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(22)

2001 11 22

(71)

3 416

(72)

4 5 201

(74)

:

(54)

1 가 , ,
 , 가 가
 , 2 가 가 ,
 가 ,
 ,

1
 , , , ,

1 1 ,
2 1 II - II' ,
3 60 ° (gamma: gamma) ,

4 8 VT ,
5 (anti parallel) 60 VT VA VT 0.
3V 60 VT ,
6 2 3 ,
7 6 VII-VII' 2 ,
8 6 VII-VII' 3 ,
9 4 ,
10 11 9 X-X' XI-XI' ,
12 9 가 ,
13 5 ,
14 13 가 .

(color filter)

가

(fringe field)

1:10

80 °

TN(twisted nematic) (gamma)

P

VA(patterned vertically aligned)

μm , 가 2~5 μm , 2~10
 1, 1, 1, 1, 1
 2, 2, 2, 2, 2, 1, 1, 1
 2, 2, 2, 2, 2, 1, 2, 1
 1, 2, 가, 1
 , 가 500 1.5 μm 가, .
 1, 1, 2, 1 II-II'.
 (10) 가 (20), (30) 1 4 (31, 32, 33, 34) (21) (35, 36)가 가 (32) 3 (33) 1 (31) (30) 가 (34) 2 3 (35, 36) 4 (34) (30, 31, 32, 33, 34, 35, 36) (40) (71) (72) (70, 71, 72) (81) (72) (81) 가 (80) (90) (94, 95, 96) (91, 92, 93) (91) (20) (70) (81) 가 (92, 93) (91) 1 2 (94, 96) (93) 2 (92) 3 (95) (99)가 (99) 1 (91) (400) 2 (92) 3 (93) (400) (91) (92) 3 (93) (90) 2 (32) 2 (92) 3 (93) 1 (31) 4 (34) (90) (92, 93) (31, 34) 1 (91) 1 4 (31, 34) (30) (20) 3 (93) (30), 가 가 가 (31, 32, 33, 34) (35, 36) 가 가 가
 , 가 가
 , 가

, 1 .

(100) / (200)가

(400) (100) (300)가 (300) (510, 520, 530)

0) (510) (510, 520, 530) 1 3 (400) (510, 520, 530) 1

(510) 3 (510, 520, 530) (520) 3 (530)

(510, 520, 530)

, 1 .

(900)

(11, 101) (10, 100)

1 가 .

(10, 100) (90) (91, 92, 93)

(400) 1 3 (510, 520, 530)가

(91) 1 (510) (가

), 2 3 (92, 93) 2 3 (520, 530)

(() 가

(90) (91, 92, 93)

70) (70) (20) (90) 45 ° (3) . , (

(70) (20) (90) (91, 92, 93) (30) (31, 32, 33, 34)

(91, 92, 93) (30, 31, 32, 33, 34)

(90) 3μm (70) (20) 가

(20) (91, 92, 93) (70) (70) (20)

가

, 1 (91) (99)

(cell gap) d(m) , 가

0.02/d(V/um) 0.5/d(V/um)

(99) 2~5μm 가 , 0.1V 1V

2~10μm 가 (99)

, 가

3 60 ° (gamma: gamma)

3 , (60 °)

2 10 가 .

, , 가 , , 가

, , 가 56 , 48 , 24 , , ,

R:G:B = 73:50:10 = 55%:37%:8%

, 60 ° , , ,

R:G:B = 75:66:41 = 41%:36%:23%

3 .

5 ,

가 ,

(white-shift) ,

(white-shift) 가 ,

가 2 10 가 (32)

4 8 VT

4 , VT ,

VT가 ,

가 가 (

가) 가

가 ,

가 ,

가 ,

5 (anti parallel) (VT , 60 VT ,

60 가 VT 0.3V

5 VT VT VT VT VT

VT VT VT 0.3V Vth(VT)가 VT

VT VT VT VT VT

VT VT VT

6 2 3 , 7 6 VI

I-VII' 2

2 1 (91) 1 (91)

(600) 1

2 (600) 1 1 (91) (600)

500 ~1.5 μ m

9 7 VIII-VIII' 4

4 1 (91) (400)

1 (91) (600) 1

4 (600) 2 가 1 1 (91)

