





, , 가

.

,  
1  
(1) (SiNx, 2)  
(2) - (3)  
; (3) (2) (4) (5)  
; (1) (6)

,  
, (1) (PECVD)  
(2)  
, (2) 240nm, 1.864(642.8nm )  
(2) Si<sub>3</sub>N<sub>4</sub> 가 7.5  
가 6.5 (SiN<sub>x</sub>)  
(2) T.C.E.( ), ,

, (2) - (3)  
, 5×10<sup>-7</sup> torr (2)  
(3)  
(25 ) 60  
(25 ) 1, 3, 5, 7 /sec (3) 60  
7 /sec (3)

X (3) (3) CuKa(1.54 )  
5~7 /sec  
1~3 /sec , 60 , 7 /sec

(3)  
(3) 80~100nm  
, (3) (2) , (4)  
(5)

, (3)  
(4) 500μm (5)  
(4) (5) 200nm가 90μm

(1) 가 In

(6) .

(6) 가 , (4) , (5) .

가 (6) (5) .

HP 4145B .

3 , 가 1 /sec

(V<sub>G</sub>) -10, -20, -30 -40V , 0V -25V .

650nA (I<sub>D-SAT</sub>)가 , 가 .

4 (V<sub>G</sub>) -40 , 1, 3, 5, 7 /sec , 0

60 7 /sec 7 /sec

~-40V 가 5μA , 가 .

가 , 가 ,

가 ,

가 60 7 /sec

가 18μA 가 .

가 ,

가 X

5 , 1 /sec 가 가

5 , 5~7 /sec ,

가 60 7 /sec 가 ,

(V<sub>G</sub>) (I<sub>D</sub>) .

6 , 가 (V<sub>G</sub>) (I<sub>D</sub>) ,

가 .

1 , , , , ,

1

$$I_{D-SAT} = (WC_i/2L) \mu (V_G - V_T)^2$$

$I_{D-SAT}$ ,  $W$ ,  $L$ ,  $C_i$  (  $\mu$ ,  $V_T$  )  
 (PINCH-OFF)  $(V_D)$ ,  $(V_G)$   $(I_D)$   
 가  $1/sec$   $0.01cm^2/V \cdot s$   
 $5/sec$   $0.10cm^2/V \cdot s$ ,  
 60,  $7/sec$   
 가  
 60,  $7/sec$  가  
 $7$ ,  $60$ ,  $7/sec$   
 가  $10^{-4}$   
 $5/sec$   $10^{-5}$  가  $-40 \sim 40V$   
 가  
 $5/sec$   
 가  
 가  $(7 A B)$   
 $60$ ,  $7/sec$   $4.10V/decade$   
 (B) 가  
 $5/sec$  가  
 가

1.

가

2.

