

(19)
(12)

(KR)
(A)

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(11)
(43)

2001 - 0064118
2001 07 09

(21) 10 - 1999 - 0062251
(22) 1999 12 24

(71)

136 - 1

(72)

753

704 - 202

(74)

:

(54)

EG) SEG CMP (damascene) SEG 가 (S)

1a 1d

2a 2d

*

20 : 21 :

22 : 23 :

24a : 25 :

26 : 27 :

(damascene) 가

(doped polysilicon)
0.15 μ m

가

(DRAM)

(TiSi_x), 1 가
(W)

(gate oxide)

가

effect) (design rule) (short channel e
 (elevated) / 가 /
 (SEG) . SEG /
 1a 1d , (dummy)
 (11) , 1a (10)
 (12) (12) .
 1b (12) (13) / (14)
 1c (12)가 (15) (15) (CMP)
 1d (12) (16) (17)
 (15) CMP (17)
 가 / , /

가
 , CMP 가 가
 가 , SEG 가 가 SEG

(SEG)
 1 ;
 2 ; 2
 3 ; 3
 4 ;
 5 ;
 6 ;
 7

G 가 SEG CMP () SE

가 가

2a 2d

(20) 2a (21) (22) (LPCVD) 15 00 3000 가

2b (22) (23) (24a) (24a, 24b) (24a) (in-situ) (23) HTO(high temperature oxide) TEOS(tetraethylthosi-licate) 150 500 (24a) LPCVD U HVCVD 1500 3000 (24a) RCA , UV , HF

2c (25) , CMP (22)가

2d (22) (26) (2) (28) (29) (Ta₂O₅), (Al₂O₃), BST((Ba_{1-x}Sr_x)TiO₃) (29) W, Al (29) WN, TiN

P (22) CM (23) (24a)

가 가 가 가

가 , ,
SEG 가 . SEG ,
가 가 .

(57)

1.

1 ;

2 ;

2

3 ;

3

4 ;

5

;

6 ;

7

2.

1 ,

3 ,

/

3 ,

/

4

.

3.

