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Solution : The conditions of the problem suggest that diode D1 is forward biased and diode D2 is reverse biased. We can, therefore, consider the branch containing diode D2 as open as shown in Fig. 4 (ii). Further, diode D1 can be replaced by its simplified equivalent circuit. Q5. Find the voltage  $V_A$  in the circuit shown in Fig. 5 (i). Use ...

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A circuit breaker in series before the parallel branches can prevent overloads by automatically opening the circuit. A  $15\ \text{A}$  circuit operating at  $120\ \text{V}$  consumes  $1,800\ \text{W}$  of total power.  $P = VI = (120\ \text{V})(15\ \text{A}) = 1,800\ \text{W}$ . Total power in a parallel circuit is the sum of the power consumed on the individual branches. coffee maker + microwave oven:  $850\ \text{W} + 1200\ \text{W} = 2050\ \text{W}$  : microwave oven + toaster ...

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### Fundamentals of Electric Circuits

When doing circuit analysis, you need to know some essential laws, electrical quantities, relationships, and theorems. Ohm's law is a key device equation that relates current, voltage, and resistance. Using Kirchhoff's laws, you can simplify a network of resistors using a single equivalent resistor. You can also do the same type of calculation to obtain [...]

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Solution: As the link resistance between the terminals a-b is zero, hence, the link is practically a short circuiting link and the current through the link is assumed to be I s.c. Let us now first take the 50V source. The circuit configuration for this case is shown in figure 5.

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