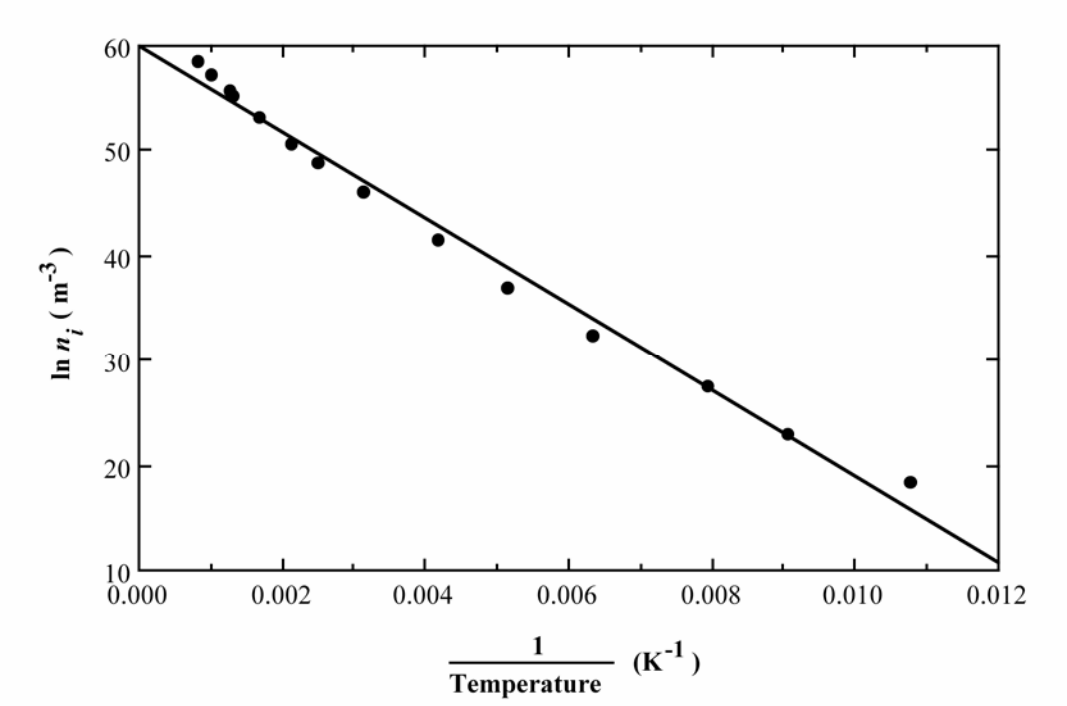
The value cited in Table 18.3 is 1.11 eV.

Now for Ge, an analogous plot is shown below.



We calculate the slope and band gap energy values in the manner outlined above. Let us take $1/T_1 = 0.001$ and $1/T_2 = 0.011$; their corresponding ln η values are $\ln \eta_1 = 55.56$ and $\ln \eta_2 = 14.80$. Incorporating these values into the above expression leads to a slope of

$$\text{Slope} = \frac{55.56 - 14.80}{0.001 - 0.011} = -4076$$

This slope leads to an E_g value of

$$E_g = -2k\,(\text{Slope})$$

$$= -2\left(8.62 \text{ x } 10^{-5} \text{ eV/K}\right)(-4076) = 0.70 \text{ eV}$$

This value is in good agreement with the 0.67 eV cited in Table 18.3.