

(19)  
(12)

(KR)  
(B1)

(51) 。 Int. Cl. <sup>6</sup>  
H01S 3/00

(45)  
(11)  
(24)

2001 12 24  
10 - 0317533  
2001 12 01

(21) 10 - 1999 - 0049613  
(22) 1999 11 10

(65) 2001 - 0046035  
(43) 2001 06 05

(73)

3 416

(72)

7 - 1

417 - 32

APT230 301

3 4 1404

(74)

:

(54)

가

8

1A

1B 1C

2

3A 3B

4

5 3A

6

7

8

9 8 C - C'

10A 10B 8

10C 10B

<

10, 20, 30, 40, 50 :

11 14, 21 24, 31 34, 41 44 :

가

가

가 , 가 가 , 가 가 1A .  
 1A , 1999 8 3  
 5,933,382 (30), (40),  
 (50), (60), (70) 1  
 A , (F1,F2 Fn) (50) (70)

(50) (F1,F2 Fn)  
 가 Rai,RaiB,Raj,RajB, Ran,RanB 가  
 (70) REDi / 가

1A

(50) (open)

EEPROM(Electrical Erasable Programmable Read Only Memory)  
 DRAM(Dynamic Random Access Memory)

1B 1B 1C  
 1998 - 47293 (50)  
 (111~116) (W1) (P1)가 1B (111~116)  
 (131) 가 가

3A  
(short)

X - X'  
3B

3B

1C  
(Prall)  
~156b) 가

1998 5 5  
(151~156)  
(151~153)

(151a~156a)  
가

5,747,869  
(154~156)  
가

(151b

2  
1C  
S2)

(151~156)  
(PW)

1998 - 47293  
(151a~156a)

1C 2

2  
2  
(S1,  
(PW)

4

4

(10,20)

4  
(11,12,21,22)

(20)

B

(21,22,23,24)

A

A

4

B

B

B  
가

, A

B

가

,

, 1

가

; 2

1

,

,

,

,

2 1 ; 1  
; 2  
1

3 ,가

,

;

,

가

2

1

;  
;

1

2

; 2

;

3

가

가

가

6  
 1 (30,40) 6 (41,42~44) (30) 4 (300) 1 2 (300U,300D) (40)  
 4 (31,34,41,44) (31,34,41,44) (32,33,42,43) (32,33,42,43)  
 가 (31,34,41,44) 2 (32,33) 가 (31,34)  
 1 (32,33) 2 (31,34)  
 (31,34) 1 (32,33) (3) 0)

B' 31 32 X1 4 B 11 12 Y1 6  
 n - type) 가 (p - type) (Al), 2/3 (Ti) (poly silicon) (  
 가

6 6 X1,X2,X3,X4,X5 4 Y1,Y2,Y3,Y4,Y5

가

가

(fusing)

2 가

7 (400) 2 (400) 7 가 (400)가 (400)가  
 400) 가 가 2 (400) (400) (width edge) (400) 1 (410a) ,  
 (410) , (400) (410) (half position) 1 (410a)  
 1 (410a) 90  
 2 (410c) , 2 (410c)

1 (410a)

3 (410b) 가 .

(400)

5

가

401D,401U,402U,403D,403U

40

2U

402D가

401D,403D

(410)

S1,S2

2.

0µm

2.0µm

(410)

S3

2.0µm

S1,S2

4µm

3 가 .

8

3

(500)

(500)

(F1 Fn) ,

(500)

(510:WIN1,WIN2)

(500)가

2

(520)

8  
(nning)

(500)

(510)

(Ope

(510)

(520)

(520)

가

(damage)

S10

(520)

S20 1.0µm

2.0µm

가

가 가

가 .

가

6,7,8

(spot)

5

5 3A

(Spot Size)

00

, ESI

M9200HT

80

(S

pot Size)

2.5 7.0µm,

0.2 1.5 µ J,

99 ± µm

5

4.5µm

(1)

(4)

0.80 2.06µm, 5.5 7.4µm

(2)

(3)

2.

15 3.80µm, 3.15 4.0µm

5

6,7,8

9 8 , 8 C - C'  
(500) 9 S20 S10 8  
(520) 가 S30 (510D - 2)  
9000 , 9 S40 (510) 가  
, S40 가  
(510) S40 UO  
8000 , D0

10A 10B 8 1A ,  
(STI;1) (1) 1  
(ILD - 1;2) ,  
8 (F1,F2,F3,F4) 2 (ILD - 2;3)  
(ILD - 3;4), (CVD;5), 2 (STI;6) 10B , 3  
(STI;6) (P.R) 가

10C 10B WIN1,WIN2가  
, 8 , (F1,F3) (510D)  
(WIN1,WIN2) (WIN2) (F2,F4) (510U)  
(WIN1,WIN2) (WIN1) (520) 가  
(520) 8 ,  
(520)



1,2,3  
가

가

가

가가

가

가

가

가

가

(57)

1.

:

1

가

; 2

1

2.

1

3.

1

1/2 2/3

4.

1

5.

:

, ,  
,  
1 ; 1  
2 ; 2  
1

3 ,

가

6.

5 ,

7.

5 , 4 $\mu$ m .

8.

5 ,

9.

:

;

가 2

10.

9 ,

11.

9 ,

12.

9 , 9000 가

13.

11 ,

14.

; , 1 , 1  
2 , 2  
1 3 가 ,  
:

1 ;

2 ,

15.

14 ,

16.

;

가 2 , :

;

,

17.

16 ,

18.

16 ,

19.

16 , 9000 가 .

20.

18 , .

21.

:

1

;

1

;

2

;

2

2

,

가

2

가

22.

21 , .

23.

21 , .

24.

21 ,

2

8000

,

2

9000

25.

22 , .

26.

21 , 2 .

27.

:

1

;

1  
;

2 ;

2 ;

3 가  
가 .

28.

27 , 3 2 .

29.