가 ,

10 , 11 12
 10 XI-XI' 4 XII-XII' , 13 10
 가 .
 , .
 (10) (20, 21) (30) .
 (20, 21) 가 (20) (20)
 (21) .
 (30) (20) , 가 가 .
 (20, 21) (30) (40) , (40)
 (50) (50) (21)
 (50) N (61, 62, 63) .
 (61, 62, 63) (40) (70, 71, 72, 73) (74) .
 (70, 71, 72, 73) (50) (70) (71)
 1 2 (72, 73) (71) (21) (70)
 , 1 2 (72, 73) 1 2 (74) (30)
 (20) 가 , (30) 1 (50)
 (91) 2 (92) (61, 62, 63)
 (70, 71, 72, 73) .
 (70, 71, 72, 73) (80) , (80) 1 2 (72, 73)
 73) 가 1 2 (81, 82) (74) 3 (83)
 (80) 1 (81) 2 (82) 1 2 (72) 2 (72, 73)
 1 2 (91, 92) . 2 (92) (74)
 3 (83) , 1 (91) (74) (3
) . , 1 (91) 2 (92) (74)
 . (91, 92) ITO(indium tin oxide) IZO(indium zinc oxide)
 , 1 (91) 가 가 (95) 가 . 가 (95)
) 9 , 2 (92) 가 가 . 1
 (91) 30%~70%가 .
 (30) (90) 가 가 .
 , .
 1 가 , ,
 1 , 1 3 (510, 520, 530)가 , ,
 1 (510) 2 (92) , 가
 3 (520, 530) 가 (95) 1 (91) 3 2
 . 1 (91) 4
 4 (74) (70, 71, 72, 73) ,
 (74) (20, 21) (30)
 (74) .
 가 .

(biaxial)

$$1) \quad \begin{matrix} 1 & 2 \\ 2 & 1 \end{matrix} \quad (92) \quad \begin{matrix} 1 \\ 1 \end{matrix} \quad (9$$

$$2 \quad (92) \quad 1 \quad (91)$$

$$[P(n)-b]] \quad [P(n)-a, P(n)-b] \quad \{V[P(n)-a], V$$

$$12 \quad Clca \quad a \quad , Clcb \quad b \quad , Cpp \quad a \quad b \quad , Csta \quad , Cstb \quad a \quad b$$

$$12 \quad 1 \quad 2 \quad 1 \quad 2 \quad \text{가} \quad (30) \quad 1 \quad 2 \quad 1$$

$$(70) \quad 1 \quad 2 \quad , n \quad (20) \quad (on) \quad (TFT) \quad P(n)-a, P(n)-b \quad P(n+1)-a$$

$$V[P(n)-a]=Vd(n)$$

$$V[P(n)-b]=Vd(n)+\frac{[Vd(n+1)-V'd(n+1)]Cpp}{Clcb+Cstb+Cpp}$$

$$) \quad 1 \quad 2 \quad Vd(n) \quad P(n) \quad \text{가} \quad , V'd(n+1) \quad (frame) \quad Vd(n+1) \quad P(n+1) \quad \text{가}$$

$$1 \quad 2 \quad , P(n)-b \quad \text{가} \quad P(n)-a \quad \text{가} \quad (\quad , \quad \text{가} \quad \text{가} \quad) \quad 2 \quad Vd(n)=-Vd(n+1), Vd(n)=-V'd(n)($$

$$V[P(n)-b]=Vd(n)-\frac{2Vd(n)Cpp}{Clcb+Cstb+Cpp}=\frac{Clcb+Cstb-Cpp}{Clcb+Cstb+Cpp}Vd(n)=TVd(n)$$

$$T = \frac{Clcb + Cstb - Cpp}{Clcb + Cstb + Cpp}$$

3, P(n)-b P(n)-a 가 , T 0.65~0.95 가

5

14 5 가 , 15 14

5

가 , P(n) (a, b) m
, P(n+1) (a, b) m+1
(95, 510, 520, 530) 가 3
(95)가 2 (92) 1 (510) 1
(91) 4 가 2 3 (520, 530) 2 (92)
3 , 1 (91) , 2 (92)

가

, 1 (91) 가 2 (92)
1 (91) 가 2 (92)

14

가

(column) (Vd(n)=Vd(n+1), Vd(n)=
-V'd(n) 2 .)

$$V[P(n)-b] = Vd(n) + \frac{2Vd(n)Cpp}{Clcb + Cstb + Cpp} = \frac{Clcb + Cstb + 3Cpp}{Clcb + Cstb + Cpp} Vd(n) = TVd(n)$$

$$T = \frac{Clcb + Cstb + 3Cpp}{Clcb + Cstb + Cpp}$$

4 , 5 b a , 가

가 , 가

(57)

1.

가 1 , 2

1. $\frac{1}{2}$.
2. $\frac{1}{2}$, $\frac{1}{2}$.
3. $\frac{1}{2}$, $\frac{1}{2}$.
4. $\frac{1}{2}$, $\frac{1}{2}$.
5. $\frac{1}{2}$, $\frac{1}{2}$.
6. $\frac{1}{2}$, $\frac{1}{2}$.
7. $\frac{1}{2}$, $\frac{1}{2}$.

4 ,

가 가 1 2

.

8.

4 ,

1 2

,

2

Cstb, 1

2

Clcb, 2

Cpp ,

$$T = \frac{Clcb + Cstb - Cpp}{Clcb + Cstb + Cpp}$$

T가 0.65 0.95 가 .

9.

1 ,

1 1 1 ,

1 2 1 2 ,

1 2 ,

가 ,

1 2 ,

2 ,

1 2 ,

1 2

, 1 , 1 2 .

10.

9 ,

가 2~5 μ m .

11.

10 ,

2~10 μ m .

12.

