

(19)
(12)

(KR)
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2001 - 0077099
2001 08 17

(21) 10 - 2000 - 0004677
(22) 2000 01 31

(71) 3 416

(72) L G 209 703

(74)

:

(54)

, - 가
가 , ,

2

1

2

3 8

* *
 100: 1 , 102: ,
 104: , 106: ,
 108: , 110: ,
 111: . . (LDD) , 112: ,
 113: , 114: ,
 115: / , 116: / ,
 116': , 117: .

(MOS transistor) N P (well)
 , P Vss 가 ,
 P 가 N 가 , N (well bias)
 (common ty
 N 가 ,
 (latch - up) 가
 (ion radiation)
 가 (Turn - on)
 가
 N
 가
 2 (per) 1 (well bias contac
 t)
 1
 1 , 1 P (well) (10) (12), (14),

(16)

(10)

(18)

2

, N

22

/

(26)

20
24 1

가

/

(well bias area) 가

22

Vdd가 가

22' Vss 가

가

,

가

(10)

가 . ,

,

가

가

가

1

가

2

2

/

(W)

(LDD)

1

/

/

1

2

가

/

1

1

2000 4000

0.2 0.8 μ m
1E13 1E15 ions/cm²

(CMP: Chemical

Mechanical Polishing)

2

2

(100) , (100) (102), (104), (106)
 (110) , (104) (106) (108)가 2
 (110) (110)
 (108) / (115) , (113) ,
 (114) , (butted contact,
 116')

(106) / (115) . . (111) (112) ,
 (116') ,
 (112) 1 1E18 1E20 ions/cm³

(112) (110) (114) (116') /

가 가
 가

3 8

3 , N P (well) (100) (102)
 (104) (104) (106) 2000 4000 (106)

4 , (106) () (106) (104) (106) (104)
 104) 2 5E13 1E15 ions/cm² (100) (100) (LDD) (111) (100)

5 , (111) (全面) (106) (10)
 4) 1000 3000 (108) (108)가 (110) (110)
 2 3E15 ions/cm² (112) (112)
 / (115)

6 , / (115) (117) (117)
 (117) (110) (113)
 (102) (113) / (115) 1
 가 가
 SRAM(Static Random Access Memory) 0.2 0.8μm

, (113) / (115) (117)
 가 (104) () 가 (106)

, (117) (117)
 (106) (108) 가 (117)
 (misalign)
 (117) 1 1E13 1E15 ions/cm²
 (114) (114) 1 가 1E18 1E20 ions/cm³

7 , (114) (117) (117)
 (全面) (W)

8 , (116) (CMP)
 / (116) (116')
 (106) (polishing stopper)
 가 (116')가 /
 (116)가
 가 가

, , - (well bias contact area)
 (misalign)
 가 - (latch - up) 가

(57)

1.

1 ;
 가 2 ;
 2 / ;
 ;
 ;

2.

1 ,
 .

3.

1 ,

2 / . . (LDD) ,

4.

1 ,

/ 1

5.

1 ,

1 1E18 1E20 ions/cm³

6.

1 ,

/

7.

1 ,

(W)

8.

1 , , ;

;

2

. . ;

. .

;

가

2

;

;

;

1

;

9.

8 ,

2000 4000

10.

8 ,

11.

8 ,

1

12.

8 ,

0.2 0.8 μ m

13.

8 ,

14.