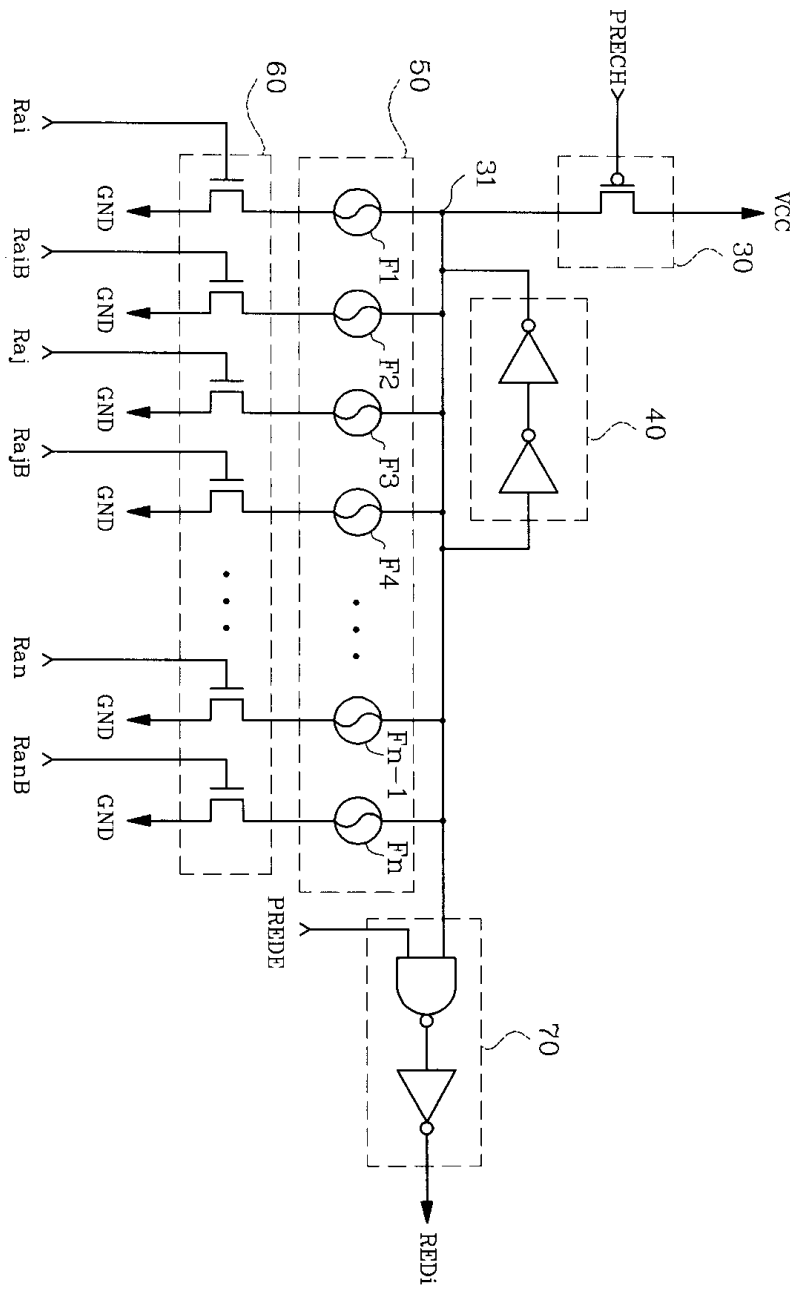
, / , ,  
:

, /  
가 ,

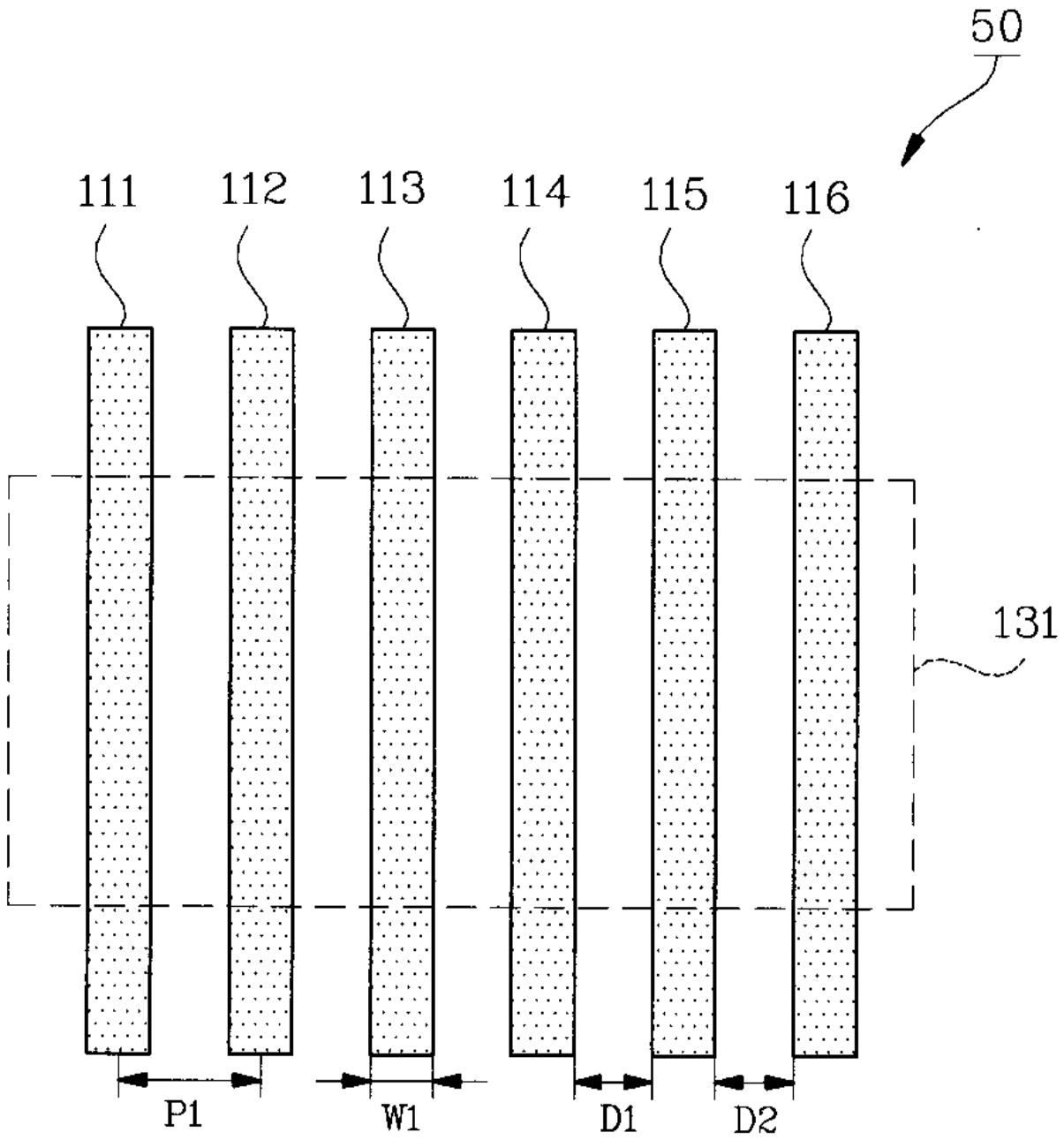
:

;

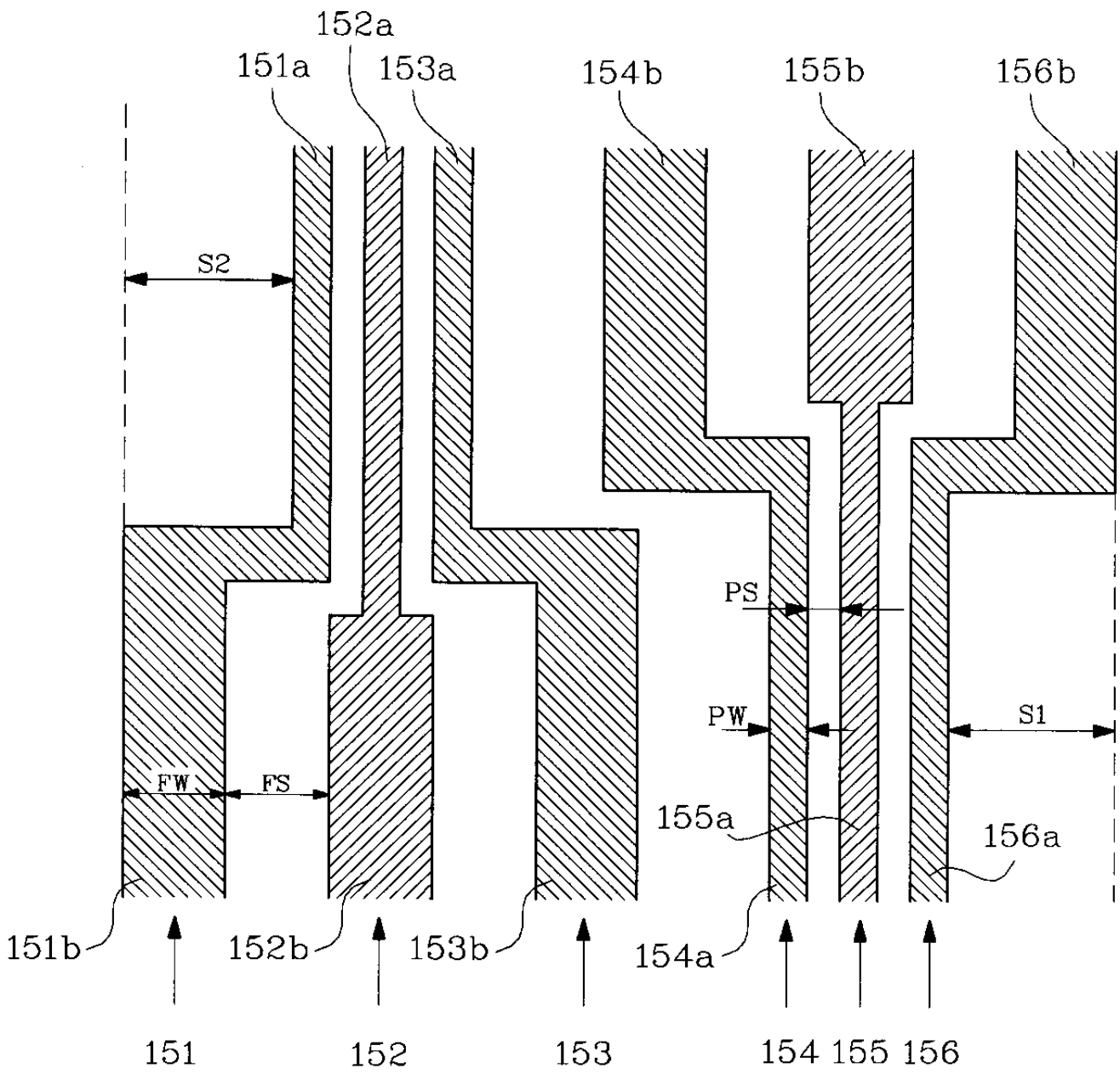
1a



1b

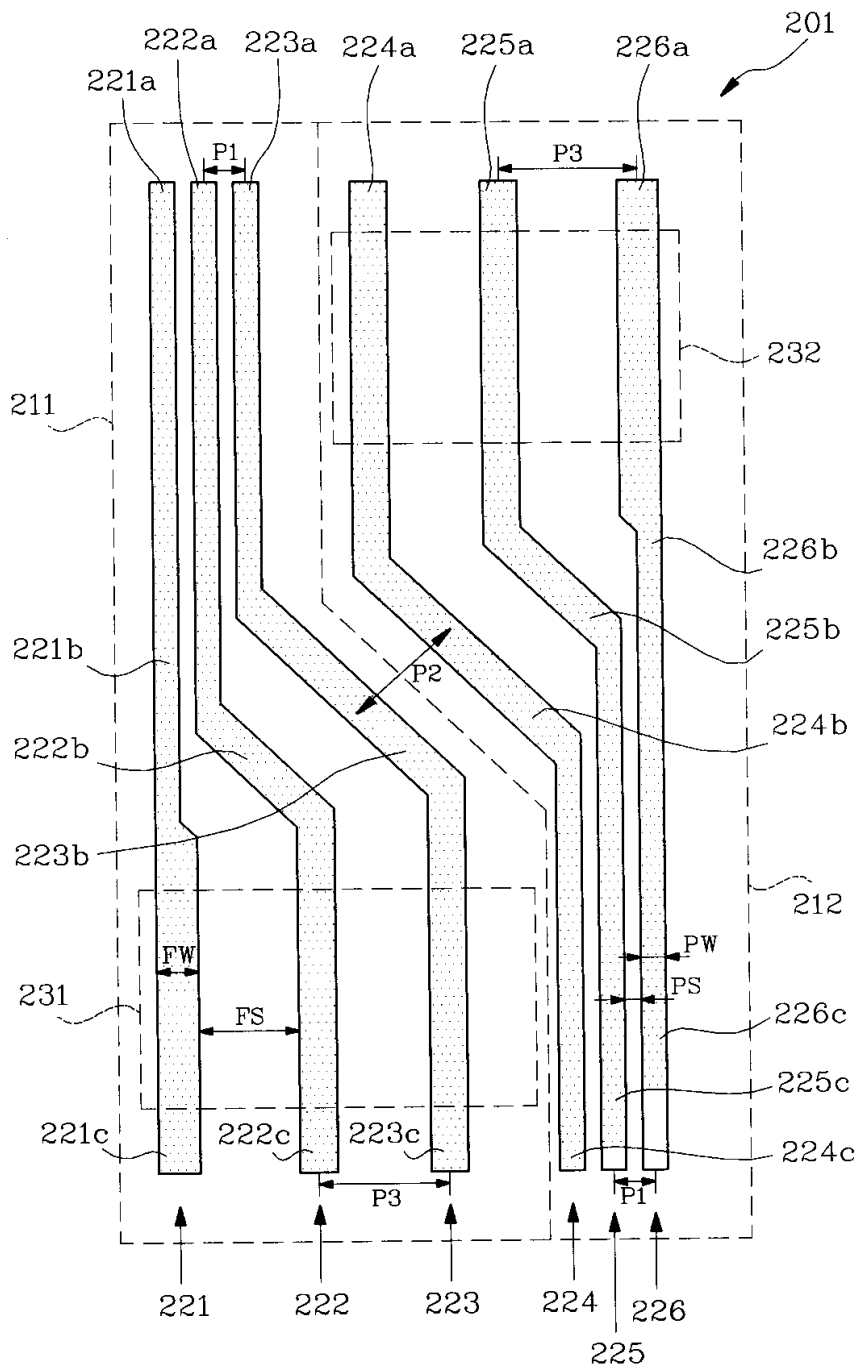


