

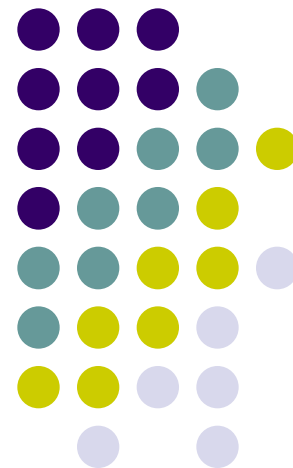
KỸ THUẬT ĐIỆN TỬ

(ELECTRONICS TECHNIQUE)

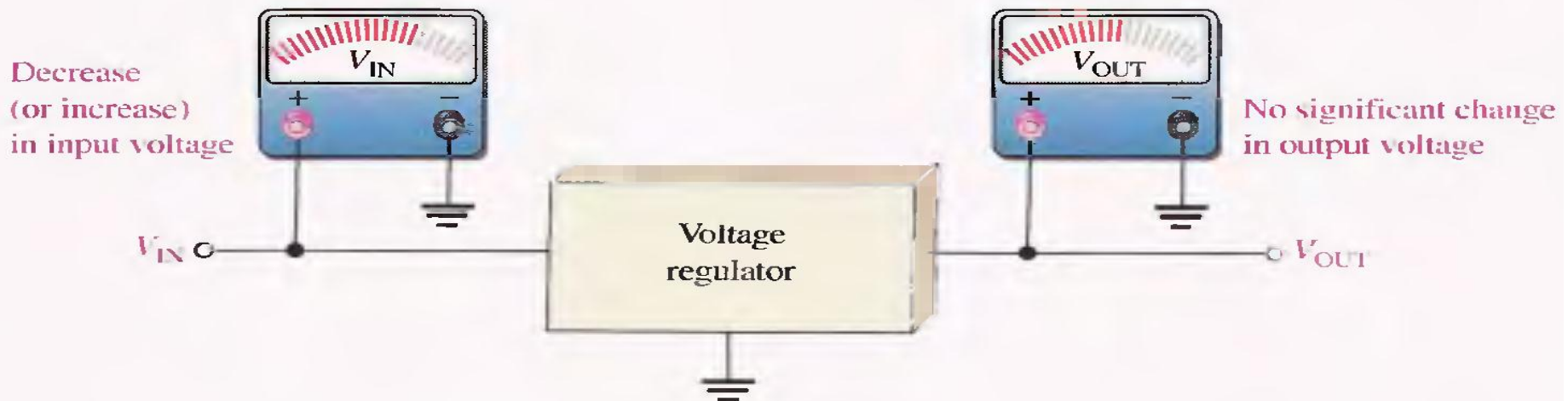
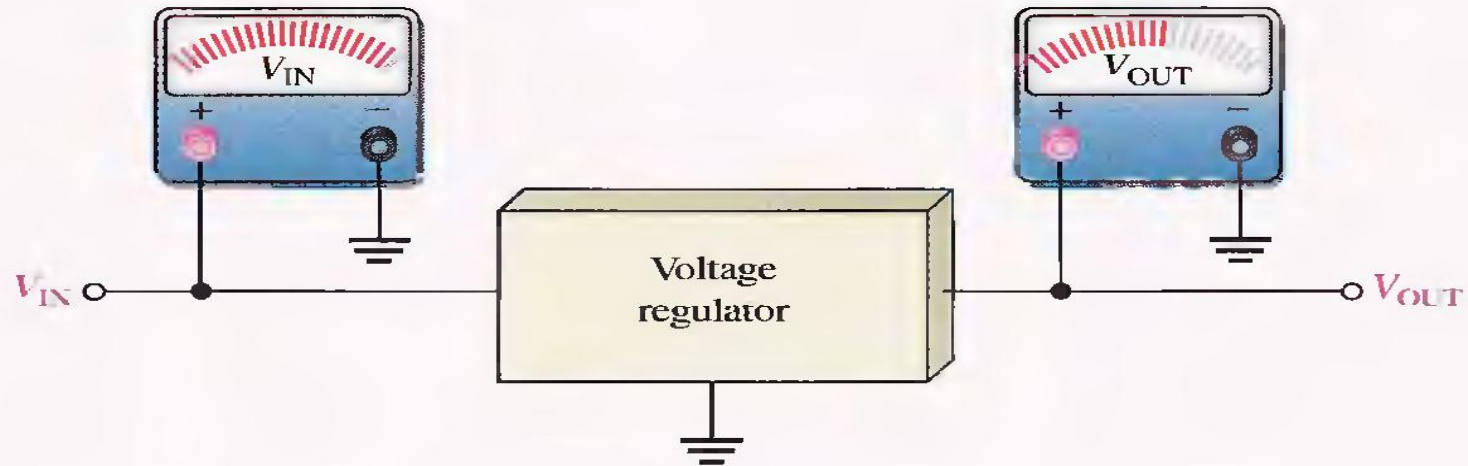


ỔN ÁP

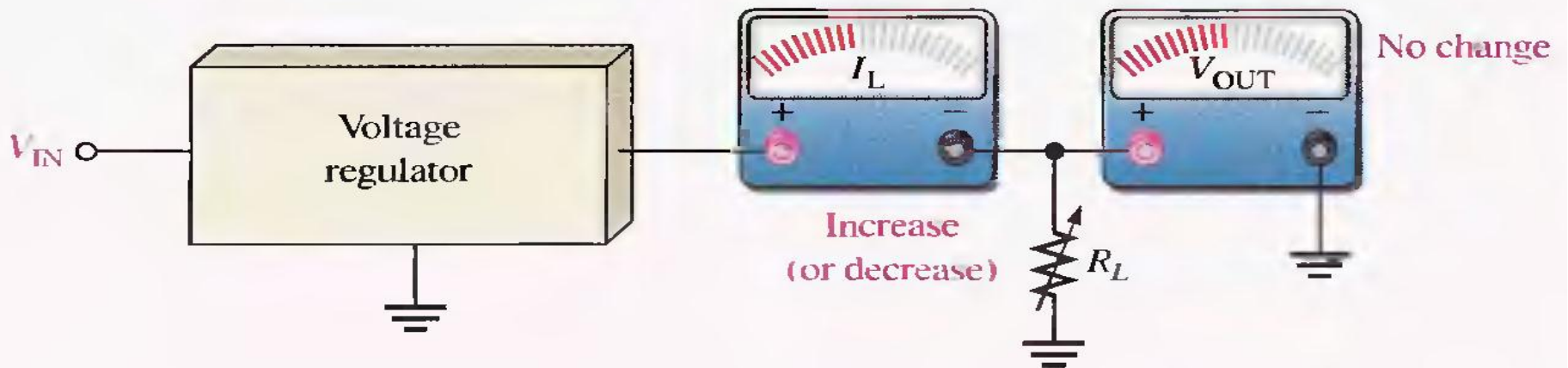
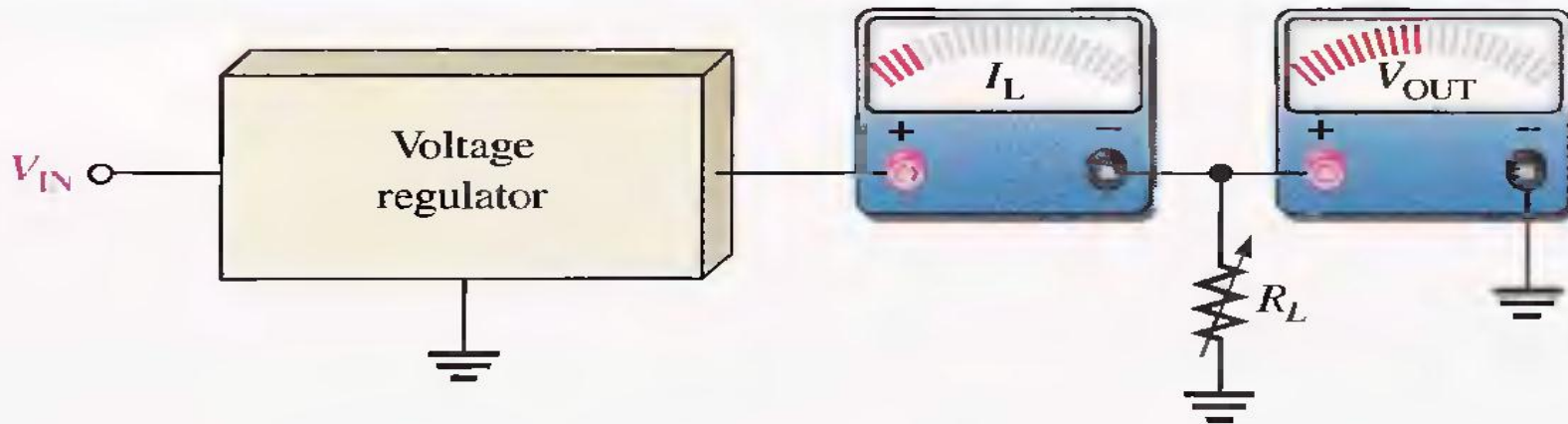
(VOLTAGE REGULATORS)



