DC ANALYSIS OF DIODE CIRCUITS

SEMICONDUCTOR DIODE

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TOPIC OUTLINE

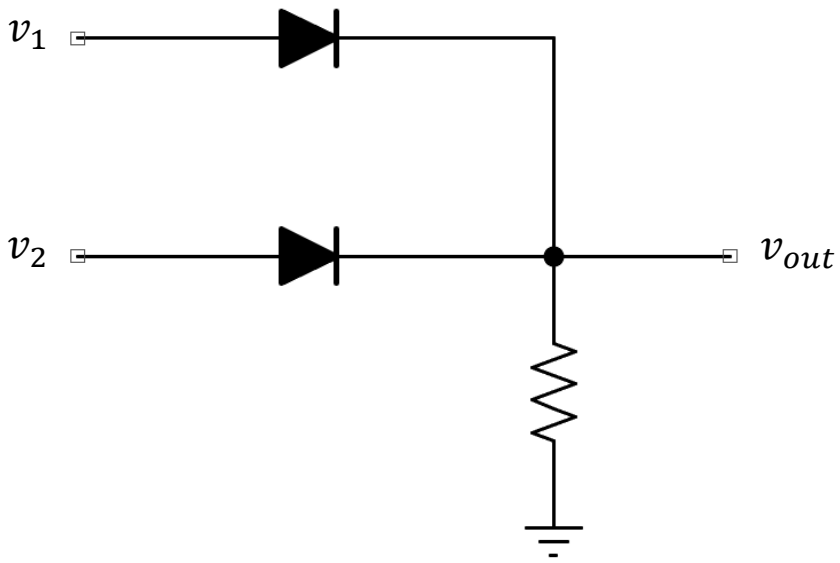
Diode Logic

- OR Gate
- AND Gate

Analyzing Diode Behavior in DC Circuits

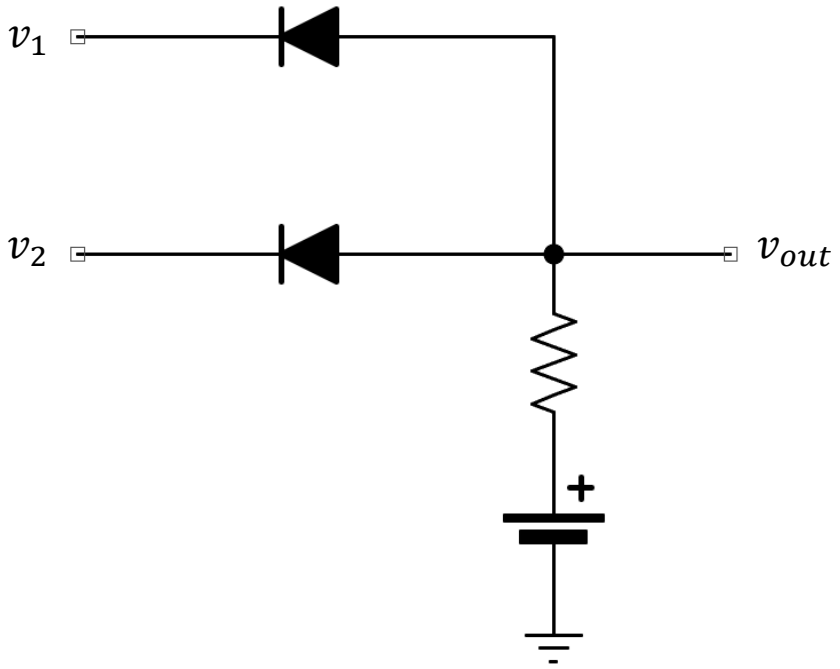
DIODE LOGIC

POSITIVE LOGIC OR GATE



v_1	v_2	v_{out}
0	0	
0	5	
5	0	
5	5	

POSITIVE LOGIC AND GATE

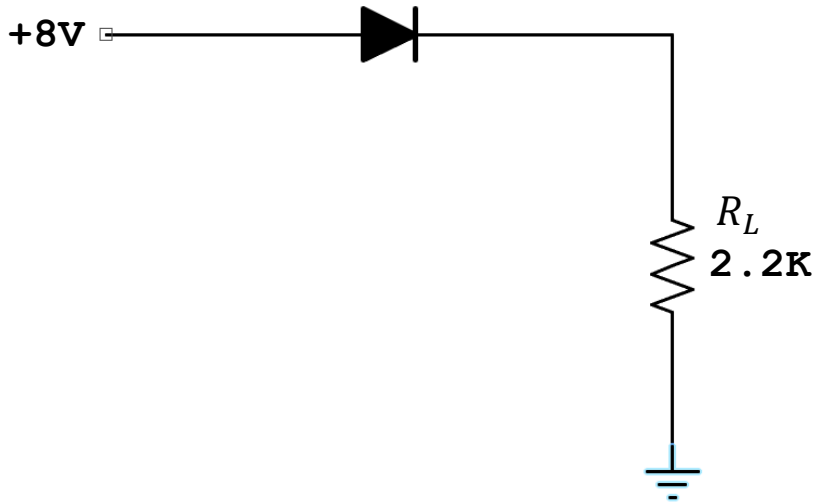


v_1	v_2	v_{out}
0	0	
0	5	
5	0	
5	5	

ANALYZING DIODE BEHAVIOR IN DC CIRCUITS

EXERCISE

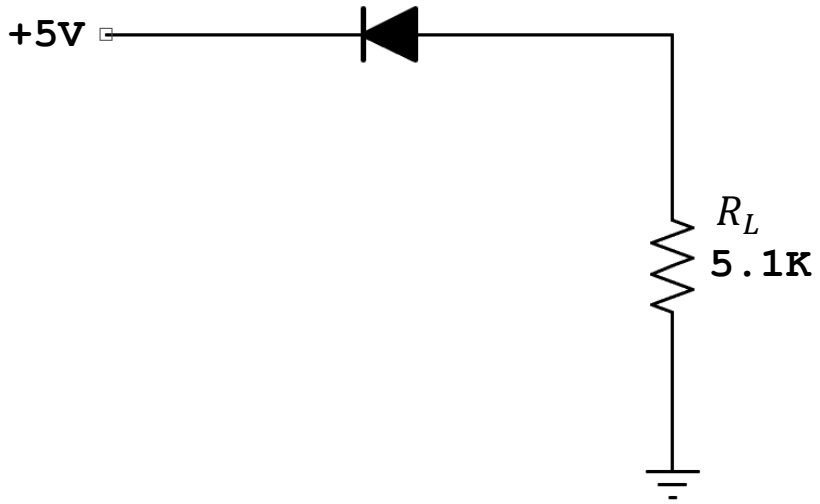
Determine the voltage across the load (v_L), the current flowing through the load (i_L), and the power dissipated by the load resistor (P_L) in the given circuit.



