

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl.<sup>7</sup>  
G02F 1/133

(11)  
(43)

10-2004-0095053  
2004 11 12

(21) 10-2003-0028650  
(22) 2003 05 06

(71) 416

(72) 202 602

1161                      5                      505    206

(74)

•

•

(54)

가

1 1 , 1 1 2 , 2 1  
3 , 2 2 1 1  
1 2 . , .  
,

5 2 1 2 .

6 1 1 2 .

7 6 .

< >

100 : 200 : 1

300 : 2 400 :

500 : 600 :

PG1 : 1 P1 : 1

P2 : 2 P3 : 3

,

1 , 1 3 . 1 ,  
1 2  
(Thin Film Transistor; , TFT)가 .

, 가 , 가 가 , 1 2 1  
2 , 1 , 2  
1 2 .

, , 가 가 1 2 1 2

, 3 가 가 , 가 가  
가 .

,

[illegible]

, 3 TFT(Tr3) 2 (PE2)

3 (P3) 5 TFT(Tr5), 6 TFT(Tr6) 3 (PE3) 5 TFT(Tr5)  
 1 (G1) 2 (D2) 6 TFT  
 (Tr6) 5 TFT(Tr5) 3 (PE3) (G1)

1 (PG1) (DA) 1 (PG1) 1 (DA)  
 P1 ~ P3 2 (P1, P2) 1 (D1) 2 (DA) 1 (PG1)  
 1 2 (PG1)

2b 1 (200) (DA)  
 (G1, G3, G5, G7) 1 (G2, G4, G6) 2 (300)

1 (200) (SRCO1 ~ SRCO4) 1  
 (GOUT), (CT), 1 (CK1), (IN), 1 (SOUT), 2  
 (VDD), (VSS)

1 (GOUT) (G1, G3, G5, G7) 1 2 (SOUT)  
 (G1, G3, G5, G7) 1 (IN), 1 (SRCO1)  
 (CT) (IN) 1 (STO)가

1 (CK1) 1 (CKO) 1 (CKO) 2  
 (CKBO)가 (CKBO) (SRCO1, SR  
 CO3) 2 (CKBO) (SRCO2, SRCO4)  
 (VDD) (VSS)

2 (300) (SRCE1 ~ SRCE4) 2  
 (SOUT), (CT), 2 (CK2), (IN), 1 (GOUT), 2  
 (VDD), (VSS)

1 (GOUT) (G2, G4, G6) 2 (SOUT)  
 (G2, G4, G6) 2 (IN), 2 (SRCE1)  
 (CT) (STE)가

2 (CK2) 3 (CKE) 3 (CKE) 4  
 (CKBE)가 (CKBE) (SRCE1, SR  
 CE3) 4 (CKBE) (SRCE2, SRCE4)  
 (VDD) (VSS)

4 2b 1  
 2

2b 4 (210), 2 (220), 1 (230), 2 (240)  
 (250) (260)

1 (210) 1 (CK1) 1 2 (CKO, CKBO) 1 (GOUT) (220) 1 (CK1) 1 2 (SOUT) .

1 (210) 1 (N1) 1 NMOS (T1) 1 (CK1) (220) 1 (N1) 1 NMOS (T2) .

1 2 NMOS (T1, T2) 3.5 $\mu$ m 1 NMOS (T1) (T1) 1110 $\mu$ m 2 NMOS (T2) 100 $\mu$ m .

1 (230) 1 (210)가 - - 1 (GOUT) (240) 2 (220)가 (CKO, CKBO) (SOUT) 1 2 (CKCO, CKBO) .

1 (230) 2 (N2) 3 NMOS (T3) 1 (GOUT) 240) 2 (VSS) (N2) 4 NMOS (T4) 2 (SOUT) .

3 4 NMOS (T3, T4) 3.5 $\mu$ m 3 NMOS (T3) 20 2035 $\mu$ m 4 NMOS (T4) 3 NMOS (T3) 1/100 $\mu$ m .

(250) 5 7 NMOS (T5, T6, T7) 1 2 (351, 352) - .

