

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl. <sup>7</sup>  
H01L 21/28

(11)  
(43)

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2003 01 09

(21) 10 - 2001 - 0038266  
(22) 2001 06 29

(71) 136 - 1

(72) 253 - 4 A - 208

(74)

:

(54)

NMOS

PMOS

As BF<sub>2</sub>

3c

1a 1c

3 TEM

3a 3c

1

< >

11,31 : 13,33 :

15,35 : 17,19,37,39 :

21,41 :

23,45 : , HLD

43 : 100,300 : NMOS

200,400 : PMOS

( mis - align ) ( borderless contact ) ( field oxide ) ( etch stop buffer layer )

( isolation region ) ( dimension ) 가 ( memory cell size )

LOCOS ( LOCOS : LOCAl Oxidation of Silicon, ( Poly - B ( trench )  
uffed LOCOS, PBL )

( shallow trench isolation )

( void )

가

가 - ( out - diffusion ) 4 ( Silane, SiH<sub>4</sub> ) 가

1a MOS 1c 200 PMOS , 100 N

1a (13) (11) (15) ( )

1b , NMOS (100) PMOS (200) As BF<sub>2</sub> (17,19)

1c (21) (17,19) (21) RTP

가 (23)

(23) 100 HLD ( )

NMOS (100) 400 PMOS (200) 100

2a 2b NMOS PMOS HLD TEM , NMOS 가

가 HLD

HLD

NMOS                      PMOS                      As    BF<sub>2</sub>

2a                      2c                      , 300    N

MOS                      400    PMOS

2a                      (31)                      (                      )

(33)                      (35)

2b                      , NMOS                      (300)    PMOS                      (400)                      As    BF<sub>2</sub>

(37,39)

2c                      (41)                      (37,39)                      (41)

RTP

가

, 800                      가    20 slm                      (41)

1    9                      (43)

(45)    HLD                      (45)

1

[ 1 ]

TARGET	질화막형성	산화공정	1회	2회	3회	AVG(Å)
67Å	무	전	1.0	1.2	1.6	66.8
		후	66.9	66.5	67.0	
	유	전	2.7	2.6	2.7	36.6
		후	39.3	31.2	39.3	

HLD

(57)

1.

NMOS

PMOS

As

BF<sub>2</sub>

2.

1

800

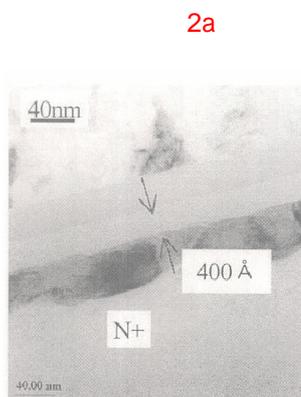
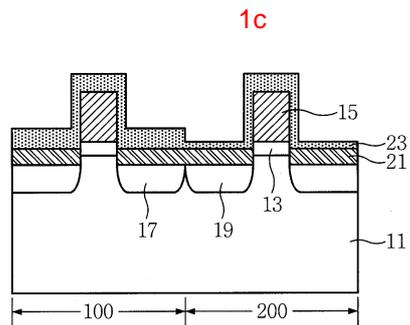
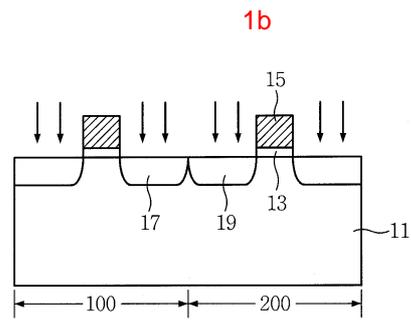
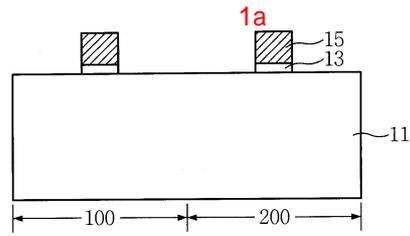
가 20 slm

3.

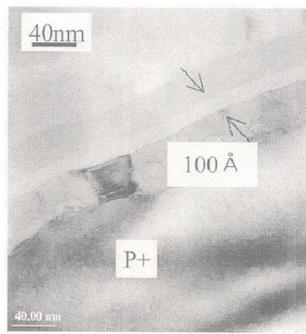
1

1 9

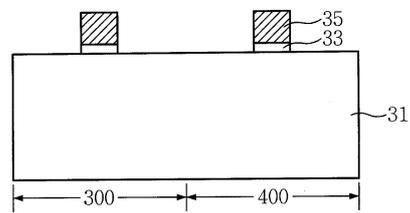
4.



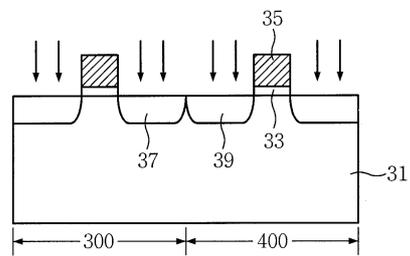
2b



3a



3b



3c

