

(19)
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(43)2002 - 0057014
2002 07 11(21) 10 - 2000 - 0087245
(22) 2000 12 30

(71) 136 - 1

(72) 105 703

47가32 - 153 503

(74)

:

(54) -

xide) / ITO(Indium Tin O
/ 가 - .

/ n+ a - Si , / , .

2d

1 - ,

2a 2d 1 - ,

3 2 - .

* *

30: , 32: ,

36: , 38: / ,

42: , 44: ,

50: , 52: ,

54: , 60: / ,

64: , 66: .

- , /

(Active layer) (Passivation layer)

- .

, 가 가 .

1 TFT - LCD , (10) (14)

(12) , (12) (10) (14)

.

(14) (12) (a - Si) (Ac

tive layer)(16) (16) n+ a - Si (18) , n+ a - Si (18)

(,)가 / (20) .

/ (20) (Passivation layer;PVX)(22) , (22)

/ (20)

(24) .

, 1 5 - , TFT - LCD (12)

, (16) , / (20) /

, (22) , (24)

.

가 TFT-LCD 7- 1 5- ,
 , 가 , .
 , TFT-LCD LCD 가 LCD , LCD
 가 LCD .
 , (24) ITO , / (2
 0) Al , (24) (Wet etching)
 , 가 / (20) Al / (20) (Open) .
 , 가 ITO /
 , /
 / 5- 가 -
 .
 , 1
 ,
 / , / n+ a - Si ,
 - .
 , .
 , / , /
 .
 , / n+ a - Si a - Si → / →
 → + , / → a - Si → + , n+ a - Si → / → n+ a - Si
 → + .
 , a - Si , 가 .
 2 ,
 ,
 , / / n+ a - Si ,
 - .
 , .
 , / , /

(a - Si)

ITO

2a

2d

1

-

(32)

(32)

(30)

(30)

(

)(32)

(34)

(2a).

(30)

(34)

(2b).

ITO

(36)

(Wet etching)

(36)

(34) ITO

ITO

(36)

(36)

/

(38)

n+ a - Si (40)

/

(38)

(32)

(2c).

,

/

(38)

n+ a - Si (40)

(36)

/

Al

가

(42)

4 -

(2c)

(44)

2d

TFT - LCD

(42)

(44)

(38)

(42)

n+ a - Si (40)

→ n+ a - Si →

+

, n+ a - Si →

/

+

n+ a - Si →

/

→ n+ a - Si →

+

n+ a - Si

가

(38)

(32)

(36)

ITO

(38)

(36)

(Affect)

3

2

TFT - LCD

TFT - LCD

(50)

(52)

(52)

(54)가

(54)

(

56)

, (56) (60) / (58) (52) (60) n+ a - S
 i (62) , (64) (66)
 , 1 (58) 가
 , (52) / (60) (52)
 / (60)
 , (a - Si)
 ,
 ,
 , -
 ITO , / ITO
 ,
 , 가 가 .

(57)

1.

,
 ,
 / n+ a - Si ,
 -

2.

1 , -

3.

1 , /
 -

4.

1 , / -

5.

1 , -
.

6.

1 , / n+ a - Si a - Si → / →
+ - .

7.

1 , / n+ a - Si / → a - Si →
+ - .

8.

1 , / n+ a - Si n+ a - Si → / →
n+ a - Si → + - .

9.

1 8 , a - Si -
.

10.

9 , -
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11.

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,

/ / n+ a - Si ,

-

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12.

11 , -
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13.

11 , /
- .

14.

11

,

/

15.

11

14

,

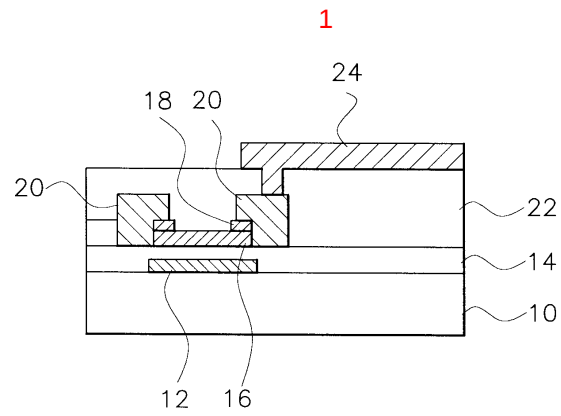
(a - Si)

16.

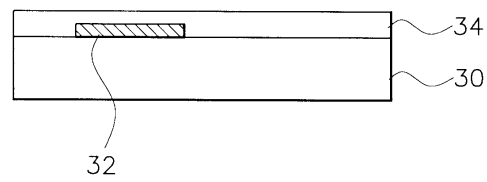
15

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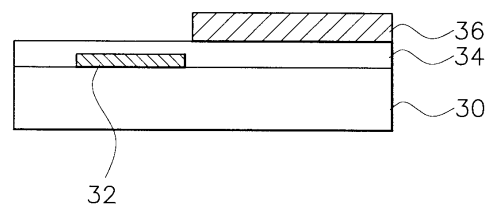
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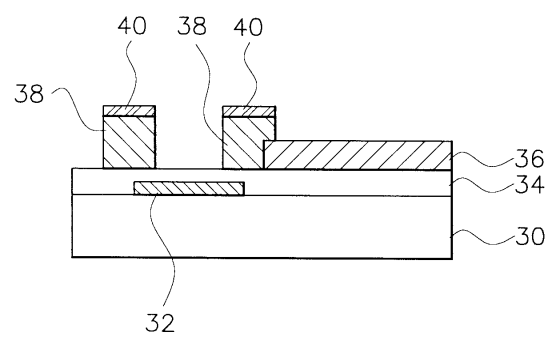
2a



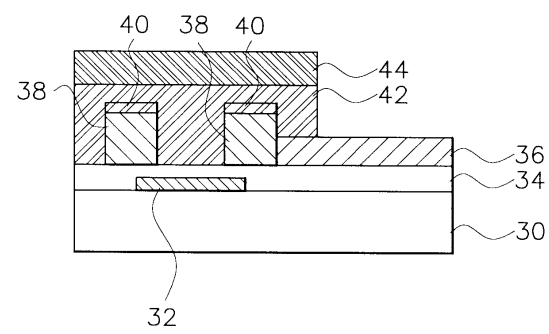
2b



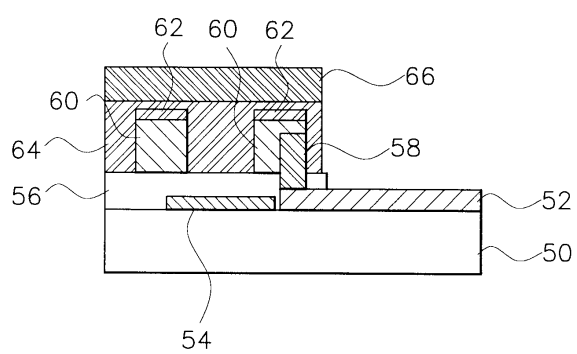
2c



2d



3



专利名称(译)	薄膜晶体管 - 制造液晶显示器件的方法		
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摘要(译)

目的：提供一种制造薄膜晶体管 - 液晶显示器的方法，以使用单个掩模形成有源层和钝化层，以减少掩模工艺的数量，从而提高生产率。