5 NMOS (T5) (IN) (VDD) (T6) 1 (N1) 6 NMOS (T6) 3 (N3) 7 NMOS (T7) (VDD) 1 (N1) 3 (N3) , (VSS) .

5 7 NMOS (T5 ~ T7) 3.5 $\mu$ m 5 NMOS (T5) 300 $\mu$ m , 6 7 NMOS (T6, T7) 50 $\mu$ m .

(260) 8 12 NMOS (T8, T9, T10, T11, T12) 1 2 (210, 220) - (230, 240) - .

8 NMOS (T8) 3 (N3) 9 NMOS (T9) (VDD) 1 (N1) 2 (N2) 2 (N2) (IN) (VS) 2 (N2) 10 NMOS (T10) (VSS) .

11 NMOS (T11) 2 (N2) 12 NMOS (T12) 1 (N1) (VSS) (CT) , (VSS) 1 (N1) .

8 12 NMOS (T8 ~ T12) 3.5 $\mu$ m 8 10 NMOS (T8, T10) 100 $\mu$ m , 9 NMOS (T9) 150 $\mu$ m 11 NMOS (T11) 100 $\mu$ m , 12 NMOS (T12) 150 $\mu$ m .

5 NMOS (IN) (T5)가 - 2 (SOUT) 1 가 , 가  
 1 NMOS (T1) 1 (N1) 가 . 1 (N1) , 가  
 (GOUT, SOUT) 1 1 2 NMOS (T2)가 - 1 2  
 , 6 NMOS (T6) - , 1 (N1) 가  
 7 NMOS (T7)가 - , 3 (N3) 가 .  
 3 (N3) 가 8 NMOS (T8) - ,  
 2 (N2) 가 (VDD) , 9 NMOS (T9) 1  
 (N1) 가 - 2 (N2) (VSS) ,  
 3 4 NMOS (T3, T4) - .  
 , (CT) 2 (SOUT) 1 가  
 12 NMOS (T12)가 - 1 (N1) (VSS)  
 1 (N1) 가 7 9 NMOS (T7, T9)가 -  
 , 2 (N2) 가 , 3 4 NMOS (T3, T4)가 -  
 1 2 (GOUT, SOUT) 1 (VSS)  
 , 10 11 NMOS (T10, T11) 2 (N2) 가 -  
 1 (N1) 1 . ,  
 1 1 .  
 5 2b 1 2 .  
 2a 5 , 1 (200) (SRCO1) (IN)  
 1 (STO)가 (VSS) 가 (SRCO1 ~ SRCO4) 1 2 (CKO, CKBO),  
 (VDD) (VSS) 가 .  
 , (IN) 1 (STO)가 (SRCO1)가 -  
 , (SRCO1) 1 2 (GOUT, SOUT) 1 (CKO)가  
 . 1 (CKO) 1 (G1) 1 가 .  
 , (SRCO1)가 - (SRCO2)가 - ,  
 2 (SRCO2) 1 2 (GOUT, SOUT) 2 (CKBO)가 .  
 (CKBO) 3 (G3) 1 가 .  
 , (SRCO2)가 - (SRCO3)가 - ,  
 (SRCO3) 1 2 (GOUT, SOUT) 1 (CKO)가 . 1  
 (CKO) 5 (G5) 1 가 .  
 , 1 (200) (G1, G3, G5)  
 1 .  
 , 2 (300) (SRCE1) (IN) 2 (STE)가  
 (VSS) 가 (SRCE1 ~ SRCE4) 3 4 (CKE, CKBE), (VDD)  
 , (IN) 2 (STE)가 (SRCE1)가 -  
 , (SRCE1) 1 2 (GOUT, SOUT) 3 (CKE)가  
 . 3 (CKE) 2 (G2) 2 .  
 , (SRCE1)가 - (SRCE2)가 - ,  
 (SRCE2) 1 2 (GOUT, SOUT) 4 (CKBE)가 . 4  
 (CKBE) 4 (G4) 2 .

