

Components: Name Quantity Diodes 1N4007(Si) 2 Resistor 1K 1 Equipment: Name CRO Digital Ammeter, Voltmeter Transformer Connecting Wires Theory: A rectifier is a circuit that converts a pure AC signal into a pulsating DC signal or a signal that is a combination of AC and DC components. = = Rectification Factor: The ratio of output DC power to input AC power is defined as efficiency. Resulting in a current I_{d2} through the load at the same instant a negative voltage appears at the anode of D1 thus reverse biasing it and hence it doesn't conduct. During the positive half cycle, the diode is forward biased and it conducts and hence a current flows through the load resistor. During the negative half cycle, the diode is reverse biased and it is equivalent to an open circuit, hence the current through the load resistance is zero. Ripple Factor: Ripple factor is defined as the ratio of the effective value of AC components to the average DC value. 1.21 AC HWR DC V V $\eta = 40.6\%$ $FWR = 81\%$