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# A Zener diode is a silicon semiconductor device that permits current to flow in either a forward or reverse direction. The diode consists of a special, heavily doped p-n junction, designed to conduct in the reverse direction when a certain specified voltage is reached.

#



#  Max power = 5w, Iz = 500mA = 0.5A , Vs = 20vmax,

# Maximum current= Max power/voltage = 5W/V = 0.5A

# Vz = 10volts

# Maximum Resistance = (Vs-Vz)/Iz

# Vdc = 0.637vmax = 0.637 \* 20 = 12.74vdc

# Minimum Vdc = (12.74-10)/0.5 = 5.48Ohms

# Load Current = Il = Vz/Rl = 10/500 =0.02A or 20mA

# Iz = Is – Il = 500 – 20 = 480mA.