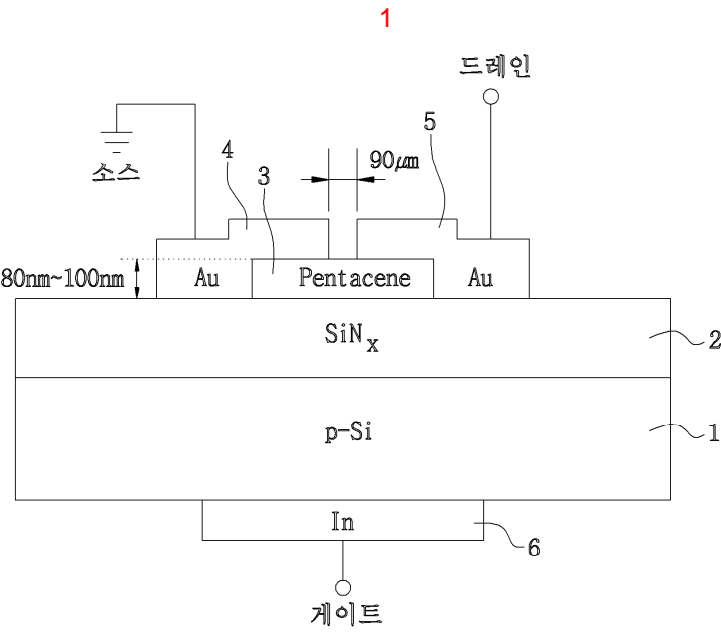
1

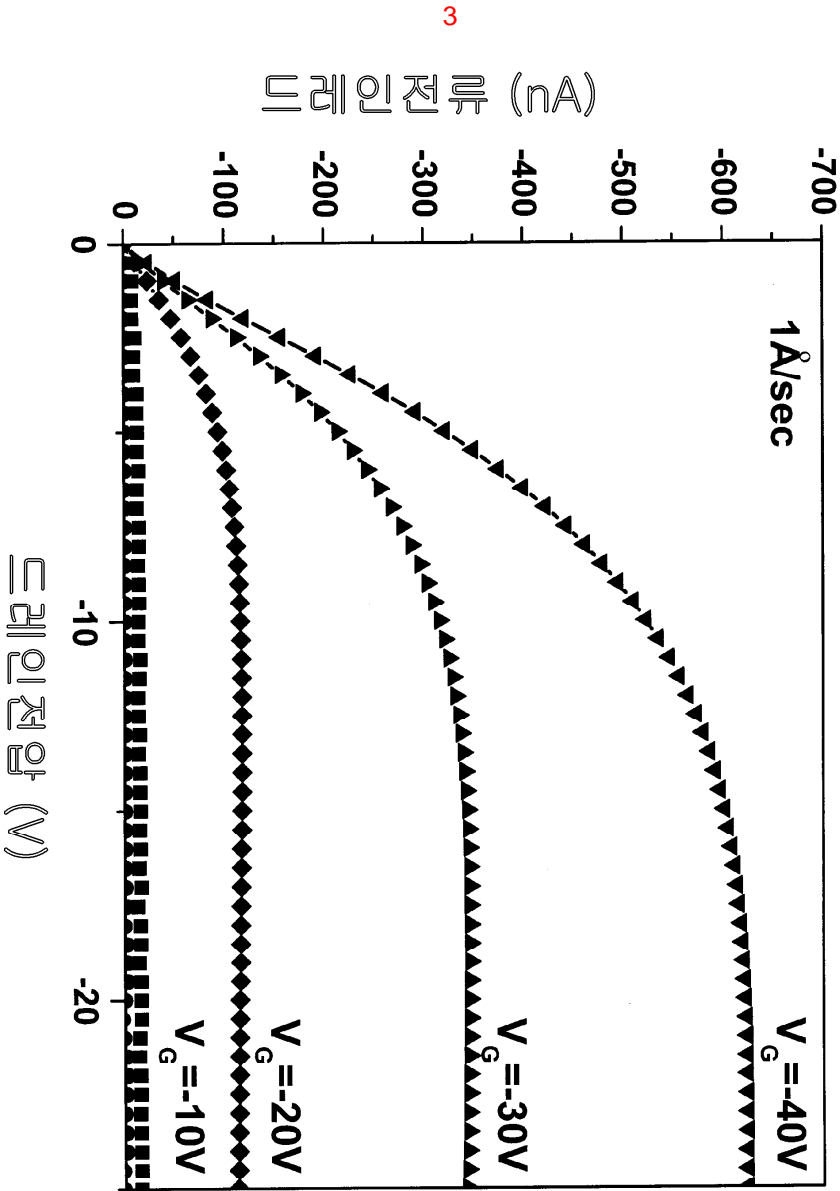
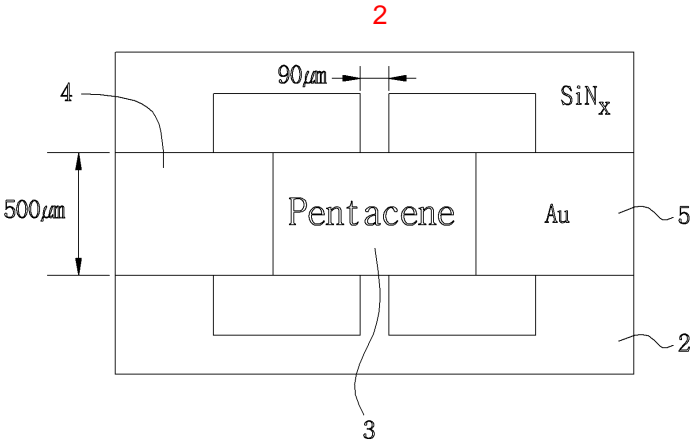
3.

