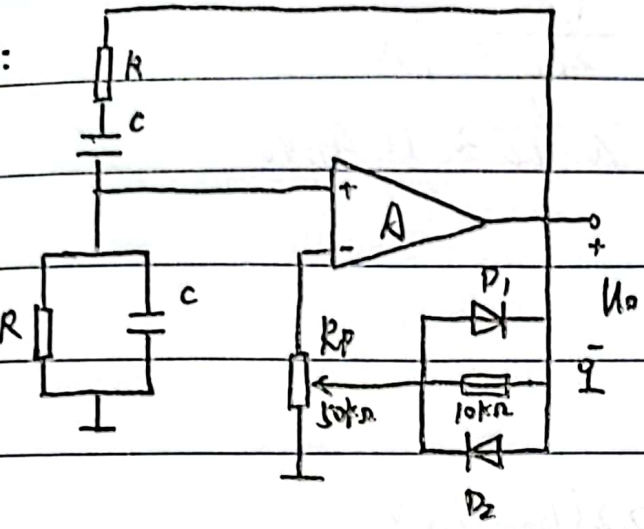
9.5解：




(1) 如图所示。

(2) $f_0 = \frac{1}{2\pi RC}$

$= 1.59\,kHz$

(3) $D_1$、$D_2$起稳幅作用

9.6解：∵能够起振 $\dot{A}\dot{F} \geq 1$

而 $\dot{F}_{max} = \frac{1}{3}$ ∴ $\dot{A} \geq 3$

由反相比例器 $|\dot{A}| = 1 + \frac{R_2}{R_1} \geq 3$ 即 $R_2 \geq 2R_1$

由于为正温度系数 即 $T \uparrow$ $R \uparrow$

维持振荡 $\dot{A}\dot{F} = 1$ ∴用热敏电阻替换 $R_1$

9.8解：~~$U_{omax} = U_Z$~~ (1) 由于波形稳定 故 $\dot{A}\dot{F} = 1$

∴ $\dot{A} = 3 \Rightarrow 1 + \frac{R_2}{R_1} = 3$ $R_2 = 2R_1$

∴ $U_o = U_{R2} + U_{R1} = \frac{3}{2}U_Z = 9V$

(2) $f_0 = \frac{1}{2\pi R_1 C} = 9.95\,kHz$

10.9 解：(a) $P_o = \frac{U_o^2}{2R_L} \Rightarrow P_{om} = \frac{U_{om}^2}{2R_L} = \frac{V_{cc}^2}{2R_L} = 9W$

(b) 当 $U_{om} = \frac{2}{\pi} V_{cc}$ 时 $P_{Tm} = 0.4 P_{om} = 3.6W$

$\therefore P_{T1m} = P_{T2m} = 1.8W$

(c) $\eta_m = \frac{P_{om}}{P_{vm}} = \frac{\pi}{4} = 78.5\%$

(d) $|U_{(BR)CEO}| > 2V_{cc} = 24V$

(e) 消除交越失真，附提供偏置。

10.10 解：(a) 引入的为电压并联负反馈

(b) $\dot{F} = \frac{I_f}{U_o} = -\frac{\frac{U_o}{R_2}}{U_o} = -\frac{1}{R_2} = -\frac{1}{100k}$

$\dot{A} = \frac{1}{\dot{F}} = \frac{U_o}{I_f} = -100k$

$\dot{A}_{uf} = \frac{\dot{U}_o}{\dot{U}_i} = \frac{U_o}{I_f \cdot R_1} = -\frac{100k}{10k} = -10$

(c) $U_i = \sin \omega t \, V$. $U_{om} = |\dot{A}_{uf}| \cdot 1 = 10V$

$P_o = \frac{U_{om}^2}{2R_L} = 6.25W$

$P_V = \frac{2}{\pi} \frac{U_{om} V_{cc}}{R_L} = 9.54W$

$\eta = \frac{P_o}{P_V} \times 100\% = 65.4\%$