



$$\sigma = qn\mu_n$$

Which one of A and B is silicon?

Semiconductor has a negative temperature coefficient: The electrical conductivity of a semiconductor increases with increasing temperature.

Metal has a positive temperature coefficient: The electrical conductivity of a metal decreases with increasing temperature.

At higher temperatures, the metal nuclei collide with the mobile electrons more frequently and with greater energy, thus decreasing the conductivity.

This effect is, however, substantially smaller than the increase in conductivity with temperature exhibited by semiconductors.