

1 1
2 , 1
3 , 1 TCP
4 , 3 A - A
5 , 3 TCP
6 , 1
7 , 1
8 , 1 LSI
9 , 8 LSI
10 , 1 LSI
11 , 10 LSI
12 , 10 LSI
13 TFT
14 TFT
15 TFT

가

가

LSI

LSI

LSI

LSI

LSI

< >

101 : TFT

102 :

103 :

104 :

105 :

GD1 GDm :

SD1 SDn :

가 .

, TFT(Thin Film Transistor) 13
 (Module) ,
 가 .

13 , TFT (101) (102), (103),
 (104) (105) (102) (106)
 (103) GD1 GDm
 (104) (SD1 SDn)
 (102) , (103) , (104) Nbit
 (,) (102) ()
 (102) (106) , (103),
 (104) (105) ()

(103) (GD1 GDm) (105) 6
 Bg... (GD1 GDm) LSI
 LSI , TCP(Tape Carrier Package)
 (GD1 GDm) (GD1 GDm) LSI (防濕)

(104) (SD1 SDn) (105) 6
 Bs... (SD1 SDn) , 가 LSI
 , TCP

2 (GD1, GD2) 8 (SD1 SD8)
 (SD1 SD8) (GD1, GD2) LSI . 14
 (SD1 SD8)

(GD1, GD2) (111) 가 , ()
 SD1 SD8) (112) (111 112)
 (GD1, GD2), (SD1 SD8) , (1
 02) (111, 112) (113) , 114
 TCP , 115 (113) (111, 112)

TCP (114) (105) ITO(Indium Tin Oxide :)
 (105) (105a) , ACF (Anisotropic Conductive Film :)
 , TCP (114) (111, 112) ,
 (113) (111, 112) ACF . , (111,
 112) (113) .

15 . LSI ,
 (111, 112) ,
 「 6 - 3684 (: 1994 1 14) 」 ,
 (GD1, GD2) (SD1 SD8) TCP (114) ,
 TCP (114) TCP (114) (114) . ,

(102) , (116)
 (102) ACF (GD)
 (SD) .

TCP (114)
 「 2000 - 242240 (: 2000 9 8) 」 ,
 (105) ITO A
 CF .

가 ,
 가 ,
 가 ,
 가 ,
 가 ,
 가 ,

1 2 , 1 2
 , 1 2 , 1 2
 , 1 2 , 1 2

1 2 가, 1 2 1 2

가가 .

< >

1 12

(: 2), (3), (4) (5) TFT (1) TFT (1)
 (3) (2 : GD1, GD2)
 (1 : SD1 SD8) (4)

(2) (3) (4) Nbit
 ()

(3) (GD1, GD2) (5) 6 ()
 Bg... (4) (SD1
 SD8) (5) () Bs...

(GD1, GD2) (SD1 SD8) LSI (GD1, GD2)
 LSI , TCP 가 , TCP (SD1 SD8) LSI TCP (2 : 11)
 , TCP (1 : 12)

a) (3) (4) (5) (5a) (5)
 (GD1, GD2) (5) (SD1 SD8) ACF (5a) ITO (5a)

(2) 2 (6)
 (2) () (5) ()
), (SD1 SD8) SSPI, SCK, LS (2)
 (2) (GD1, GD2) GSPI GCK

(2) DATA · RGB(RGB 6)
 (SD1 SD8) (2) (SD8)
 (GD1, GD2) SSPO (2) (6)
 (6) V_{DD}, V_{CC}, GND (2)
 (SD1 SD8) V_{CC}, GND (Vref1 Vref9)
 (2) (6) (5) (33)

TCP (2)(LSI) 1 TCP (12) , SD1
 TCP (12a) , (SD1) , TCP (12a)
 TCP
 (2), TCP (12a) (13) (5a) (端緣部)
 (13) () (,)
),
 (2) SD1 (5)
 (2) SD1, SD2... , DATA · RGB, ,
 GD1, GD2 ,
 (3) (4)가 (5) (6) (2),
 (5a)
 , TCP (12a) (2) (SD1)
 3 (2) SD1 3 XY , (SD1 SD8)
 , TCP (12a) 가 가
 (SD1) (5) ITO 가 , 가
 (SD1)가 (SD1)가 , TCP (1
 2a) W((5a))가 (5) (5a)가
 (2) (SD1) TCP (12a) 가
 , 3 (2) (LSI) (SD1)가 (21) 4
 3 (22) (21)
 (23) (25) , (22) (26)
 (23) (24)가 (2) (SD1) ,
 Au (27) (24) , (2)
 (SD1)가 TCP
 , TCP (12)(12a) , (22) 50μm
 (23) , Sn 18μm, 30μm
 (22)
 , TCP (12a) (2) (2) (SD1) 5
 (SD1)가 5 XY , (SD
 1 SD8) , W가 , L , TCP (12a) 3
 , (5)
 가 , 5 B - B 3
 가 , 4