ỔN ÁP (VOLTAGE REGULATORS)



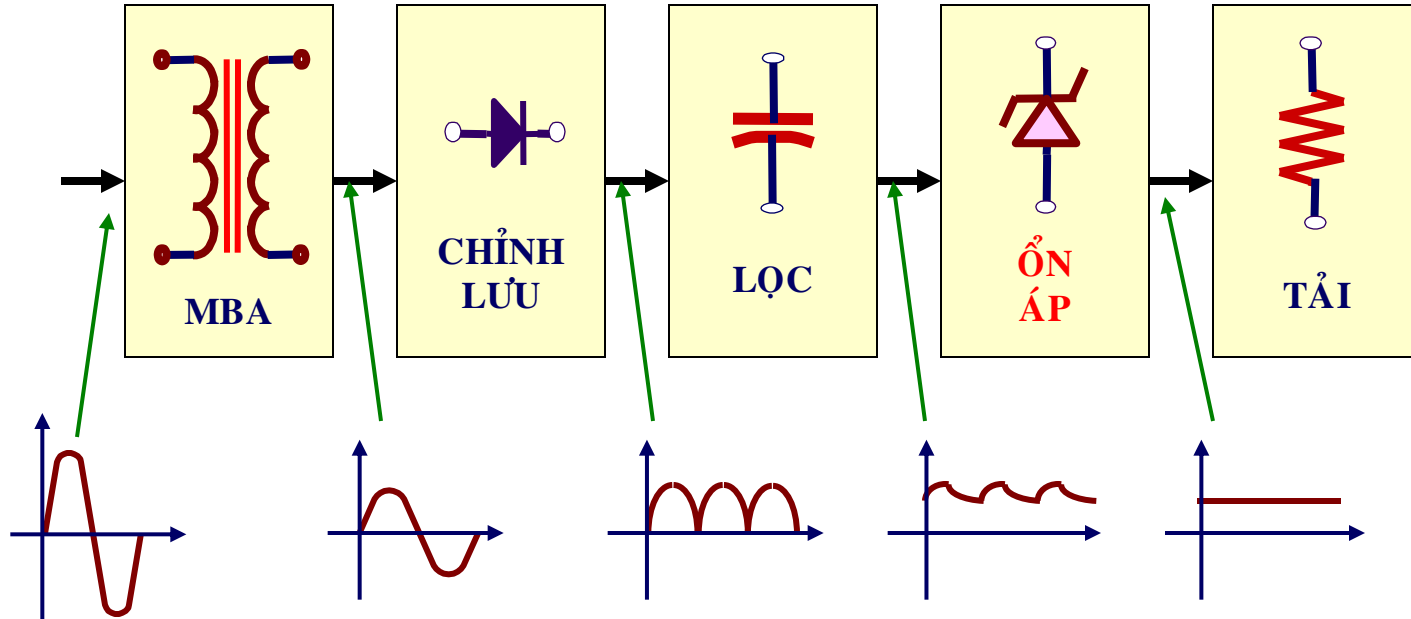
ỔN ÁP (VOLTAGE REGULATORS)



ỔN ÁP (VOLTAGE REGULATORS)



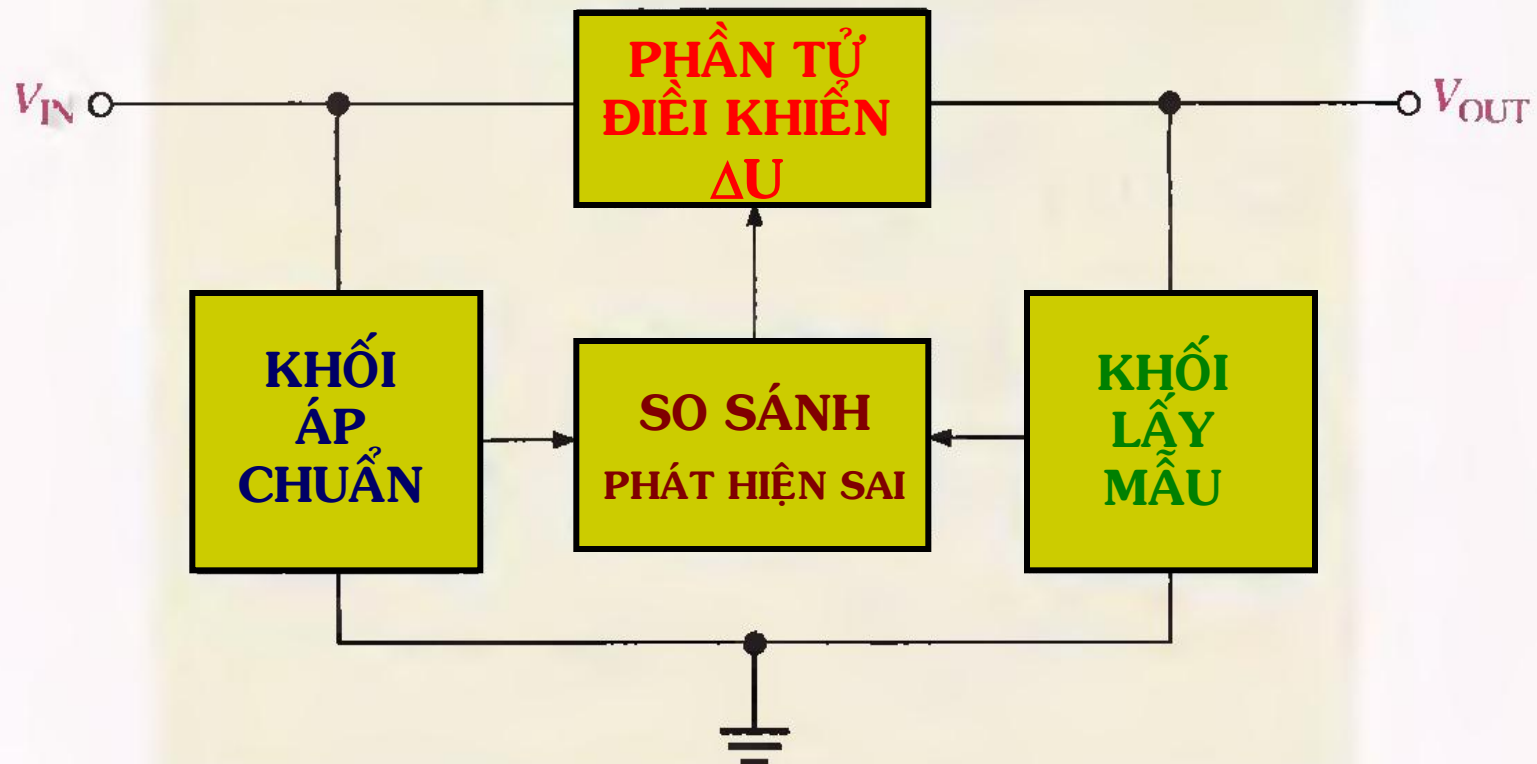
VỊ TRÍ ỔN ÁP TRONG KHỐI NGUỒN CUNG CẤP :



