

(19)
(12)(KR)
(A)(51) . Int. Cl.⁷
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)

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

2a

1

2a 1

2b 1 1 2

3 2a

4 2

5	2	1	2
6	1	1	2
7	6		

< _____ >

100 : 200 : 1

$$300 : 2 \qquad \qquad \qquad 400 :$$

500 : 600 :

PG1 : 1 P1 : 1

P2 : 2 P3 : 3

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

, 가 . , 가 가 . , 1 2 1
가 . , 2 1 2 2

1 2 1 2
가 가 .
3 .
가 .
가 .

		3 TFT(Tr3)		2	(PE2)		
3 1 (Tr6)	(P3) 5 TFT(Tr5), 6 TFT(Tr6)	5 TFT(Tr5), 6 TFT(Tr6)	3 2	(PE3) (D2)	1	5 TFT(Tr5) 6 TFT	
	5 TFT(Tr5)			3	(PE3)	(G1)	
P1 ~ P3)	1 2 2	(PG1) (P1, P2)		(DA) (D1) (DA)	1 2	(PG1) (DA)	1 3 (PG1)
2b	1 (G1, G3, G5, G7)	1 (200)		(DA) 1 (G2, G4, G6)	2	2 (300)	
	1 (GOUT), (CT), (IN)	1 (200) (CK1), (CT)			1 (VDD), (IN)	(SRCO1 ~ SRCO4) (IN), 1 (VSS), 1 (G1, G3, G5, G7)	1 (SOUT), (VSS), 2 (SOUT)
	1 (GOUT) (G1, G3, G5, G7) (CT)					1 (IN), 1 (VDD), 1 (VSS)	1 (SRCO1)
CO3)	1 (CKBO)가 , 2 (VDD)	1 (CK1), , 2 (CKBO)	1 (CKO) (CKO)	1 (CKO)	1 (VDD), (VSS)	2 (SRCO1, SR (SRCO2, SRCO4)	
	2 (SOUT), (CT), 2	2 (300) (CK2),			1 (VDD), (IN), 1 (VSS)	(SRCE1 ~ SRCE4) (IN), 1 (GOUT), 2 (VSS)	2
	1 (GOUT) (G2, G4, G6) (CT)	2		(G2, G4, G6)	2 (IN)	2 (IN), 2 (VSS)	, (SOUT)
	2 (STE)가						(SRCE1)
CE3)	2 (CKBE)가 , 4 (VDD)	3 (CK2), , 4 (CKBE)	3 (CKE) (CKE)	3 (CKE)	3 (VSS)	3 (CKE)	4 (SRCE1, SR (SRCE2, SRCE4)
4	2b						1
				2			
2b	4 (250)	, (260)	1 (210), 2 (220), 1 (230), 2 (240)				

1 (GOUT) CKO, CKBO	(210) , 2	1 (SOUT) (CK1) (220)	1 , 2	1 (CK1) (CKO, CKBO) 1 1 2 (CK1) 1 2 1	()
1 , (220)	(210) 1 1 2 (SOUT) (N1) (GOUT)	1 1 2 NMOS (T1, T2)	1 1 2 NMOS (T2)	1 NMOS (T1) 1 (CK1) 1 1 2 (CK1)	()
, (T1) 1/10	1 1110 μ m 100 μ m ,	2 NMOS 2 NMOS	3.5 μ m	1 NMOS ,	1 NMOS (T1)
1 1 1 2 -	(230) 1 1 2 (CKO, CKBO) 2 (SOUT)	1 -	1 -	1 (240) 1 2 2 (CKCO, CKBO)	()
1 , 240)	(230) 2 (VSS) (N2) (VSS)	2 (N2) 3 NMOS 4 NMOS	(T3) 2 (T4)	1 (SOUT) 1 1 2 (GOUT)	()
, (T3) 20	3 2035 μ m 100 μ m ,	4 NMOS 4 NMOS	3.5 μ m	3 NMOS ,	3 NMOS (T3) 1/
52)	(250) -	5 7 NMOS	(T5, T6, T7)	1 2	(351, 3)
) (T7)	5 NMOS , (VDD) 1 (VDD) 1 (N1) (VSS)	(T5) 1 (N1) 1 (N1)	(IN) 6 NMOS 3 (N3) 3 (N3)	(T6) 7 NMOS ,	(VDD)
, (T5)	5 300 μ m ,	7 NMOS 6 7 NMOS	3.5 μ m (T6, T7) 50 μ m	, 5 NMOS	.
, (210, 220)	(260) -	8 12 NMOS 1 2	(T8, T9, T10, T11, T12) (230, 240)	1 2	()
VDD) S)	8 NMOS , 1 (N1) 2 (N2)	(T8) 2 (N2)	3 (N3) 2 (N2)	9 NMOS , (IN) (VSS)	() (VS)
N1)	11 NMOS , (VSS)	(T11) (CT)	(VSS)	2 (N2) 1 (N1)	12 NMOS , (T12)
, 10 NMOS	8 12 NMOS (T8, T10) 11 NMOS	(T8 ~ T12) 100 μ m (T11)	3.5 μ m 9 NMOS 12 NMOS	, (T9) (T12)	8 150 μ m 150
μ m					