(5) 6 TFT 가 (5) (32...)
 (32...) (33) : 33 가 가 (32)
 (33) TFT(31) 35

TFT(31) (SD1 SD8) 가 (GD1, GD2) 가 TFT(31)가 (32) (33)
 (GD1, GD2) 가 TFT(31)가 가
 (32) (33)

(SD1 SD8))
 (34)

7 (36)
 (36) (37)

(3) (GD1, GD2) 8 LSI (41)
 (GD1, GD2) 8
 (GD1)

LSI (41) (42), (43) (44)
 (42) GSP () GCK (5)
 (4) 가

(43) TFT(31) ON/OFF
 (44) (44) (44)
 (1 k) ()

GCK, GSP (1 k) 9
 9 , GSP LSI (41)(GD1) (42)
 , GSP 2 (2) GSPI

GCK (42) (42)
 GCK 2 GCK

GSP GCK (42)
 (42) , 9
 LSI (41) (1 K)

(43) V_{CC} (43) GND V_{CC} V_{DD} GND
 (43) V_{CC} (43) GND (GD1) (42) V_{CC} V_{DD} GND
 (GD1) (次段) (GD2) GSP GSPout
 GSP 가 , 가 , GSP
 , (GD2)가 , GSP
 , GSP, V_{CC}, V_{DD} GND () (GD)
 I TCP LSI LSI LSI LS
 , (4) (SD1 SD8) 10
 , 10 (SD1 SD8) LSI (51)(SD1)
 LSI (51) (52), (53), (54),
 (55), (56), DA (57) (58)
 (52) SSPI (2) SCK
 SCK() , SSPI (52)
 SSPI (2)(2) SSPI
 LSI (51) SPin , SSPI
 DATA · RGB (6)
 LSI (51) (52) SSPI
 (52) LSI (51) SPout SSPO
 SD8 LSI (51) SPin 가
 SSPO (2) SSPO
 (2) R, G, B DATA · RGB 6
 DATA · RGB (2) /SCK (SCK)
 DATA · RGB SD1 R1 - 6in, G1 - 6in, B1 - 6in
 (54) (53)
 RGB 6 (54) 18 (52) DATA ·
 LS가 (2) LS
 , (55) DATA · RGB 1
 가 (55) LS
 (55) 가 (54)
 LS가 (58) (55)
 (54) (55)

(56) (2) (6) , (2)
 Vref1 - 9 64 LSI (51) Vref1 - 9

DA (57) RGB 6
 64 10 X₁
 (58) 64
 X₁₂₈ , Y₁ Y₁₂₈ , Z₁ Z₁₂₈ (5)

X₁ X₁₂₈ , Y₁ Y₁₂₈ , Z₁ Z₁₂₈ RGB , 128
 LSI (51) V_{CC} GND LSI (51)
 128

1 , 64 (SD1 SD8) 1

10 SCK, DATA - RGB, Ls, Vref, V_{CC} GND ()
 (SD1 SD8) LSI LSI LSI LSI LSI (61) TCP LSI
 AI TFT (1) 12

TFT (1) , (5) 가 SCK 가 (5)

SD (1) (5) (5a) (2), GD, (1) , TFT (1) , TFT (1) , TFT (1)

TPC(TCP (12a)) LSI (51)(SD1) LSI ((2)) (2)
 (2)(LSI) TCP 가 (2)
 (2) SD1 1 1 LSI ,

(12) TCP (12) 가 TCP
 (5) ITO ACF
 (2)가 TFT (1) 가

: 12a) TCP(TCP (2) : 11) TCP(TCP (5)

(2) (SD1) TCP (12a) , TCP (12a) LSI (GD1) (TCP) (SD1) (2) (SD1) 가

(2) SD1 TCP (12a) (SD1 SD8)가 TCP (12) (SD8) , LSI (5) SD1 (: 2000 9 8)」 GD (2) (SD1)

TFT (1) 가 가

(2) 가 (: 2)가 (6) (6) (6)가 (2) 1 (2) 1 2 2 (6) 1 2 (2) 2

1 2 1 2 2 1 2 1 2 1 2

er Package) , , TCP(Tape Carri

가 .

