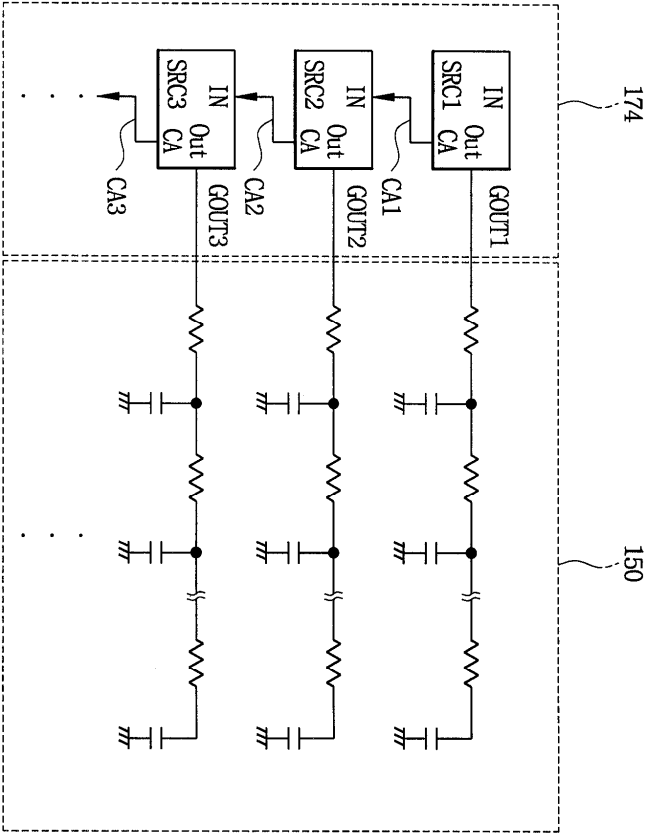
12



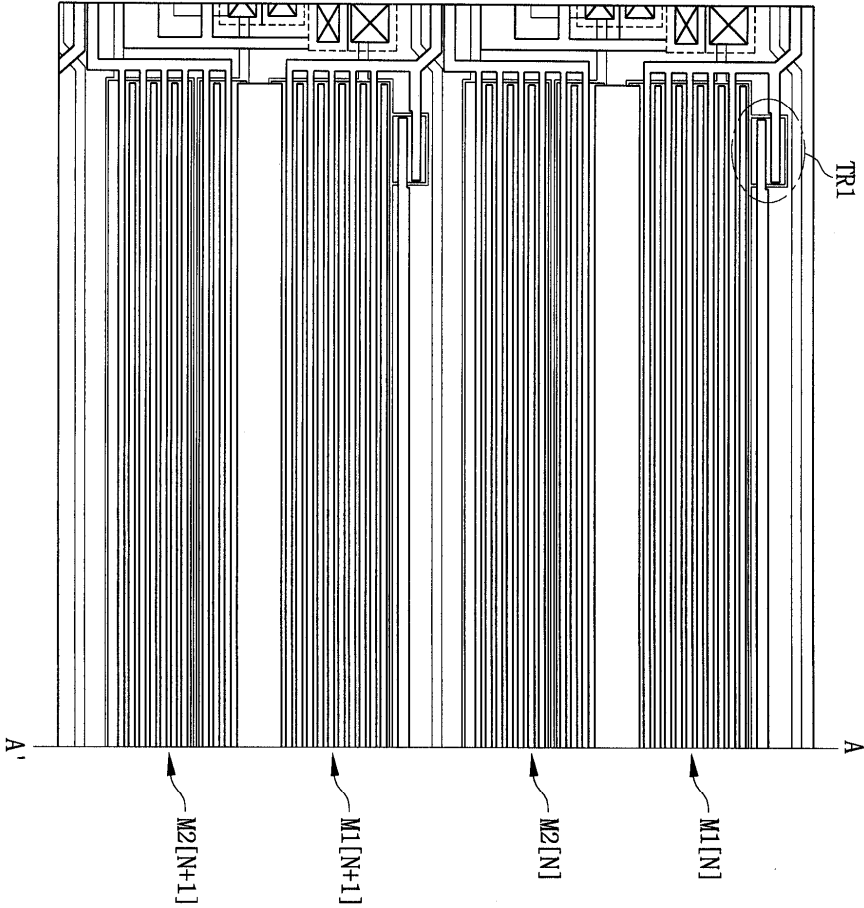
13

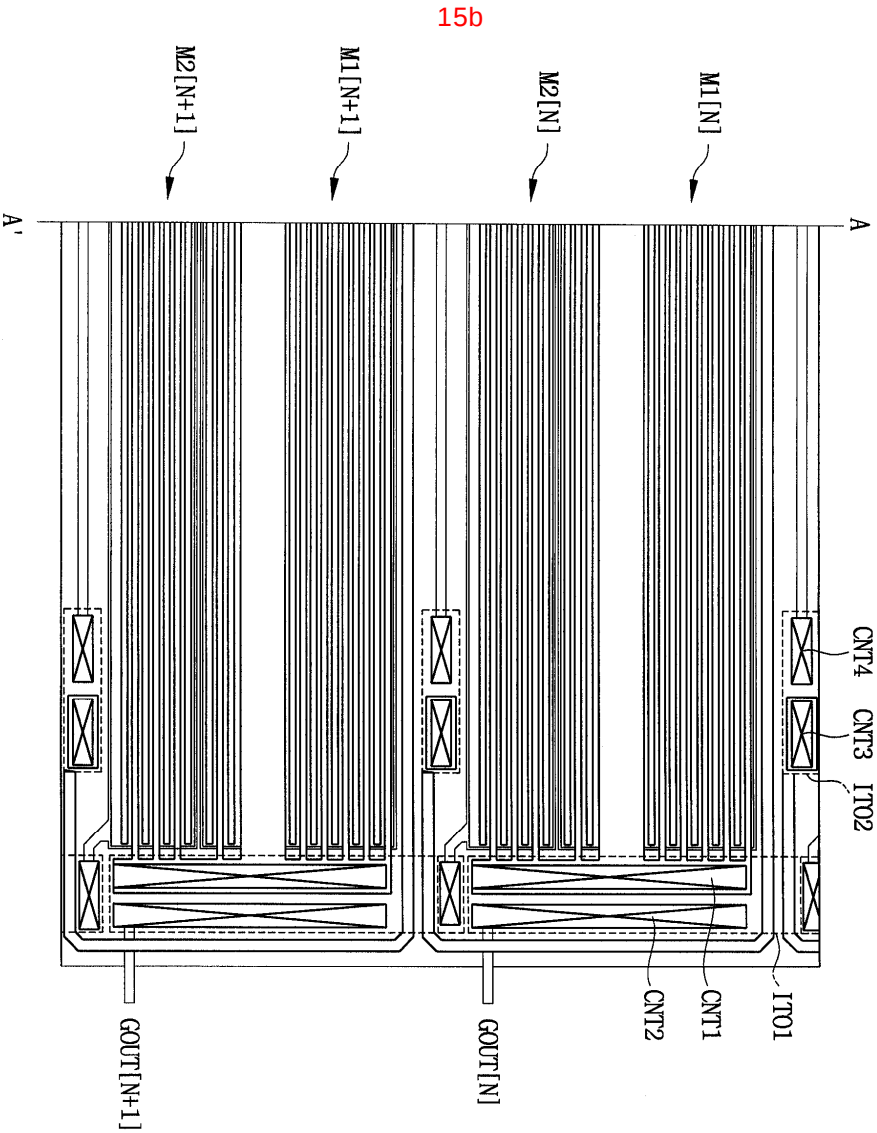


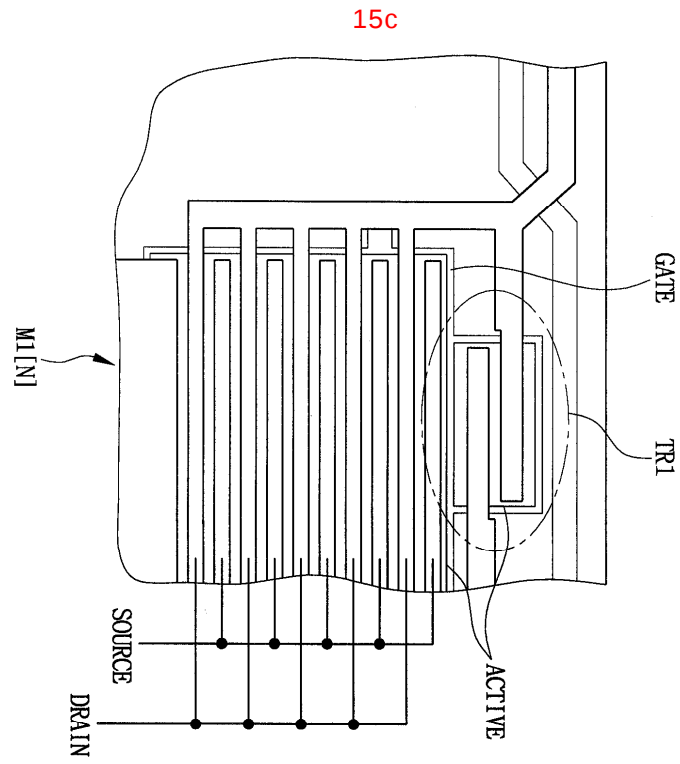
14



15a







专利名称(译)	移位寄存器和具有它的液晶显示器件		
公开(公告)号	KR1020040070537A	公开(公告)日	2004-08-11
申请号	KR1020030006683	申请日	2003-02-04
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	LEE BACKWON 이백원		
发明人	이백원		
IPC分类号	G09G3/36		
CPC分类号	E02B7/44 E02B8/00 E02B8/06		
代理人(译)	PARK , YOUNG WOO		
其他公开文献	KR100917019B1		
外部链接	Espacenet		

摘要(译)

公开了一种适用于具有高分辨率的大尺寸a-Si TFT LCD的移位寄存器和具有该移位寄存器的液晶显示装置。卡里缓冲单元包括：第一电源电压施加到第一和第二控制时钟的传输，并且所述上拉部分提供相应的第一和第二时钟输出端子中的一个的时钟，下拉单元输出的时钟在以下阶段中相应的一个它提供。上拉驱动部分被连接到在输入节点上拉，匝部在响应拉至从的第一进位缓冲器提供一个进位之前的阶段，由上，并且响应于从下一级提供的第二控制信号的第一或前端并且下拉驱动单元连接到下拉单元的输入节点，响应于从前一级的第一进位缓冲单元提供的时钟关闭下拉单元，然后打开下拉部分作为响应。因此，通过在构成移位寄存器的每一级中加入独立产生进位电压的进位缓冲器，当应用于大规模a-Si TFT LCD时，可以使RC延迟最小化。12 指数方面 液晶，移位寄存器，充电，移位寄存器，RC延迟，大屏幕

