

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl. <sup>7</sup>  
H01L 21/324

(11)  
(43)

2002 - 0027775  
2002 04 15

(21) 10 - 2000 - 0058416  
(22) 2000 10 05

(71) 53 102 1103

(72) 53 102 1103

:

(54)

(P)  
가

1

, , , (P) ,

1

(a) (1) (2) (3)

(b) (1) (2) (4)

2 (1) (5).

3 (2)

4 (5) : (a)

, (b)

\*

1 : 2 :

3 : 4 :

5 :

(Excimer Laser Annealing : ELA)

(Solid Phase Crystallization : SPC)

600°C

( ~20 )

가 가

가

(grain)

(defect)

(Ge)

(microwave)

가

가

< 111 >

( S. Y. Yoon et al., J. Appl. P

(C. Hayzelden et al., Appl. Ph

가

(J. Jan

hys. 82, 5865 (1997)),  
ys. Lett. 60, 225 (1992)).

g et al., Nature, Vol. 395, pp. 481 - 483 (1998)).

가

n rate), (incubation time), (nucleatio  
 3가 (grain growth rate) . (M. Moniwa et al.,  
 Jpn. J. Appl. Phys. 32, 312 (1993)). (grain) 가

가  
 가

가 (1) (2) (3)  
 1 10cm<sup>2</sup> 1x10<sup>11</sup> ~ 10<sup>13</sup> cm<sup>-2</sup> (2) (3) 1(a) 10x1  
 2 ~ 10<sup>14</sup> cm<sup>-2</sup> (1) 1x10<sup>11</sup> ~ 10<sup>13</sup> cm<sup>-2</sup> (2) (3) 5x10<sup>11</sup>  
 ~ 10<sup>14</sup> cm<sup>-2</sup> (4) 5x10<sup>12</sup>  
 2 /cm<sup>2</sup> (1) (5) 1.57x10<sup>13</sup>  
 가 30 (2) (3) 1.9x10<sup>14</sup> cm<sup>-2</sup> 500°C 50V/cm  
 (2) (5)  
 3 P (2)  
 (electrical conductivity activation energy : E<sub>a</sub>) (2) 0.856eV  
 53x10<sup>13</sup> /cm<sup>2</sup> 6.27x10<sup>13</sup> /cm<sup>2</sup> 0.657eV , 8.12x10<sup>13</sup> /cm<sup>2</sup> 0.458eV, 8.  
 가 0.407eV 가 (2)

4 ((a) , (b) ) (5)  
 N<sub>2</sub> 520°C, 3 (2) (3) 3.09x10<sup>13</sup> cm<sup>-2</sup> (2)  
 (5) 4(a) (2) (5) ~18mm 4(b)  
 7.95x10<sup>13</sup> /cm<sup>2</sup> (2) (5)  
 (P) (5) (quality) (2)  
 (5)

가  
 (TFT - LCD),

가  
 가

(57)

1.

(P) 1x10<sup>11</sup> ~ 10<sup>13</sup> cm<sup>-2</sup> ,  
 5x10<sup>12</sup> ~ 10<sup>14</sup> cm<sup>-2</sup> ,

가

2.

1 ,

3.

1 ,

4.

1 ,

5.

1 ,

6.

1 ,

(P)

7.

1 ,

가

2 가

8.

1 ,

9.

1 ,

가

10.

1 ,

가

11.

1 ,

가

12.

11 ,

가 .

13.

11 ,

가 0 V/cm ~ 500 V/cm .

14.

$5 \times 10^{12} \sim 10^{14} \text{ cm}^{-2}$  ,

가 .

15.

14 ,

(P) 가  $10^{11} \sim 10^{13} \text{ cm}^{-2}$  .

16.

14 ,

17.

14 ,

18.

14 ,

19.

14 ,

20.

14 ,

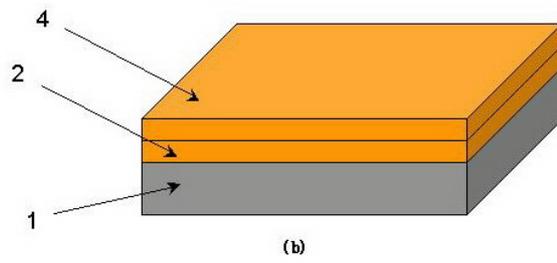
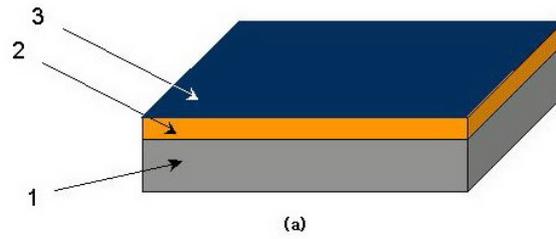
21.

14 ,

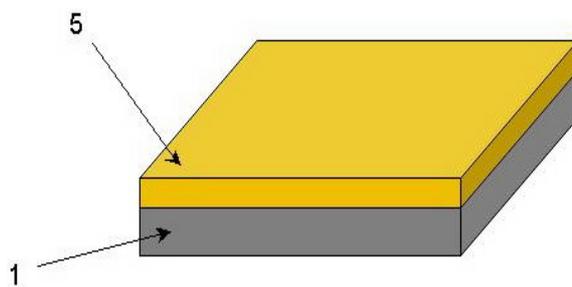
가

가 0 V/cm ~ 500 V/cm

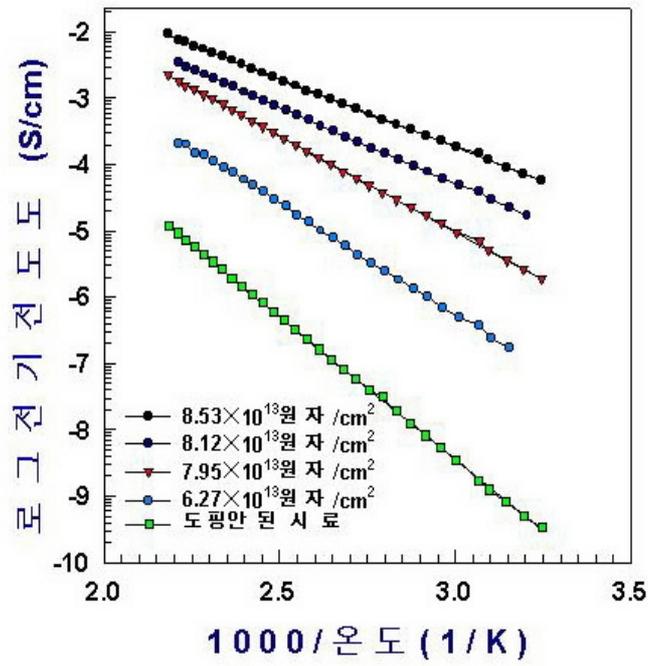
1



2



3



4