1 2 가 1 2 가

1 2 , 1 2 가, 1 2

1 2

1 2

가 1 가 , 2 가 ,

1 2 , 가

(, 가) -

가

가 R, G, B 가 , 가 SCK

1 2 가 1 2

1 2

가

(57)

1.

1 ,

2 ,

1 ,

2 ,

1 2 , 1 2 , 1 2 .

2.

1 ,

1 2 .

3.

1 ,

1 2 ,

1 2 1 2 ,

1 2 , 1 2 ,

1 2 .

4.

1 ,

1 가 , 2 가 .

5.

1 ,

가 .

6.

1 ,

가 , ,

가 , ,

(次段)

7.

1 ,

1 2 ,

.

8.

1 ,

1 2 가, 1 2 .

9.

1 ,

10.

1 ,

1 2 가 LSI .

11.

3 ,

1 가 1

12.

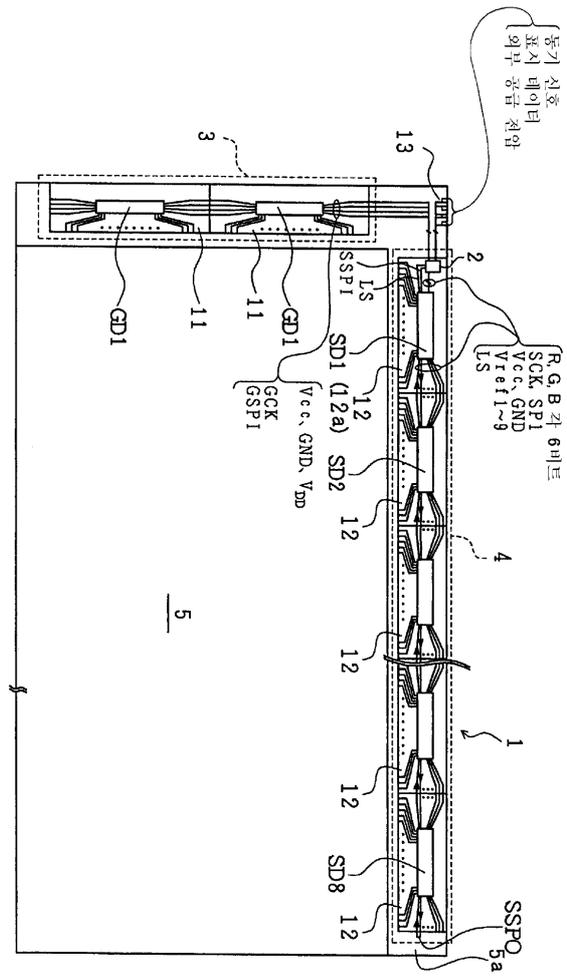
3 ,

1 가 1 .

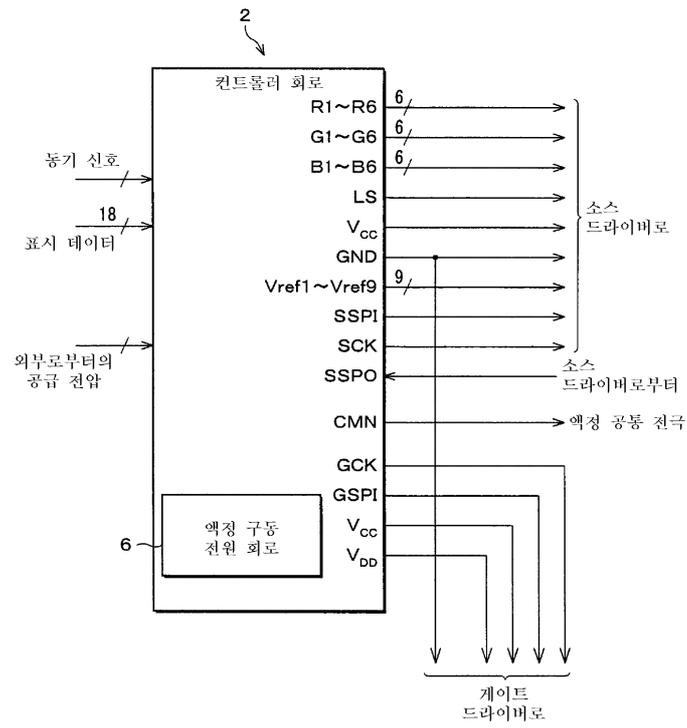
13.