1 ,

1 1 1 ,

1 2 1 2 ,

1 2 ,

,

1 2 ,

2 ,

,

1 2 ,

1 2

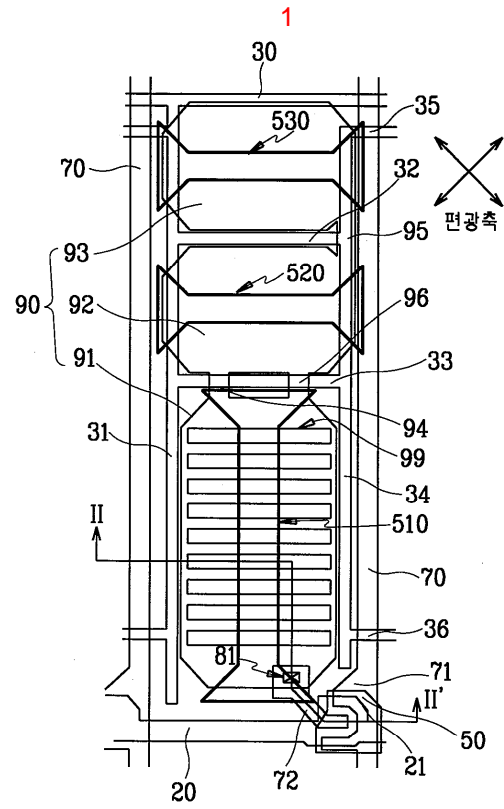
, , 1 1 2 .

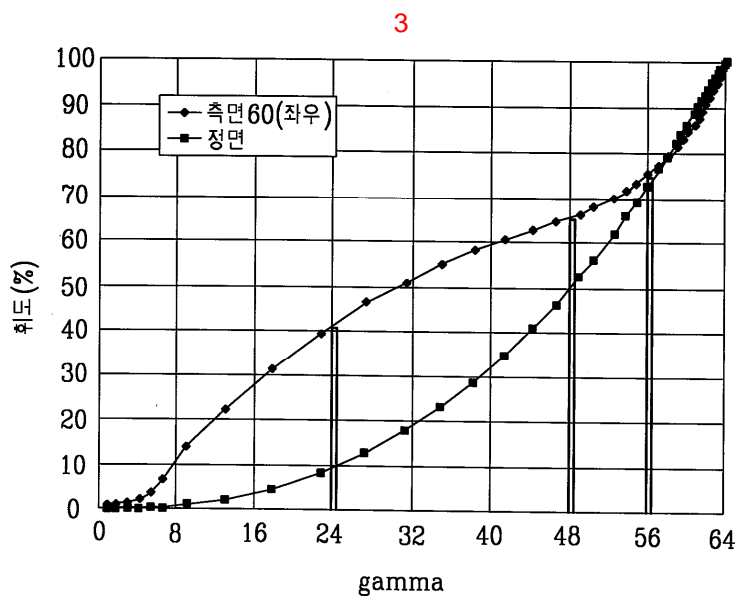
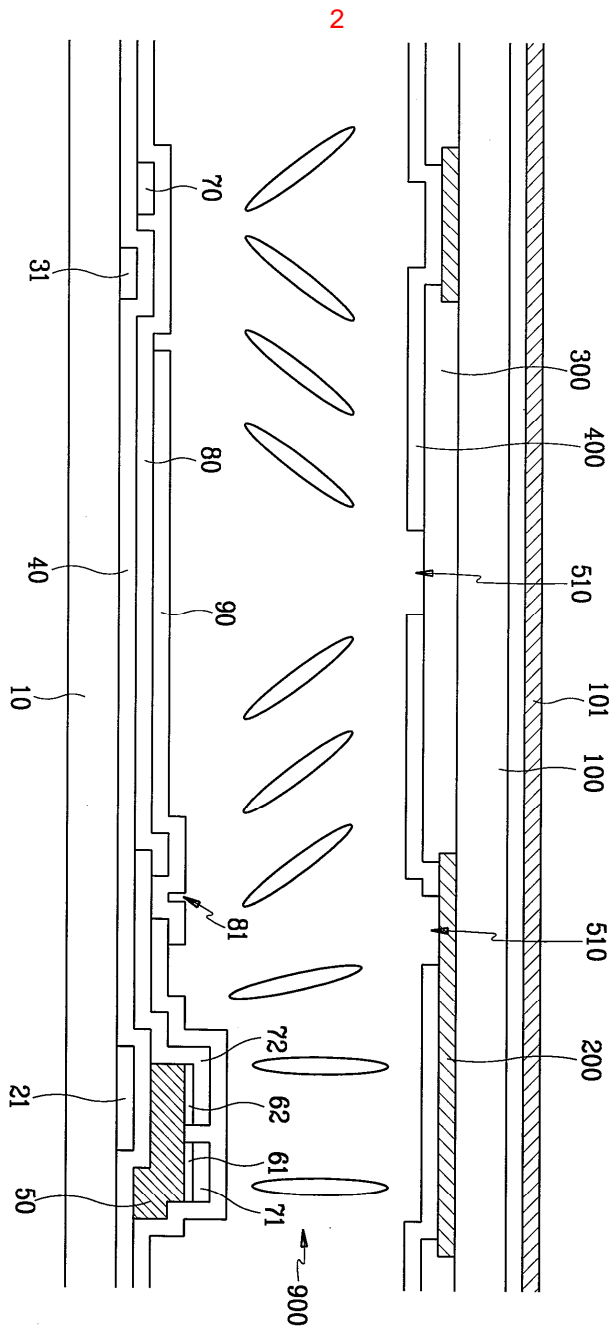
13.
12 ,

500 1.5 μ m .