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

, (SRCE3) 1 (SRCE2)가 3 (SRCE3)가
 (CKE) 6 (GOUT, SOUT) (CKE)가
 (G6) 2 3 (G2, G4, G6)
 2 (300) , , 3
 , , (CKE) 1 (CKO) 1/4
 (CKBE) 3 (CKBO) 1/4 , , 4
 (G1, G3, G5) 2 가 1 (G2) 1/4 (G2, G4, G6) 가
 2 1/4 (G1) 가 1 2 (G2) 1/4 2 가
 1 (P1) 2 (G2) 1 TFT(Tr1), 2 (G2) 1 2 T
 FT(Tr2), 1 (D1) 2 TFT(Tr2) 1 (D1) 1 (G1) 1 1
 2 TFT(Tr1, Tr2)가 2 TFT(Tr1, Tr2) 2 TFT(Tr1, Tr2) 1 (G1) 1 1
 PE1) 가 2 (G2) 가 2 가
 1 TFT(Tr1) 4 (t4) 3 (t3) 2 (G2) 2 TFT(Tr2)
 1 (t3) 1 2 2 (t2) 3 (t3) 2 (t2) 3
 1 TFT(Tr1) 1 (D1) 1 (D1) 1 (P1) 1 (PE2)
 1 (PE1) 가 2 (D1) 2 TFT(Tr1, Tr2) 2 TFT(Tr2)
 1 (t5) 1 (D1) 1 (P1) 1 (PE2)
 6 5 (t6) 1 (D1) 1 (P2) 2 1 TFT(Tr1)가 1 (PE2)
 2 2 5 (t5) 1 (PE1) 2 (P2) 2 1 TFT(Tr1)가 1 (PE2)
 2 (PE2) 1 (PE1) 3 4 TFT(Tr3, Tr4) 6 6 (t6)
 , 1 (D1) 1 (PE1) 2 (P1, P2)가 1
 (D1) 1 (PE1) 2 (P1, P2)가 (PE2)
 , , (G1, G3, G5) (G2, G4, G6)
 6 1 1 2 , , 7 6
 6 , (DA) , 1 (PA1, PA2) 1 2
 (200, 300)가 , 3 (PA3) 1 (400) (400) 2
 (CH), (IT), (DA) 2 (200) 1 (GC1) 2 (OT2) 2 (OT1)
 2 (300) 2 (GC2) 2 (410), (420), (430),
 6 7 (Vcom) (440), 1 (410) 2 (400) (450, 460) (410), (420), (430),
 , , (420) , , , (IT)

, (410) 1 (450) 1 (GC1) , 2 (STO), 1
 (460) 2 (GC2) . 1 (VDD) 1 (GC1) 1
 (CKO), 2 (CKBO), (VSS) (VDD) (VSS), ,
 2 (STE), 3 (CKE), 4 (CBKE), (VSS) (VDD)
 (410) (420)
 (430) .
 (420) (410)
 (420) (frame) (line)
 (430) (420)
 . , (430) , (CH)
 ,
 1 (450) 1 (410) 1 (GC1) , 2 (STO), 1 (460) 2 (CKBO), 1 (VSS) 1 (VDD) 1 (GC1) 1
 (GC2) , 1 (CKO), 2 (STE), 3 (VSS) (VDD) (VDD) (VSS), ,
) (460) (VDD) (VDD) (VDD) (VDD) (VSS)
 1 (200) 1 (GC1) 1 (300) (G 2
 1, G3, G5) 1 (200) 1 (GC1) 1 (300) (G 2
 (GC2) . , (G2, G4) 2 2
) (440) (Vcom) 가 .
)