8 ,

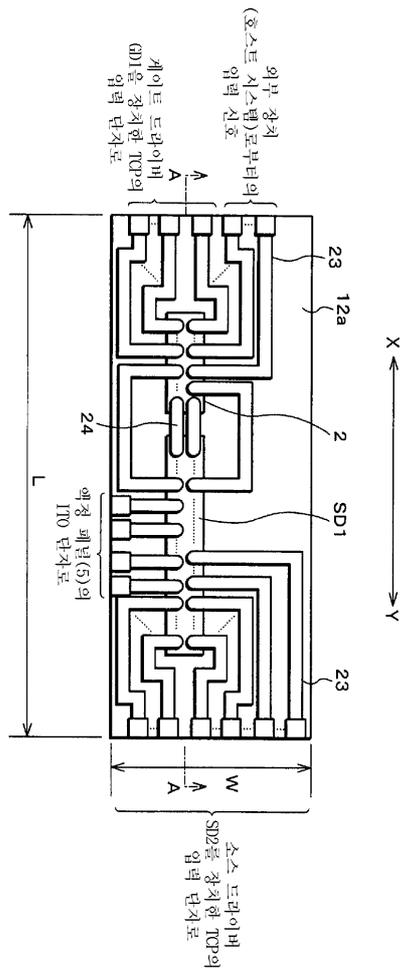
가, .