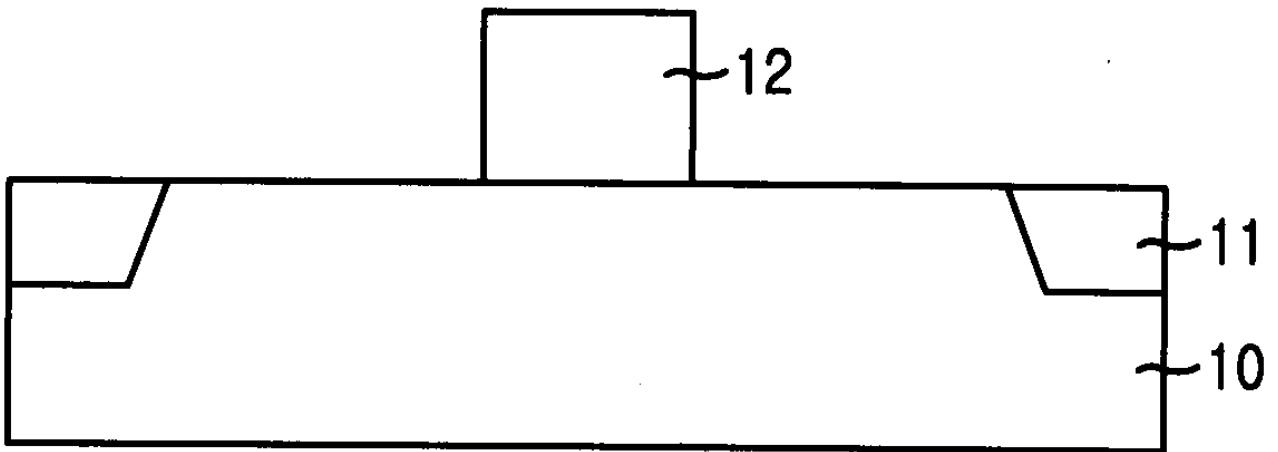
1 ,

3 ,

/

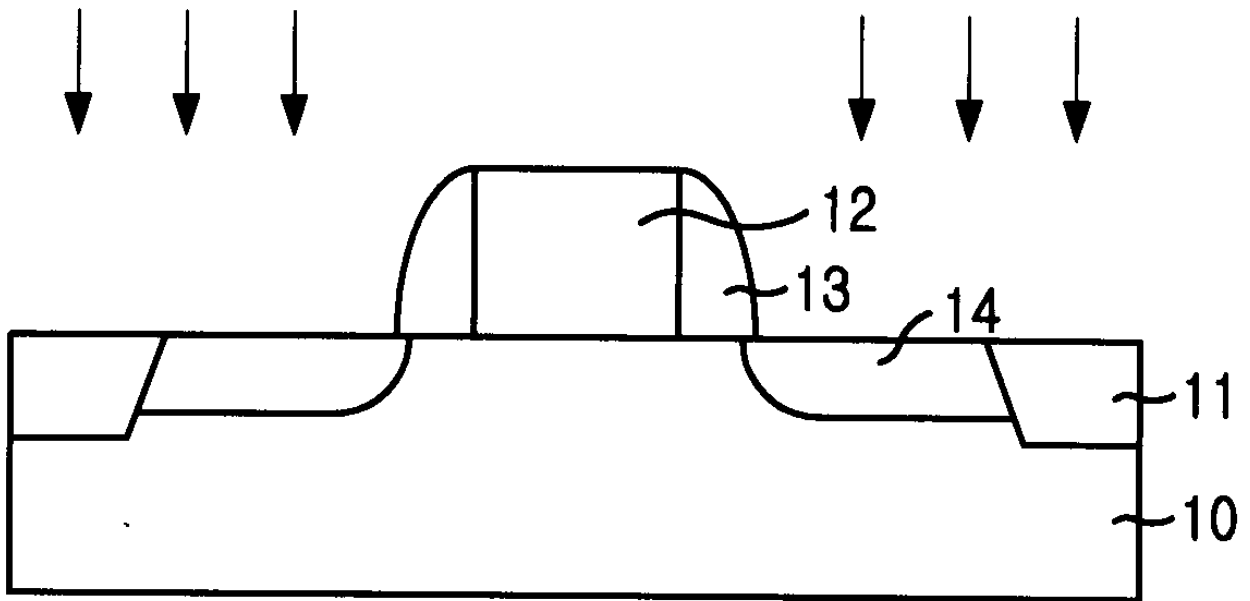
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1a

