

Epuror 4

$$R_s = \frac{12.73 - 10}{0.5}$$

$$= \frac{2.73}{0.5}$$

iv) The current across diode

$$= \frac{V_2}{R_2}$$

$$= \frac{10}{500}$$

$$= 0.02A$$

$$I = 20mA$$

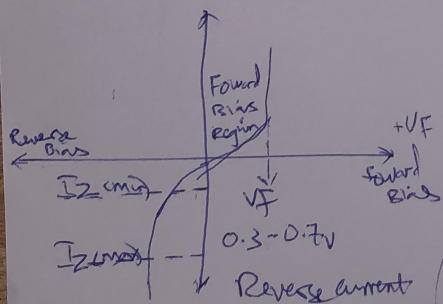
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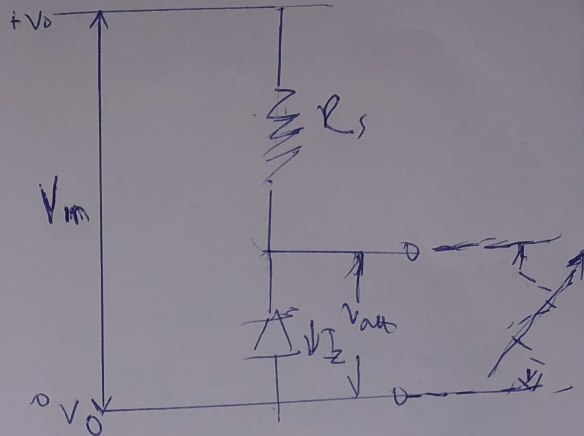
# Computer Engineering

## Basic Elect assignment

1) A Zener diode regulator is a diode similar to the standard PN junction diode but they are specifically designed to have a low and specified reverse breakdown voltage. It is the simplest of the types of voltage regulator and the point at which a Zener diode breaks down or conducts is called the "Zener Voltage".



I-V characteristic curve



2)  $P \leq 5W$   
 $I_z \leq 50mA = 500 A \cdot s = 0.5A$

$$V_{dc} \leq \frac{20V_{ms}}{\pi}$$
$$= \frac{2 \times 20}{\pi}$$
$$= \frac{40}{\pi} \approx 12.73V_{dc}$$

1) The minimum value  
 $R_s \leq \frac{V_s - V_z}{I_z}$   $V_z \leq ?$

$$P = I_z V_z$$
$$V_z \leq \frac{P}{I_z} = \frac{5}{0.5} = 10W$$