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①恒院区: Uas > Uas(off) , Uap < Uas(off)

②可变电阻区: UGs > UGs (off), UGD > UGs (off)

3 截止区: UGS < UGS (off)

 UGS/V	-1	-2	-2	-6
Ups/V	3	4	2	1.0
对压	Ь	a	Ь	С

3-4. (a) 不能. 环时以红红、水花正常放大

少不能. 对时输出端接地,不能正常输出

(c) 鮳正常放大

d) 不能. 自给偏压电路只适用于耗尽型器件.

3-7. 4) 
$$I_{0} = I_{055} \left(1 - \frac{U_{as}}{U_{as}(ott)}\right)^{2} = 0.5 \text{ mA}$$

$$U_{as} = -I_{0} \cdot R_{51} = -2V \qquad 将 R_{51} = 4 \text{ kn}$$

2> 
$$IBI_{Pof}$$
:  $Uap = Uas - Ups < -4V$ 

Pp  $Uos = 20 - Io (Ro + Rs_1 + Rs_2) > Uas + 4V$ 

$$(Rs_2 + 14kR_2) < \frac{16V - Uas}{ID}$$

$$Uas = 4Vof$$

$$R_{S2-max} = 36kR$$
3  $Uas = -2Vof$ ,  $R_{S2-max} = 22kR$ 

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3-3. UGS(0H) = -5V

①烟就及: Uas > Uas(off) , Uap < Uas(off)

②可变电阻区: UGs > UGs (off), UGD > UGs (off)

3 截止区: UGS < UGS(0H)

 UGS/V	-1	-2	-2	-Ь
Ups/V	3	4	2	1-0
工作区	Ь	a	Ь	С

3-4. (a) 不能. 环时以验量证, 以不能正常敌大

少不能. 邛姆输出端接地,不能正常输出

(c) 鮳正常放大

d) 不能. 自给偏压电路只适用于耗尽型器件.

3-7. 4) 
$$I_0 = I_{055} \left(1 - \frac{U_{as}}{U_{as}(ott)}\right)^2 = 0.5 \text{ mA}$$

$$U_{as} = -I_0 \cdot R_{51} = -2V \qquad \text{if } R_{51} = 4 \text{ kn}$$

2) 正常工作时: 
$$U_{GD} = U_{GS} - U_{DS} < -4V$$

即  $U_{DS} = 20 - I_{D} (R_{O} + R_{SI} + R_{S1}) > U_{GS} + 4V$ 
 $(R_{S2} + 14k_{D}) < \frac{16V - U_{GS}}{I_{D}}$ 
 $3U_{GS} = -2V_{D}f$ ,  $R_{S2} = 22k_{D}$ 

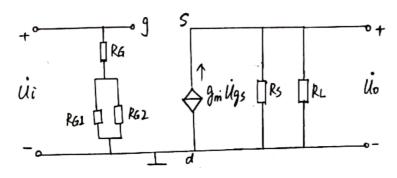
(3) 
$$Au = \frac{Uo}{Ui} = \frac{-Rp \cdot g_m Ugs}{g_m Ugs (Rs1 + Rs2) + Ugs} = \frac{-g_m \cdot Rp}{g_m (Rs1 + Rs2) + W1}$$

$$g_m = -\frac{2 \text{ Ibss}}{Ugs (off)} \left(1 - \frac{Ugs}{Ugs (off)}\right) = 0.5m \text{ S} \qquad \text{High:}$$

$$Au = -0.36$$

建井.

3-11· 微变争效电路图:



$$Au = \frac{g_m \cdot Ugs (RLI/Rs)}{Ugs + g_m \cdot Ugs (RLI/Rs)} = \frac{Ims \cdot 6k\Omega}{Ims \cdot 6k\Omega + 1} = \frac{6}{7} = 0.857$$

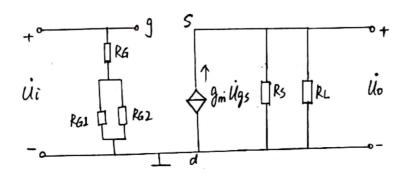
$$Ri = RG + RG1 / RG2 = 2075 kn$$
  
 $Ro = \frac{Uo}{Io} = Rs / \frac{1}{g_m} = 0.92 kn$ 

(3) 
$$Au = \frac{U_0}{U_{\overline{L}}} = \frac{-R_D \cdot g_m U_{gs}}{g_m U_{gs}(R_{s1} + R_{s2}) + U_{gs}} = \frac{-g_m \cdot R_D}{g_m (R_{s1} + R_{s2}) + W \cdot 1}$$

$$g_m = -\frac{2 \text{IDSS}}{U_{gs}(off)} \left(1 - \frac{U_{gs}}{U_{gs}(off)}\right) = 0.5 \text{m/s} \quad \text{Hilbert Au} = -0.36$$

$$Au = -0.36$$

## 3-11· 微变争效电路图:



$$Au = \frac{g_m \cdot u_{gs} (R_L 1/R_S)}{u_{gs}^2 + g_m \cdot u_{gs}^2 (R_L 1/R_S)} = \frac{1mS \cdot 6k\Omega}{1mS \cdot 6k\Omega + 1} = \frac{6}{7} = 0.857$$

$$Ri = RG + RG1 / RG2 = 2075 kn$$
  
 $Ro = \frac{Uo}{Io} = Rs / \frac{1}{g_m} = 0.92 kn$