(SRCE3)가 (SRCE2)가 (GOUT, SOUT) (SRCE3)가 (CKE)가 (G2, G4, G6)

(CKBE) (CKBO) (CKO) (G2, G4, G6)가

(G1, G3, G5)가 (G1)가 (G2)가

(P1) (D1) (G2) 1 TFT(Tr1), 2 (G2) 2 T

FT(Tr2), 1 (D1) 2 TFT(Tr2) 1 (PE1) 1 (

2 TFT(Tr1, Tr2)가 (G1)가 1 1

PE1)가 2 (G2)가 2가

(t1) (t2) (G1, G3, G5) 2 TFT(Tr2) 1 TFT(Tr1)

2 TFT(Tr2) (t3) (G2) (G2)

1 TFT(Tr1) 4 (t4) (t3) 2 (G2)

(t3) 1 (t2) 3 (t3) 2 (t2) 3

1 TFT(Tr1) (D1) 2 TFT(Tr2) 2 TFT(Tr1, Tr2)

(PE1)가 (D1) (PE1)

(t5) (t6) (D1) (P1) (P2) (PE2)

5 (t6) 5 (t5) 1 TFT(Tr1)가 (t6) (t6)

2 (PE1) 1 (PE1) 3 4 TFT(Tr3, Tr4)

(PE2)

(D1) 1 (D1) 1 2 (P1, P2)가 1

(PE1) 2 (PE2)

(G1, G3, G5) (G2, G4, G6)

6 1 1 2 7 6

6 (DA) (PA3) (PA1, PA2) 1 2

(200, 300)가 (IT), (400) (400)

(CH)), 1 (200) 1 (GC1) 2 (OT1)

2 (300) 2 (GC2) 2 (OT2)

6 7 (400) (410), (420), (430),

(Vcom) (440), 1 2 (450, 460) (IT)

(410) (420)

, .

, (410) 1 (450) 1 (GC1) 2  
 (460) 2 (GC2) 1 (GC1) 1 (STO), 1  
 (CKO), 2 (CKBO), (VSS) (VDD) 2 (GC2)  
 2 (STE), 3 (CKE), 4 (CBKE), (VSS) (VDD) .

(410) (420)  
 (430) .

(420) (410)  
 (420) (frame) (line) .

(430) (420) (430) (CH)

, .

1 (450) (410) 1 (GC1)  
 , 2 (460) (410) 2  
 (GC2) STO), 1 (CKO), 2 (CKBO), 1 (VSS) (450) 1 (VDD) (CKBE), 2 (VSS)  
 (460) (STE), 3 (CKE), 4 (CKBE), 2 (VSS)  
 ) (VDD) .

1 (200) 1 (GC1) (G  
 1, G3, G5) 1 (G2, G4) 2 (300) 2  
 (GC2)

(440) (Vcom) 가 .

(

R, G, B

, 1 2 가 가 , 1 2 1

(57)

1. 1 2 1 1  
 , 1 2 1 1  
 1 3 ;  
 1 1 ;  
 2 2 ;



1 2

.

**2.**

1 , 1 ,

1 ;

2 , 1 1

;

1 , 1 1

2 .

**3.**

2 , 1 1 1 1 3 1 2 2

1 , 1 2 2

,

2 2 2 1 3 1 2 3

2 2 1 3 4

.

**4.**

2 , 2 ,

2 ;

1 , 1 3

;

1 , 3 2

4 .

**5.**

4 , 1 3 1 1 - 2 1

5 1 -

6 .

**6.**

2 , 3 ,

3 ;

1 , 2 5

;

1 , 5 3

6 .

**7.**

1 , 1 3 R(Red), G(Green), B(Blue)

.

