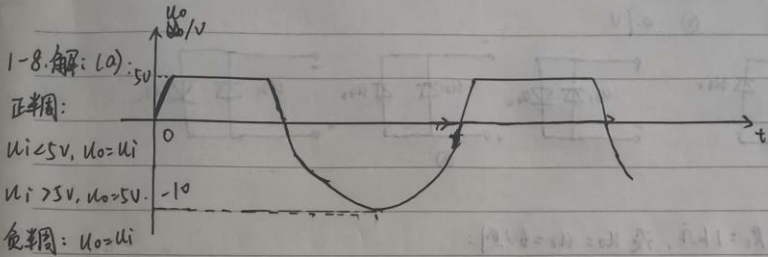


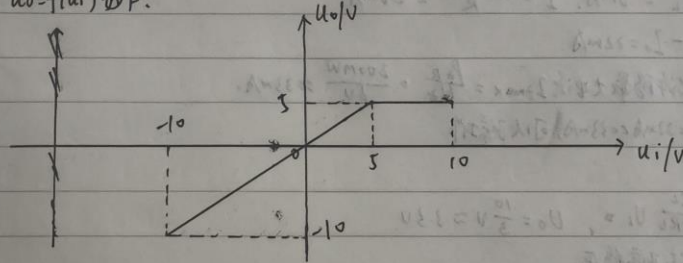
1-6 解: 1. $U_D \approx 0.7V$, $I \approx \frac{10V - 0.7V}{5.1k\Omega} \approx 1.82mA$

\therefore 电流约为 $1.82mA$

2. 温度升高, U_D 减小, I 增大.

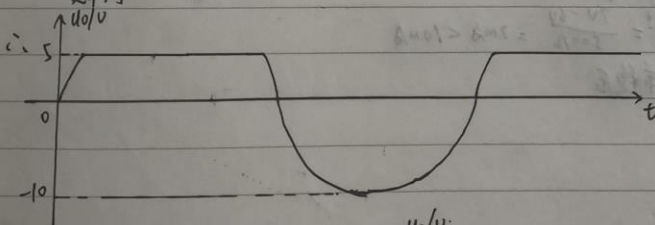


$u_o = f(u_i)$ 如下:

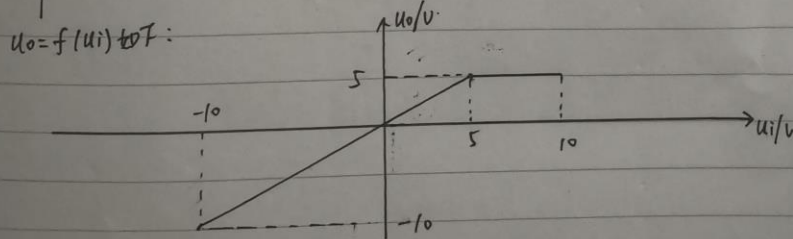


(b) 正半周: 当 $u_i < 5V$ 时, $u_o = u_i$; 当 $u_i > 5V$ 时, $u_o = 5V$.

负半周: $u_o = u_i$.



$u_o = f(u_i)$ 如下:

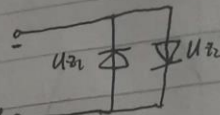
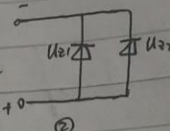
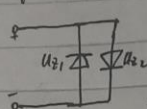
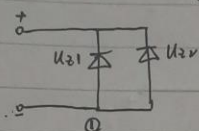


1-9 解: 串联时, 有四种稳压值:

① $6V + 9V = 15V$, ② $6V + 0.7V = 6.7V$, ③ $9V + 0.7V = 9.7V$, ④ $0.7V + 0.7V = 1.4V$

并联时, 有两种稳压值:

① ~~15V~~ $6V$, ② $0.7V$.



1-10 解: 1. $U_1 = 20V$, $R_L = 1k\Omega$. 设 $U_0 = U_Z = 6V$ 则:

$$I_0 = \frac{U_Z}{R_L} = 6mA, I = \frac{U_1 - U_Z}{R} = 28mA$$

$$\therefore I_Z = I - I_0 = 22mA$$

$$\text{又稳压管允许的最大电流 } I_{Zmax} = \frac{P_Z}{U_Z} = \frac{200mW}{6V} \approx 33mA$$

由 $10mA < 22mA < 33mA$, 可以正常工作

$$\therefore U_0 = 6V$$

$$2. U_0 = \frac{R_L}{R + R_L} U_1 \approx, U_0 = \frac{10}{3} V \approx 3.3V$$

稳压管无法正常工作

$$3. I_Z = \frac{U_1 - U_Z}{R} = \frac{20V - 6V}{500\Omega} = 28mA < 33mA$$

\therefore 稳压管可以正常工作

$$4. I_{Zmax} = \frac{U_1 - U_Z}{R} = \frac{7V - 6V}{500\Omega} = 2mA < 10mA$$

\therefore 稳压管无法正常工作