1 3 , , R, G, B

2 , 1 2 . , 1 2 1

(57)

$$\begin{aligned}
 & 1. \quad , \quad 1 \quad 1 \quad \quad \quad 2 \quad 2 \quad \quad \quad 1 \quad 1 \quad \quad \quad 2 \quad 1 \quad , \quad 1 \\
 & 1 \quad \quad \quad 1 \quad 3 \quad \quad \quad 1 \quad \quad \quad ; \quad \quad \quad ; \quad \quad \quad ; \\
 & 1 \quad \quad \quad 1 \quad \quad \quad 1 \quad \quad \quad ; \quad \quad \quad ; \quad \quad \quad ;
 \end{aligned}$$

1 2

2.

1 , 1 ,

1 ;

2 , 1 1

;

1 , 1 1 1

2

1

3.

2 , 1 1 1 1 1 1 1 1 2

,

2 2 2 1 3 1 2 4 3

4.

2 , 2 ,

2 ;

1 , 1 1 1 3

;

1 , 3 2

4

5.

4 , 5 1 3 1 1 - - 2 1

6

6.

2 , 3 ,

3 ;

1 , 2 5

;

1 , 5 3

6

7.

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

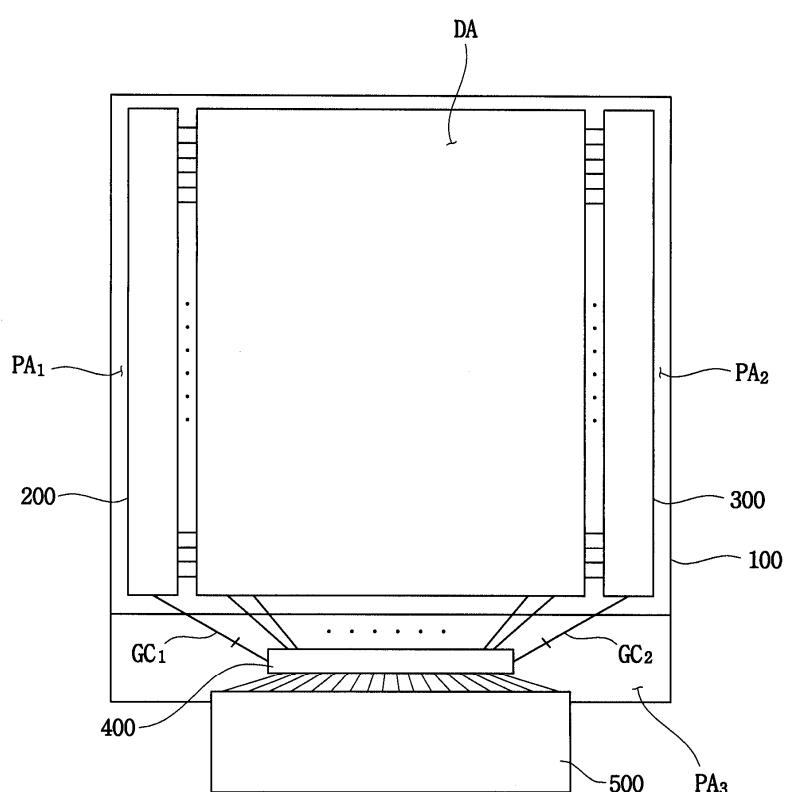
8.

