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10-2004-0022939
2004 03 18

(21) 10-2002-0054537
(22) 2002 09 10

(71) . 20

(72) 107-202

(74)
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(54)

10

1
2a 2b 1

3 1

4 2 4

5 3 4

6

7 6 가 .
 8 .
 9 8 IC .
 10 9 .
 11a 11b 10
 가
 < >
 1, 31 : 2, 52 :
 4, 34 : 8, 38 : TCP
 9, 58 : 10, 40 : IC
 12, 44 : PCB 14,44A,44B,44C,44D : TCP
 16, 36 : IC 18, 48 :
 20, 50 : 21, 51 :
 22 : 80 :
 82 : 84 :

(Liquid Crystal Display : 'LCD')

가
 (Thin Film Transistor)

가

가 1

가

(VCOM),

(VGH),

(VGL)

1

가

가

IC(Integrated Circuit)
 TCP(Tape Carrier Package) T
 COG(Chip On Glass)

AB(Tape Automated Bonding) IC IC

TCP TAB IC TCP PCB(Printed Circuit Board)

IC PCB

COG (Line On Glass; LOG) IC

IC TAB LOG PCB

가 IC LOG PCB

IC TAB LOG IC PCB

(,)

LOG (1) PCB (1) (1)

TCP (8) IC(10) T

CP (14) PCB(12) TCP (14) TCP (8) IC (16)

(1) 가 (2) 가 (2)

0) (4) (2) (4) (1) (21) (21)

(18) (2) (2)

(21) (18) (18)

IC(16) LOG (26) (26)

TCP(8) IC(10)가 IC(10) PCB(12)

(24) (25) TCP(8) (24) (22) 가 TCP(

8) (2) LOG (2) (26) PCB(12) (22) 가

LOG (26)

IC (10) (18)

TCP(14) IC(16)가 IC(16) (2) LOG

(26) (28) (30) (30) (28) (2)

(20) IC (16) (VGL) IC(16) (20) (VGH)가 (VGH)

LOG (26) (VGH), (VGL), (VCOM),

(GSP), (GND), (VCC) (GSC), (GOE)

LCD (LC) (Frame Inversion Method)
 (Line Inversion Method) (Dot Inversion Method) 가

가

가 2a 2b 가

1 2

1 () (POL) (SOE) (SOE) () (DL) IC (10) IC (10) (POL) IC (10) (+) (-) (DL) (GOE)가 IC (16) IC (16) (GOE) (VGL)가 IC (16) (GL) IC (16) 가 (6)

3 (A D) IC (16) 가 (6)

(DL_{m-1}) 8V 가 63 n-1 (GL_{n-1}) (VGH)가 m-1 IC (10) (DL_m) IC (10) 가 0

가 63 m 3V IC (10) (VGL)가 n (GL_n) (10) m) 가 0 (GL_{n-1}) (VGH)가 m-1 (DL_{m-1}) IC (DL) 가 0.3V m 5V

m-1) n 가 (GL_n) (VGH)가 m-1 (DL (DL_{m-1}) (VGL)가 (Cp) m-1

VGL)가 A) 2 LOG 1 가 (VGL1) (VGL2) 3 1 1 IC(16) (VGL1) (VGL2) (VGL1) (VGL2) 2 LOG 2 (VGL2) (VGL2) (VGL1) (VGL2) 2 IC(16B) (VGL2) (VGL2) (VGL2) (VGL2) 3 LOG 가 3 (VGL3) (VGL3) 2 (VGL3) IC(16C) (VGL3) (VGL3) 4 LOG (VGL4) (VGL4) 3 4 IC(16D) (VGL4) (VGL4) (VGL4) (VGL4) 4

L4) 1 4 (A, B, C, D) 1 4 (VGL2, VGL3, VG L4) (VGL) 7 4 IC(16A) 16D) IC(16) (VGL1) VGL4) 가 (A D) (A D) IC(16) 가 (6)

가

8 11b

8 , 8 (31) , (31) PCB(42)
,44C,44D) , TCP (38) , (31) TCP (44A,44B)
TCP (38) IC (40) , TCP (44)
IC (46A,46B,46C,46D)

(31) TFT 가 (32) , 가
(34) , (32) (34) (31) ()
50) (48) (51) (52) (48) (51)
(50) (52) (56)
IC(46)