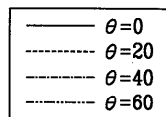
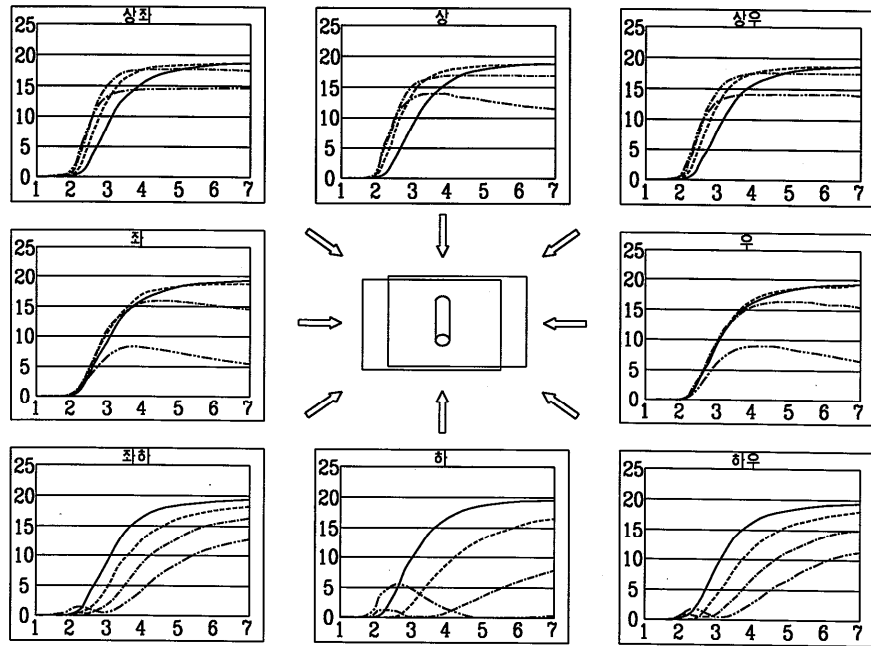
14.
12 ,

가 .