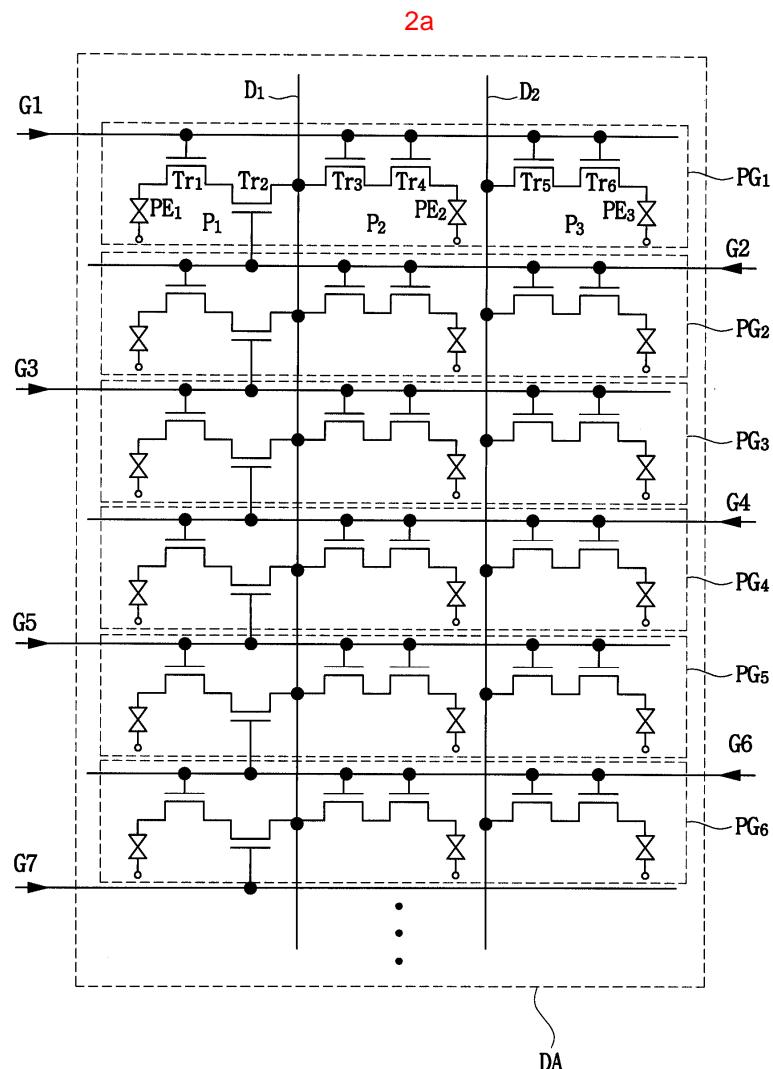
1 , 1 ,

9.
1 , 2 ,
2 , 1 , 1 , 2 , 1 , 2 , 1
