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(22) 2001 03 12

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10-2002-0072655
2002 09 18

(73) 416

(72) 832 1 109 1503

(74)

:

(54)

2g

1
2a 2g

*
100 : 106 :
108a : 108b :
110, 114, 128 : 132 :
142 : 112 :
116 : 124 :
126, 140 : 130, 136 :

10

(Al₂O₃) (Ta₂O₅) (H₂O)
 (Al(CH₃)₃) Ta(OC₂H₅)₅ 가 가
 O₂ 가 (purging) 가 가
 가 가 가
 가 가
 가
 /
 100 1000 가
 1000 6000 가 PE-TEOS
 () 가
 (O₃) (flushing)
 ()
 가
 10 200 550 100 g/m³ 300 g/m³ 1
 (CVD:chemical vapor deposition) (ALD:atomic layer deposition)
 (Ta₂O₅) (Al₂O₃)
 가 가 가 가
 TMA:trimethyl aluminum:Al(CH₃)₃ (precursor) (H₂O)
 가 가 가

(purge)

가
가

가

가

1 (114) (118), (120) (122) (124) (128, 132) (128: (128), (132))
 124)가 (126) (134) (142) (140) (138) (132)
 (136) (142) (140) (132)
 38) (136) (140) (138) (132)
 (130) (128) (132) (140) (120) (128) (142)
 (126) (124) (140) (120)

2a 2g 2a 2g 1
 2a (100) (102)
 (100) () (CMOSFET:complementar
 y metal oxide semiconductor field effect transistor) / (104)
 (106) (106)
 (106) (106)
 108a) (108b) (106)
 100) 가 1 (110) 1 (110)
 (BPSG;borophosphosilicate glass) (PSG: phosphorous silicate glass) (USG:
 undoped silicate glass), (TEOS:tetraethyl orthosilicate glass) (108a)
 1 (110) 1 (110)

(112) (112)
 1 (110)
 2b (112)
 (BPSG) (112) 2 (114) 2 (114)
 2 (114) 1 (110) (108b)
 (114)
 2 (116) 2 (114)
 (116)가 (114) 2 가 (114) 2 (114) (114)
 (116) (116) (116) (116) (116)

24)가 (116) (116) (116) (116) (116)
 (118) (Pt) (IrO₂) (Ir), (Ru), (Rh), (Os), (Pd)
 {(Ca,Sr)RuO₃}

}, (LaSrCoO₃), (TiO₂), (Ta₂O₅), (Al₂O₃),
 (120) (SiO₂/SiN), (BaTiO₃:BT), (Bi₄Ti₃O₁₂),
 (SrTiO₃:ST), {(Ba,Sr)TiO₃:BST}}, {(Pb,ZrTi)O₃:PZT}},
 (122) {(Pb,La)(Zr,Ti)O₃:PLZT}, (SBT)
 2c (124) (da
 mage) (114) (126) (124) (126) 2
 (120) (126)
 (126) (126)
 , 200 550 (126) , 100 g/m³ 300 g/m³ , 1 10
 2d (128) (126) 1000 (128) 3
 SiH₄) (130) (128) (PE-TEOS) (PE-
 (130) (stripe) (130)
 1 (110) 3 (128), 2 (114)
 (130)
 2e (130)
 (132) 3 (128) (130) (130)
 (132) (128) (132) 가
 (124) (126)
 (120) (128) (126)
 (132) 3 (128) (134) (134)
 (132) (122) (122)
 (136) (136)
 (136) (142) (120)
 (138) (136) (140) (140)
 (138) (138) 2f (138) 가
 가 (:PE(plasma enhanced)-TEOS) (138) 200
 (138) 가
 1000 6000 (138) (124)
 (140) (140) 200 550
 (126) , 100 g/m³ 300 g/m³ , 1 10 (136) (136)
 130) , 100 1000 (126) 200 450
 (140) (142) (142) (140)
 (126) (142) (140)
 가

(57)

1.

(flushing)

2.

1
1

200 550 , 100 g/m³ 300 g/m³

3.

1

(precursor) (ALD:atomic layer deposition) 가 H₂O

4.

1

2

5.

4

1000 6000 가 PE-TEOS

6.

4
1

5 , 200 550 , 100 g/m³ 300 g/m³

7.

4

8.

6

9.