Solution

EXERCISE

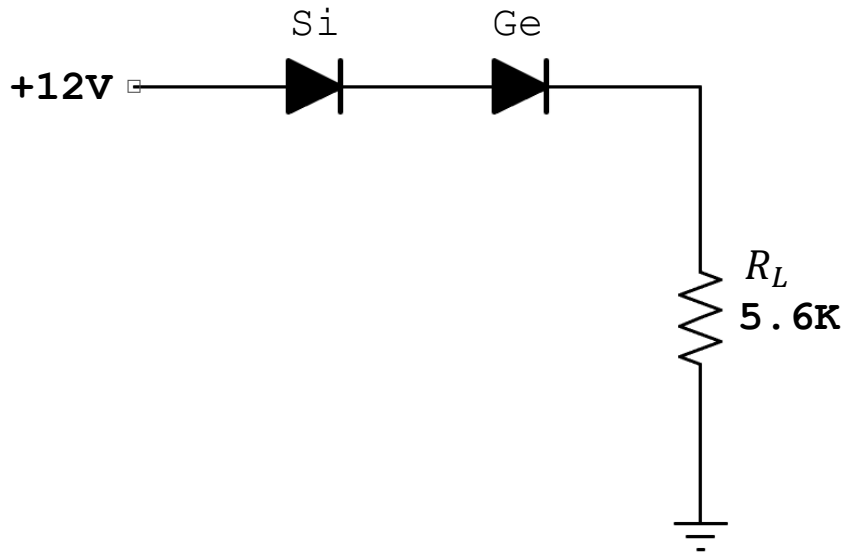
Determine the voltage across the load (v_L), the current flowing through the load (i_L), and the power dissipated by the load resistor (P_L) in the given circuit.



Solution

EXERCISE

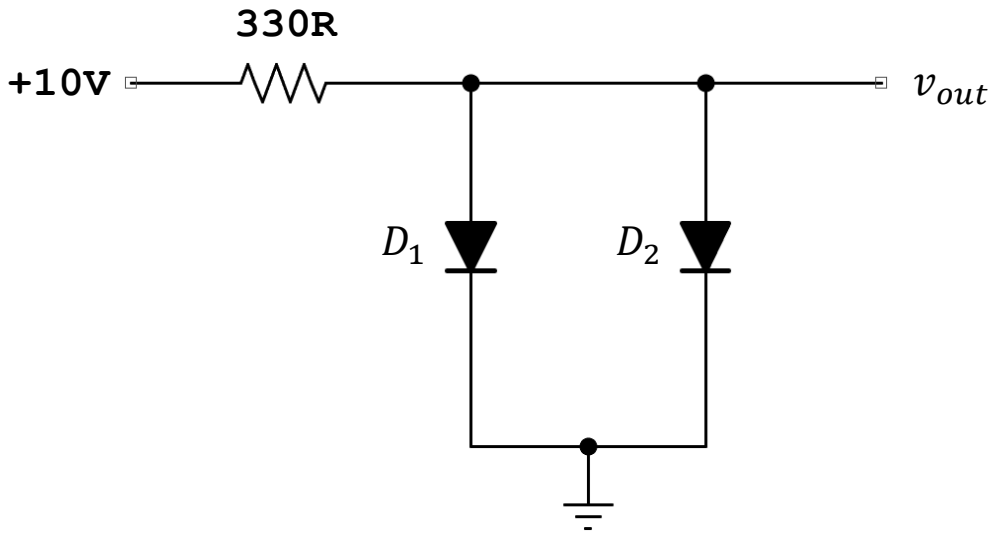
Determine the voltage across the load (v_L), the current flowing through the load (i_L), and the power dissipated by the load resistor (P_L) in the given circuit.



Solution

EXERCISE

Determine the output voltage (v_{out}), the current flowing through the resistor (i_R), and the currents flowing through diodes D_1 and D_2 (i_{D1} and i_{D2}) in the circuit.



Solution

LABORATORY