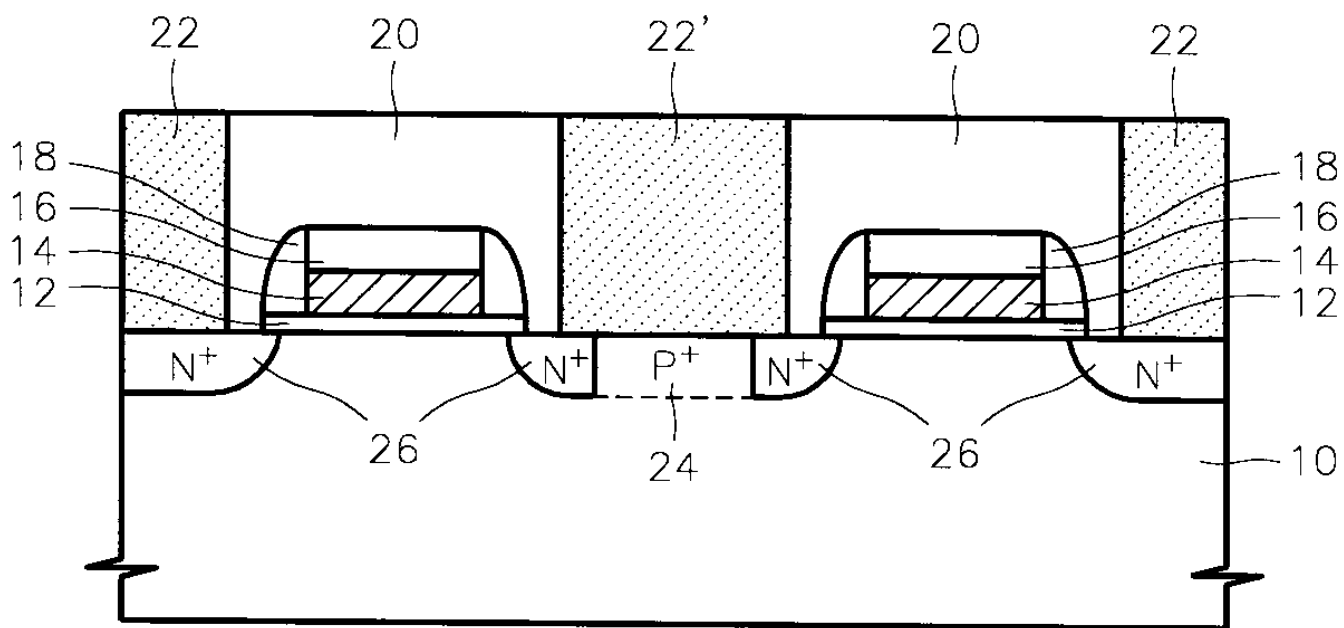
8 ,

(CMP)

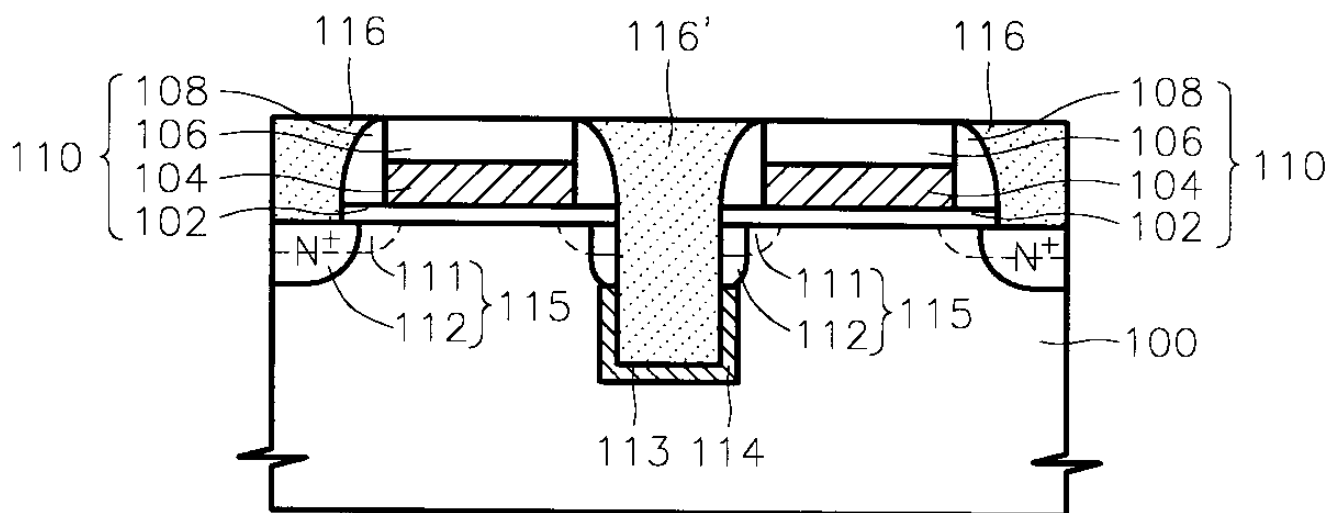
15.

