

Experimental problems

Problem 1

You have at your disposal the following material:

- (1) A sine wave voltage generator set to a frequency of 0,20 kHz.
- (2) A dual ray oscilloscope.
- (3) Millimeter graph paper.
- (4) A diod.
- (5) A capacitor of $0.10 \mu\text{F}$ (square and black).
- (6) An unknown resistor R (red).
- (7) A coupling plate.
- (8) Coupling wires.

Build the circuit shown in the figure.

Connect the terminals A and B to the sine wave generator set to a frequency of 0.20 kHz. Determine experimentally the mean power developed in the resistor R when the amplitude of the generator voltage is 2.0 V (that is the peak-to-peak voltage is 4.0 V).