ỔN ÁP (VOLTAGE REGULATORS)



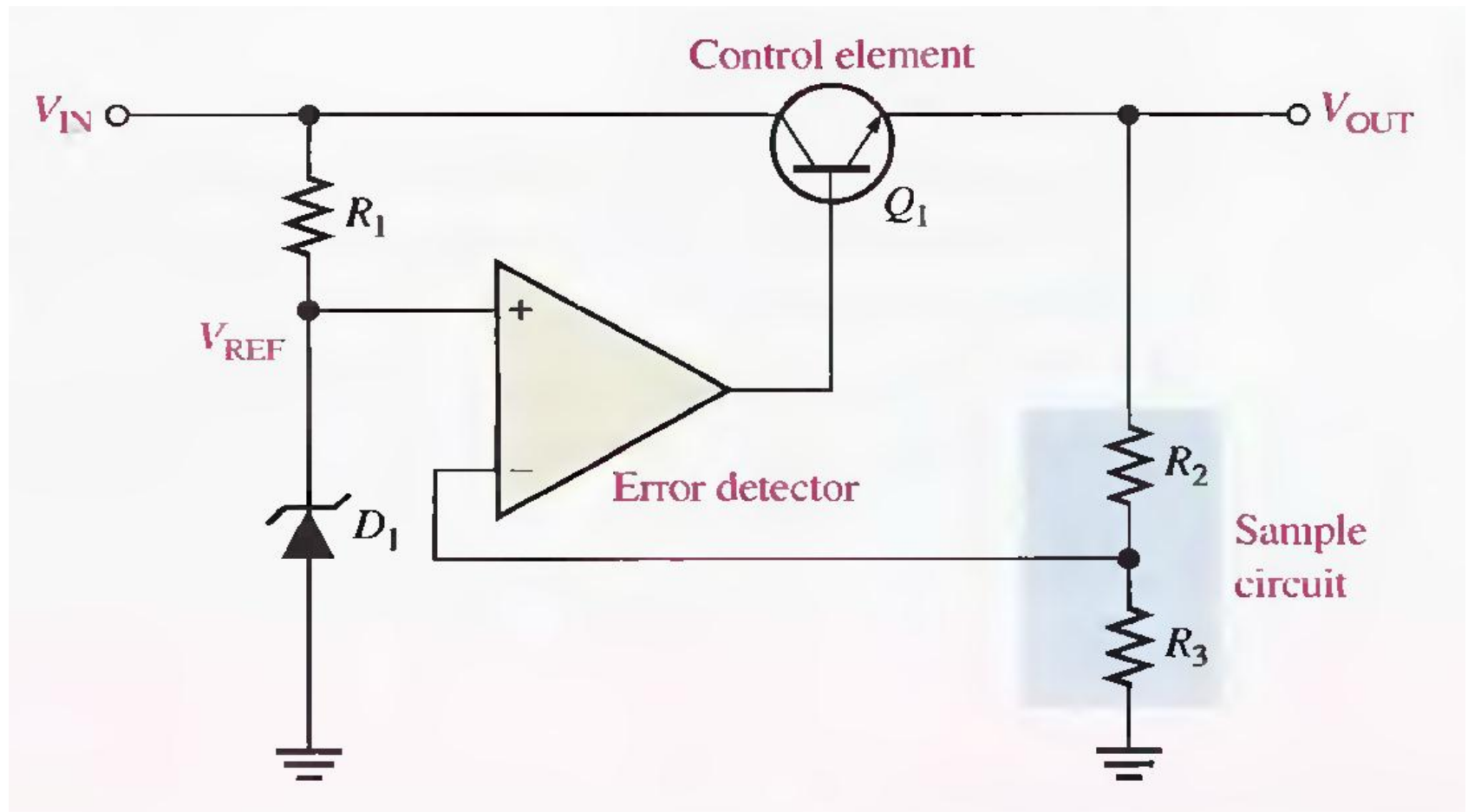
TỔ CHỨC CÁC BỘ PHẬN KHỐI ỔN ÁP NỐI TIẾP :



ỔN ÁP (VOLTAGE REGULATORS)



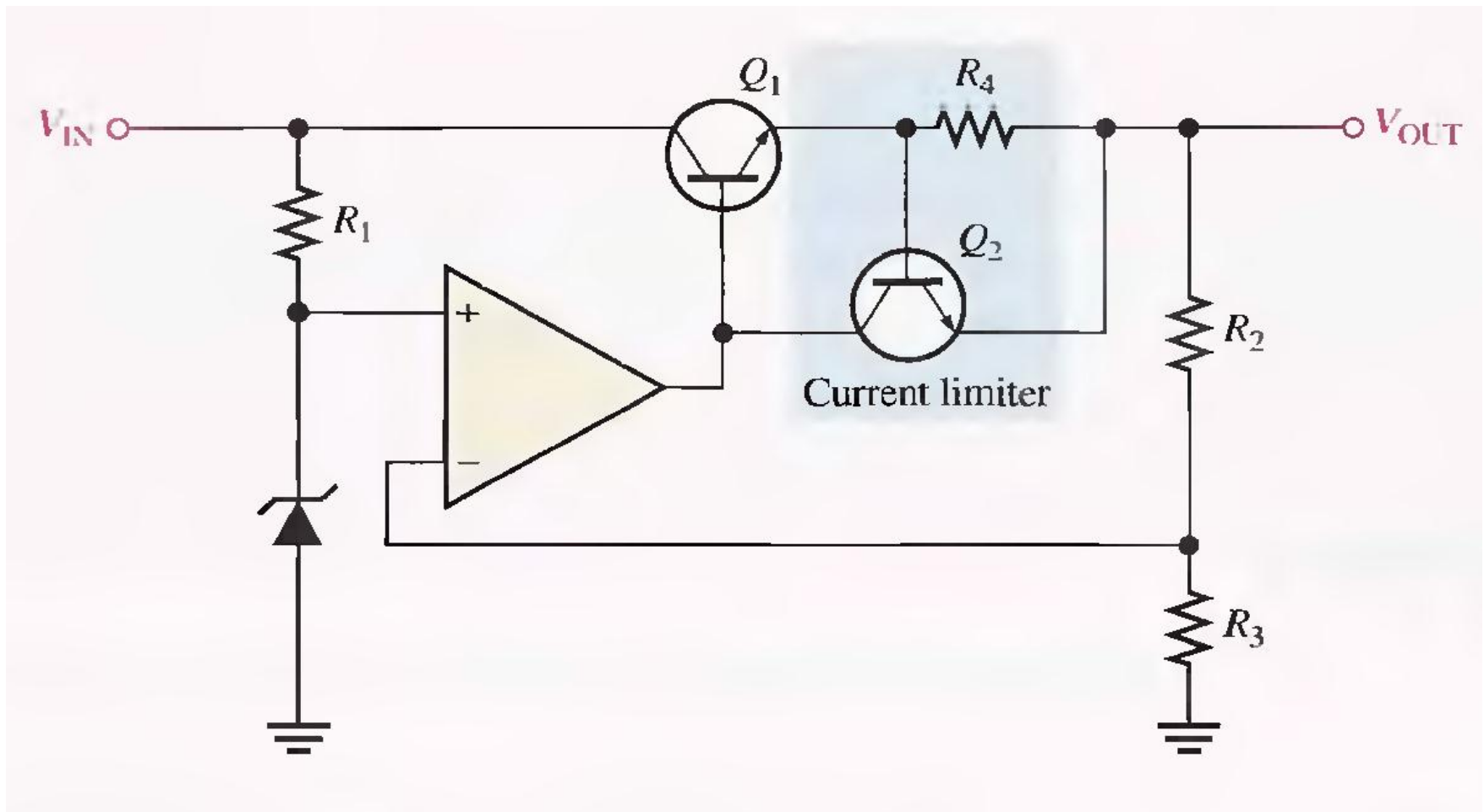
TỔ CHỨC CÁC BỘ PHẬN KHỐI ỔN ÁP NỐI TIẾP :



