2 The average kinetic energy E of a gas molecule is given by the equation

$$E = \tfrac{3}{2}kT$$

where T is the absolute (kelvin) temperature.

What are the SI base units of k?

A $kg^{-1}m^{-1}s^2K$

B $kg^{-1}m^{-2}s^2K$

C $kg\,m\,s^{-2}K^{-1}$

D $kg\,m^2s^{-2}K^{-1}$