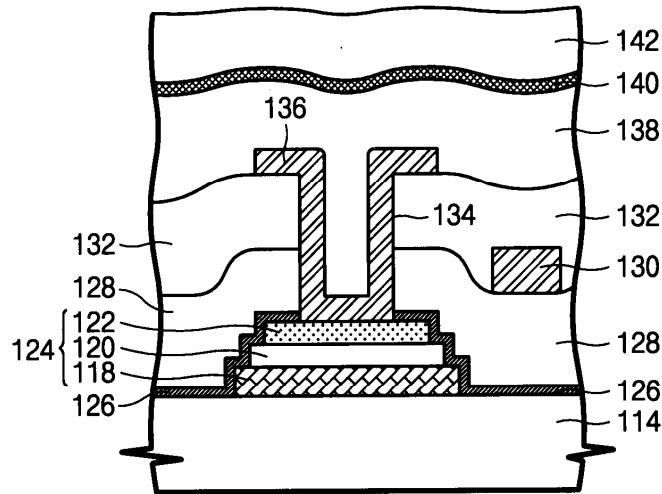
7

or) 가 (ALD:atomic layer deposition) H₂O , 100 (precurs 1000

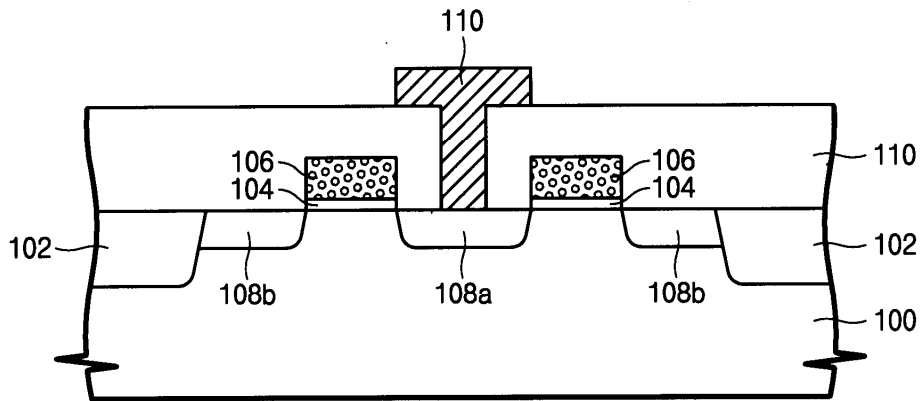
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8