ỔN ÁP (VOLTAGE REGULATORS)



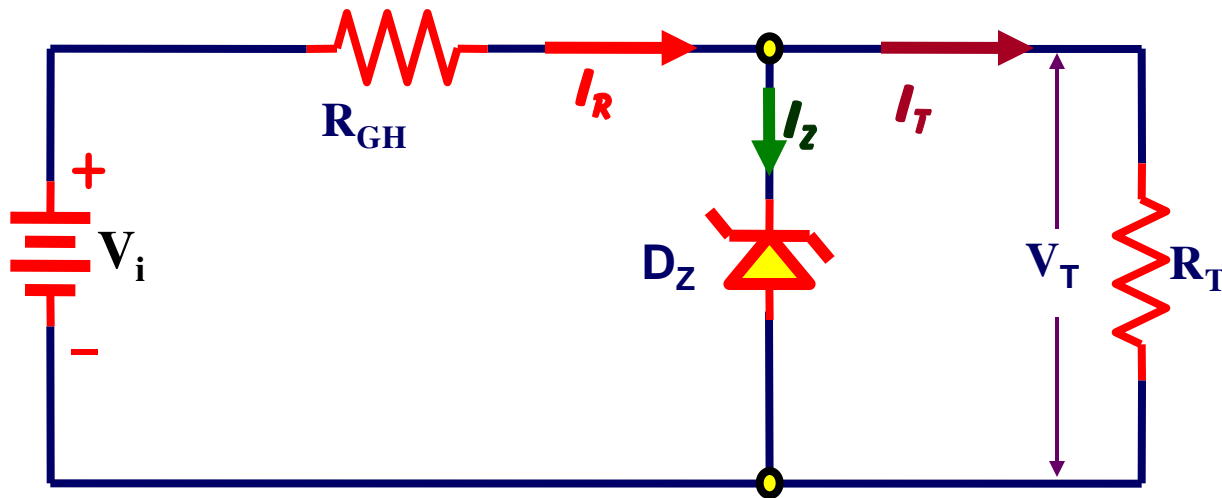
TỔ CHỨC CÁC BỘ PHẬN KHỐI ỔN ÁP NỐI TIẾP :



ỔN ÁP (VOLTAGE REGULATORS)



1 SỐ DẠNG ỔN ÁP NỐI TIẾP RỜI ĐƠN GIẢN :



$$R_{GH} = \frac{V_{iMAX} - V_Z}{I_{ZMAX}}$$

ỔN ÁP $V_T = V_Z$

$$I_R = I_Z + I_T$$

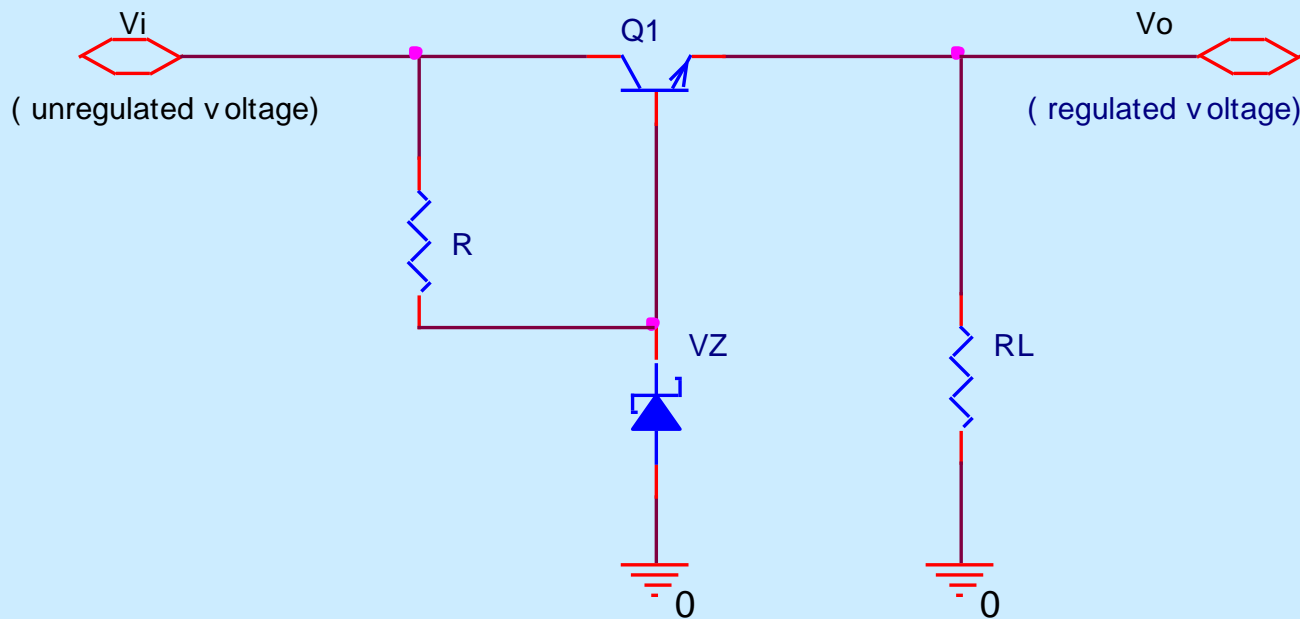
CHỈ ỔN ÁP KHI:

$$V_i \frac{R_T}{R_{GH} + R_T} \geq V_Z$$

ỔN ÁP (VOLTAGE REGULATORS)