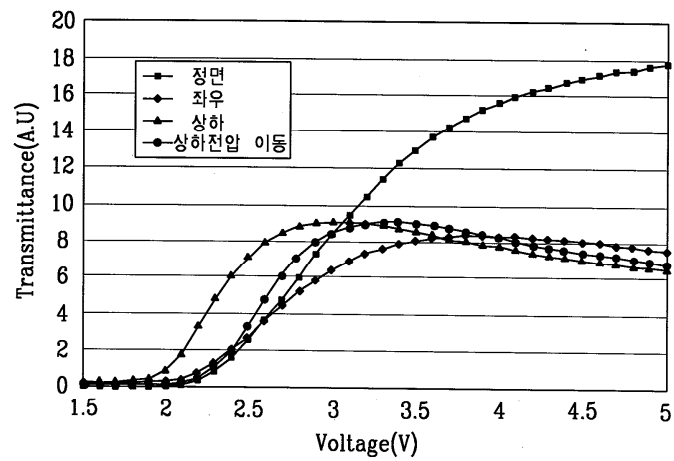


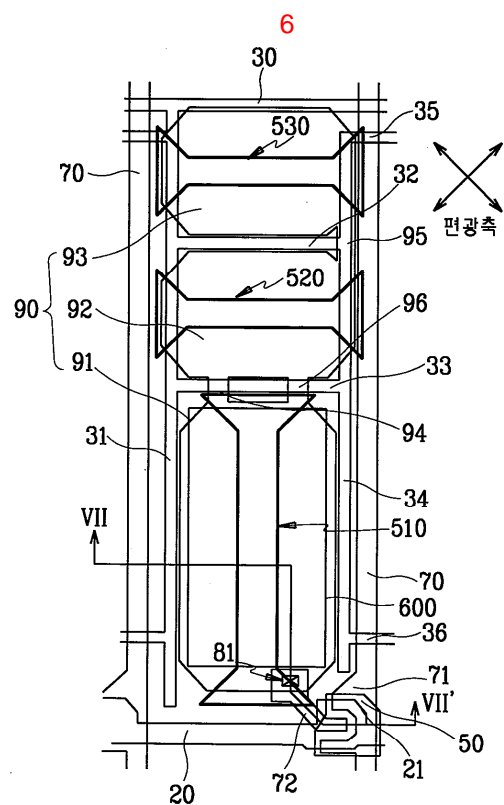


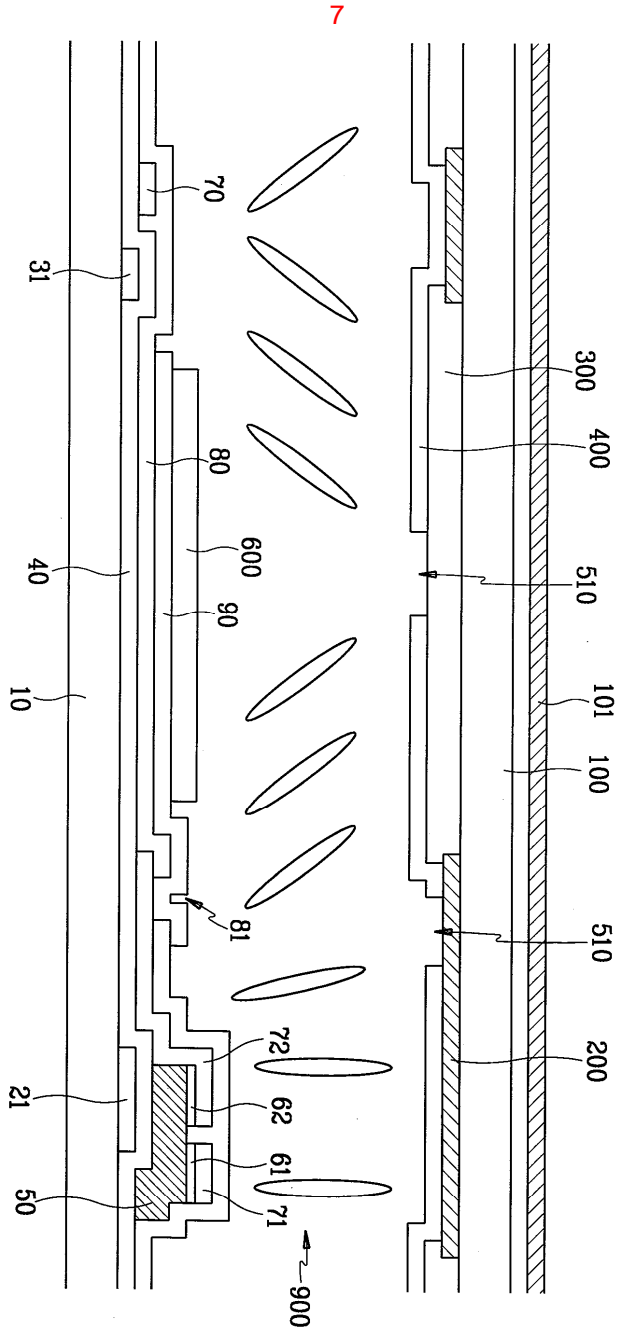
4

