10 - 0372644

	(19) (12)	(KR) (B1)	
(51)。Int. Cl. <sup>7</sup> H01L 21/8247		(45) (11) (24)	2003 02 17 10 - 0372644 2003 02 05
(21) (22)	10 - 2000 - 0036812 2000 06 30	(65) (43)	2002 - 0002597 2002 01 10
(73)	136 - 1		
(72)	103 502		
	108 309		
410 - 7			
3 307 - 23			
	7 101		
(74)			
:			
(54)			
	TaON		

, ; 1 ; 1 TaON ; TaON ; SBT SBTN ; ; 3

- 1 -

2f

1 .

\*

21: 22:

23: 24: 1

25 : TaON 26 :

27: SBT SBTN 28:

29: 30: 2

31:

가 .

1 , , SBT SBTN .

1 , ( )가 (11) 1 (12) . (1

3) (14) (12) . , (13) Ti, TiN, TiOx , (14) , Pt . , SBT (15) . (14) , (16) SBT (15) .

- 2 -

Τi SBT , SBTN Τi 가 (lifting)가 TaON TaON TaON SBT SB ΤN 3 TaON CVD PE - CVD (Ta(OC2H5)5) 100 mTorr 10 Torr TaON , 50 ~ 400 , CVD 400 ~ 700 NH3 가 가 200 ~ 1000 , PE - CVD 200 ~ 500 가 CVD, PE - CVD, PVD, ALD , Pt, Ir, IrOx, Ru, RuOx 500 ~ 3000 SBTN RTP 80 ~ 300 /s SBT O2, N20 ec 02 + N2700 ~ 850 02, 02 + N2N20 SBT SBTN Spin - On, PVD sputter PE - MOCVD , Sr, Bi Spin - on SBT n - butyl acetate SBTN . 0.7 ~ 1.0 2.05 ~ 2.5 PVD sputter , RTA

- 3 -

```
PE - MOCVD
                           5 mTorr ~ 50 Torr 400 ~ 700
  SBT SBTN
( )
 ,
  2a
                      (22)
                                                   (21)
                                 ) (21)
                                                              (22)
                       (
                                                                         (23)
                       )
                                   가
             (21)
                                                                                  (24)
         . CMP
                                                     (25) . l ac
TaON (25)
NH3 가 가
, PE - CVD
 2b , 1 (24) TaOI (25) CVD PE - CVD . ,
                                             TaON
                                                                              TaON
           (Ta(OC2H5)5) 100 mTorr 10 Torr
           , CVD 400 ~ 700
0 ~ 400
200 ~ 500
                   200 ~ 1000
                                                        가
                                                                         TaON
 (25)
                 SBT, SBTN
                                                                   Ta205
  2c ,
                           \begin{array}{c} (26) \\ \text{CVD, PE-CVD, PVD,} \\ (26) \\ \text{SBT} \\ \text{SBTN} \\ (27) \\ \text{80} \sim 300 \\ \text{/sec} \\ \text{O2, N20} \\ \text{O2 + N2} \\ \\ \text{Spin - On, PVD sputter} \\ \end{array} 
                                            (26) .
                                                                            (26),
                 TaON
 , Pt, Ir, IrOx, Ru,
                RuOx
                                                                  . ,
SBT SBTN
  . ,
        (26)
         RTP
                            . ,
                                                       Spin - On, PVD sputter PE - MOC
                             Spin - On, FVD sputter PE - N
. Spin - on ,
, Sr, Bi n - butyl acetate SBT SBTN
VD
                                            0.7 \sim 1.0
  2.05 ~ 2.5
, RTA
                      . , PVD sputter
                                                        , PE - MOCVD
                     400 ~ 700
  5 mTorr ~ 50 Torr
                                                            SBT SBTN
                      SBT SBTN (27)
                                                            (28)
                                                                    (29)
  2e
                                                                   (28),
                           (29)
                                                                             (27),
              (26)
                           TaON
                                   (25)
                                           (30)
                                   2
   (29)
```

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2

(31) TaON SBT, SBTN Ta205 TaON 가 . (57) 1. 1 TaON 1 TaON SBTN SBT 2 2. 1 TaON CVD PE - CVD 3. 2 (Ta(OC2H5)5) 100 m TaON NH3 가 가 , 50 ~ 400 Torr 10 Torr 4. 2 CVD  $400 \sim 700$ 

(23)

(28)

2f

- 5 -

5.

, PE - CVD 200 ~ 500 200 ~ 1000 2 가

6.

1 CVD, PE - CVD, PVD, ALD

7.

1 6 Pt, Ir, IrOx, Ru, RuOx

8.

1 6 500 ~ 3000

9.

RTP 80 ~ 300 /sec , 700 ~ 850 02, N20 SBT SBTN RTP O2, N20 O2 + N2

O2 + N2

10.

1 , SBT SBTN Spin - On, PVD sputter PE - MOCVD

11.

10 , Spin - on , Sr. Bi n - butyl acetate SBT SBTN

12.

11 , 2.05 ~ 2.5 0.7 ~ 1.0

13.

10 , PVD sputter , RTA

14.

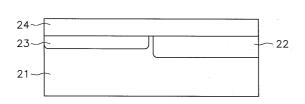
10 , PE - MOCVD

5 mTorr ~ 50 Torr

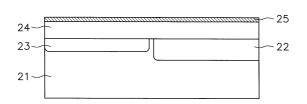
400 ~ 700

1 16— 15— 14— 13— 12—

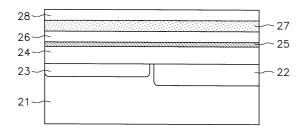
2a



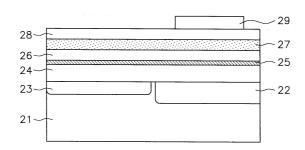
2b



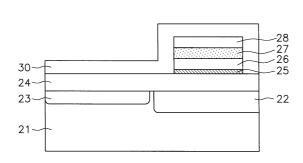
2c



2d



2e



2f