, 1 , 1 , 2 , 2 , 2 , 1 , 1
가

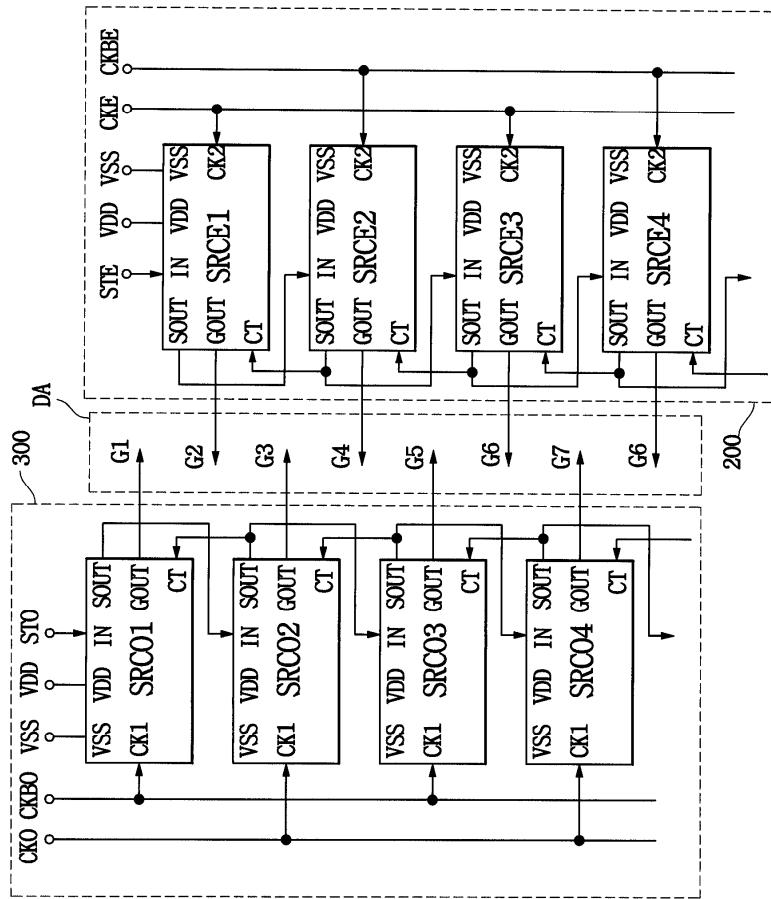
1

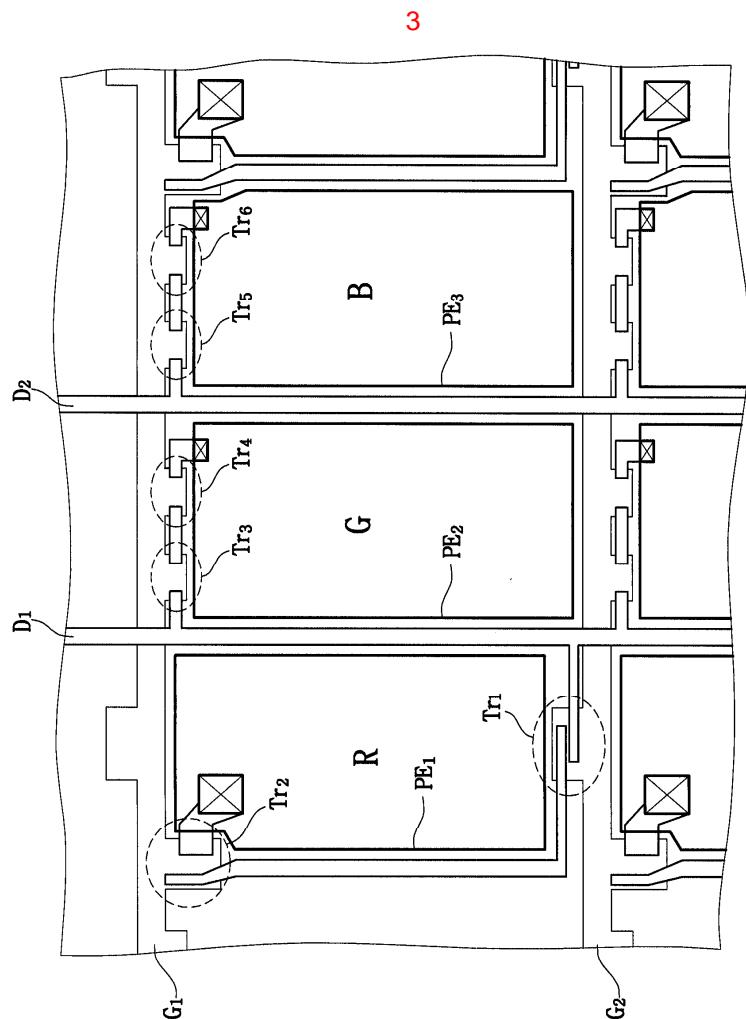