14

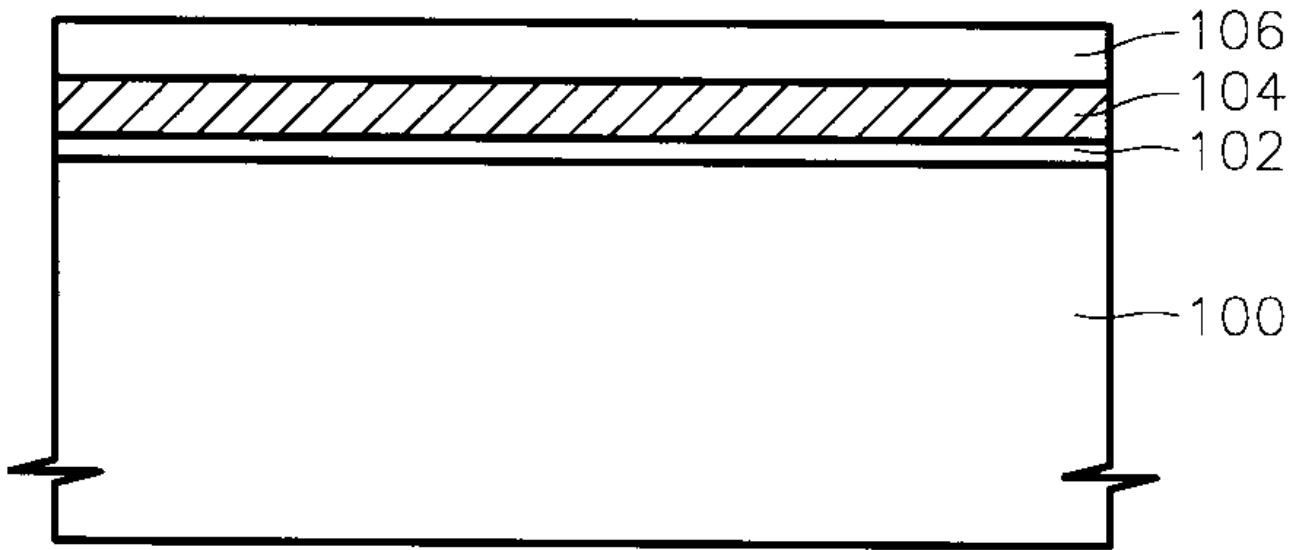
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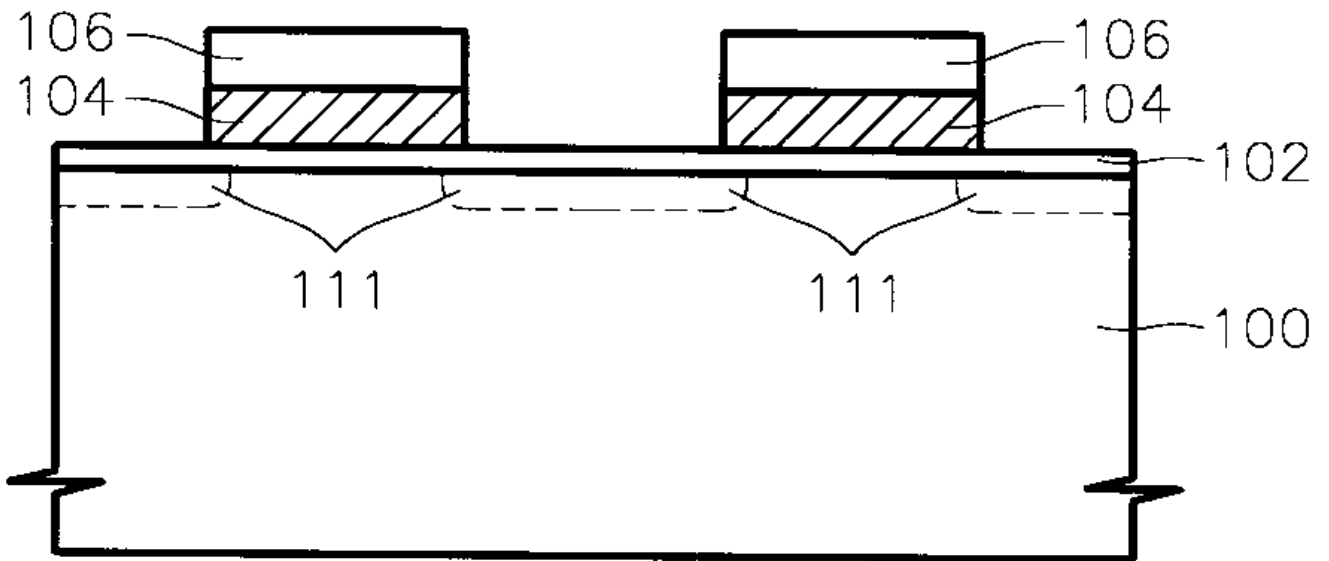
