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(43) 2002 08 24

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	SOI	.	SOI	1	1	1
	,	,				
2	1	2	2		2	SOI
	1					
	가	가	가	가	가	
	.	.	.	.	.	.

2

1a 1d

SOI

2 SOI

3a 3d SOI

4 SOI

5 SOI

6 SOI

7 5

<

110:

130:

140:

142: 1

144: 2

150:

SOI(silicon on insulator) , SIMOX(separation by i  
 mplanting oxygen) SOI  
 가 SOI  
 가  
 , 가 가 0.5 $\mu$ m 가 가  
 , 가 가 , SOI ,  
 SOI 가 가 , ,  
 가  
 SOI SIMOX  
 SIMOX SOI 1a 1d

1a 1d SOI  
STI(shallow trench isolation)

1a (buried oxide layer; 20) (10), (20) SOI (30) SOI

1b SOI (30)  
(42)

1c SOI (30)  
(42)  
SOI (32)

1d USG (32) (34)  
SOI MOS  
SOI  
가

SIMOX SOI  
8 - 167646

SIMOX

4 - 67649 SOI

SOI (LOCOS)  
가

SOI  
가 (void)  
가

SOI

가

2

SOI

, ;  
 , 1 1 1 1  
 ;  
 , 2 2 1  
 2 2 SOI .  
 , ;  
 , 1 1  
 1 1 1 ;  
 , 1 2 2  
 , 1 2  
 ;  
 2 , ;  
 1 2  
 SOI(silicon on insulator) .  
 SIMOX SOI , 2  
 SOI  
 , .  
 , .  
 2 SOI .  
 2 , SOI (110), 1 (142) 2  
 (144) (140) (140) (150)  
 , (150) (140)  
 , 가 .  
 , ,  
 , . ,  
 .

(140) 1 (141) 1 (143) 1  
 (142) 2 (147) 2 (145) 2  
 (144) 1 가 (142) 2 (144) 가  
 1 (141) 2 (147)가

2 0.21 $\mu$ m 0.07 0.7 $\mu$ m 가 1  
 0.21 $\mu$ m 가 1 가 0.04 0.6 $\mu$ m 2  
 가 0.14 1.4 $\mu$ m 가 2

SOI 1 (142) 2 (144)

SOI SOI 3a 3d 3a 3d  
 SOI 3a (100) (112) (100) , SOG  
 (112) 가 2  
 0.05 0.5 $\mu$ m 가

3b (112) (100) 1  
 (112) 가 (125) ,  
 (112) (112)

(112) (110) 1  
 (120) (130)

0 KeV 1 0.21 $\mu$ m 320 e<sup>+</sup> 60 8  
 , 1 1x10<sup>18</sup> 8x10<sup>18</sup> cm<sup>-2</sup> , 60KeV  
 0.14 $\mu$ m

3c , 1 (120) 1

2 (112) 2 (132) (112)

(120) (112) , 1

10<sup>18</sup> cm<sup>-2</sup> 가 , 1 32O<sub>2</sub><sup>+</sup> , 20KeV , 2 1x10<sup>18</sup> 8x

, 0° 0° 가 10° 가

3d , (112) , (14)

0) (150) SOI .

1100 1300 가 2 7

가 가

4 , SOI (152) (145)

SOI , , ,

SOI MOS

5 6 SOI

5 (154a) (154b) (154)

6 가 (156)

가

7 5

(154)

7 DRAM

DRAM

7

154

가

(160)

7

가

SOI  
SOI

가

가

가

가

가

가

(57)

1.

;

1

1

1

1

;

2

2

1

2

2

SOI(silicon on insulator)

2.

1

SOI

3.

1. , 1 2 가 SOI .
- 4.
- 1 , 1 2 가 0.07 0.7 $\mu$ m SOI .
- 5.
- 1 , 2 가 1 2 3.5 SOI .
- 6.
- 1 , 1 가 0.04 0.6 $\mu$ m , 2 가 0.14 1.4 $\mu$ m S  
OI .
- 7.
- ;
- 1 1 1 ;
- 1 , 1 , 2 2 2 ;
- 2 , ;
- 1 2 SOI(silicon on insulator) .
- 8.
- 7 , 1 32O<sub>2</sub><sup>+</sup> , 60 80 KeV , 1  
1x10<sup>18</sup> 8x10<sup>18</sup> cm<sup>-2</sup> SOI .
- 9.
- 7 , 2 32O<sub>2</sub><sup>+</sup> , 20KeV , 2 1x10<sup>1</sup>  
8 8x10<sup>18</sup> cm<sup>-2</sup> SOI .
- 10.
- 7 , 가 1100 1300 2 7  
SOI .
- 11.
- 10 , 가 SOI .



