2.2. Semiclassical Model

2.2a. The maximum current that can flow through a one-level resistor is related to the escape rates $n_1, n_2$ by

(a) $I = q(n_1 + n_2)$
(b) $I = q(n_1 - n_2)$
(c) $I = q\frac{n_1 n_2}{n_1 + n_2}$
(d) $I = q\frac{n_1 n_2}{n_1 - n_2}$
(e) The maximum current does not depend on $n_1, n_2$

2.2b. The source strength $S_1$ and escape rate $f_1$ of contact 1 are related by

(a) $S_1 = n_1 f_1(n_1)$
(b) $S_1 = n_1 (f_1(n_1) - f_2(n_1))$
(c) $S_1 = \frac{n_1 n_2}{n_1 + n_2} f_1(n_1)$
(d) $S_1 = (n_1 - n_2) f_1(n_1)$
(e) None of the above