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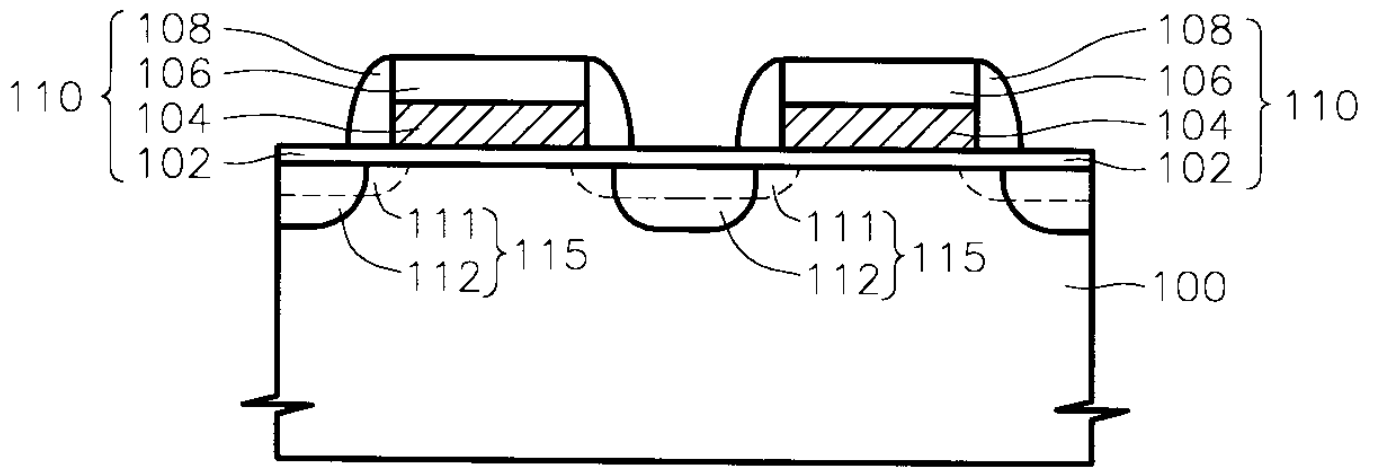
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