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Inclass Assignment - 3

~~Q05~~

Q 1.5 Determine the value of intrinsic carrier concentration (n_i) in Silicon at an ambient temperature of 1000 K.

Ans

$$n_i = BT^{3/2} e^{-E_g/2KT}$$

$$= 7.3\times10^{15} \times 1000^{3/2} \times e^{-1.12/8.62\times10^{-5}\times1000}$$

$$= 7.3\times10^{15} \times 3.14\times10^{-5} \times e^{\frac{-1.12}{8.62\times10^{-2}}}$$

$$= 5.217\times10^{15}$$

Q 2.3 How do you convert time delta to phase angle

Ans

The ~~pa~~ phase angle is given by

$$\theta = 2\pi \times \frac{\Delta t}{P}$$

where P is the period of wave.