TCP(38) IC(40)가 IC(40) PCB(42)
TCP(38) (52) (VGLL1) TCP(38)
(52) 1 LOG (56)
가) IC (40) (31)
(48)

TCP(44) IC(46)가 (52) LOG IC(46) (VGLL)
(52)

(50) IC (46) (VGH)
(VGH)가
(VGL) IC(46)

IC (46) 9 ()
(GSP) (GSC) (SP)

(82) , (SP) (84)

(82) (SP) (GSP)가 (84) (GSC) (82) (SP)가 (40) (GL) (VGL) (80) (8)

(84) 10 (GT1)가 (SP)가 (VGH) (2) (GT2)가 (GL) (VGL) (80) (8)

) (Cp) IC (VGL)

0) LOG (VGLL) (GND), (GSP), (VCC) (GSC), (VGH), (VGL), (VCOM), (58) (52)

11a 11b IC (VGL) (58) (52)

가 (VGH) 11a (SP)가 (80) 1 (GT11) IC(46B) (VGH)가 (80) (GL21) (GL1K) 1 (GT21)가 IC(46B) (VGH)가

(VGL)가 (VGH)가 (GT12)가 (SP)가 (VGL) (80) IC (VGL) (VGL1) (Cp)

1 IC(46A) (GL21) 2 (GT22)가 (VGL2)가 (R) (VGL1) IC (VGL)

가 (80) 1 IC 2 1 IC (VGL2)가 (VGL2) 1 2 (VGL1) IC 2 1

2 (GL1k) (VGL2) (80) 가 (GL2k) (VGL3) (80) 2 1

3 (VGL4) IC 3 2 (VGL4) IC 4 1 (GL4k)

(80) IC (VGL) IC 가

IC 가

(57)

1.

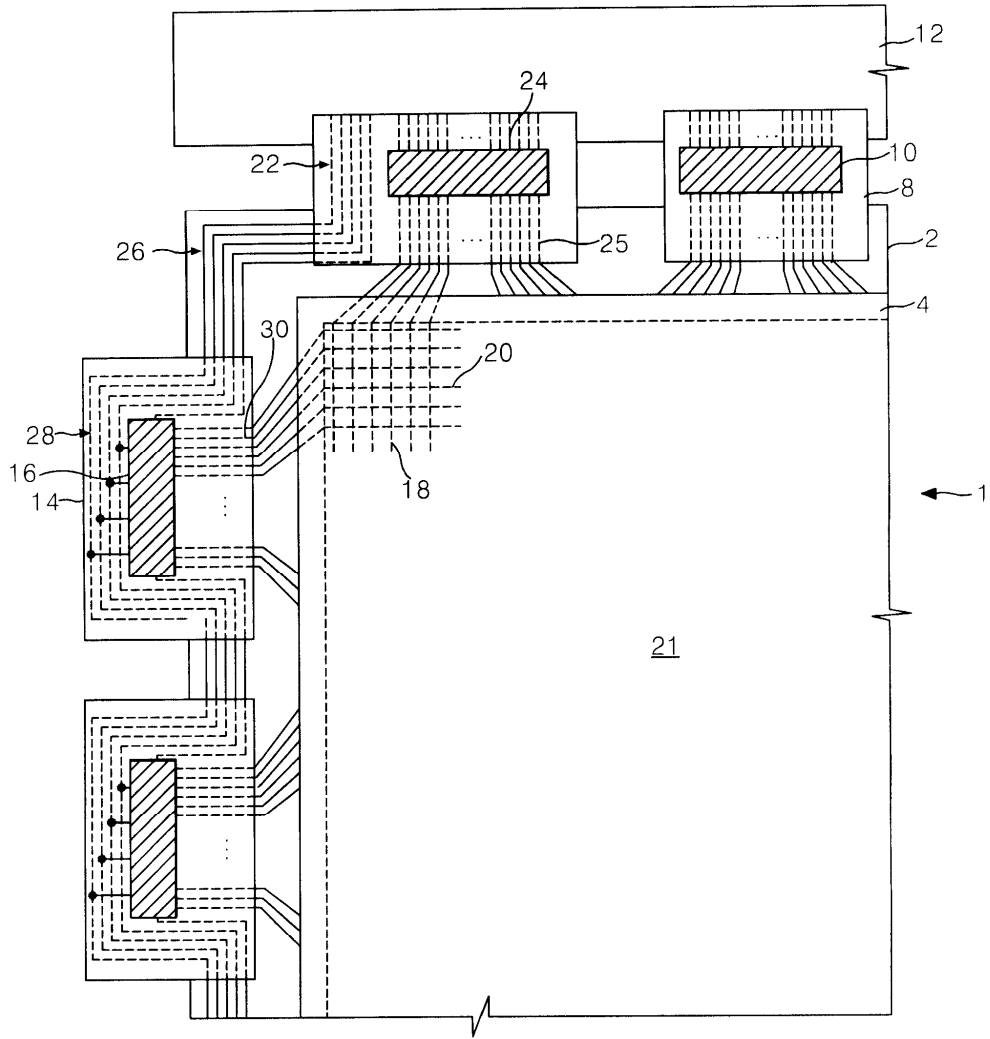
2.