1 SỐ DẠNG ỔN ÁP NỐI TIẾP RỜI ĐƠN GIẢN :

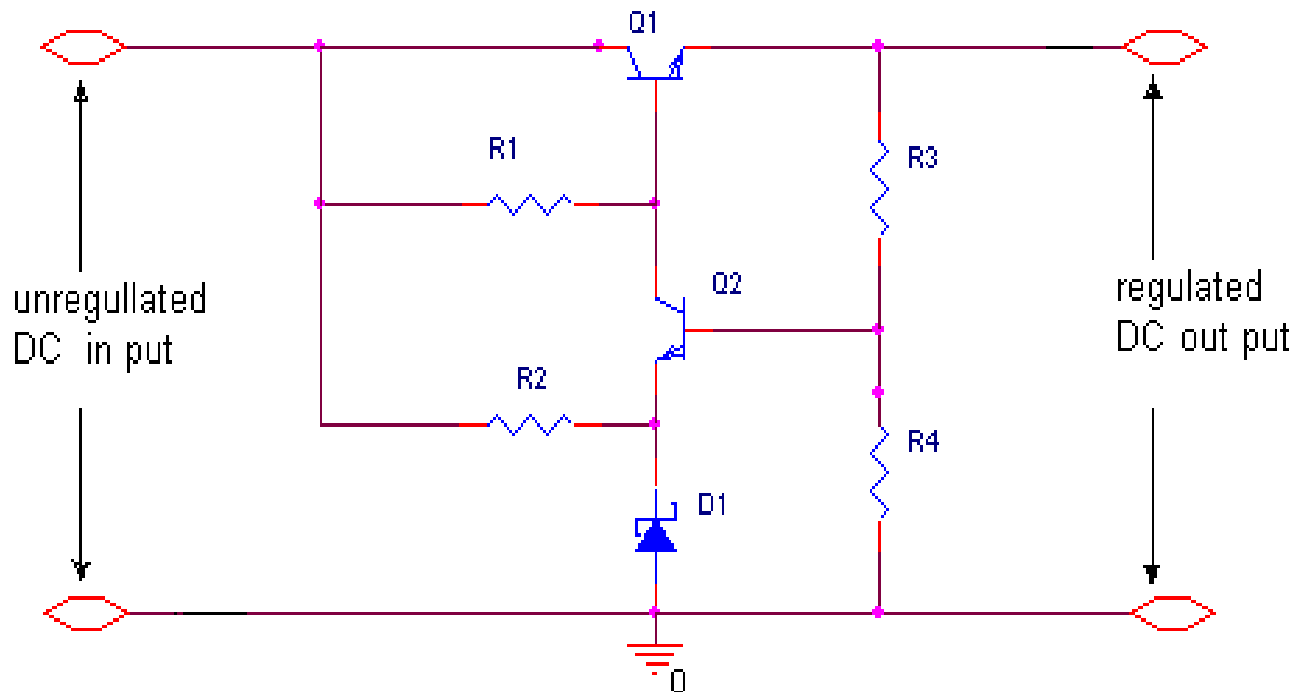


$$V_T = V_Z - V_{BE}$$

ỔN ÁP (VOLTAGE REGULATORS)



1 SỐ DẠNG ỔN ÁP NỐI TIẾP RỜI ĐƠN GIẢN :

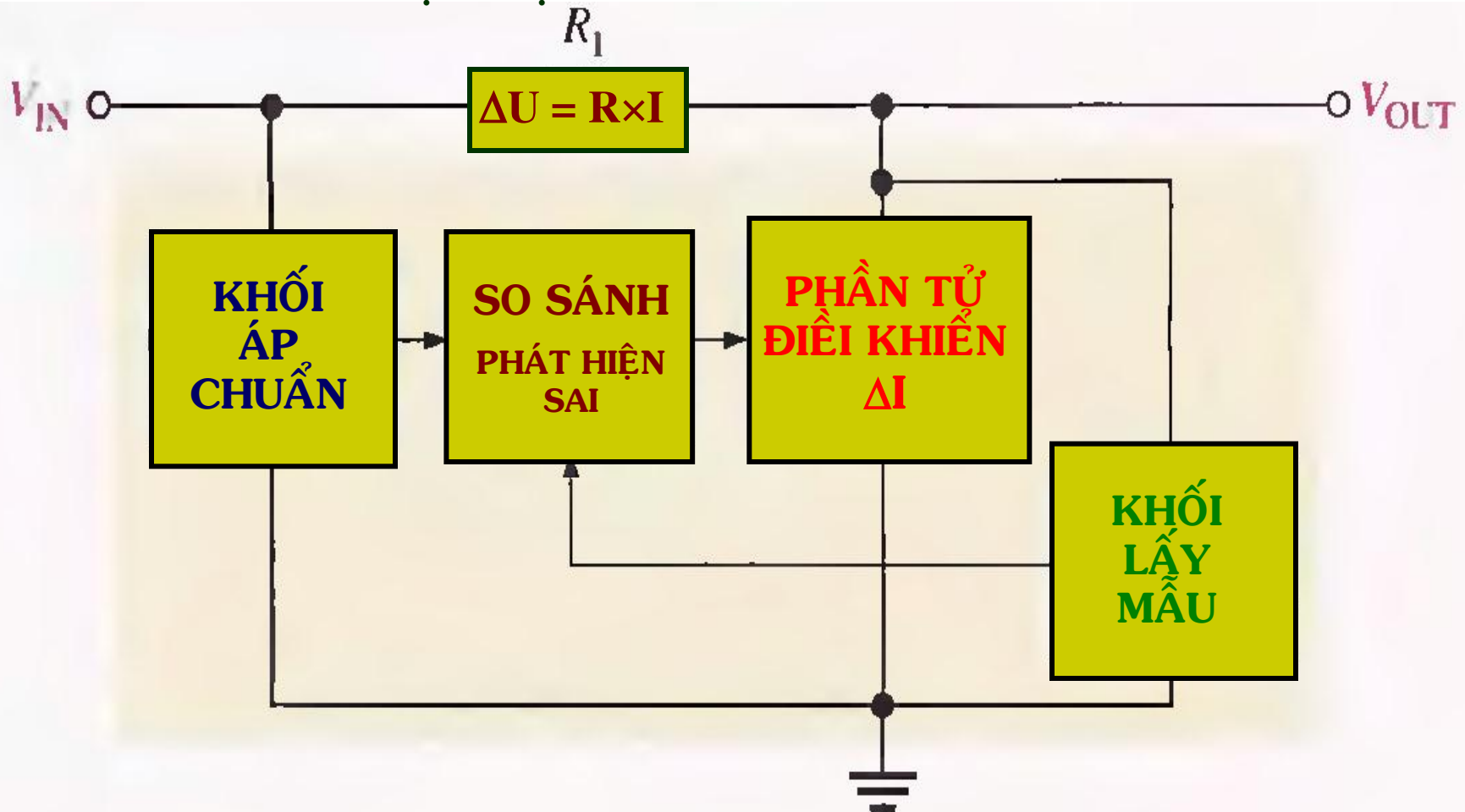


$$V_T = (V_Z + V_{BE}) \frac{R_3 + R_4}{R_4}$$

ỔN ÁP (VOLTAGE REGULATORS)