12.

7 SOI , , SOG

13.

7 2 SOI , 1 ,

14.

7 , 0.05 0.5 $\mu$ m SOI

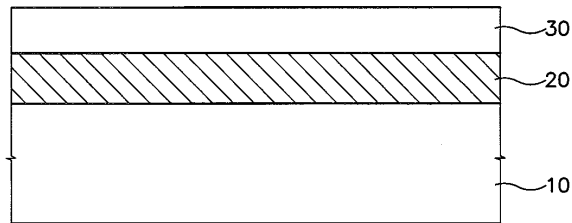
15.

7 , 1 2 , 0 $^\circ$  SOI

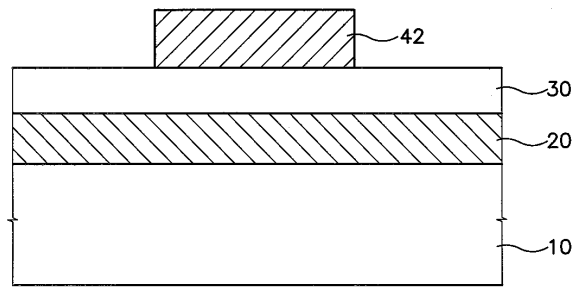
16.

7 , 1 2 SOI

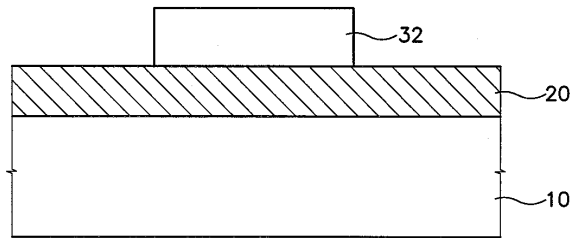
1a



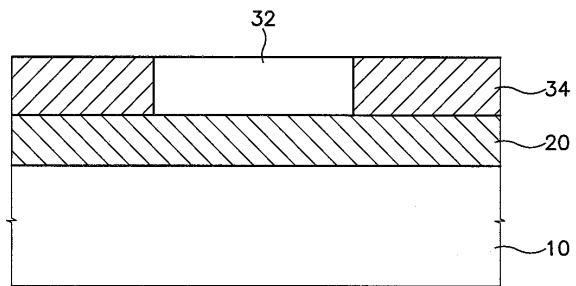
1b



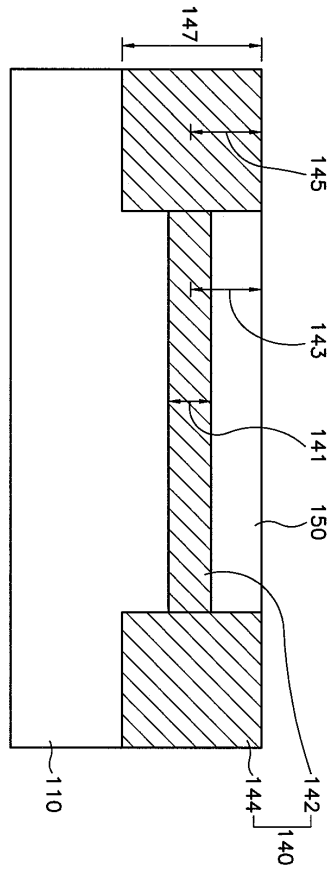
1c