1c

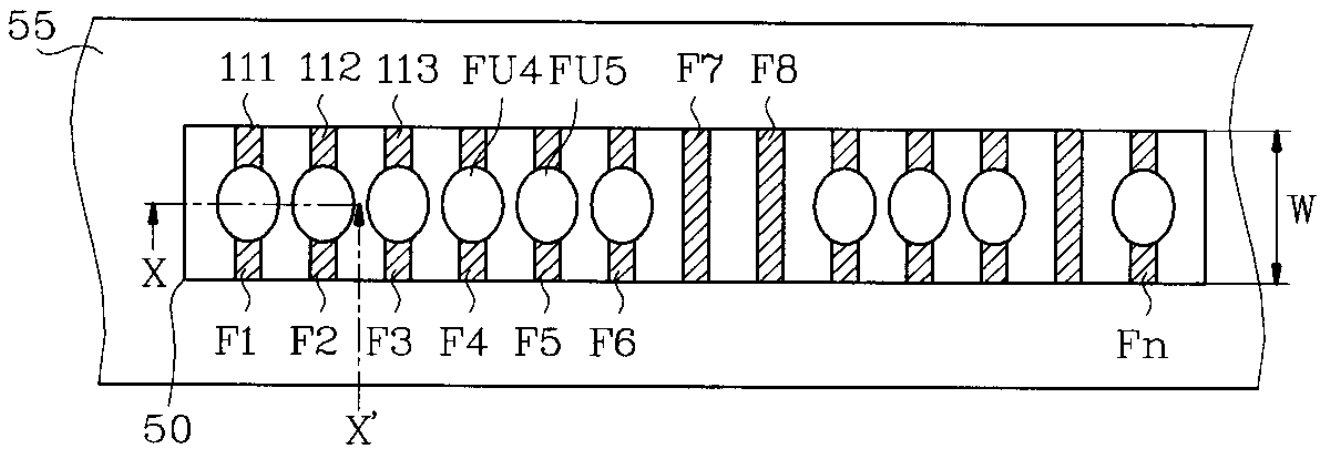




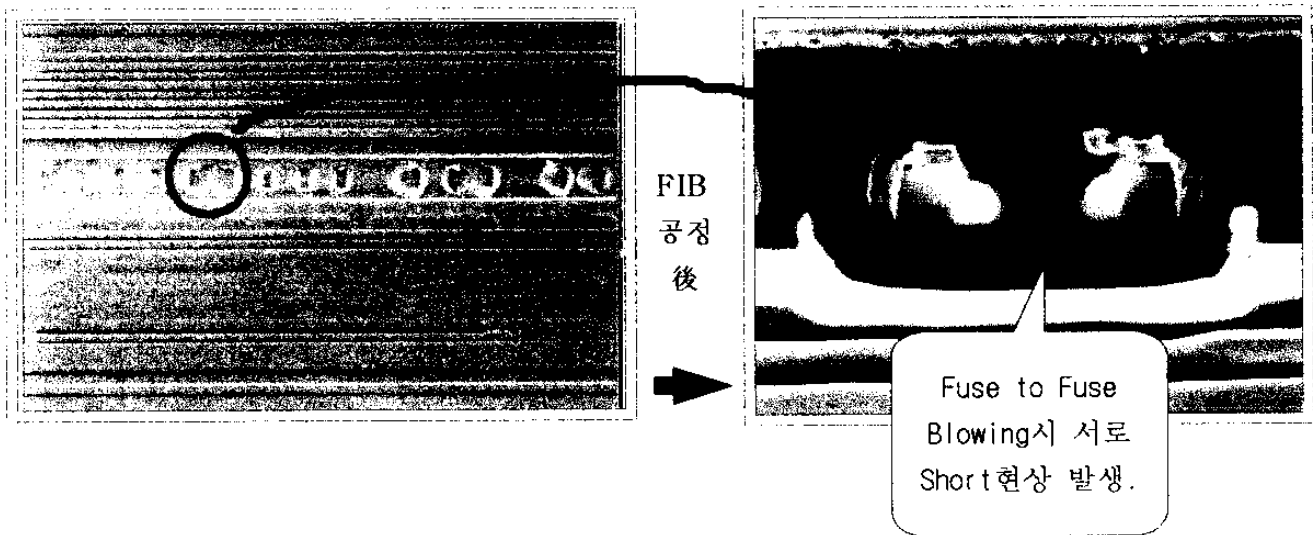
2