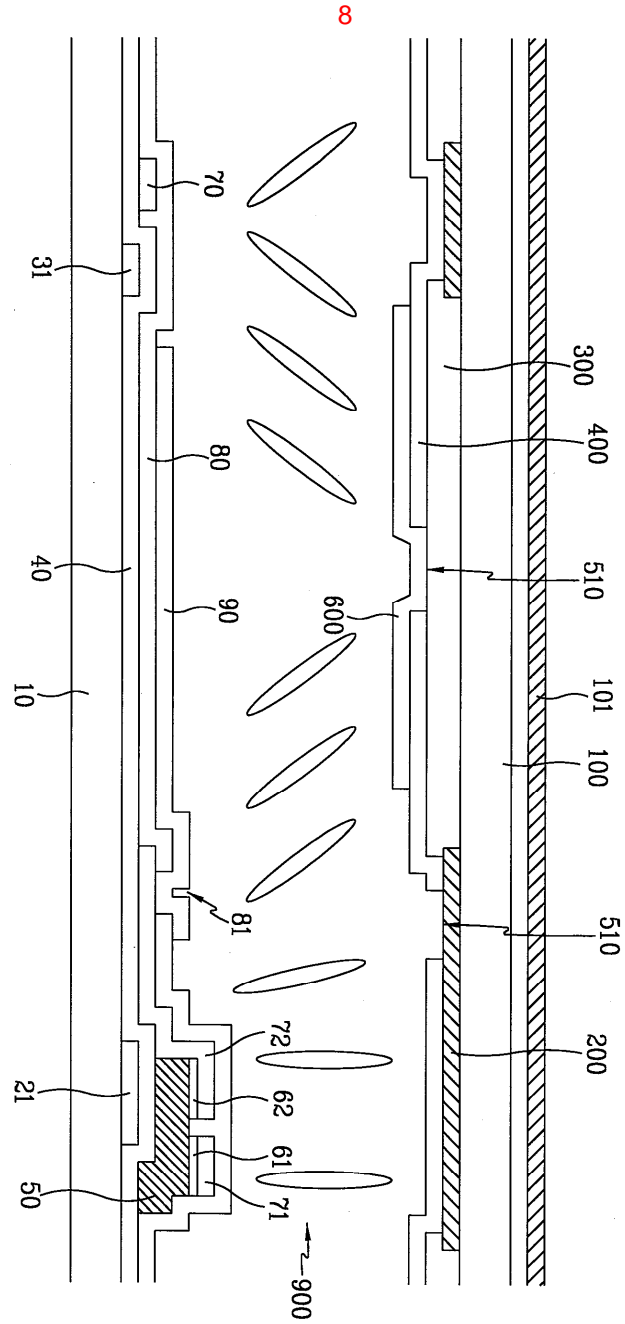


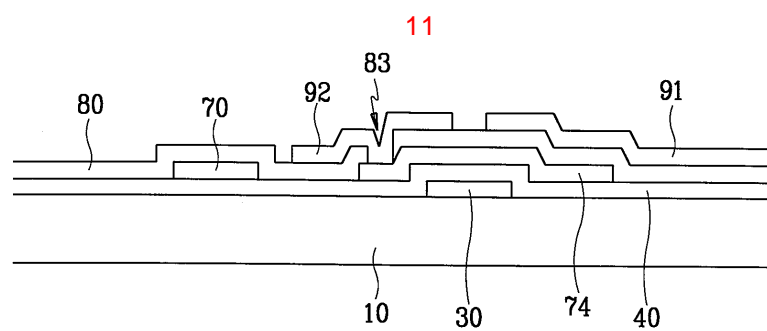
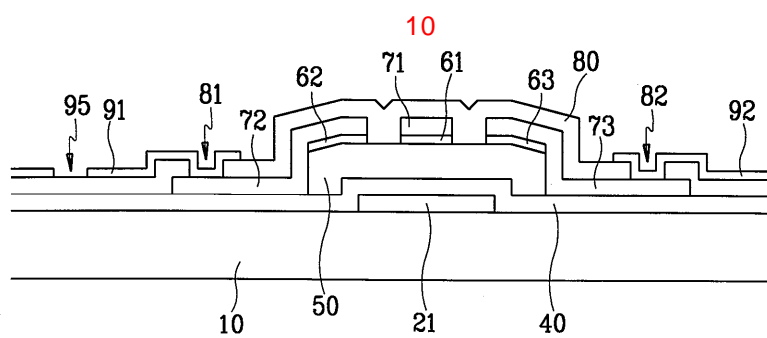
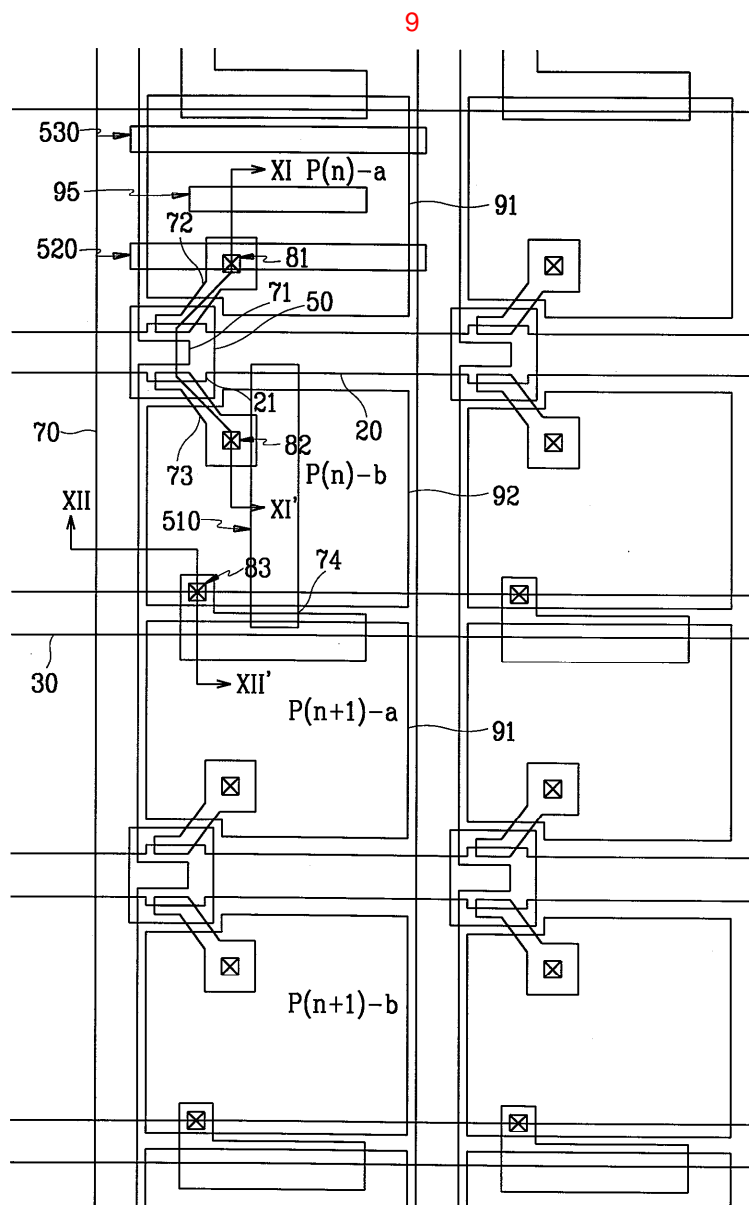
5