**8.**

1 , 1 ,

가

**9.**

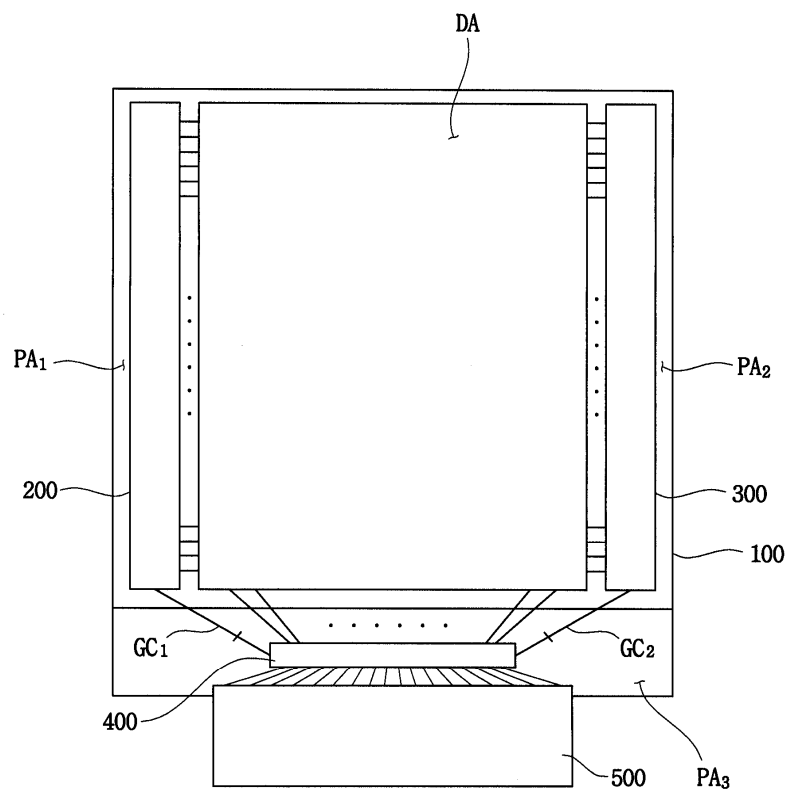
1 , 2 ,

2 , 2 1 , 1

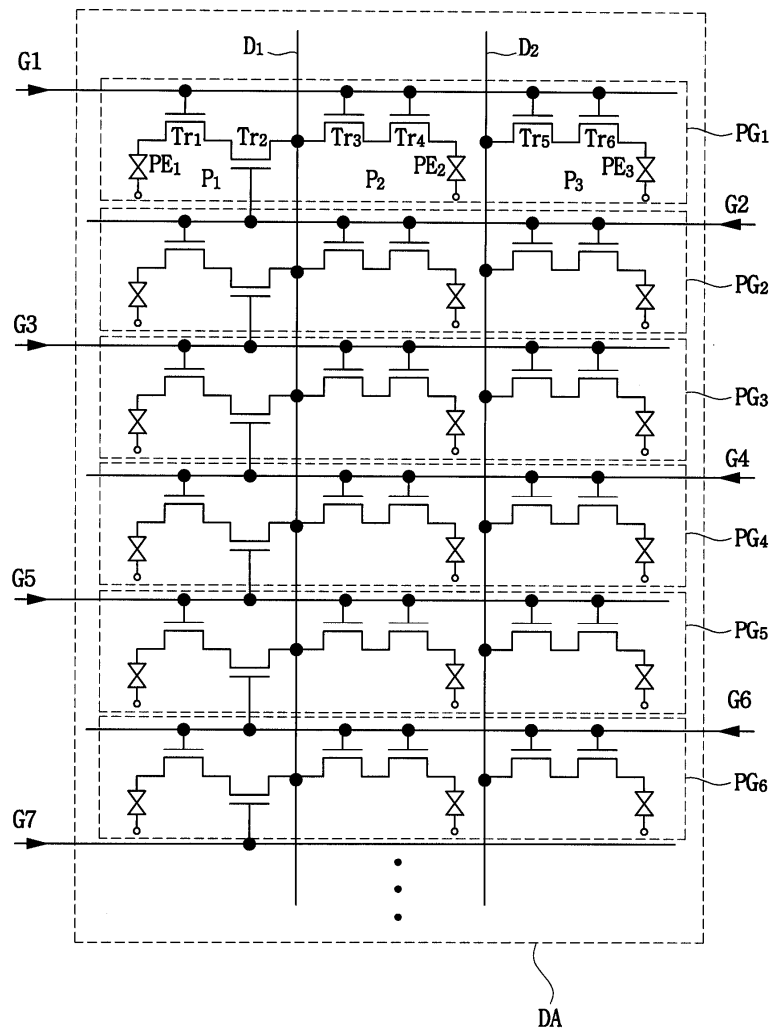
