



$$S_i \Rightarrow K=300 \text{ to } 600 \text{ K}$$
$$n_1 = 1 \times 10^{10} \text{ cm}^{-3} \quad n_2 = 1.17 \times 10^{15} \text{ cm}^{-3}$$

So we can do just increase conductivity by changing Temp. and most devices working at room temperature so. Avg (dope)

$$n = p = n_i \Rightarrow \boxed{np = n_i^2} \text{ Law Mass Action}$$

e conc. = hole conc. = n_i .

$$n_i = \sqrt{N_c N_v} \exp\left(\frac{-E_g}{2kT}\right)$$