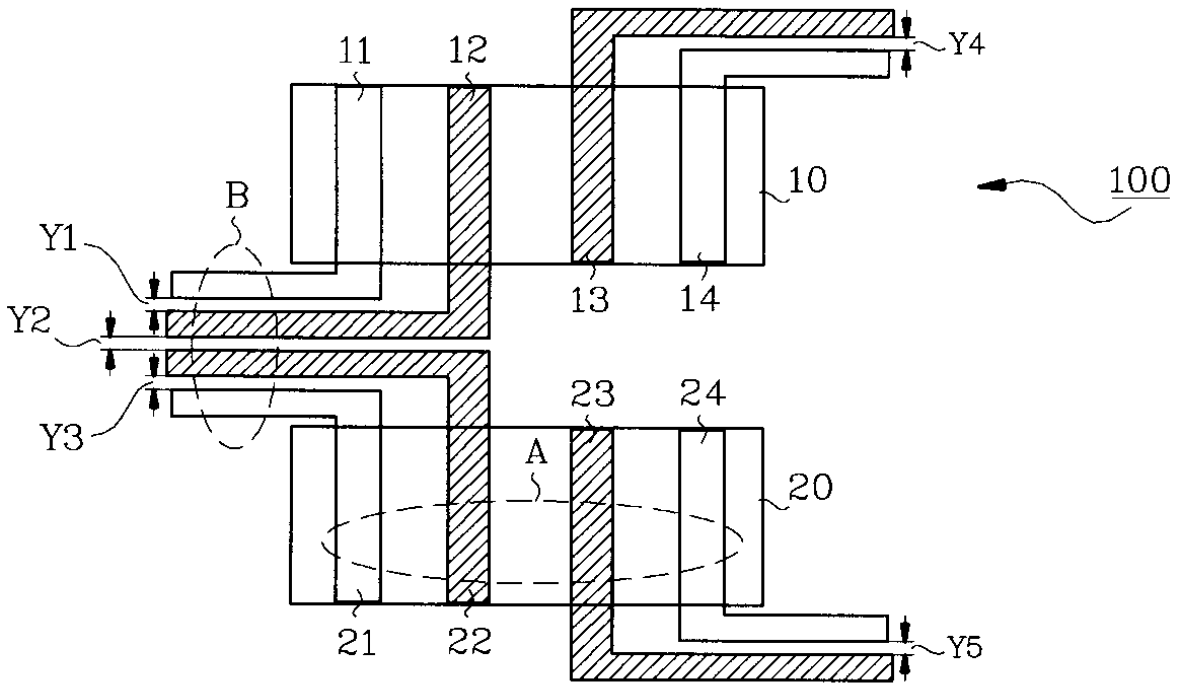
3a



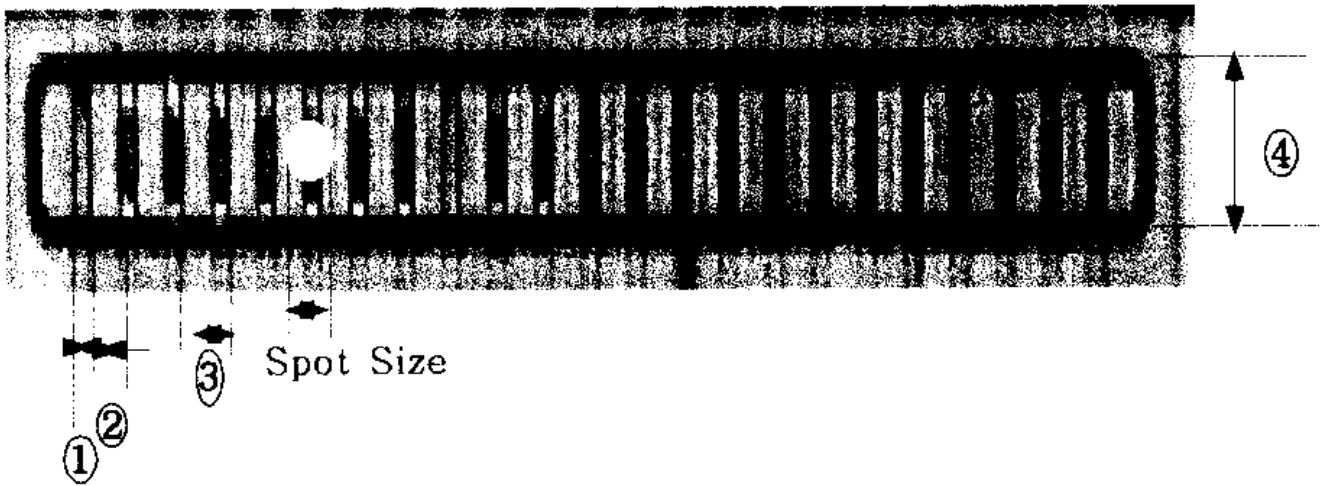
3b