, 1 1 2 , 2 1

1 가 2 2 1

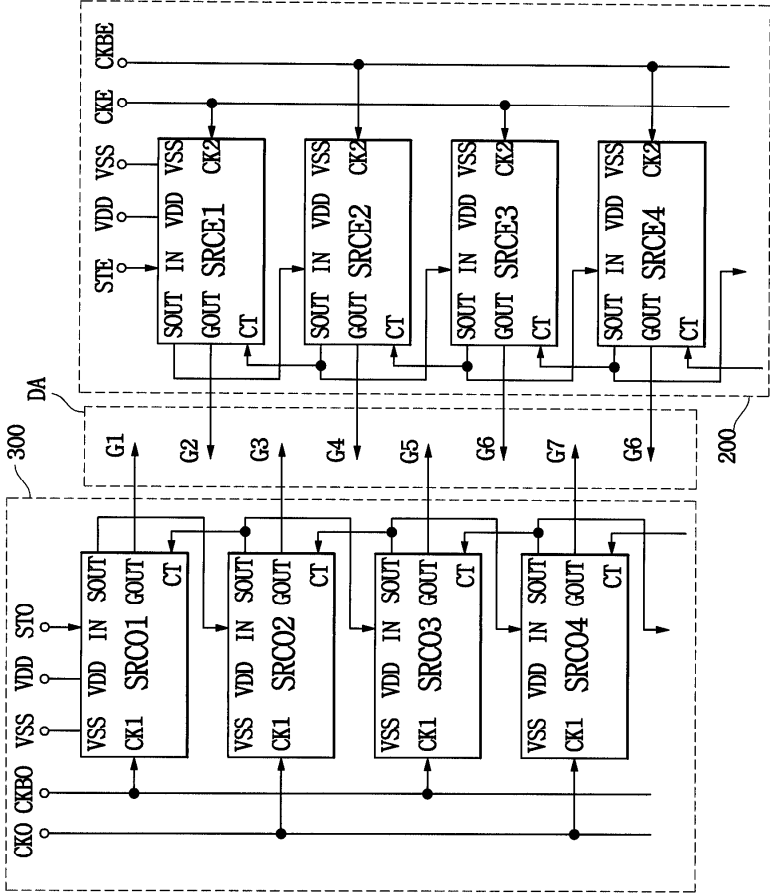
600<sup>1</sup>



