



$$V_f = 0$$

$$\text{Zener: } V_Z = 5V.$$

$I > 0$ $V_o = 5V$. D_1 is ON D_Z in breakdown

$I = 0$ D_1 is ~~ON~~ OFF D_Z no current

$$V_o = V_I$$

when is D_1 on?

$$\text{KVL: } -V_I + IR + V_f + V_Z = 0$$

$$I = \frac{V_I - V_f - V_Z}{R} > 0$$

$$V_I > V_f + V_Z$$

$$V_I > 5V.$$

TRANSFER CHARACTERISTIC