3.

4.

가

1



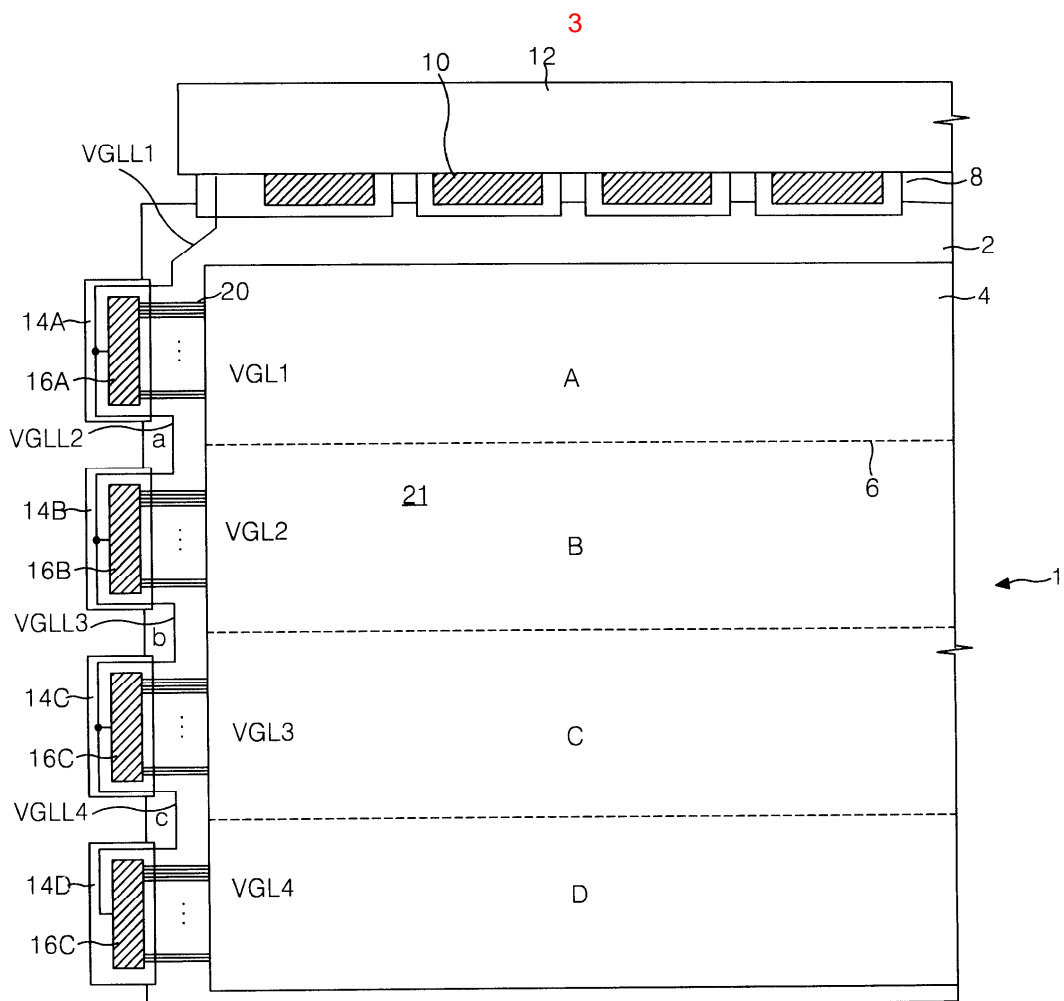
2a

R	G	B	R	G	B	R	G	B	R	G	B
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+

21

2b

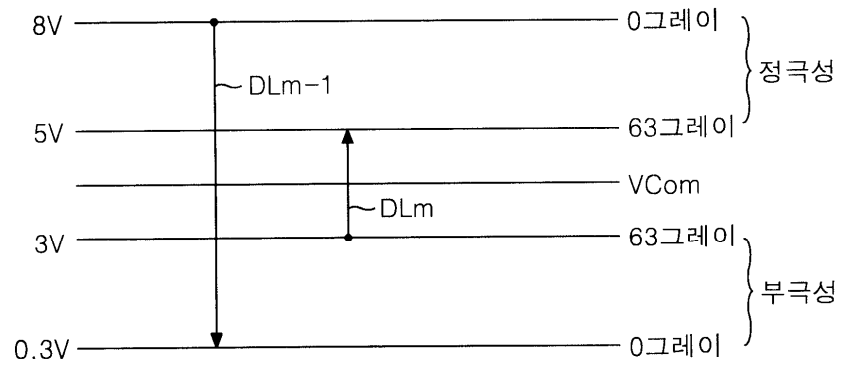
R	G	B	R	G	B	R	G	B	R	G	B
+	-	+	-	+	-	+	-	+	-	+	-
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+
-	+	-	+	-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-	+	-	+	-
+	-	+	-	+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+	-	+	-	+
-	+	-	+	-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-	+	-	+	-
+	-	+	-	+	-	+	-	+	-	+	-