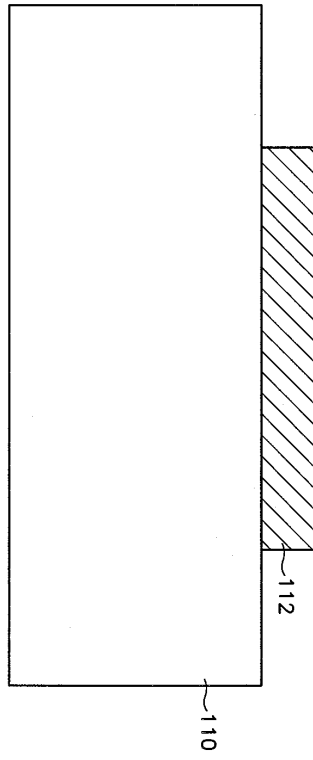
1d



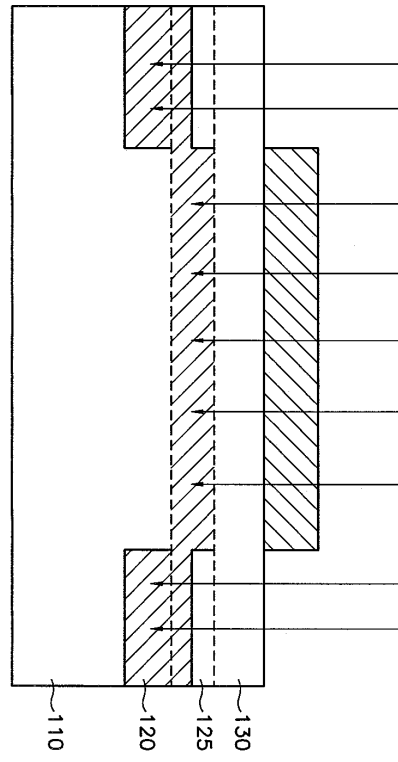
2



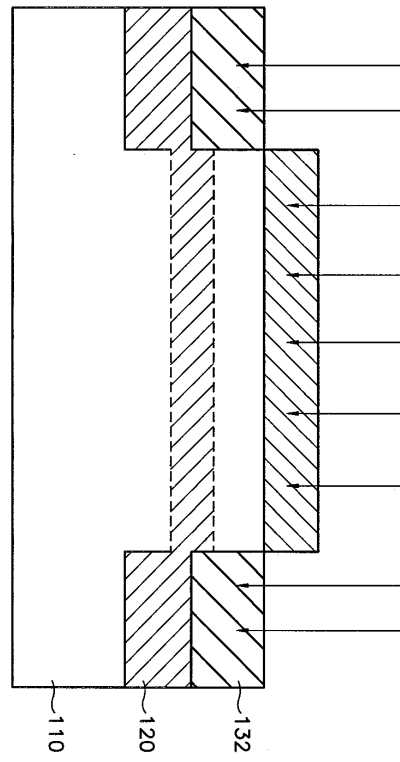
3a



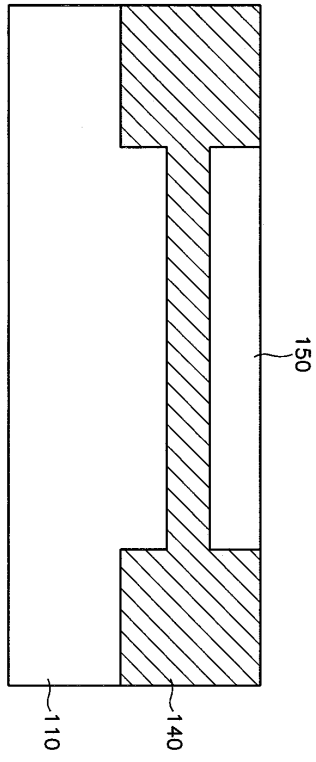
3b



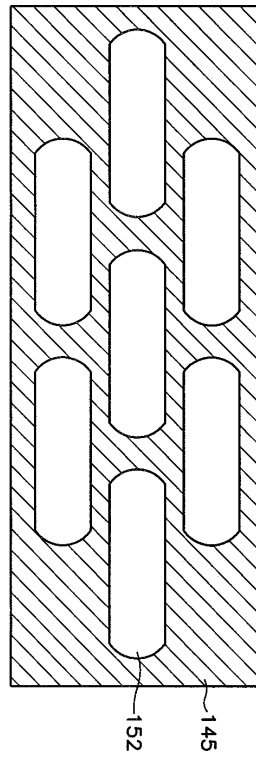
3c



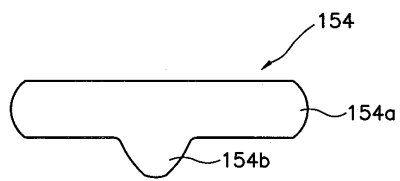
3d



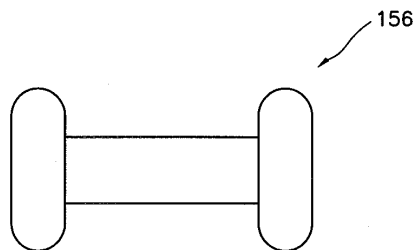
4



5



6





7