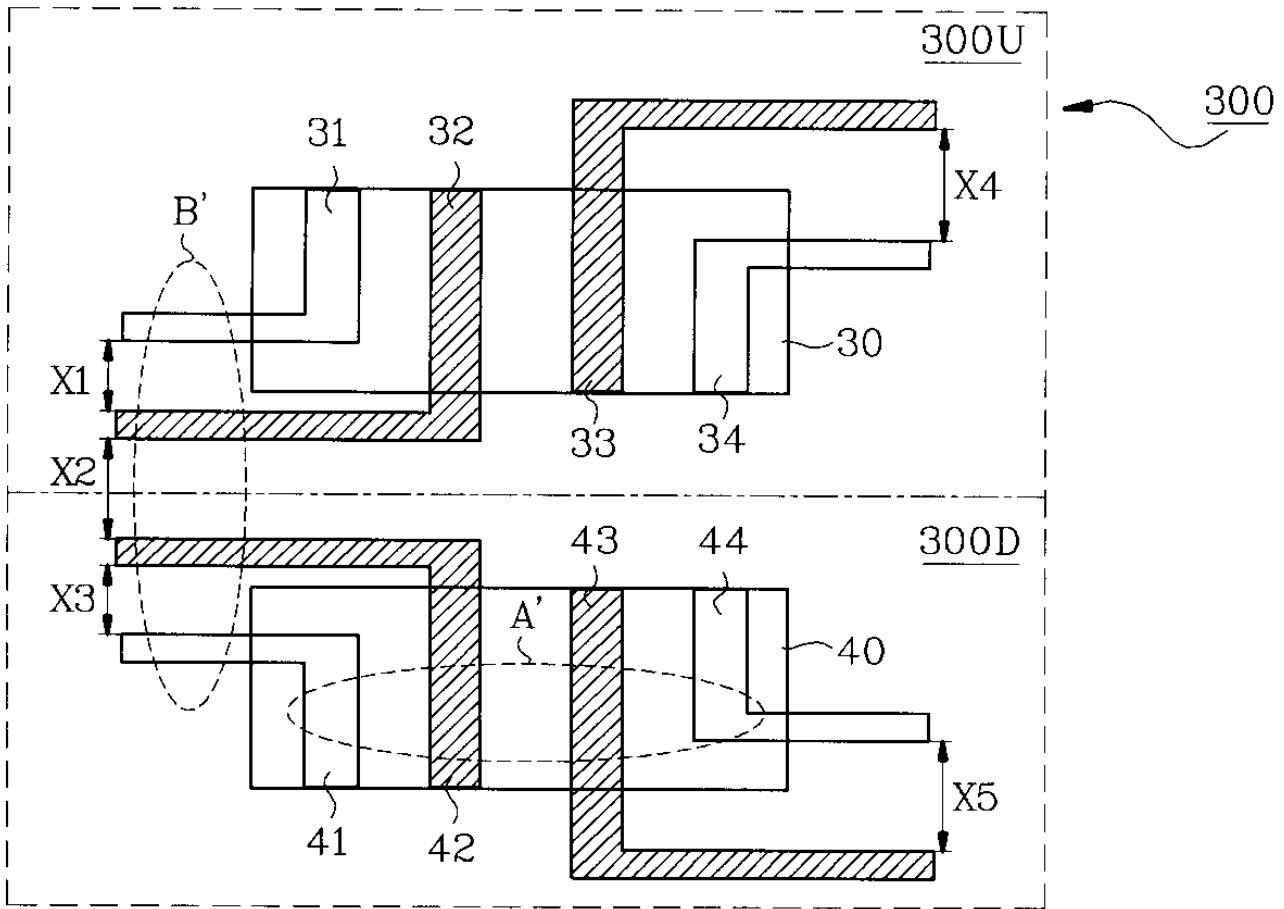
4



5

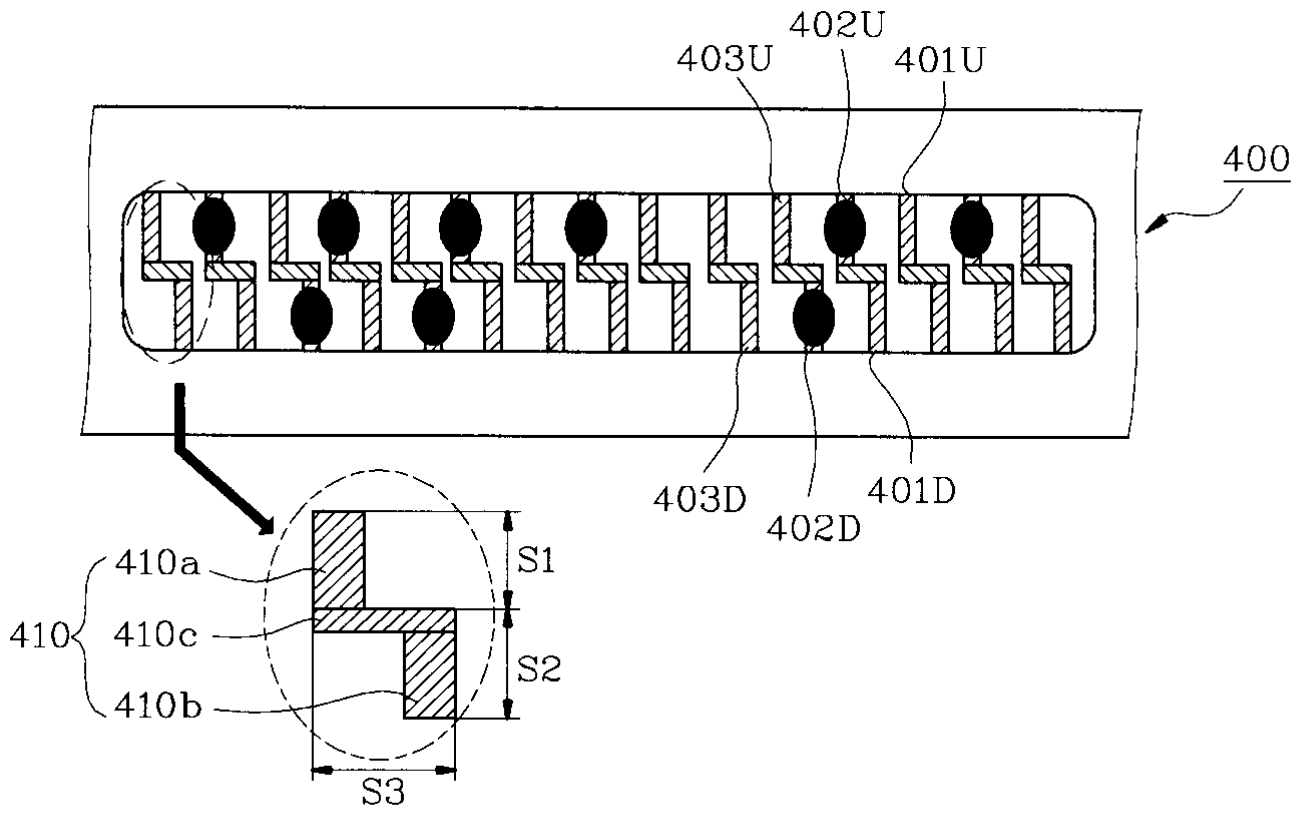