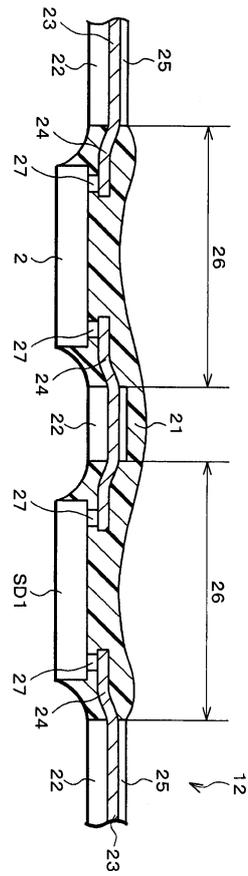
2



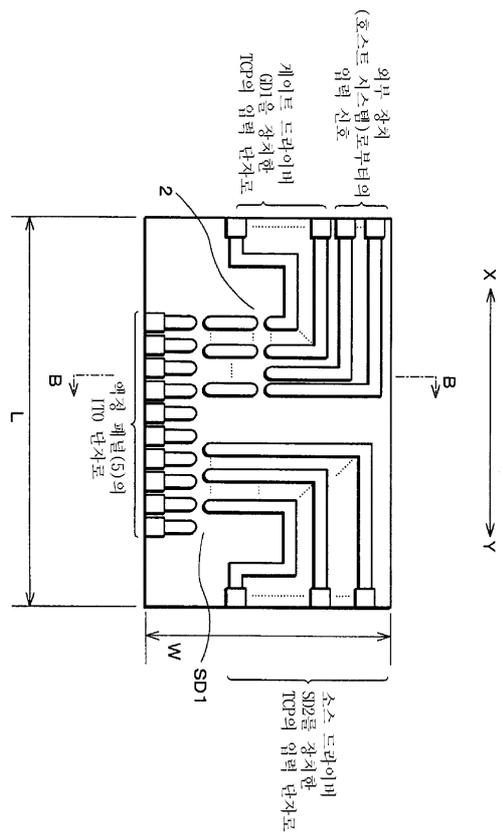
3



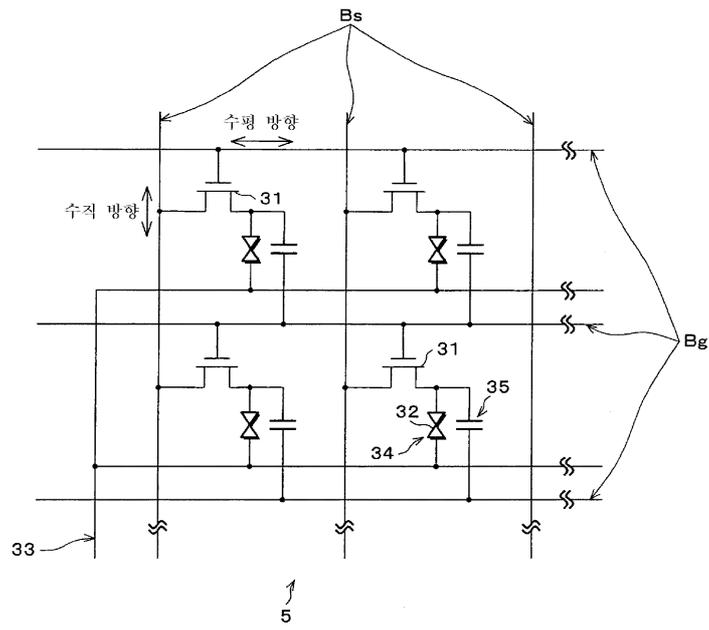
4



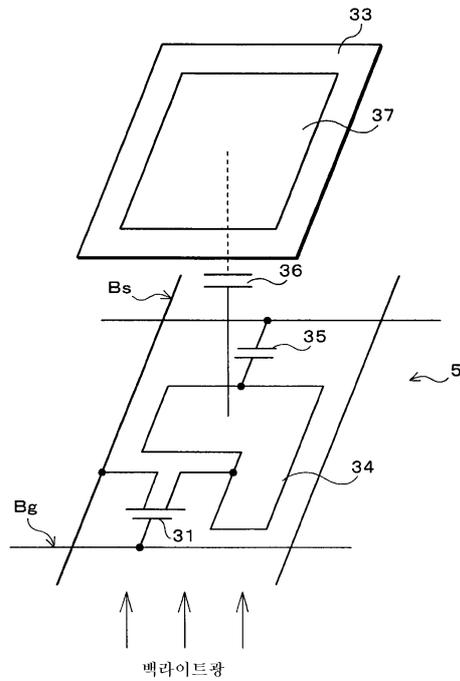
5



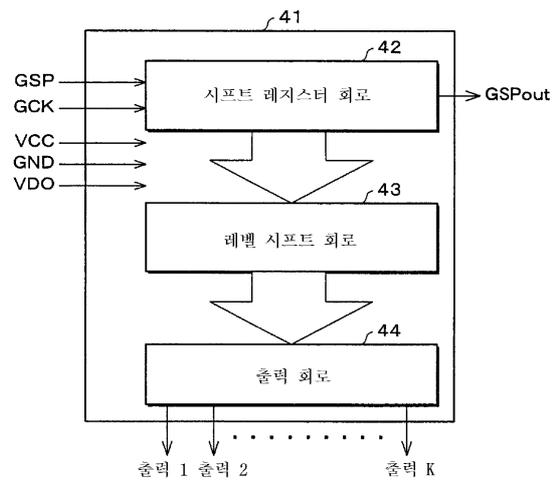
