

(19)
(12)

(KR)
(A)

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(43)

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2002 02 20

(21) 10 - 2000 - 0046168
(22) 2000 08 09

(71)

136 - 1

(72)

43 B 211 - 901

72 - 1 102 403

(74)

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(54)

2 , ' , , 2 1
2 , 1 , 1 , 2 1
2 , 1 , 1 , 2 1
MOS

1a

1a 1b

2a 2d

3

* *

10: 12:

14: 14' :

(shallow junction)

(vertical scale down)가

(junction)

0.1 μ m (threshold voltage) 가

(short channel effect) 0.25

(hot carrier effect)

가 MOS LD

D(Lightly Doped Drain) MOS 가 (shallow junction) (annealing)

, NMOS n As (projected range) Rp가

, PMOS p BF₂ (F) (B) 가

, BF₂ 가 가 가 NMOS

(rapid thermal process) 2 . 1 (1000 12000) 350

2 1 NMOS

가 PMOS 2

1 1 2

1 2

150 400 650 1slm 20slm 1 1 10 / 100 / 1 1slm 20slm

가 N₂, Ar, NH₃, O₂ 550 750 5

가 N₂, NH₃ 1 / 30 / , 1000 12000

10 300 O₂ , 2

MOS

1a 1b PMOS (10) (10)

1a PMOS / (12)

BF₂ 14 가 1 2KeV, 1E15 5E15ions/cm²

1b , 2 / (12)

2 1 150 1slm 10 / 100 / , 가 N₂, Ar, NH₃, O₂ 550 750 5 150 20slm 1 / 30 / , 가 N₂, NH₃ 400 650 1 1 1slm 20slm

1				(14)	14'		
	/	(12)					
, 1		2			, 2		
	, 1000	12000	10	300	O ₂		
2				/	(12)		
2a	2d						
2a	600	10	1		(TEM - 1)		
	(1)						
2b	600	60	1		(TEM - 2)		
가	(2)						
2c	600	90	1		(TEM - 3)		
	(3)						
2d	700	60	1		(TEM - 4)		
	(4)						
3							
	2a	2d	1		2	1000	10
			2		1		
, TEM - 1	TEM - 2	TEM - 3	TEM - 4				. 1
	TEM - 4		가		, TEM - 3		
					1		2
/							
		2					1
MOS							
	NMOS			가	PMOS		2
	/						PMOS

(57)

1.

,
;
1
;

1 2

2.

1 1 550 750 5
150 , 10 / 100 / , 가 N₂, Ar, NH₃, O₂
1slm 20slm .

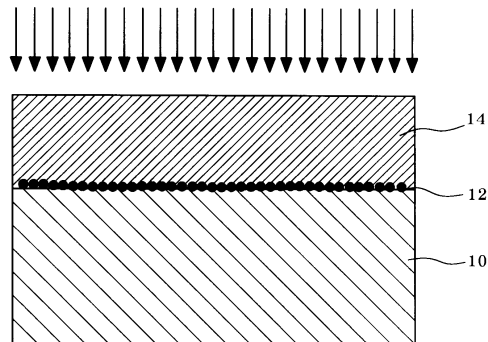
3.

1 1 400 650
1 1 1 / 30 / , 가 N₂, NH₃
1slm 20slm .

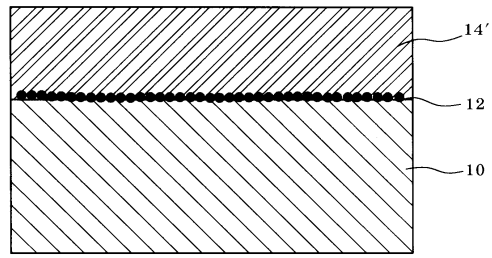
4.

1 2 , 1000 12000
10 300 O₂ .

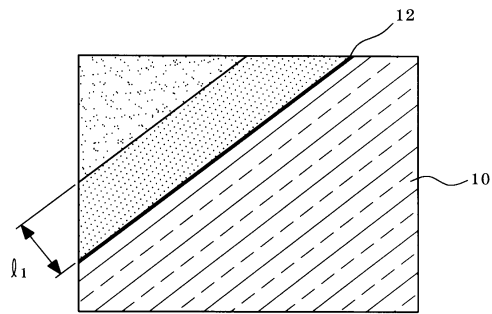
1a



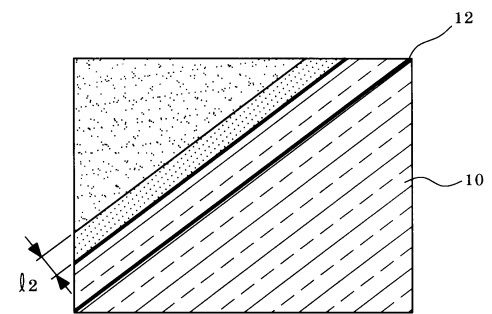
1b



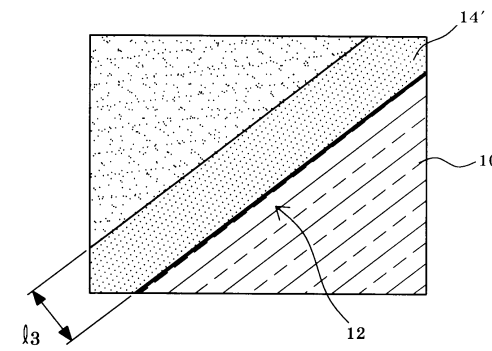
2a



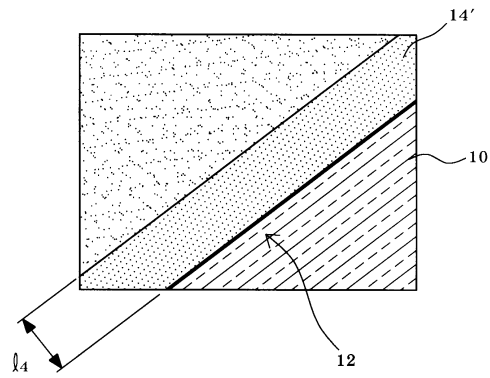
2b



2c



2d



3