600

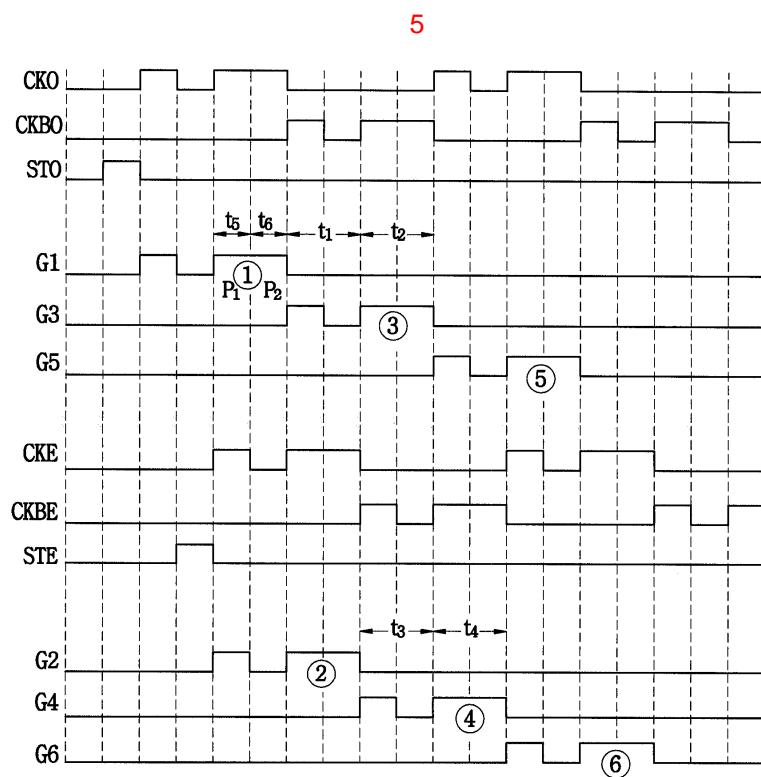
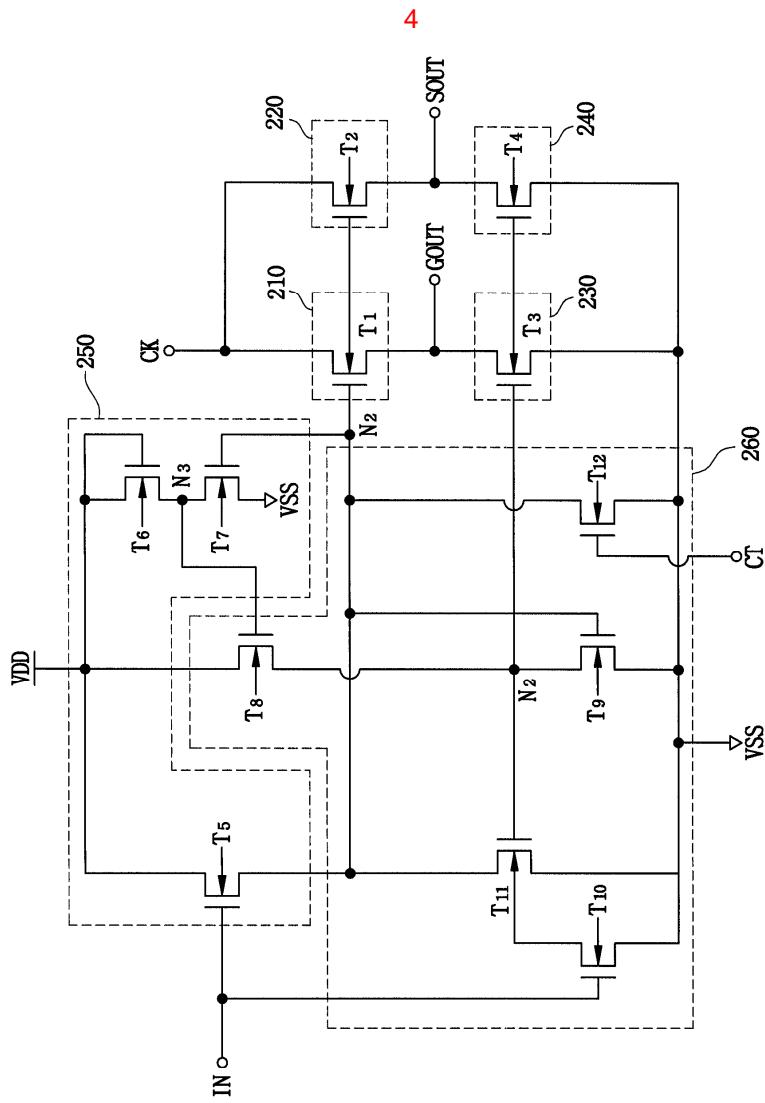