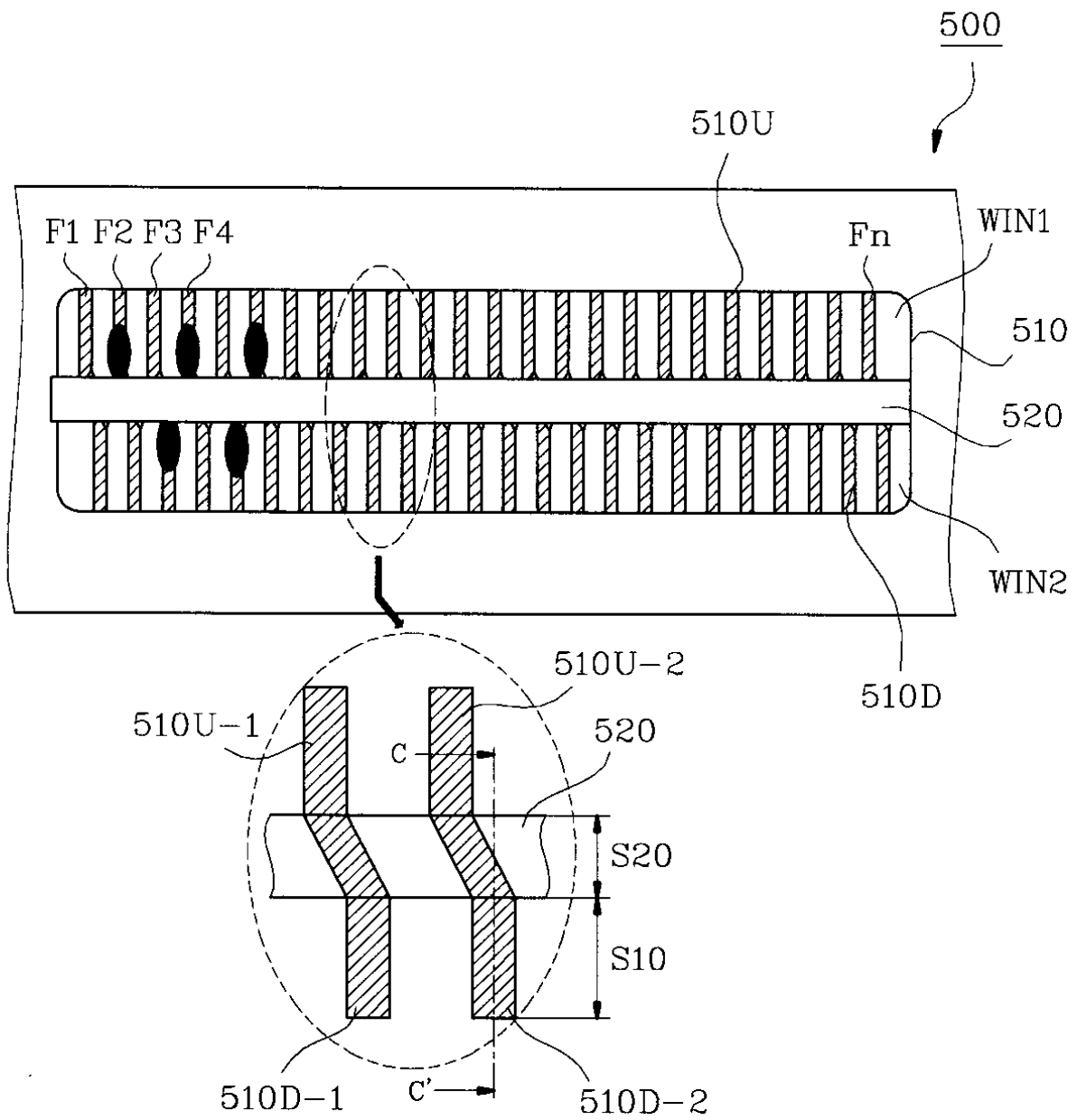
6



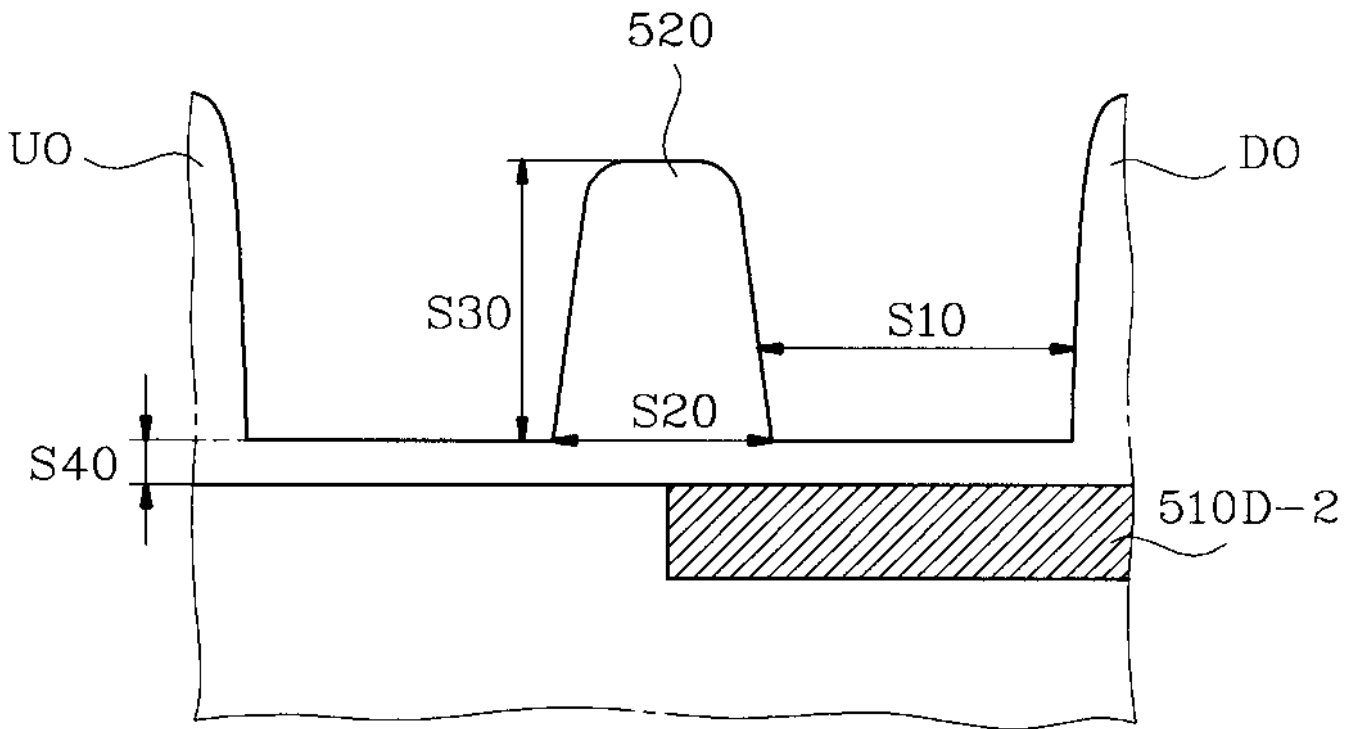
71

7