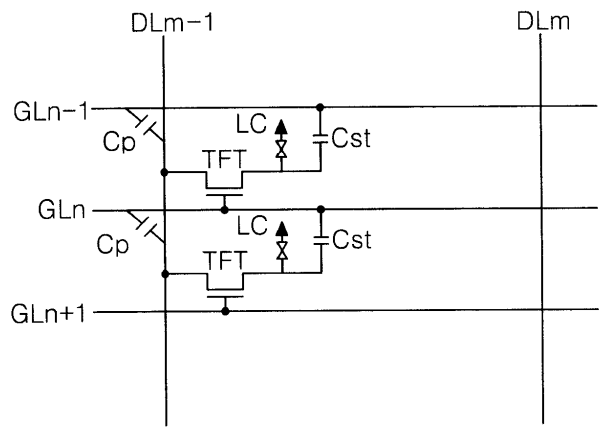
4

	DLm-1 0그레이	DLm 63그레이
GLn-1	+ 8V	- 3V
GLn	- 0.3V	+ 5V

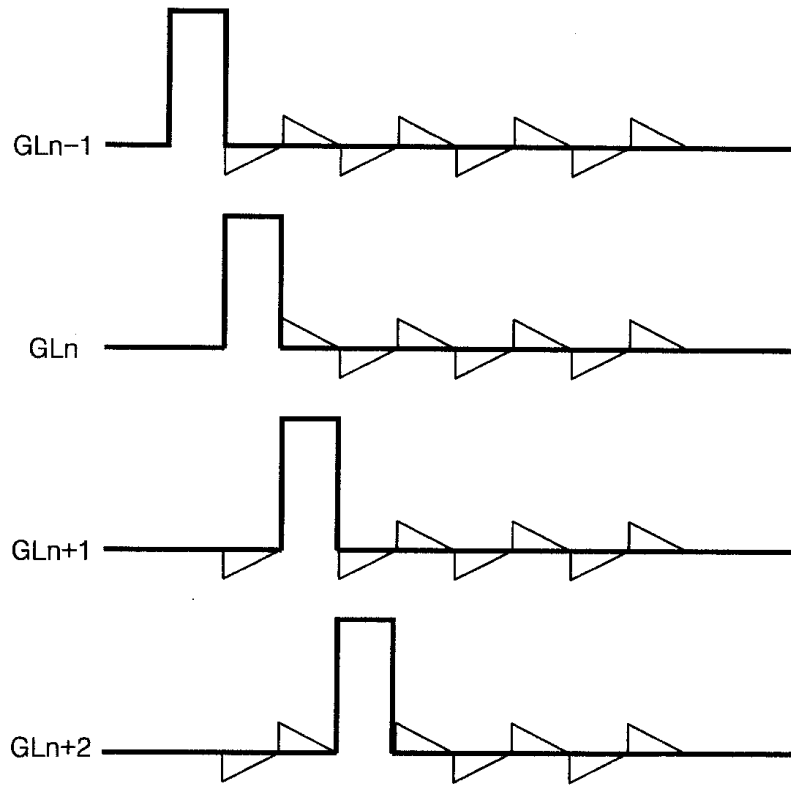
5



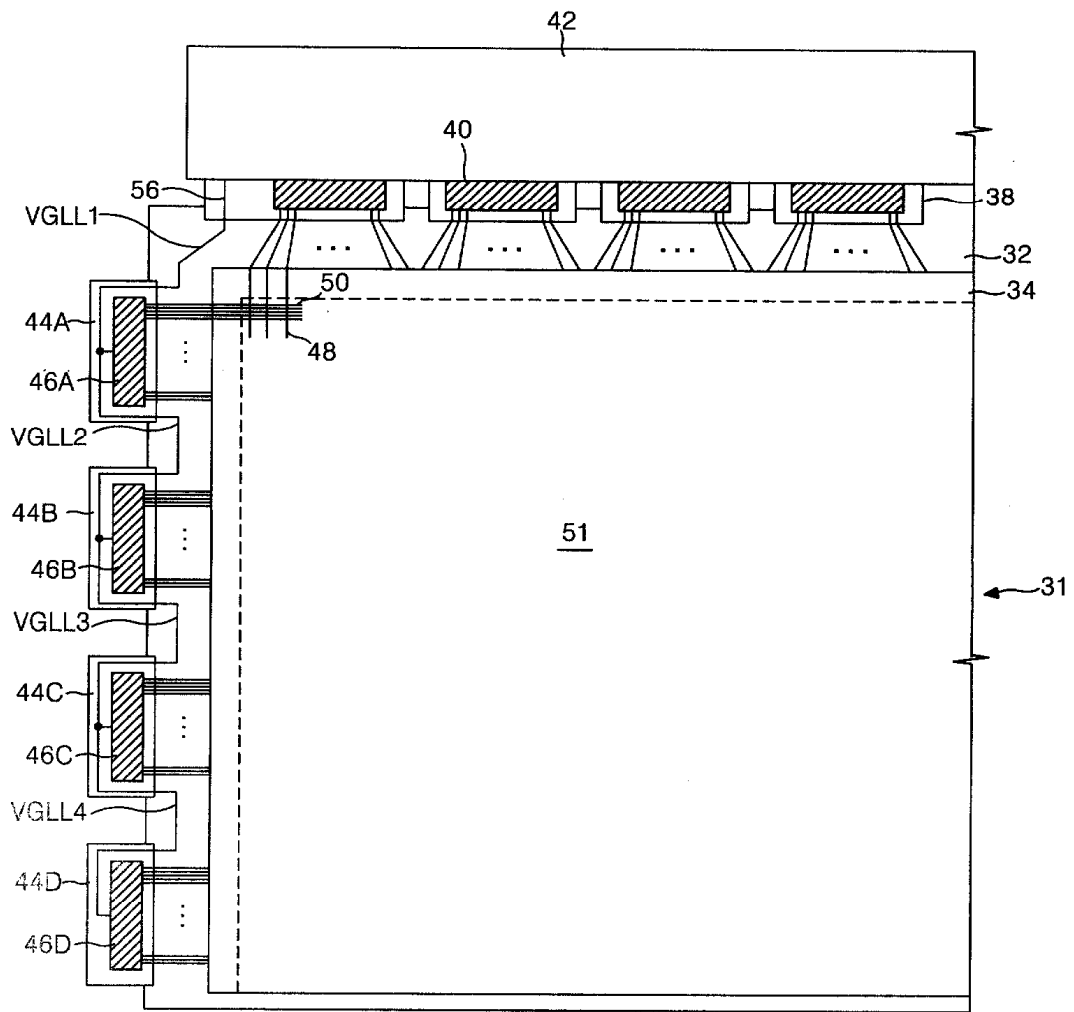
6



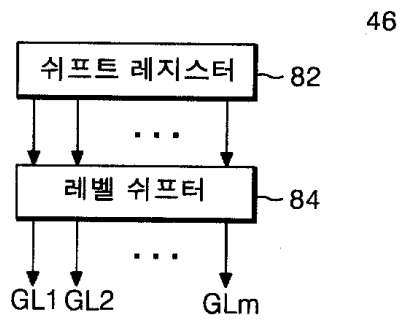
7



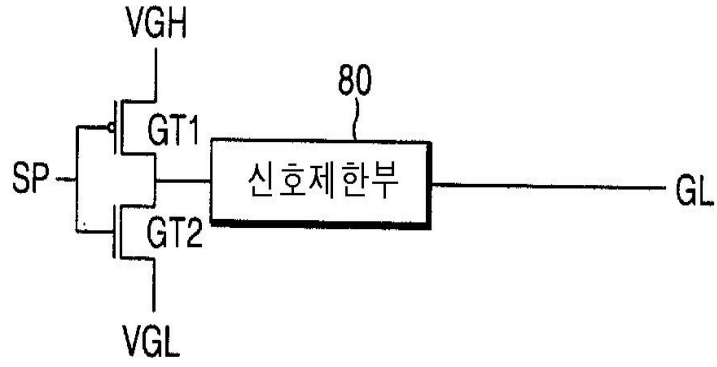
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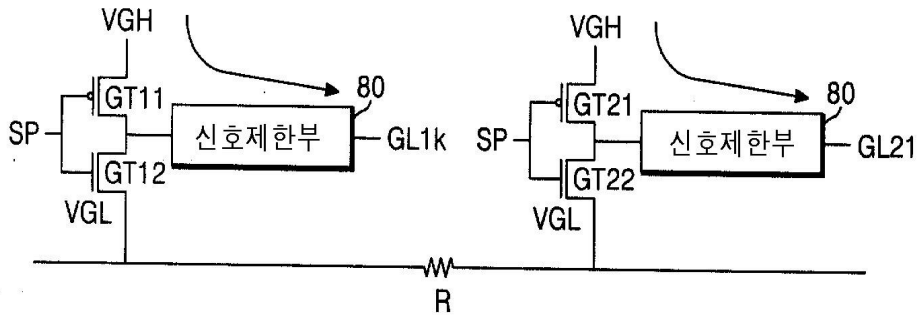