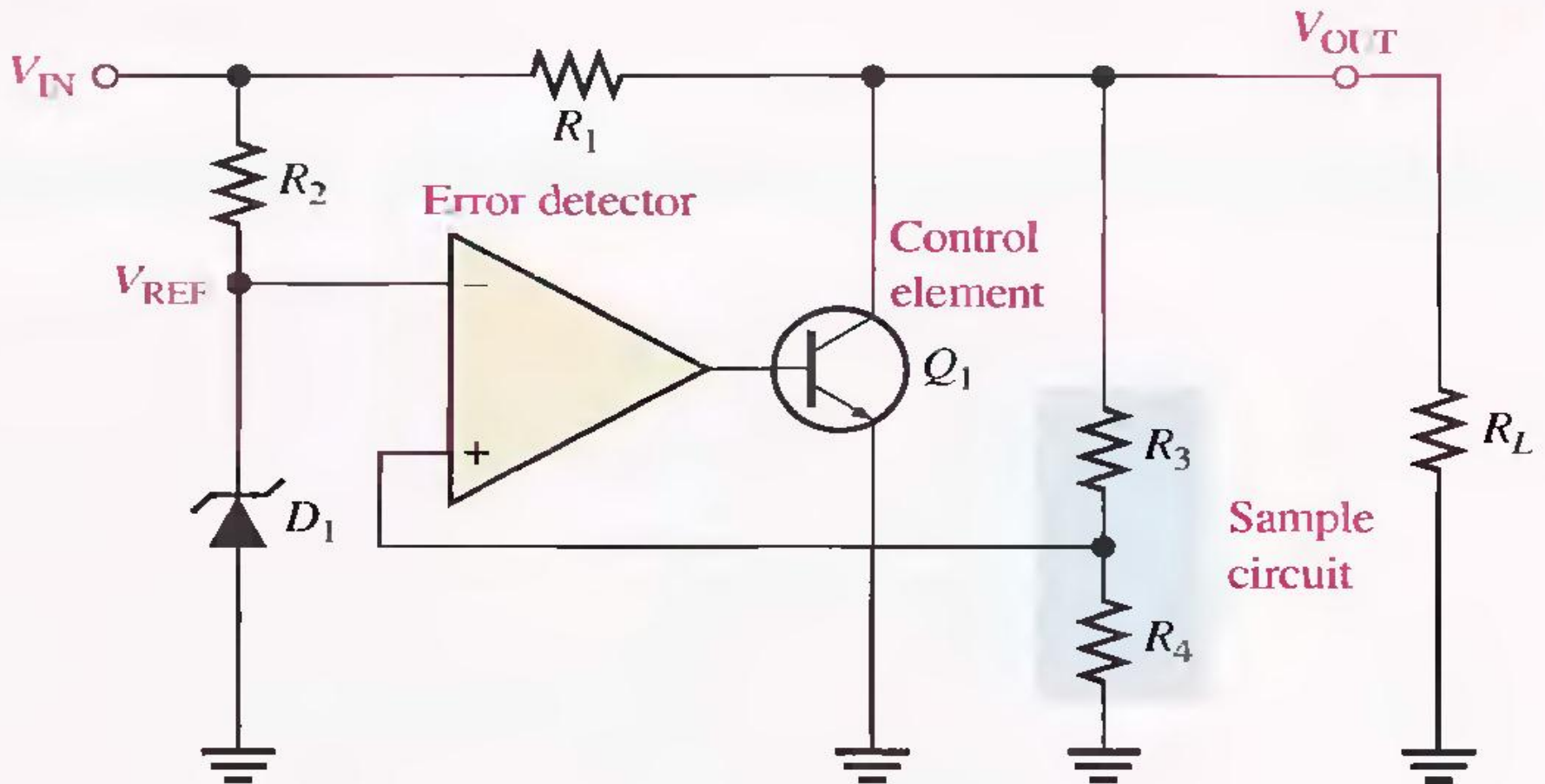
TỔ CHỨC CÁC BỘ PHẬN KHỐI ỔN ÁP SONG SONG :



ỔN ÁP (VOLTAGE REGULATORS)



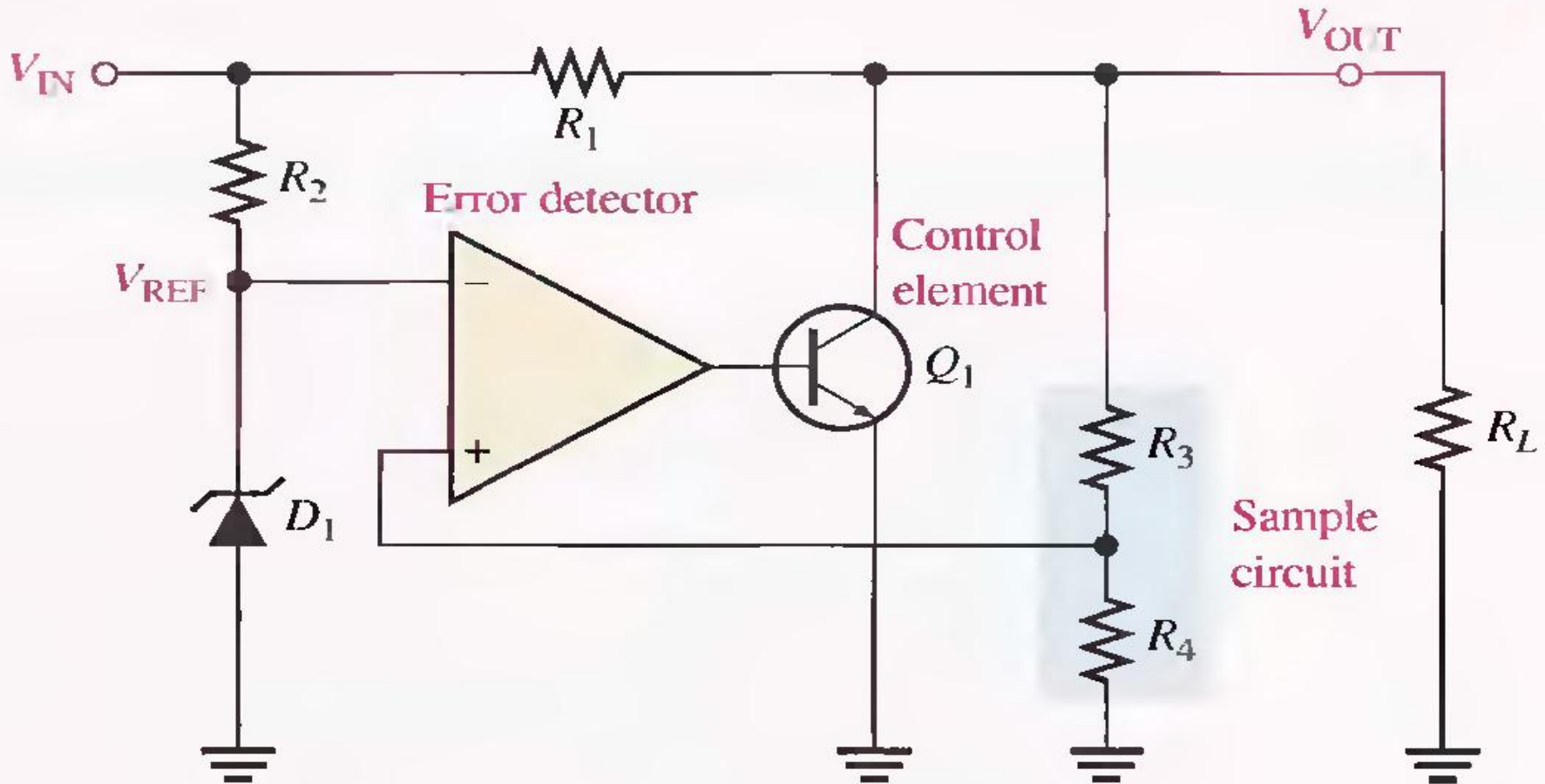
TỔ CHỨC CÁC BỘ PHẬN KHỐI ỔN ÁP SONG SONG :



ỔN ÁP (VOLTAGE REGULATORS)



