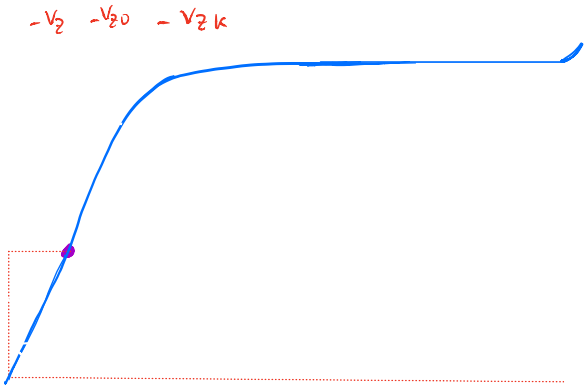
I_z ∨ — I_z^* negative

V_z^* V_z^* negative

\+

I_z^* ∧



V_{zk}

I_{zk}

I_{zT}

r_z

Example:

Example

Example:

Zener Diodes Examples

+
V_o
−

a) Find V_o assume no load $R_L \to \infty$ and V_s is nominal 10v

b) Find change in V_o w/ respect to V_s

-> line regulation

-> output voltage change for a given $\pm 1 V$

C) Find ΔV_o if we connect a load resistor that draws 1mA away from the Zener Diode

d) Find ΔV_o for $R_L = 2k\Omega$

e) $R_L = 500\,\Omega$

→ Zener Diode is no longer in breakdown

f) What is the minimum R_L value such that we are on the edge of breakdown?

knee voltage

I