9



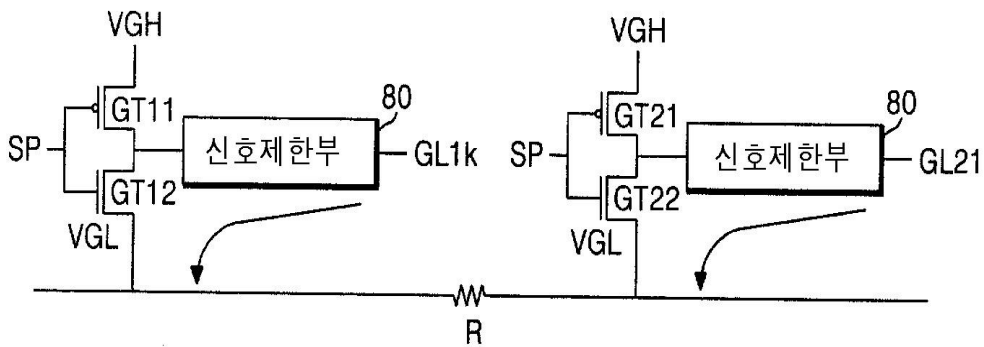
10



11a



11b



专利名称(译)	液晶显示器		
公开(公告)号	KR1020040022939A	公开(公告)日	2004-03-18
申请号	KR1020020054537	申请日	2002-09-10
[标]申请(专利权)人(译)	乐金显示有限公司		
申请(专利权)人(译)	LG显示器有限公司		
当前申请(专利权)人(译)	LG显示器有限公司		
[标]发明人	KIM SANGRAE		
发明人	KIM,SANGRAE		
IPC分类号	G02F1/133		
CPC分类号	G02F1/133 G02F2001/13629 G09G3/3614 G09G3/3648		
代理人(译)	KIM , YOUNG HO		
外部链接	Espacenet		

摘要(译)

液晶显示装置技术领域本发明涉及能够提高图像质量的液晶显示装置。本发明的液晶显示装置包括：显示部分，其中形成用于数据显示的显示信号布线，像素单元以矩阵形式排列；以及显示部分，连接到显示信号布线，并提供显示信号布线所需的驱动信号。多个集成电路，在显示单元的外部区域中以玻璃上方式形成的玻璃上线型信号线，以向多个集成电路，多个集成电路的输出端子提供驱动信号，并且信号限制单元连接在信号线之间并且选择性地限制任何一个驱动信号。 10