6



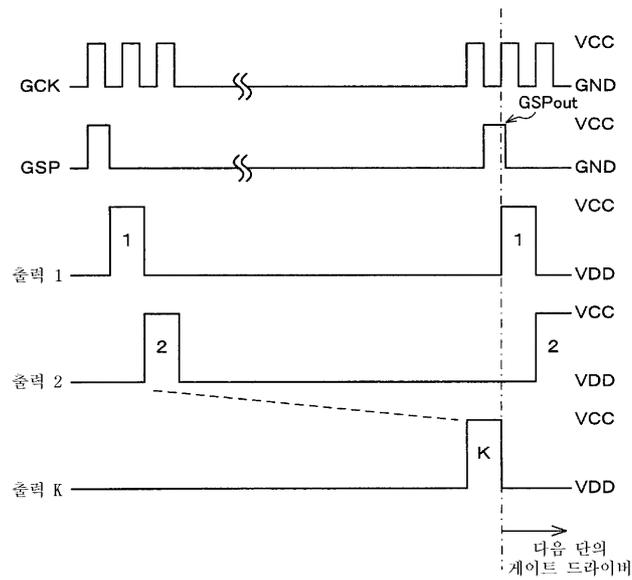
7

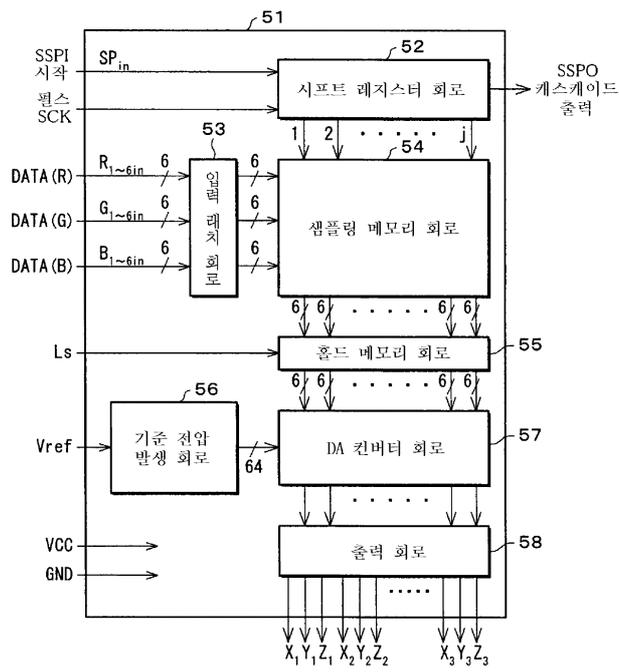


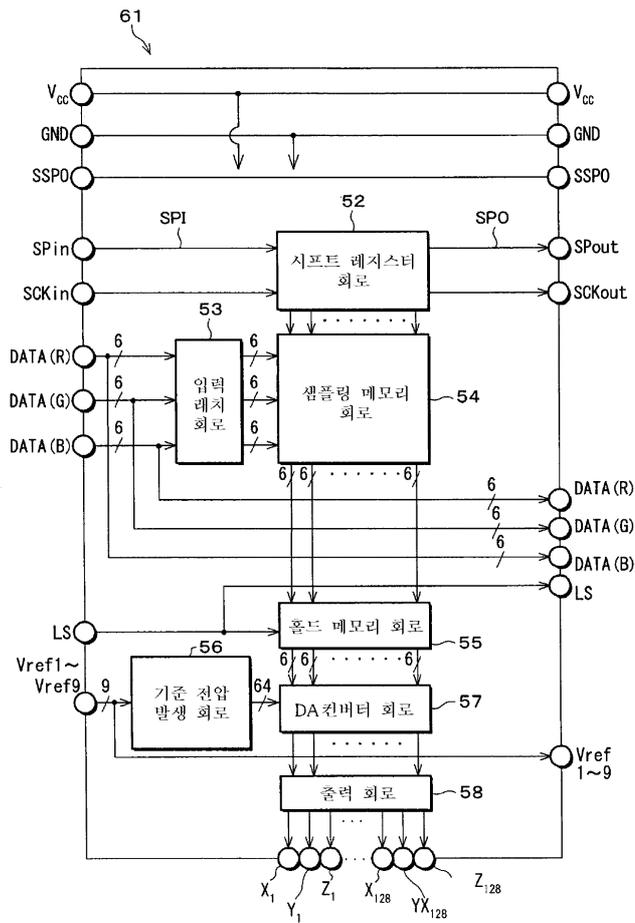
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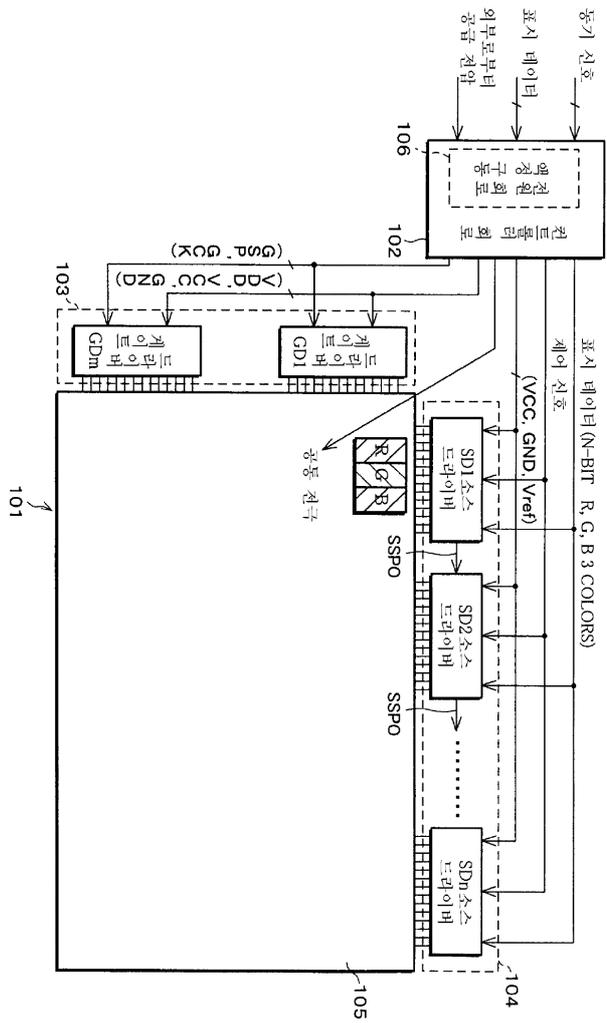


