

12. We use Eq. 29-12 to solve for V :

$$V = \frac{iB}{nle} = \frac{(23 \text{ A})(0.65 \text{ T})}{(8.47 \times 10^{28} / \text{m}^3)(150 \mu\text{m})(1.6 \times 10^{-19} \text{ C})} = 7.4 \times 10^{-6} \text{ V} .$$