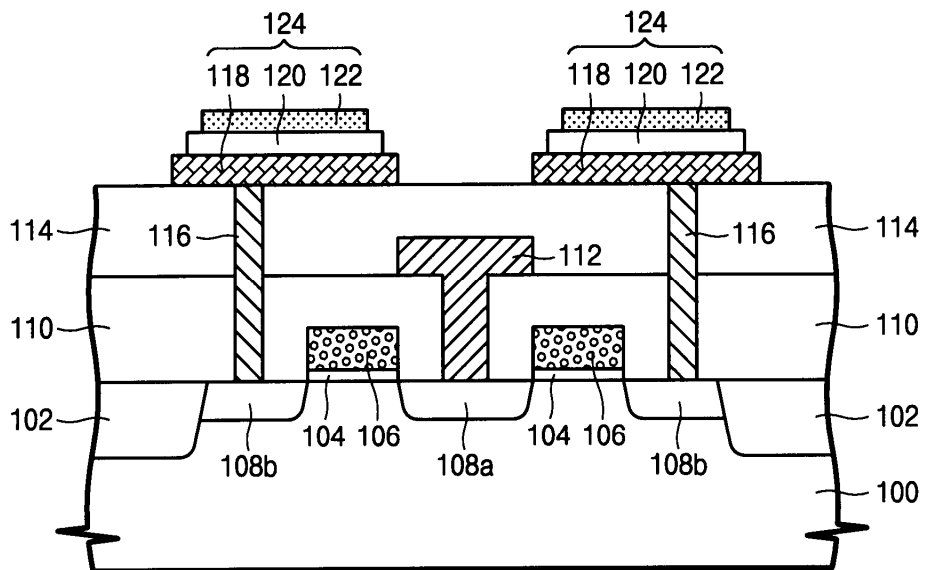
1



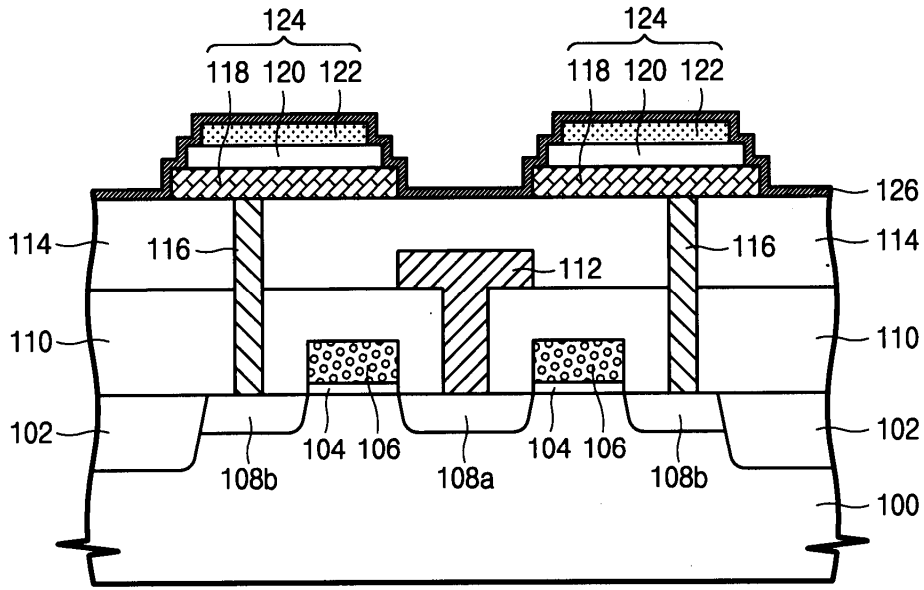
2a



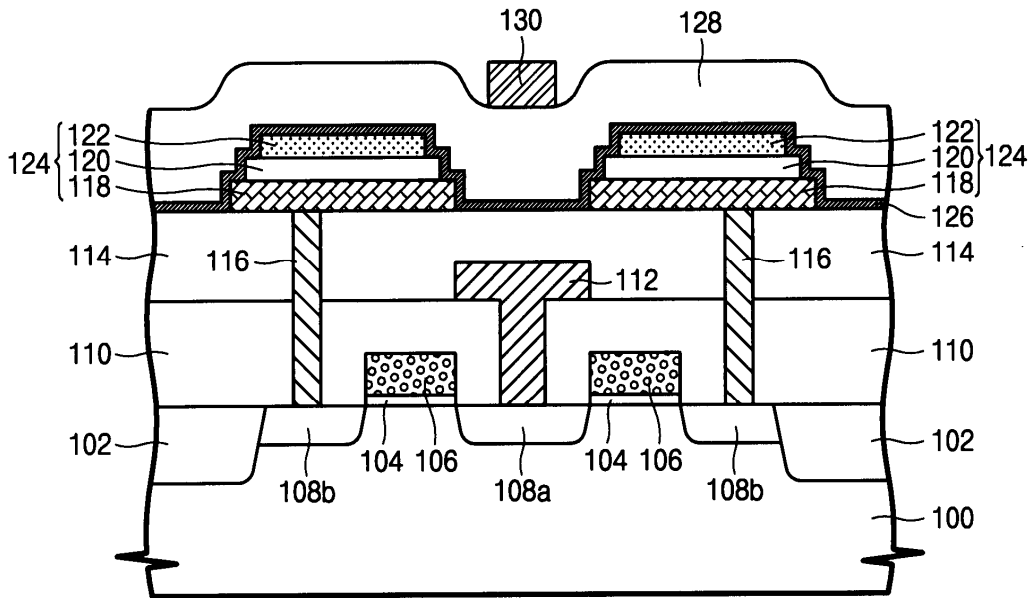
