

Experiment 1: C-V Measurements

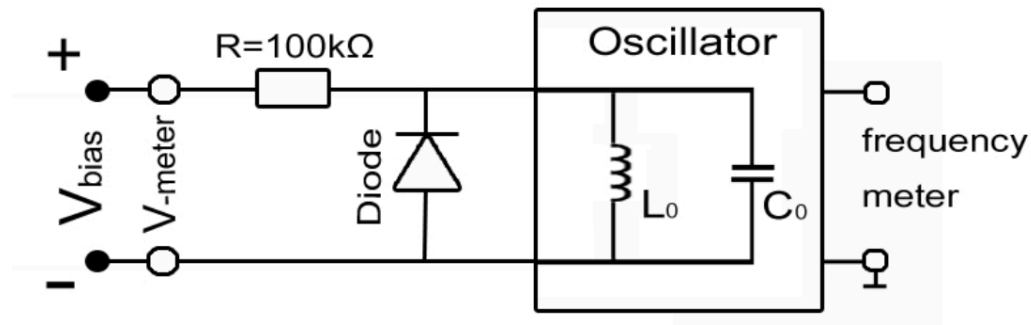


Figure 1: Circuit Diagram for CV Measurements

The circuits shown in Figure 1 is used to conduct the CV Measurements.

The open-loop frequency of the oscillator $f_0 = 1629.9 \pm 0.05\text{kHz}$.

The "10 pF" capacitor $C_{10} = 10.48 \pm 0.005\text{pF}$.

With C_{10} connected, the frequency $f_{10} = 1467.4 \pm 0.05\text{kHz}$.

From theories of oscillators, the circuit capacitance $C_0 = \frac{C_{10}}{\left(\frac{f_0^2}{f_{10}^2}\right) - 1}$

Experiment 2: I-V Measurements

Reverse Bias

Weak Forward Bias

Strong Forward Bias

Data Tables