Thermoelectricity, Atoms to Systems
L1.2 Quiz
Answers

1.2a. A device has ***zero*** voltage applied across it, but the source is hotter than the drain. Electrons will flow in the channel

(a) from the source to the drain always

(b) from the drain to the source always

(c) from source to drain if D(E) increases with increasing E around E=μ

(d) from source to drain if D(E) decreases as E increases around E=μ

(e) none of the above, there is no current for zero voltage.

1.2b. A device with the source hotter than the drain is left open-circuited so that current is ***zero***. Relative to the source, the drain will become

(a) Negative, always

(b) Positive, always

(c) Positive, if D(E) increases with increasing E around E=μ

(d) Negative, if D(E) increases with increasing E around E=μ

(e) none of the above, drain and source have the same potential.