9

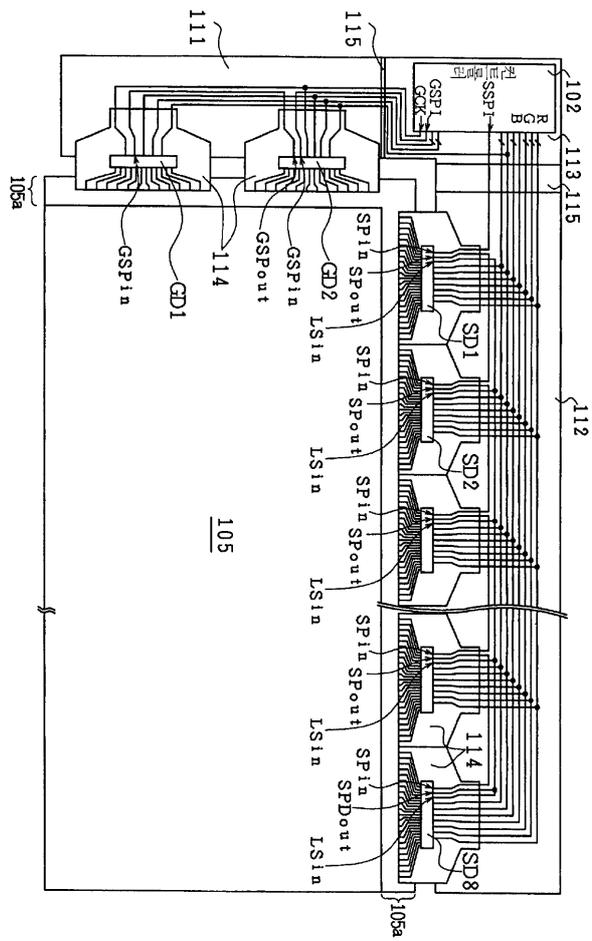








14



专利名称(译)	显示模块		
公开(公告)号	KR1020020033056A	公开(公告)日	2002-05-04
申请号	KR1020010065295	申请日	2001-10-23
[标]申请(专利权)人(译)	夏普株式会社		
申请(专利权)人(译)	夏普株式会社		
当前申请(专利权)人(译)	夏普株式会社		
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发明人	다나카시게끼 오가와요시노리		
IPC分类号	G02F1/1343 G09G3/36 G02F1/1345 G02F1/133 G09F9/00 G09G3/20 G02F1/13		
CPC分类号	G09G3/3688 G02F1/13452		
代理人(译)	CHANG, SOO KIL		
优先权	2000329592 2000-10-27 JP		
其他公开文献	KR100449305B1		
外部链接	Espacenet		

摘要(译)

用途：通过减少零件数量来减小显示模块的尺寸和重量，从而降低生产成本。组成：模块配备了由列方向和行方向驱动信号驱动的液晶面板5，提供列方向驱动信号的源驱动器SD，提供行方向驱动信号的栅极驱动器GD，TCP形式薄膜12其上安装有驱动器SD，安装有驱动器GD的TCP形式薄膜11和与驱动器SD或驱动器GD一起安装在薄膜11或薄膜12上的控制器电路2并控制驱动器SD和GD。

