

4.4. One-level Device

4.4a A device has a single sharp level located at an energy kT above μ_0 . Consider the following statements:

- A. The Seebeck coefficient, S is a little less than $100 \mu\text{V/K}$.
- B. The Peltier coefficient equals $T*S$
- C. The heat conductance is zero.

Which of the following is correct?

- (a) A, B and C are all correct.
- (b) only A and B are correct.
- (c) only B and C are correct.
- (d) only A and C are correct.
- (e) only B is correct.

4.4b A device has TWO sharp levels, one located at an energy kT above μ_0 and the other located at an energy kT below μ_0 . Consider the following statements:

- A. The Seebeck coefficient, S is a little less than $100 \mu\text{V/K}$.
- B. The Peltier coefficient equals $T*S$
- C. The heat conductance is zero.

Which of the following is correct?

- (a) A, B and C are all correct.
- (b) only A and B are correct.
- (c) only B and C are correct.
- (d) only A and C are correct.
- (e) only B is correct.