Primer on Semiconductors Lecture 1.1 Short Problem

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Provide a numerical answer to the question below.

The atoms in a solid vibrate in random thermal motion. The thermal energy is

$$E_{th} = \frac{3}{2} k_B T \tag{1}$$

where k_B is Boltzmann's constant, and T is the temperature in Kelvin.

Compute the average thermal energy in electron volts (eV) at a temperature of 100 degrees C.

HINT: Use SI units, and compute the answer in Joules and then convert to eV. You may need to look up the value of k_B on the web and the conversion factor for J to eV if you have forgotten it.