\[ V = 6 \text{ volts} \]

\[ I_{s} = 10 \mu A \]

\[ I_{v} \text{ in } V \text{ by } V \text{ to } I \text{ to } V \text{ by } V \text{ to } I \]

Above 3V, I = I_{s} e^{iV}

![Diagram of a circuit with voltage and current relations]

\[ I = I_{s} (e^{V/V_{b}} - 1) \]

\[ V_{b} = 0 \text{, barrier is lowered, majority carriers cross}\]

\[ \text{when } V > 0 \text{, current is from majority carriers}\]

\[ P \text{-type at } V_{b} \]

\[ V_{p} \]