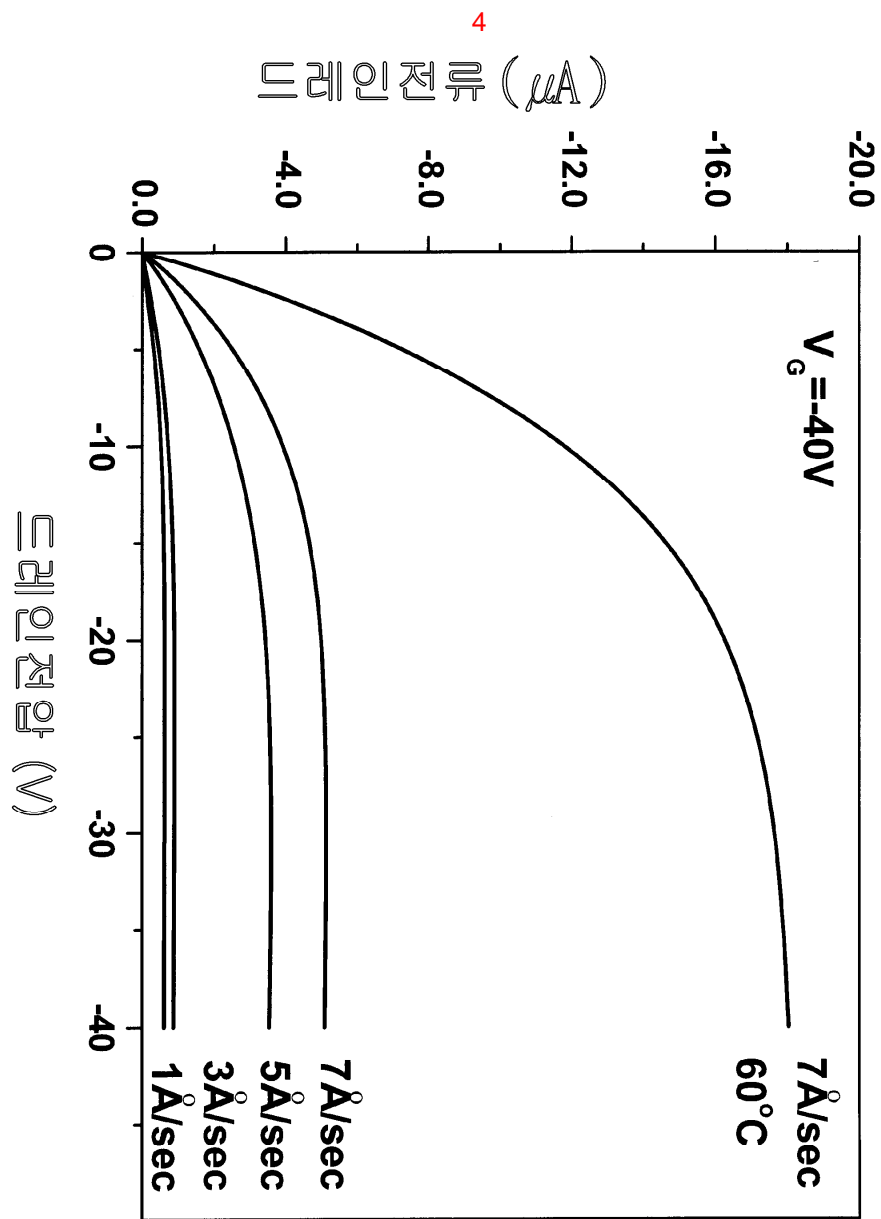
1 5~7 /sec

4.