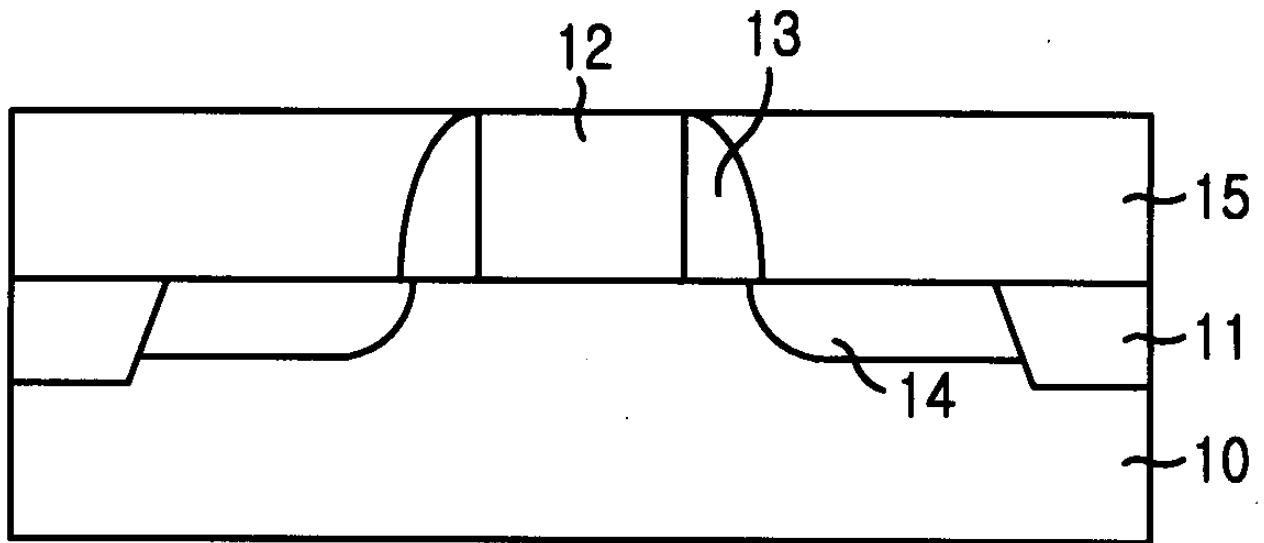


1b

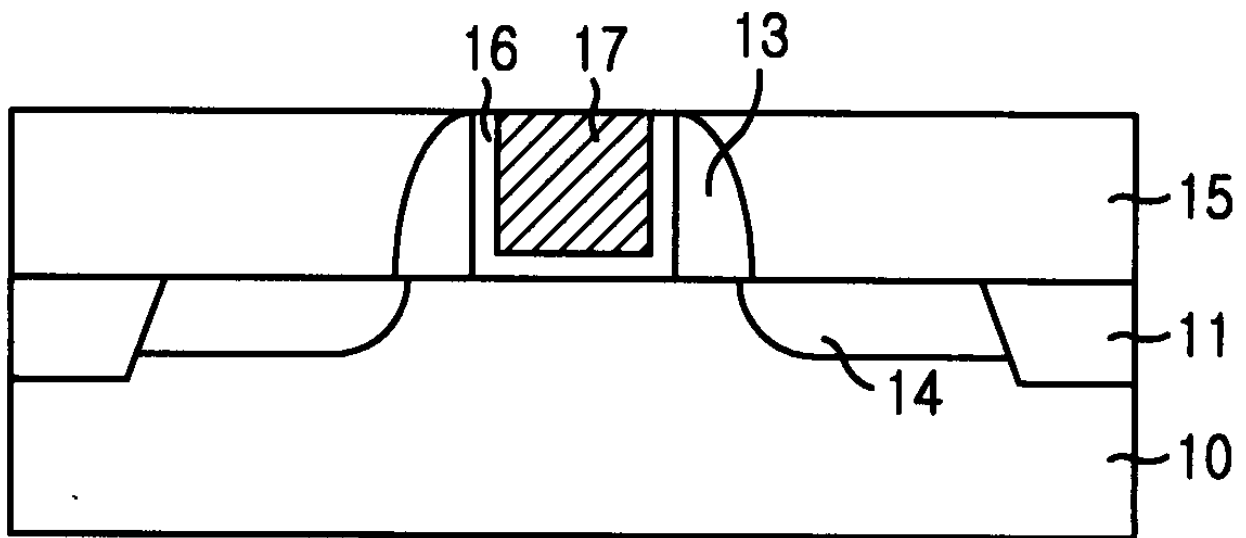
소오스 / 드레인 이온 주입



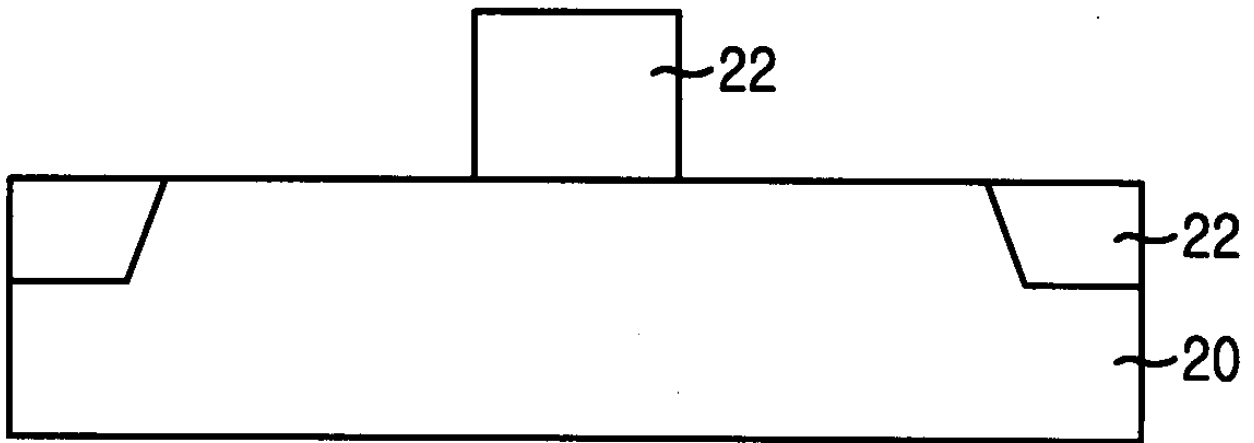