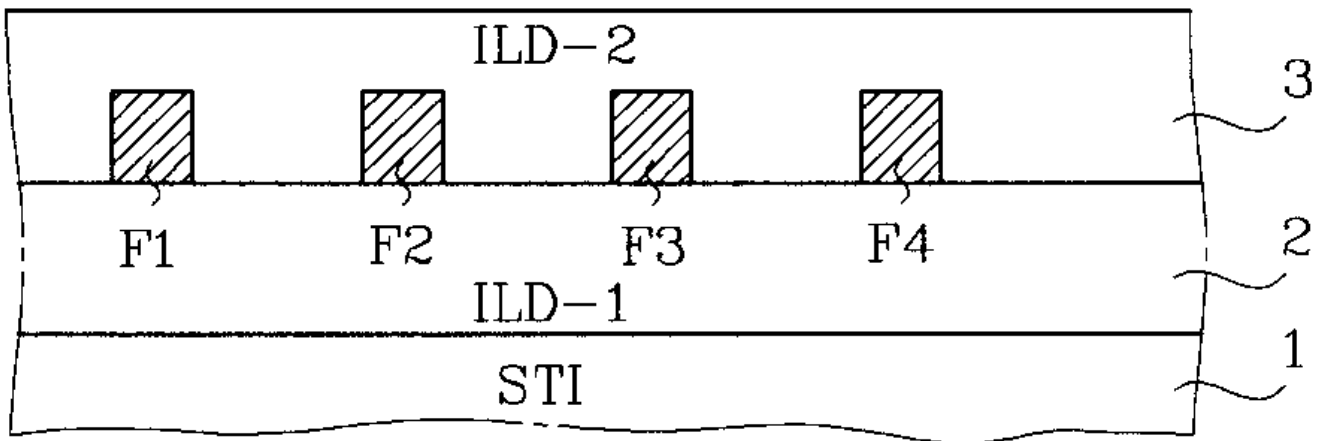




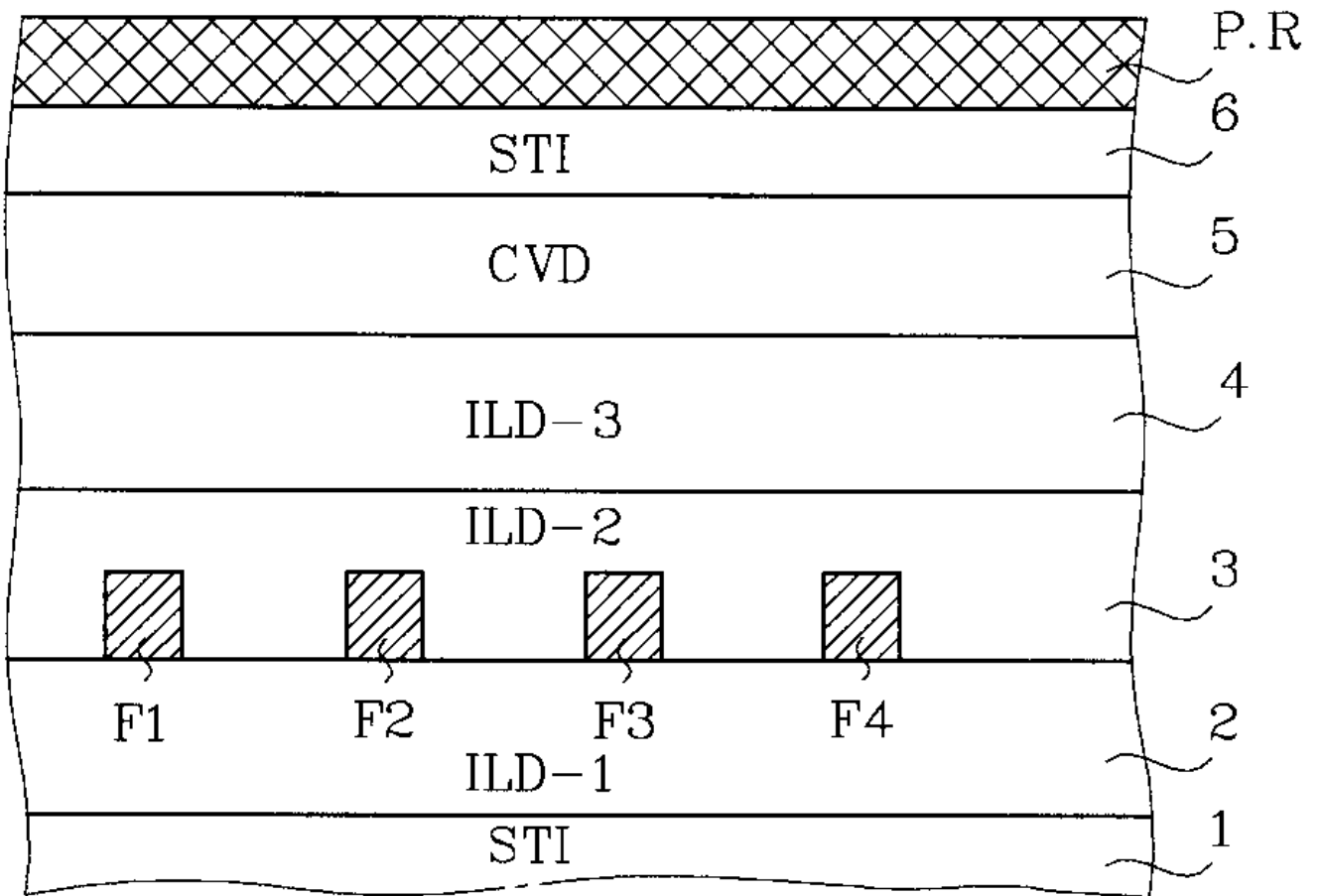
9



10a



10b





10c