1 가 , 60 7 /sec

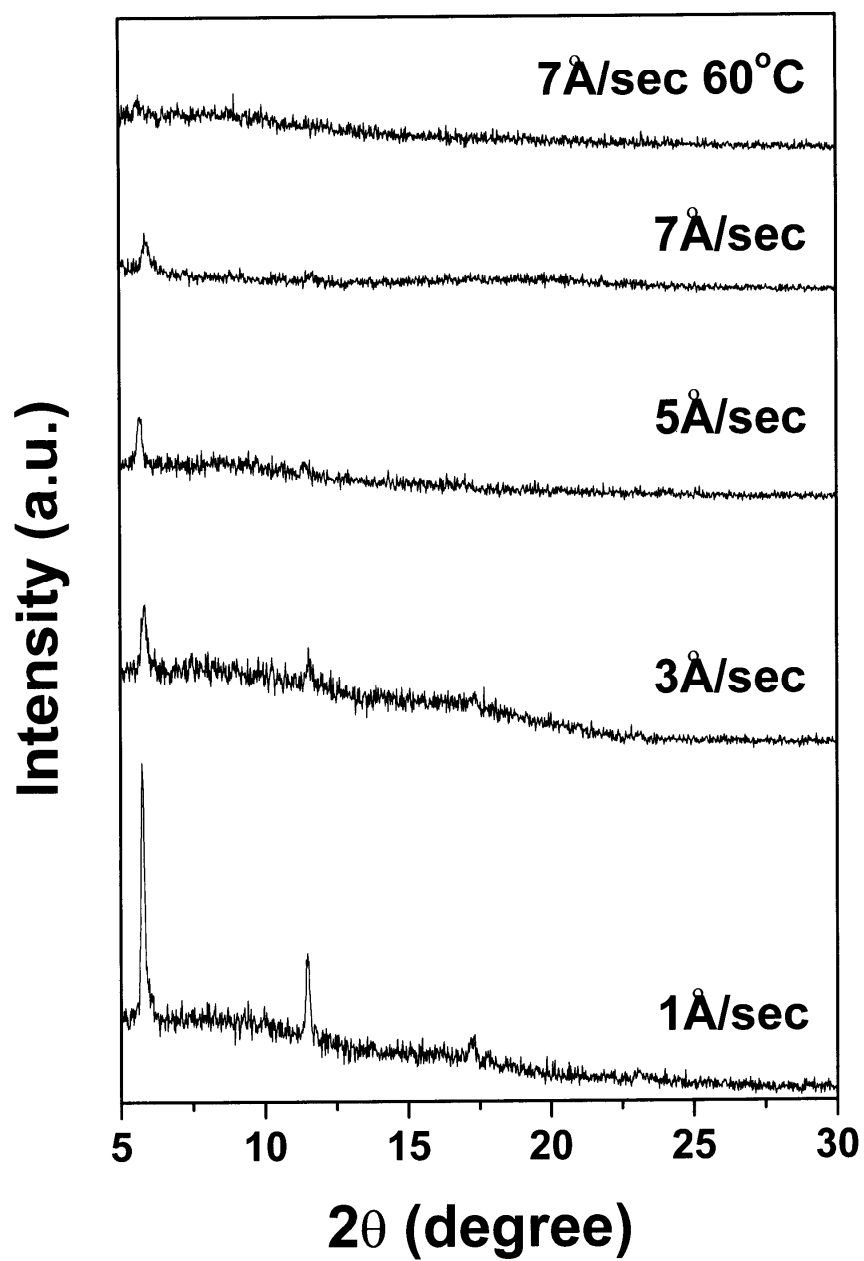








5



6