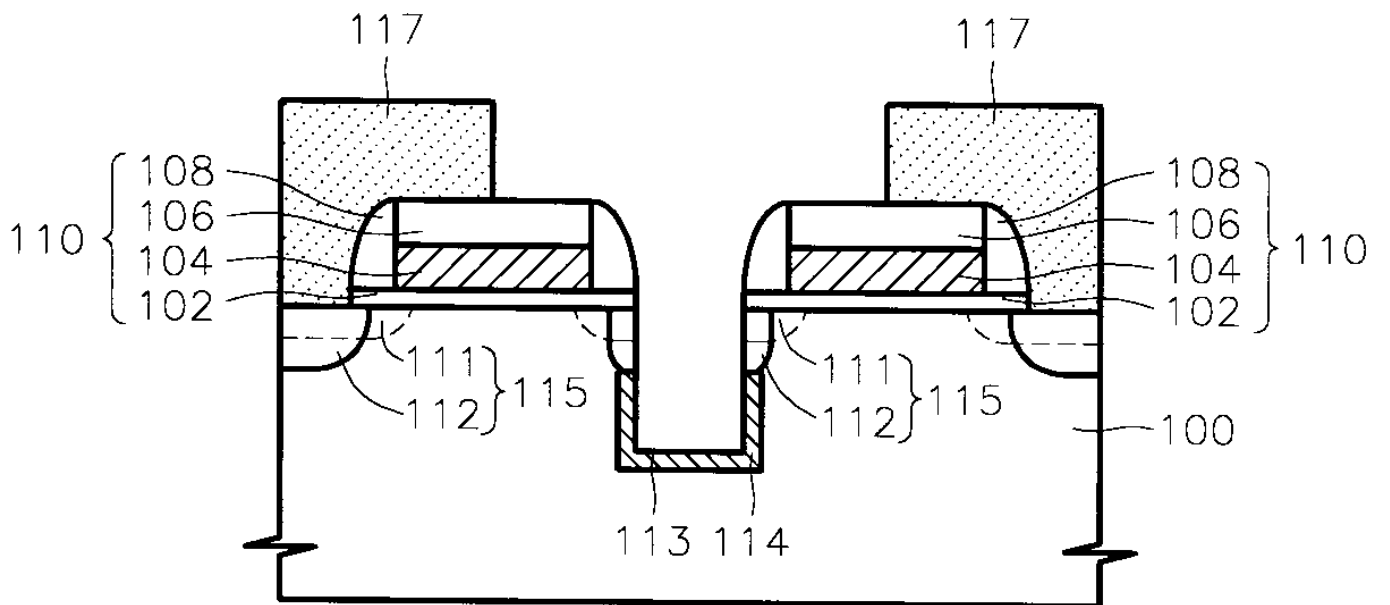
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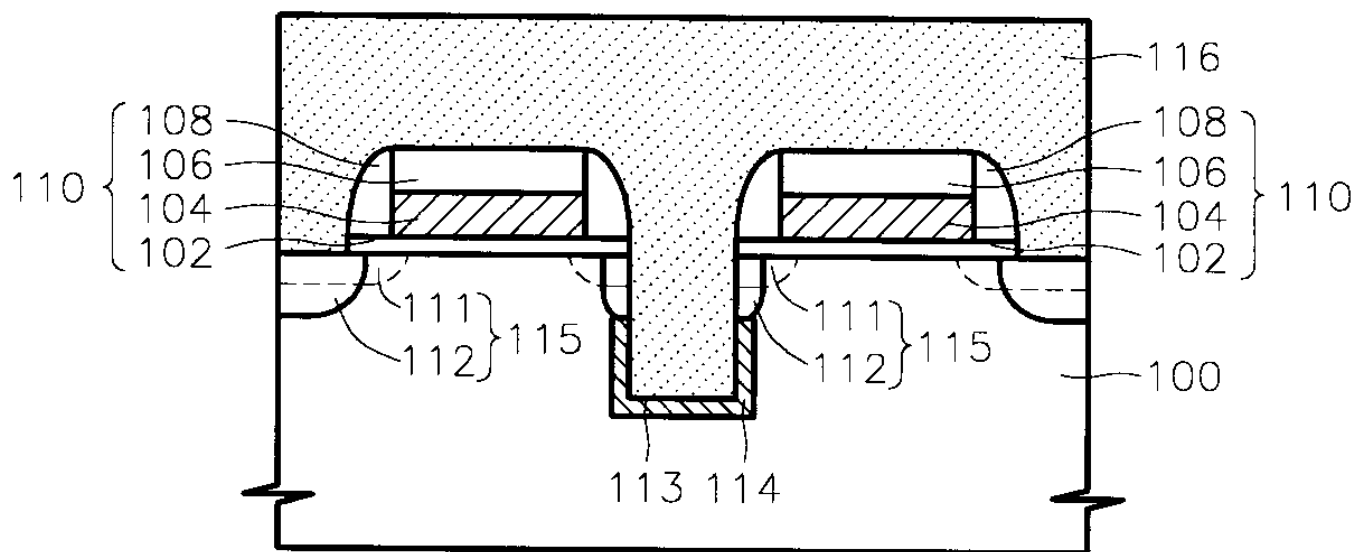
5



6



7



8