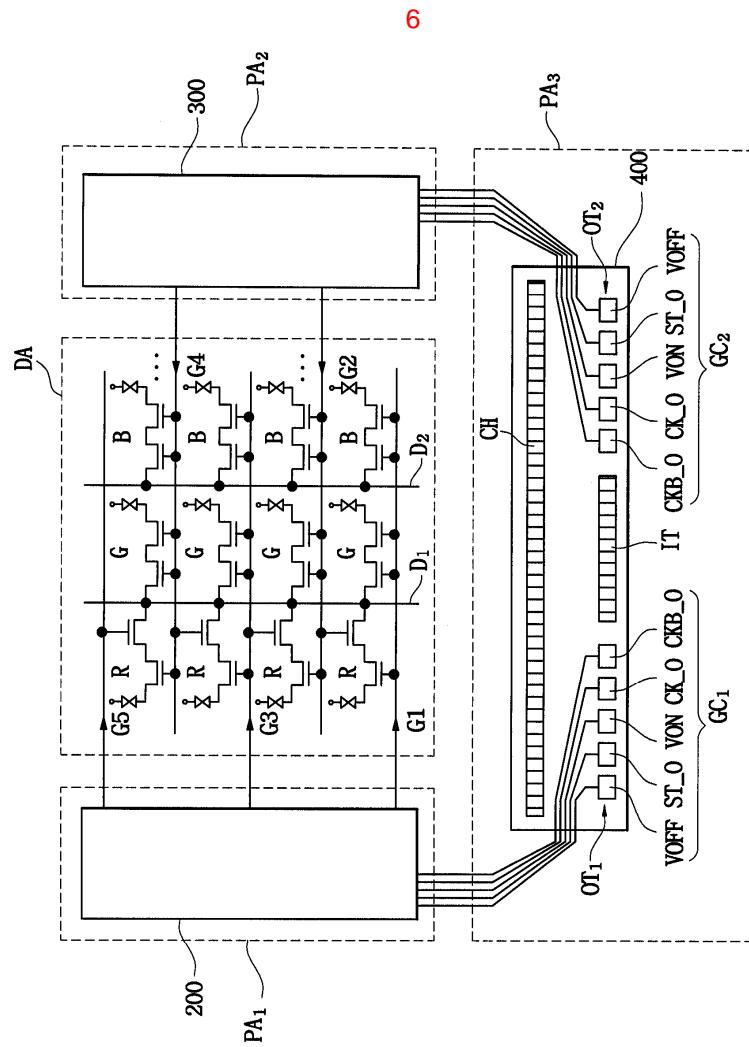


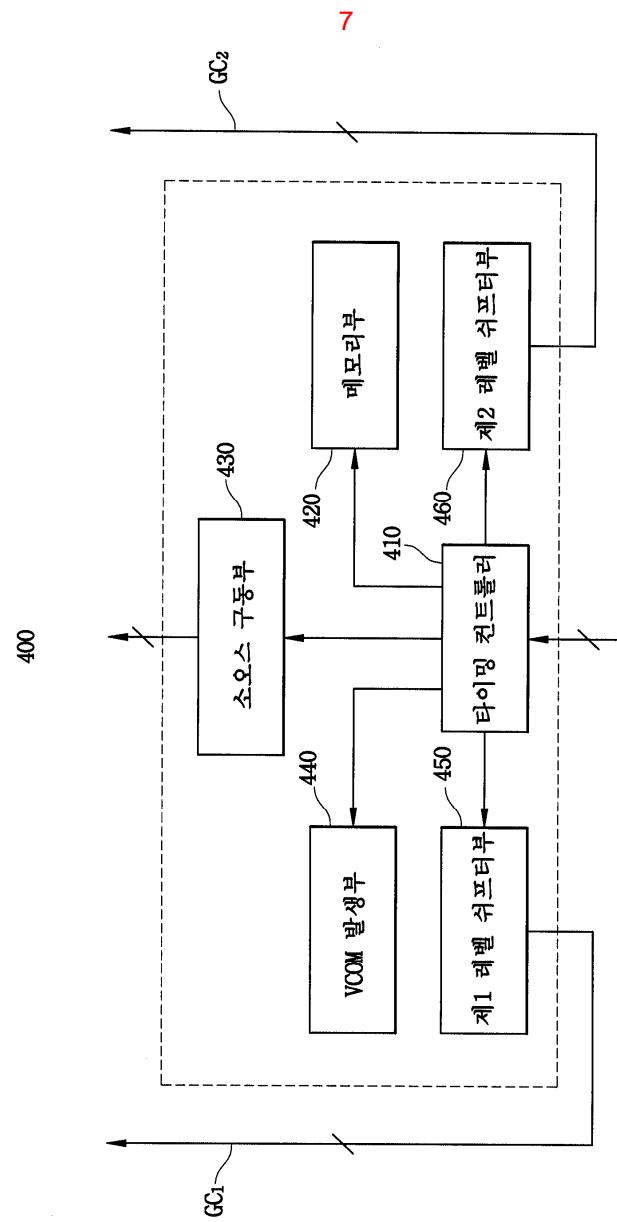
2b











专利名称(译)	液晶显示器		
公开(公告)号	KR1020040095053A	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	Espacenet		

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

