

# 作业纸

课程名称: \_\_\_\_\_

班级: \_\_\_\_\_

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学号: 1120193222 第 1 页

10-5

$$U_0(AV) = 0.9 U_2 = 18V$$

$$I_0(AV) = \frac{U_0(AV)}{R_L} = 18mA$$

$$I_D(AV) = \frac{1}{2} I_0(AV) = 9mA$$

$$U_{RM} = \sqrt{2} U_2 = 18.2V$$

如果VD<sub>1</sub>接反, 会发生短路,  
把变压器烧坏

10-10

1. 不能

稳压管正常工作必须有一个稳压电流范围,  $R=0$  电流太大, 可能会使稳压管烧坏

$$2. \frac{U_{I(max)} - U_0}{R} < I_{Z(max)}$$

$$U_{I(max)} = 1.2 \times 1.1 \times U_2 = 19.8V$$

$$\therefore R > \frac{U_{I(max)} - U_0}{I_{Z(max)}} = 363\Omega$$

$$\frac{U_{I(max)} - U_0}{R} - I_{O(max)} > I_Z$$

$$U_{I(max)} = 1.2 \times 0.9 \times U_2 = 16.2V$$

$$R < 680\Omega$$

10-17

1. a) 输出恒定电流

b) 输出恒定可调电压

$$2. I_0 = \frac{U}{R} + I_Z$$

$$3. U_0 = \frac{R_1 + R_2}{R_1} U_Z + I_Z R_2$$

联系方式: \_\_\_\_\_

$$\therefore 363 \Omega < R < 680 \Omega$$

10-11

$$1. U_2 = \frac{U_1}{1.2} = 20V$$

2. 电位器调到最上端

$$\frac{U_O(R_4 + R_{RP})}{R_3 + R_{RP} + R_4} = U_{BE} + U_2$$

$$U_{O1}' = \frac{300 + 300 + 300}{300 + 300} (0.7 + 5.3) = 9V$$

电位器调到最下端

$$\frac{U_O R_4}{R_3 + R_{RP} + R_4} = U_{BE} + U_2$$

$$\therefore U_{O1}'' = \frac{300 + 300 + 300}{300} (0.7 + 5.3) = 18V$$

 $\therefore$  可调范围  $9 \sim 18V$ 

$$\begin{aligned} 3. U_{O2} &= \frac{R_3 + R_{RP} + R_4}{R_4} (U_{BE} + U_2) \\ &= \frac{600 + 300 + 300}{300} (0.7 + 5.3) \\ &= 24V \end{aligned}$$

$$\begin{aligned} U_{O(max)} &= U_{O2} - U_{CES1} \\ &= 22V \end{aligned}$$

10-19

$$\begin{aligned} U_{O(max)} &= (U_{EB} + 15) \frac{R_1 + R_{RP} + R_3}{R_1} \\ &= 53.2V \end{aligned}$$

$$\begin{aligned} U_{O(min)} &= (U_{EB} + 15) \frac{R_1 + R_{RP} + R_3}{R_1 + R_{RP}} \\ &= 17.7V \end{aligned}$$

 $\therefore$  调节范围  $17.7 \sim 53.2V$ 

联系方式: \_\_\_\_\_