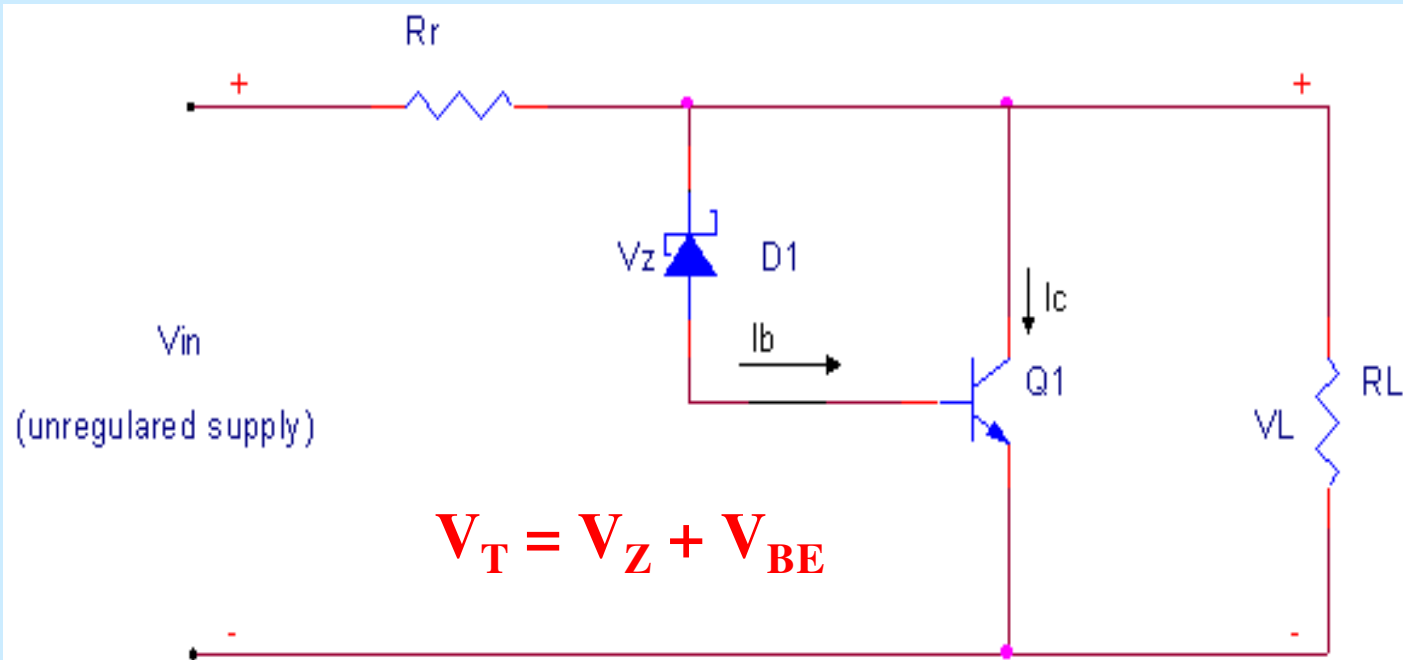
TỔ CHỨC CÁC BỘ PHẬN KHỐI ỔN ÁP SONG SONG :



ỔN ÁP (VOLTAGE REGULATORS)



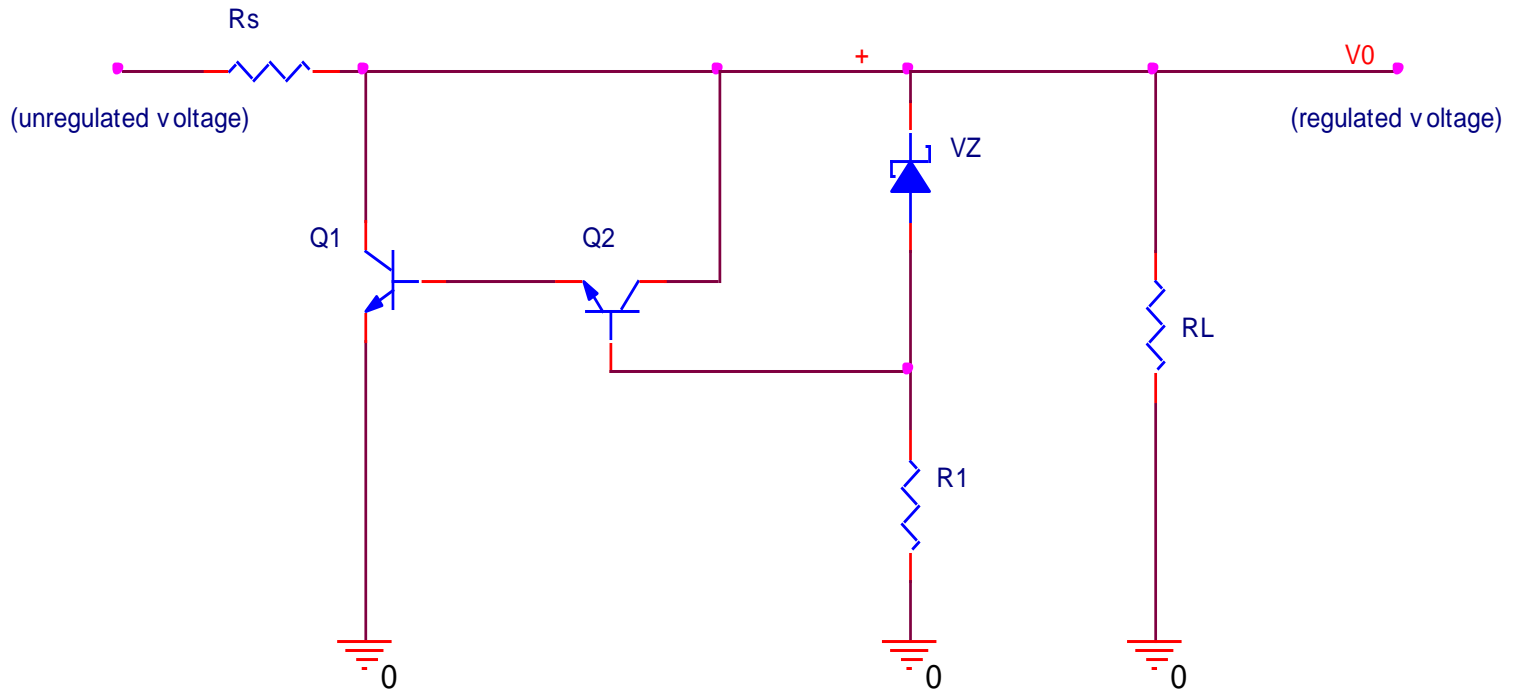
1 SỐ DẠNG ỔN ÁP SONG SONG RỜI ĐƠN GIẢN :



ỔN ÁP (VOLTAGE REGULATORS)