1c



1d

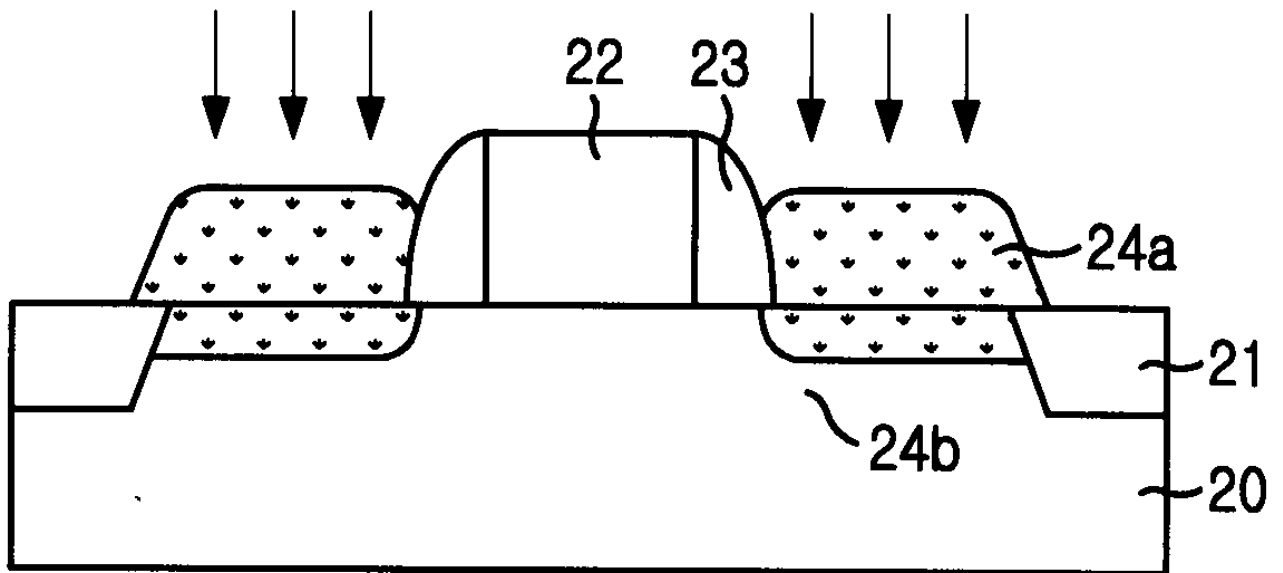


2a

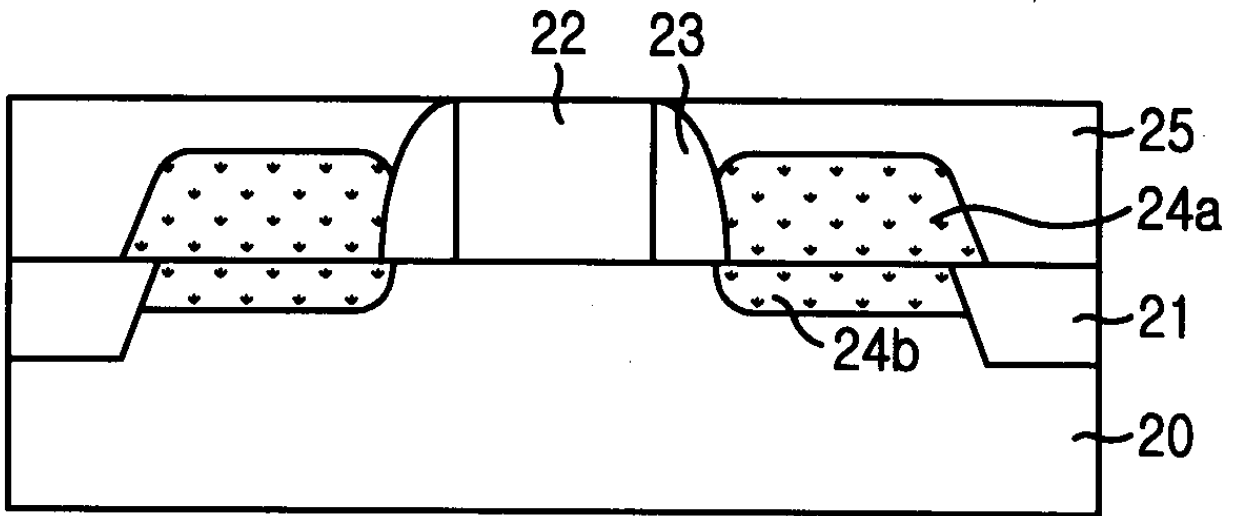


2b

소오스 / 드레인 이온 주입



2c



2d

