

(19)
(12)

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10-2004-0079172
2004 09 14

(21) 10-2003-0014114
(22) 2003 03 06

(71) 136-1

(72) 301-803

(74)
:

(54)

N₂ O N
, ONO ,
N , .

2d

1a

1f

2a

2g

100 :

102 :

104 : 1

106 :

106' : 108 :

110 : 112 : ONO

A : Si-O B : Si-N

y) DRAM(Dynamic Random Access Memory) N
 ONO
 ONO(Oxide/Nitride/Oxide) NVM(Non-Volatile Memor
 / /
 , EPROM FLASH EPROM ,
 ONO (Retention) ONO (Retention) ONO
 가
 1a 1f
 , 1a (100) , STI(Shallow Trench Isolation :
)
 102)
 , 1b (102) 1 (10
 4)
 , 1c (106) 1 (104) , (106)
 A Si-O
 , 1d (106) (108) , 1e
 (110) ONO (112)
 , 1f 2 (114)
 , (Retetion) 가
 ONO 가
 , 가 가

O N , N₂ ,

ONO
N

O N ONO N N₂

N N₂

2a 2g

2a (100) STI(Shallow Trench Isolation :
) (102)

2b (102) 1 (10
) 2c (106)

2d (106) Si-O Si-N (106) N₂가 N (s
eed)

(108) 2e (106') N

(108) 2f (110) ONO (112)

2g 2 (114)

ONO Si-O Si-N N₂가
N ONO

ONO ONO (Retion)

, ONO ONO 가 ,

(57)

1. ONO

N

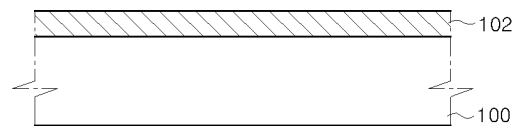
2.

1

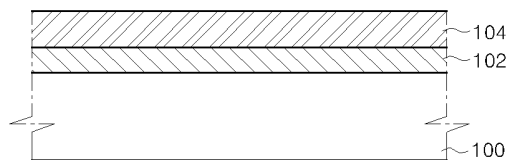
N

N₂

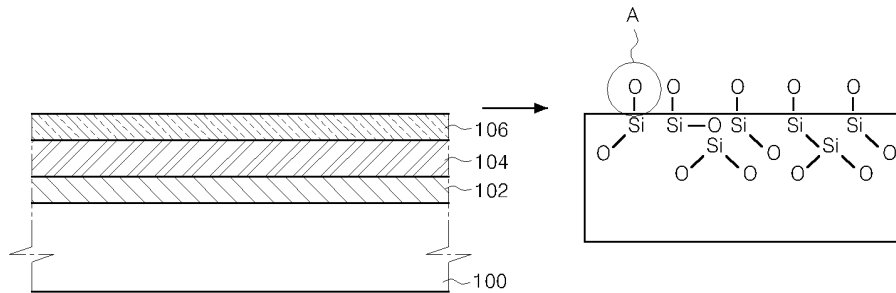
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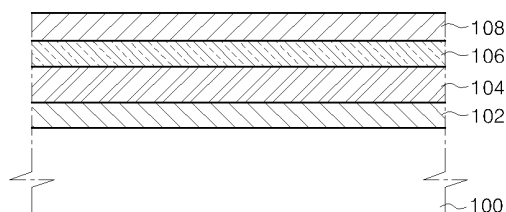
1b



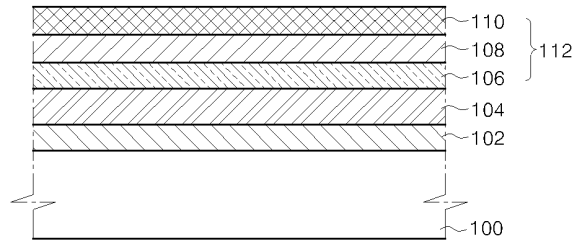
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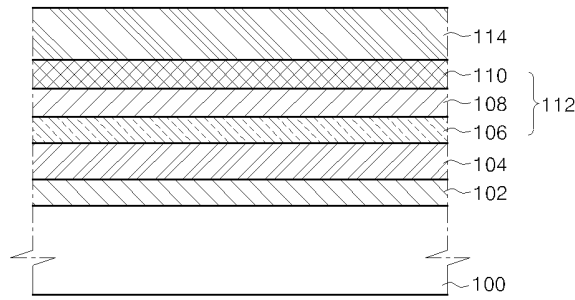
1d



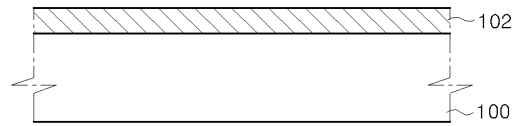
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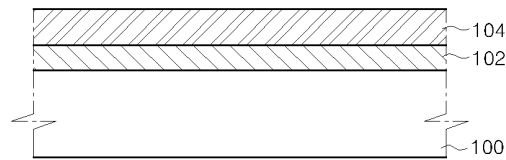
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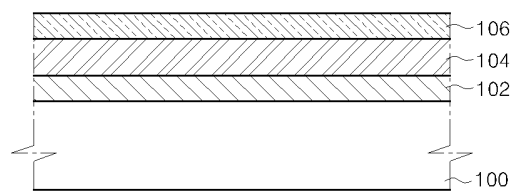
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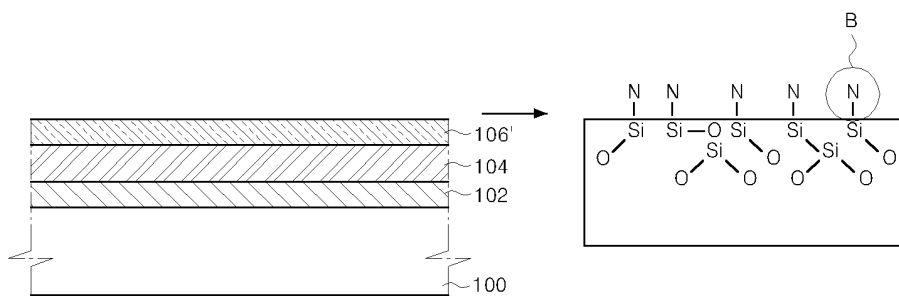
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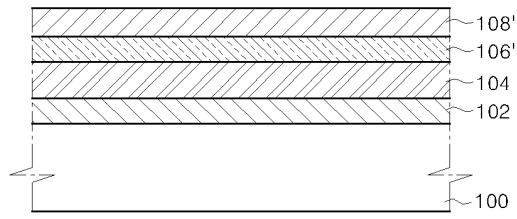
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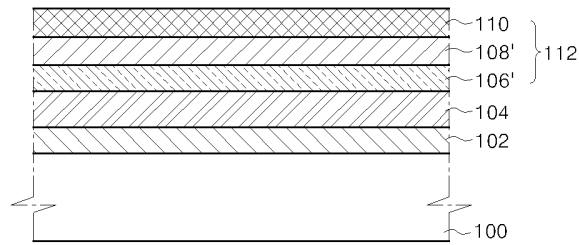
2d



2e



2f



2g