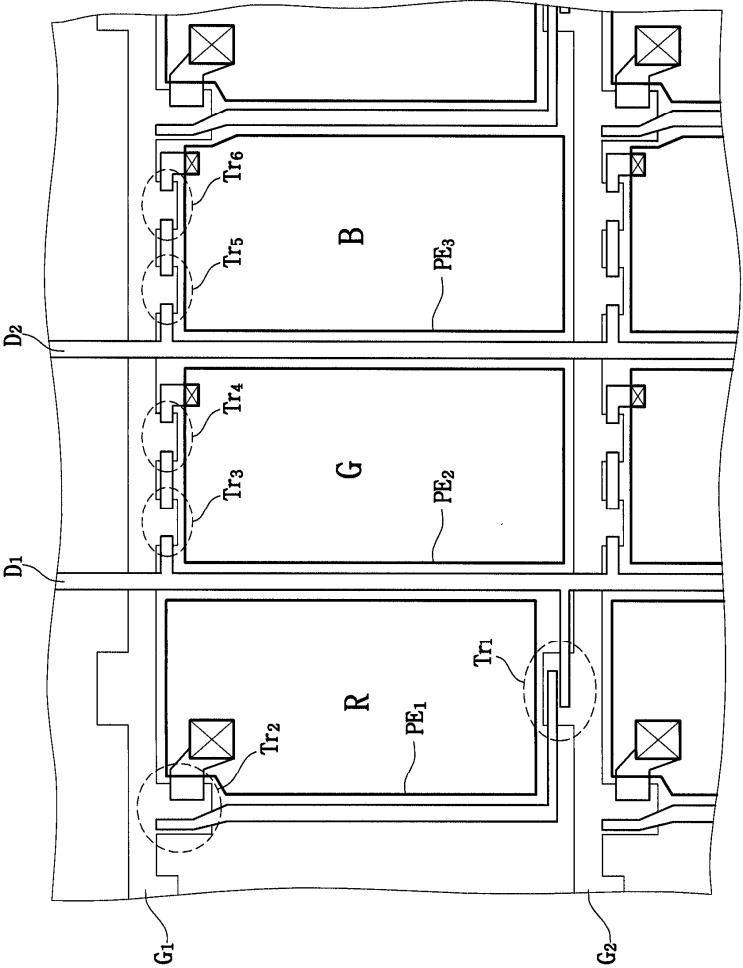
2a

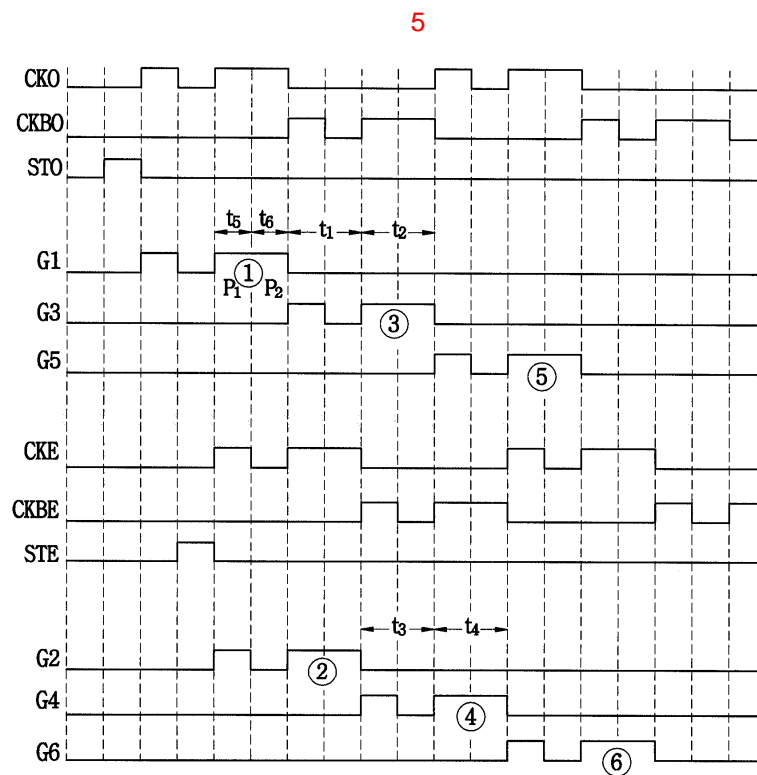
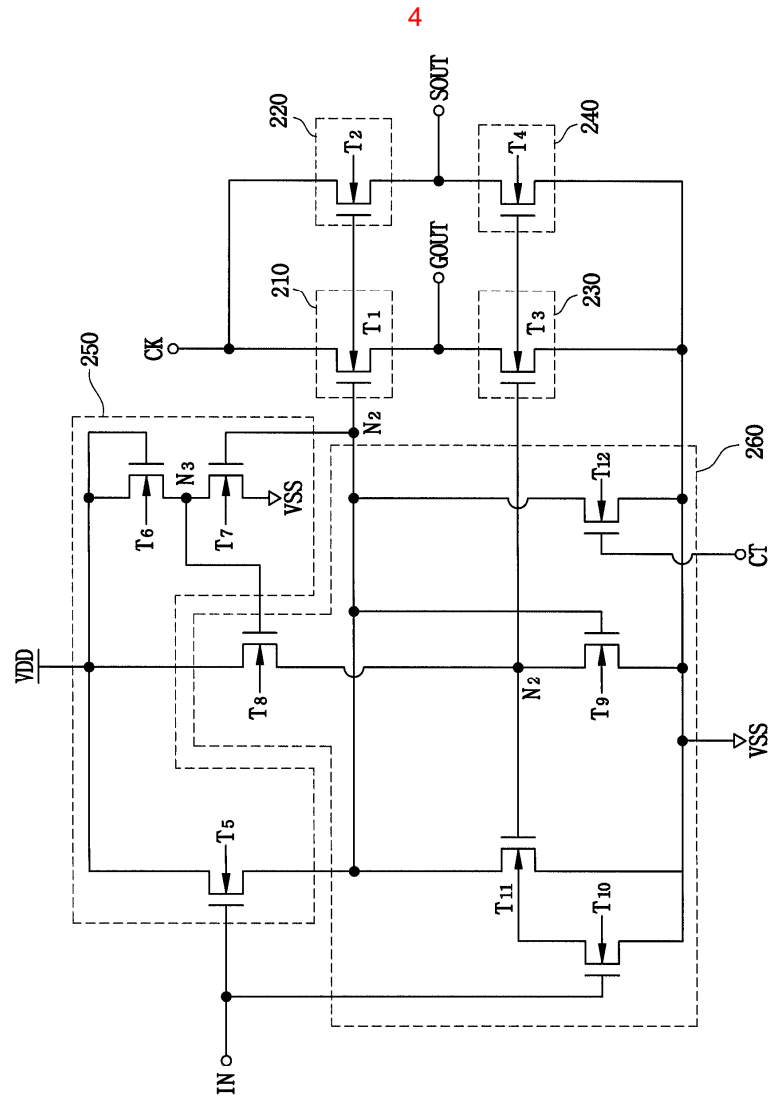