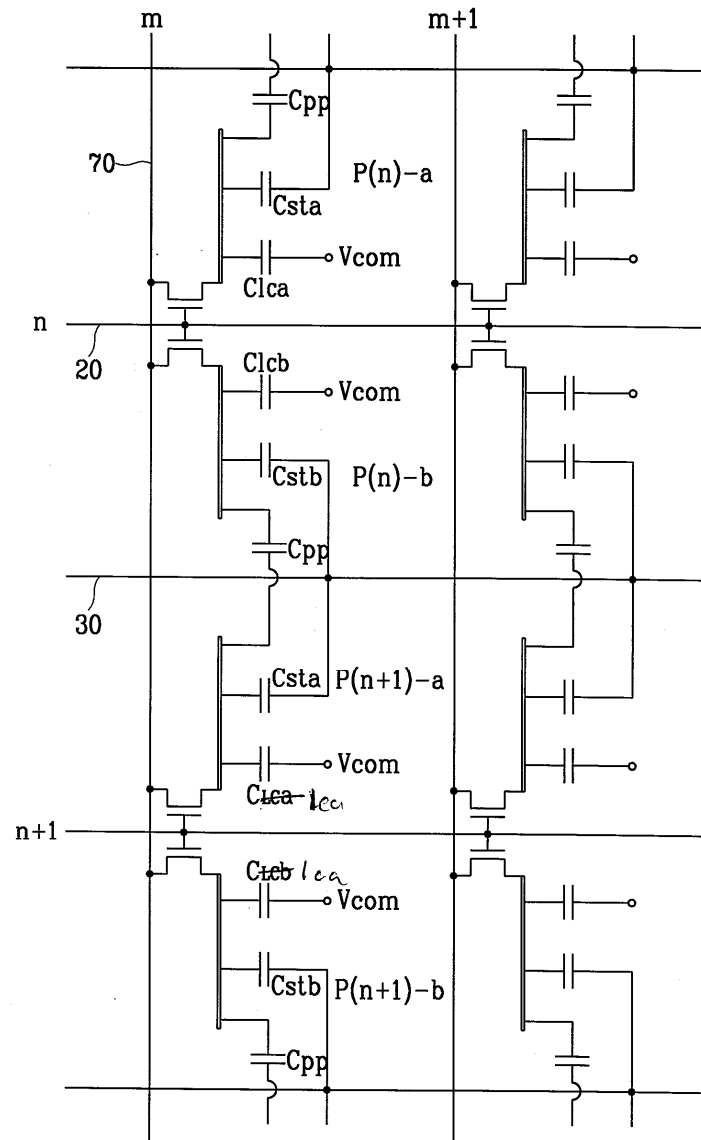




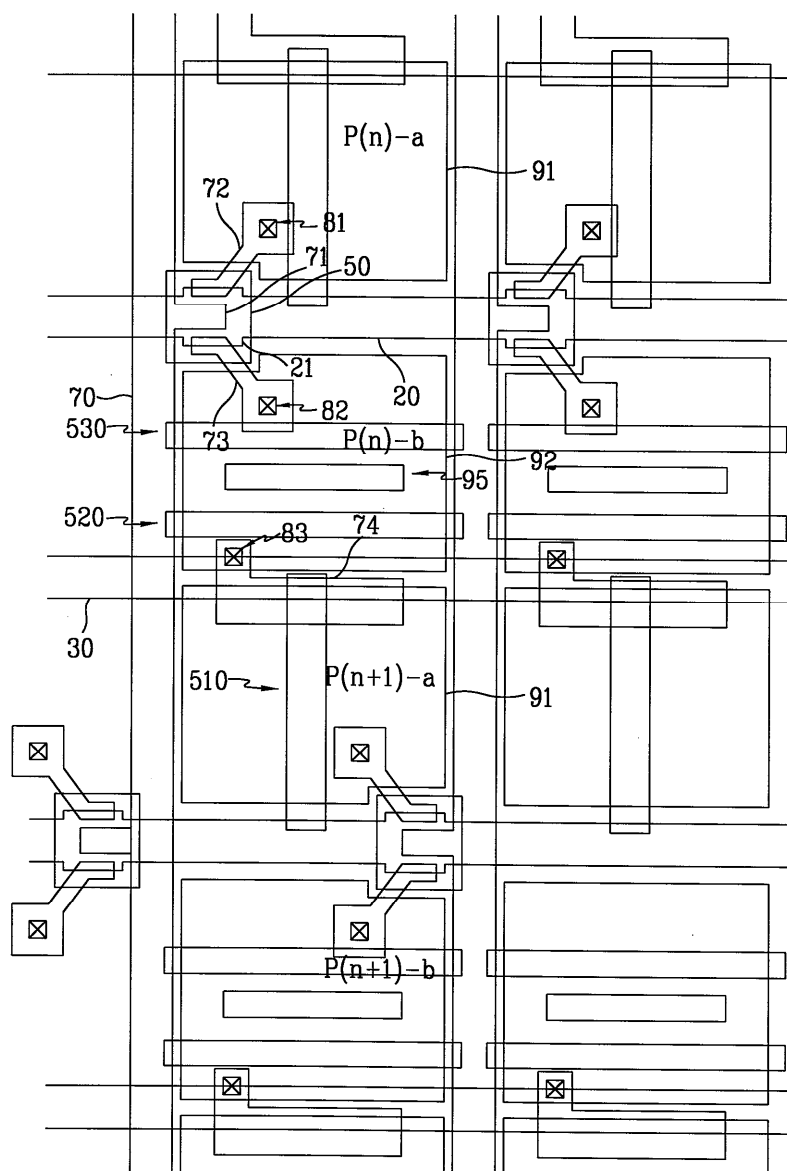


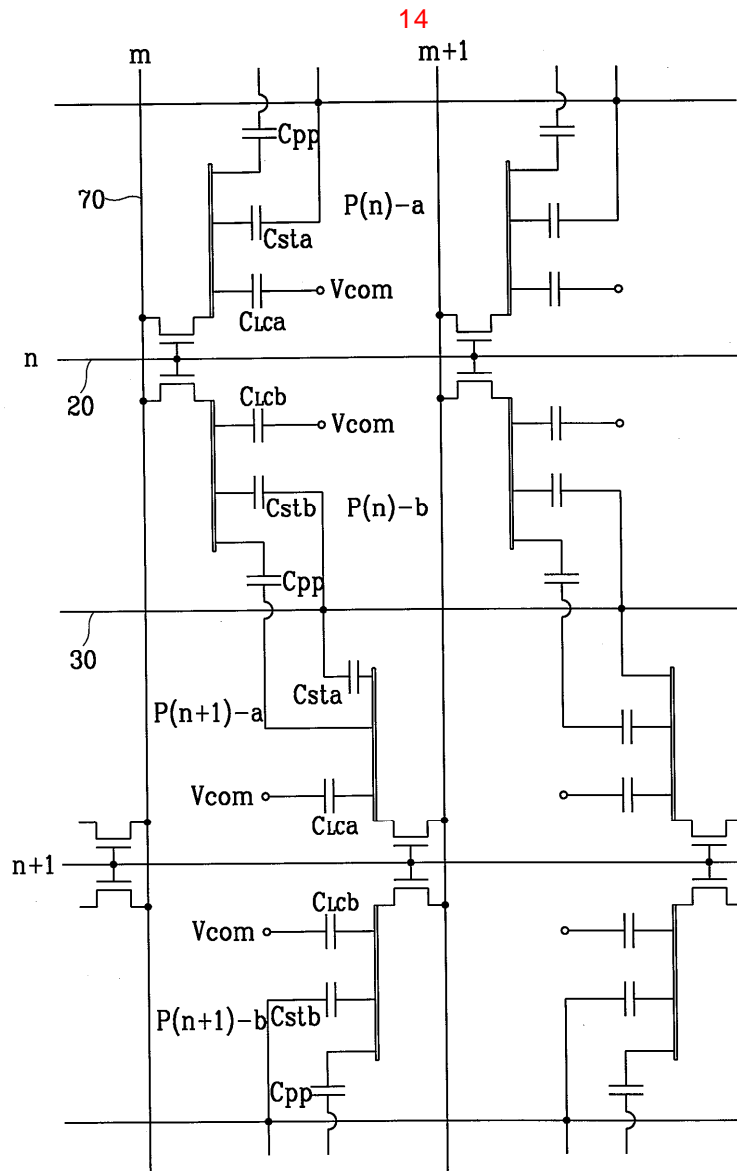


12



13





专利名称(译)	一种用于液晶显示器的薄膜晶体管基板		
公开(公告)号	KR1020030042221A	公开(公告)日	2003-05-28
申请号	KR1020010072885	申请日	2001-11-22
[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	SONG JANGKUN 송장근		
发明人	송장근		
IPC分类号	G02F1/1337 G02F1/1368 G02F1/133 G02F1/139 G02F1/1343 G02F1/1362 G02F1/1333 G02F1/137		
CPC分类号	G02F2001/134345 G02F2001/13712 G02F1/136213 G02F1/133707 G02F1/133753 G02F1/1393 G02F2001/133746		
外部链接	Espacenet		

摘要(译)

用途：提供一种用于液晶显示装置的薄膜晶体管基板，用于在像素电极的左右域部分形成狭缝，用于保持右域和左域中的电场弱于上域和下域的电场，从而改善能见度。组成：一种用于液晶显示器件的薄膜晶体管基板，包括横向形成有栅极线（20）的第一绝缘基板，形成在栅极线上的栅极绝缘膜，形成的半导体层（50）和数据线（70）在用于形成薄膜晶体管的栅极绝缘膜上，在半导体层上形成的与数据线连接的源极和漏极电极（71,72），形成在数据线上的保护膜和形成在其上的像素电极（90）保护薄膜连接到漏电极并具有多个狭缝（99）和横向开口（91-93）。第二绝缘膜具有形成有多个开口（510-530）的公共电极。像素电极的横向开口和公共电极的开口将像素区域划分为右域和左域以及上域和下域，其中狭缝位于右域和左域中。

