

# 作业纸

课程名称: \_\_\_\_\_

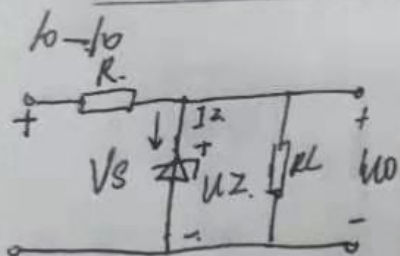
班级: \_\_\_\_\_

教学班级: \_\_\_\_\_

姓名: \_\_\_\_\_

学号: \_\_\_\_\_

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1. 为并联稳压电路: 须接  $R$   
若  $R=0$ , 容易烧坏稳压管, 稳压效果差

$$2. \frac{U_{Zmax} - U_0}{R} < I_{Zmax} \quad \text{上升 10\%}$$

$$\therefore U_{Zmax} = 12 - 16.5 = 19.8V$$

$$R > \frac{U_{Zmax} - U_0}{I_{Zmax}} = 363\Omega$$

下降 10\%

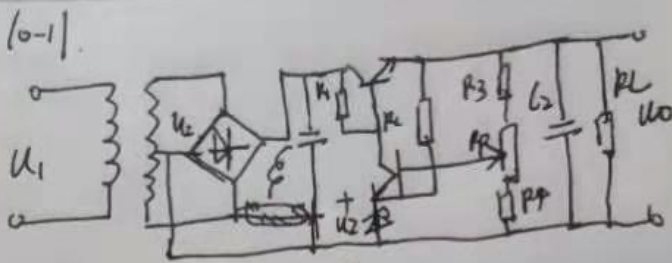
$$\frac{U_{min} - U_0}{R} - I_{Zmax} > I_Z$$

$$\therefore U_{min} = 12 - 0.9U_Z = 16.2V$$

$$\therefore R < \frac{U_{min} - U_0}{I_{Zmax} + I_Z} = 680\Omega$$

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

$$R = 510\Omega$$



$$1) U_1 = 24V \quad U_2 = \frac{U_1}{1.2} \approx 20V$$

$$2) \frac{U_0 R_4}{R_3 + R_4 + R_L} = U_Z + U_{BE}$$

$$\text{下端} \therefore U_0' = \frac{R_3 + R_4 + R_L}{R_4} (U_{BE} + U_Z) = 18V$$

$$\text{上端} \frac{U_0 (R_3 + R_4)}{R_3 + R_4 + R_L} = U_Z + U_{BE}$$

$$\therefore U_0 = 9V$$

$$\therefore U_0 \approx 18V$$

$$3) R_3 = 600\Omega$$

$$U_0 = \frac{R_3 + R_4 + R_L}{R_4} (U_{BE} + U_Z) = 24V$$

$$\text{又 } U_1 = 24V \quad U_2 = 24V$$

$$\therefore U_{CE} \approx 20V$$

$$\therefore U_{Zmax} = 22V$$

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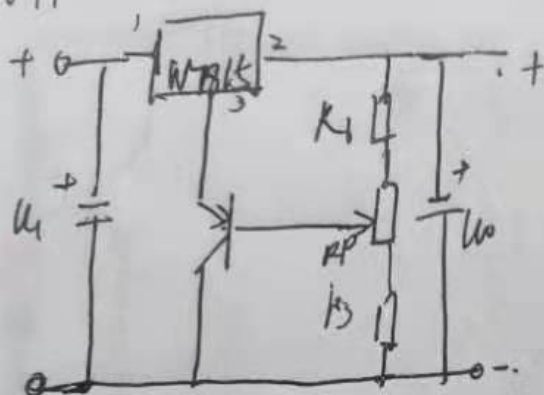
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10-19



设  $U_{EB} = 0.2V$

$$(U_o)_{max} = (U_1 + U_{EB}) \times \frac{R_1 + R_P + R_3}{R_1}$$

$$= 53.2V$$

$$(U_o)_{min} = (U_1 + U_{EB}) \times \frac{R_1 + R_P + R_3}{R_1 + R_P}$$

$$= 17.7V$$

$$\therefore U_o: 17.7 \sim 53.2V$$