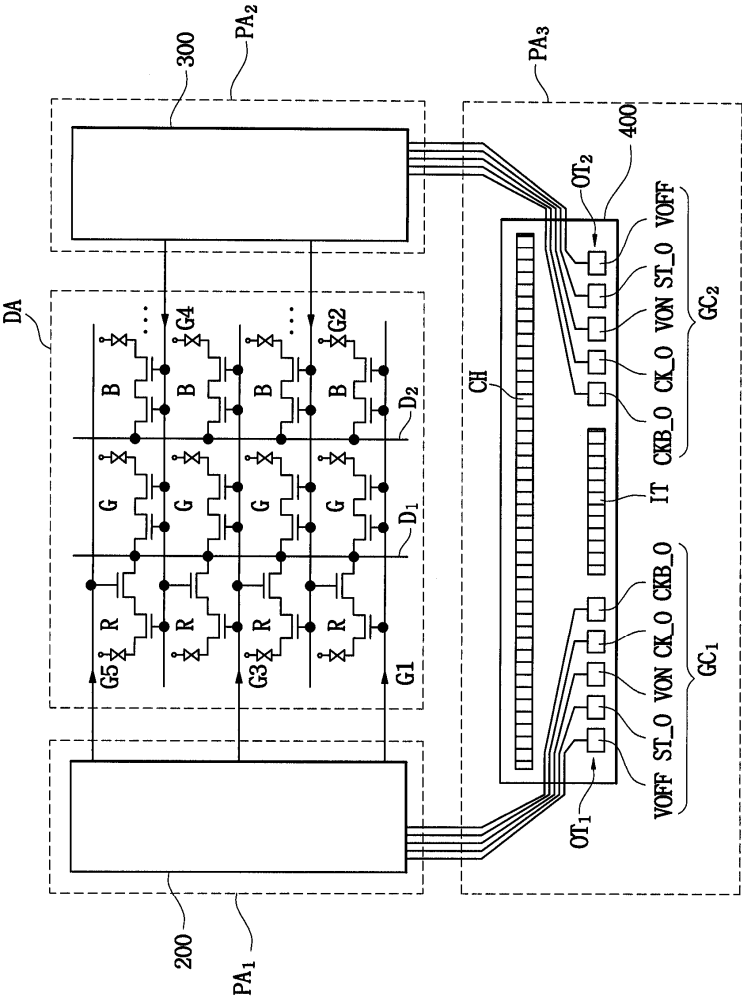
2b

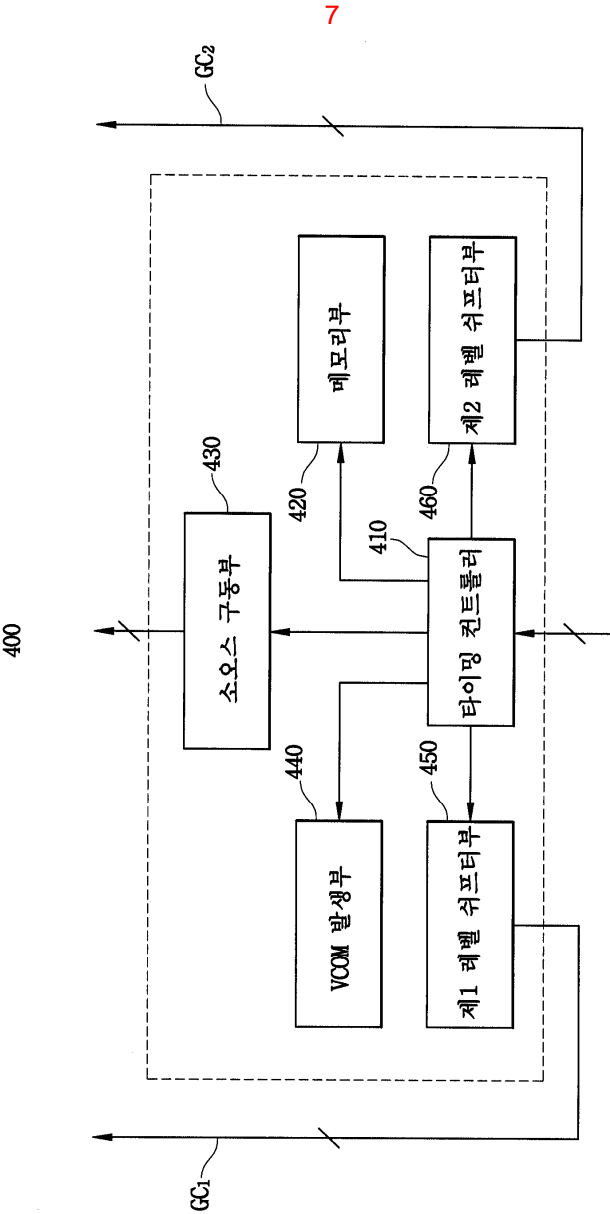


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专利名称(译)	液晶显示器		
公开(公告)号	<a href="#">KR1020040095053A</a>	公开(公告)日	2004-11-12
申请号	KR1020030028650	申请日	2003-05-06
[标]申请(专利权)人(译)	三星电子株式会社		
申请(专利权)人(译)	三星电子有限公司		
当前申请(专利权)人(译)	三星电子有限公司		
[标]发明人	JEON JIN 전진 KIM HYUNGGUEL 김형걸		
发明人	전진 김형걸		
IPC分类号	G09G3/36 G02F1/1368 G02F1/1362 G02F1/1345 H01L29/786 G02F1/133 G02F1/1343		
CPC分类号	G11C19/28 G09G2300/0814 G09G3/20 G09G3/3688 G09G3/3659 G02F1/136286 G09G2310/0289 G09G3/3677 G09G2310/08 G09G3/3648 G09G2300/0426		
代理人(译)	PARK , YOUNG WOO		
其他公开文献	KR100913303B1		
外部链接	<a href="#">Espacenet</a>		

#### 摘要(译)

公开了一种能够改善显示特性的液晶显示装置。液晶显示面板包括连接到第一栅极线的第一像素，第二栅极线和第一数据线，连接到第一栅极线和第一数据线的第二像素，以及连接到第二数据线和第一栅极线的第二像素还有第三个像素组。第一栅极驱动器将第一栅极驱动信号输出到第一栅极线，第二栅极驱动器将第二栅极驱动信号输出到第二栅极线。数据驱动器产生视频信号并将其提供给第一和第二数据线。因此，可以改善液晶显示装置的显示特性，并且可以减少在液晶显示板上形成的数据线的数量。图2a

