$$+ \qquad = \Delta H_f(x_1, x_2); \tag{4}$$

 $\mathbf{v}$  ...  $\Delta H_f$  ...  $\mathbf{t}$  ...  $\mathbf{t}$  ...  $\mathbf{t}$  ...  $\frac{1}{2}$   $\frac{1}{4}$  do not  $\mathbf{f}$  ,

$$i \leq 0 \qquad (i = i, ; ; ); \tag{5}$$

$$2 + 3 \leq \Delta H_f(\begin{array}{cc} 2 & 3 \end{array}); \tag{6}$$

$$+ \underset{N}{\cdot} \leq \Delta H_f(\underset{N}{\cdot}); \tag{7}$$

$$_{2} + 2 + 4 \le \Delta H_f(x_1, x_2, x_4)$$
: (8)

 $T_{2}$ ,  $t_{2}$ ,  $t_{3}$ ,  $t_{4}$ ,  $t_{5}$ , t-11.07 (-10:), i = -16.24 **f** O,  $_{2-3}$ , i  $\mathbf{f} \mathbf{A} \mathbf{N} \cdot \mathbf{f} \cdot \mathbf{g}$ 

(.) n-type doping with Ga and  $N_2$  source. Fig. 1(.)  $\Delta H_f < 0$  No. 1. 1. 1. 1.  $\Delta H_f < 0$  Sq. 1. 1.  $\Delta H_f < 0$  Sq. 1.  $\Delta H_f > 0$  Sq. 1.  $\Delta$ 

$$\Delta E_{b}(\ ;\ _{F}) = N^{(\ )}_{\ \vec{N}}\ E_{\ \vec{N}}\ + N^{(\ )}_{\ \vec{L}}\ E_{\ \vec{L}}\ + N^{(\ )}_{\ \vec{N}}\ E_{\ \vec{N}}\ ; \eqno(9)$$

 $\mathbf{v}$  .  $N^{(\cdot)}$  . . . . .  $\mathbf{f}$  -