2b



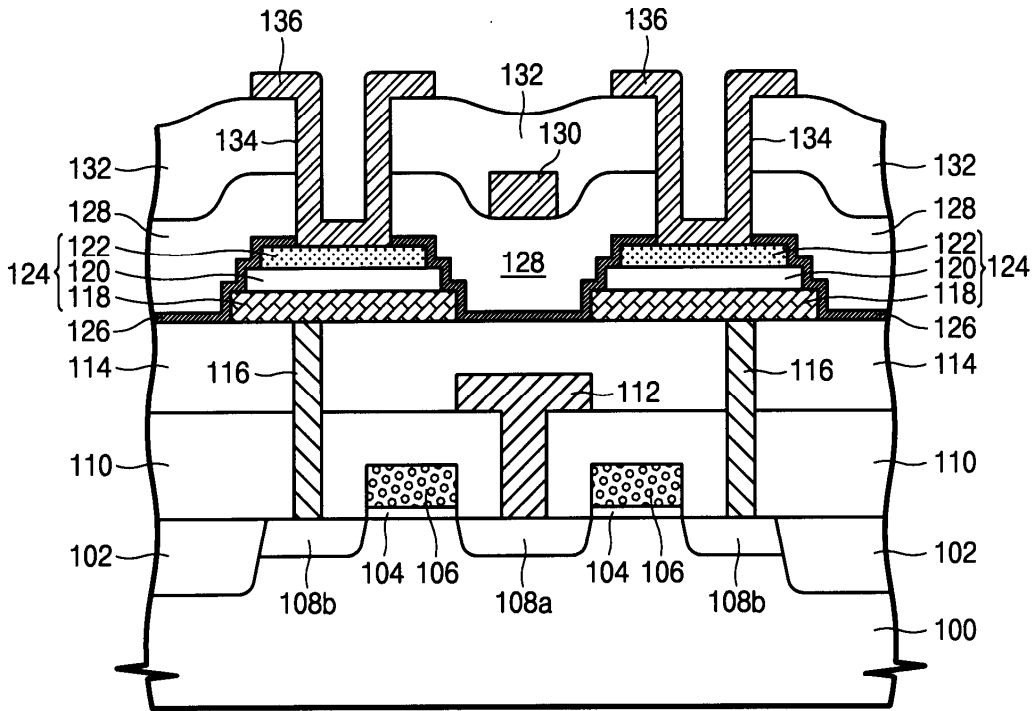
2c



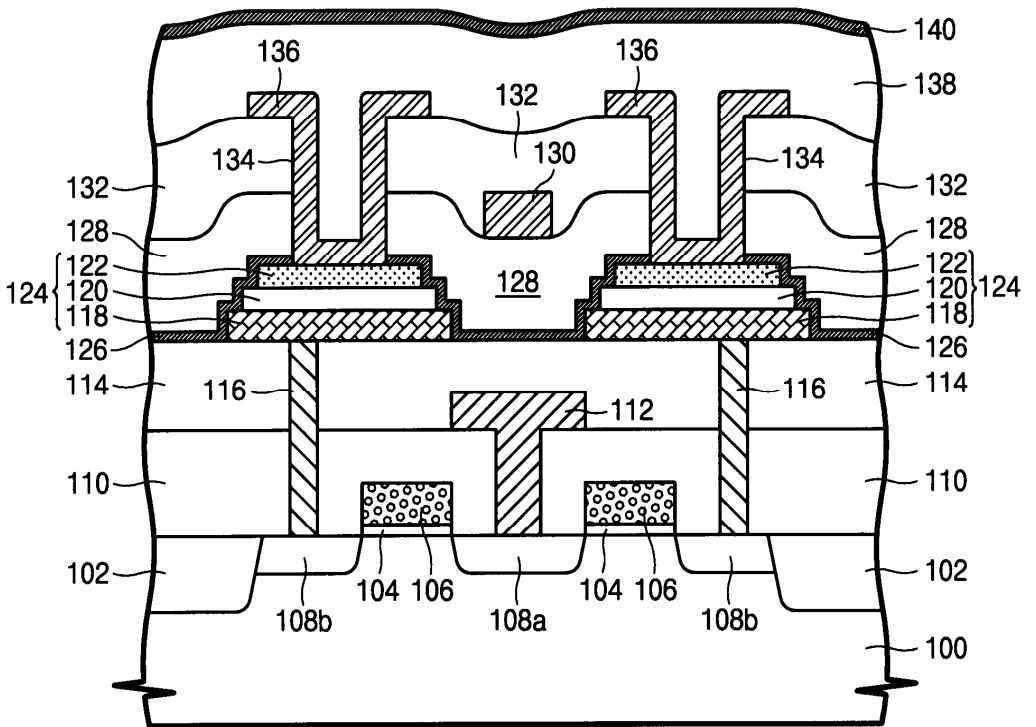
2d



2e



2f



2g