1 SỐ DẠNG ỔN ÁP SONG SONG RỜI ĐƠN GIẢN :

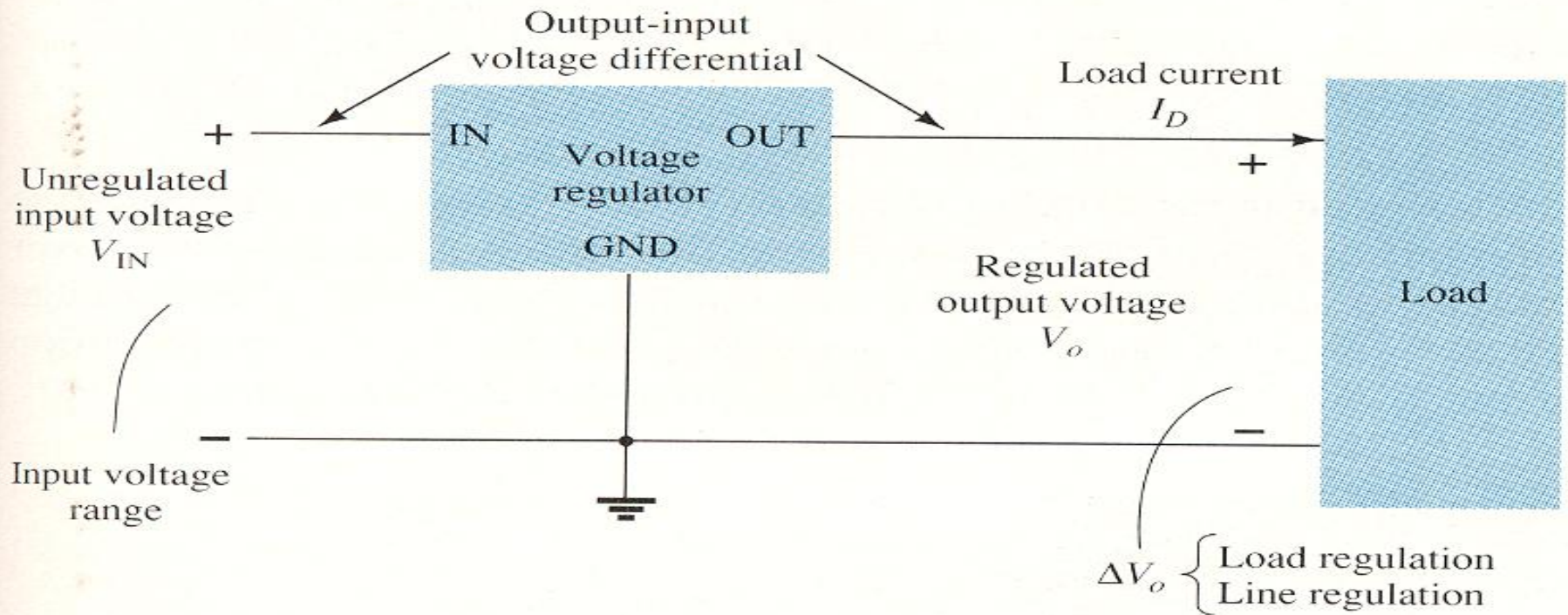


$$V_T = (V_Z + V_{BE1} + V_{BE2})$$

ỔN ÁP (VOLTAGE REGULATORS)



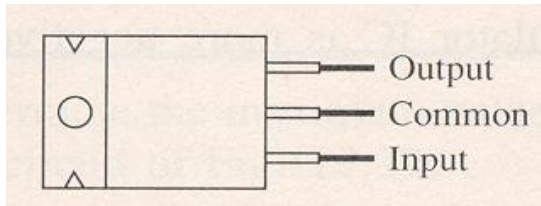
ỔN ÁP DƯỚI IC



ỔN ÁP (VOLTAGE REGULATORS)

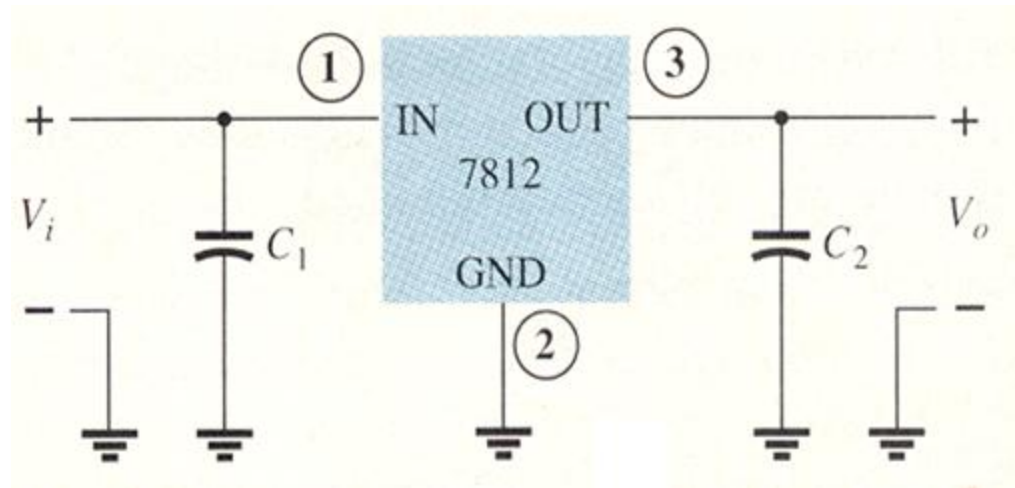


ỔN ÁP DƯỚI IC 78xx



$$I_{out_{max}} = 1A$$

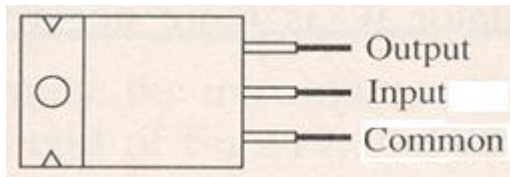
$$V_{in} > V_{out} + 2V : 3V$$



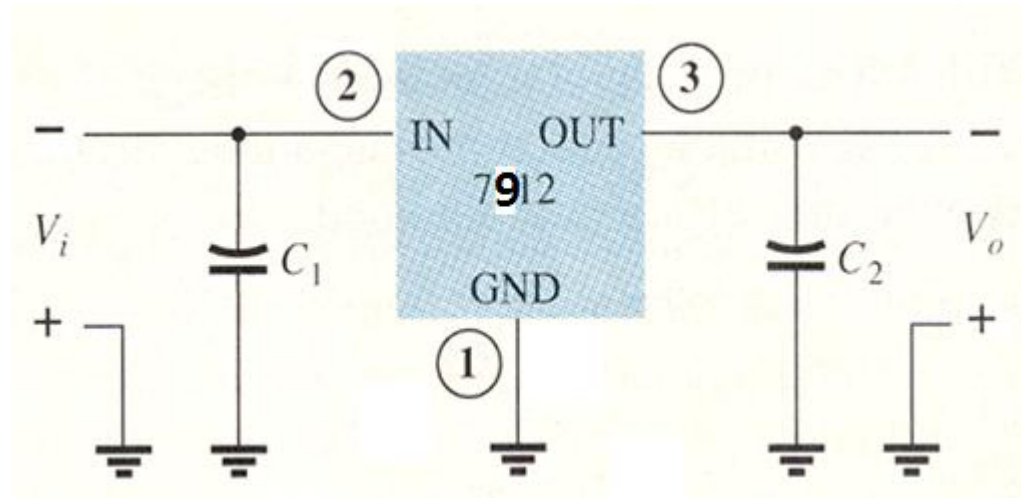
ỔN ÁP (VOLTAGE REGULATORS)



ỔN ÁP ÂM IC 79xx



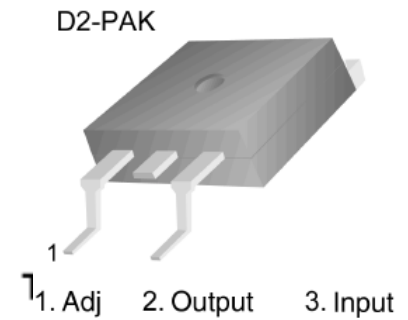
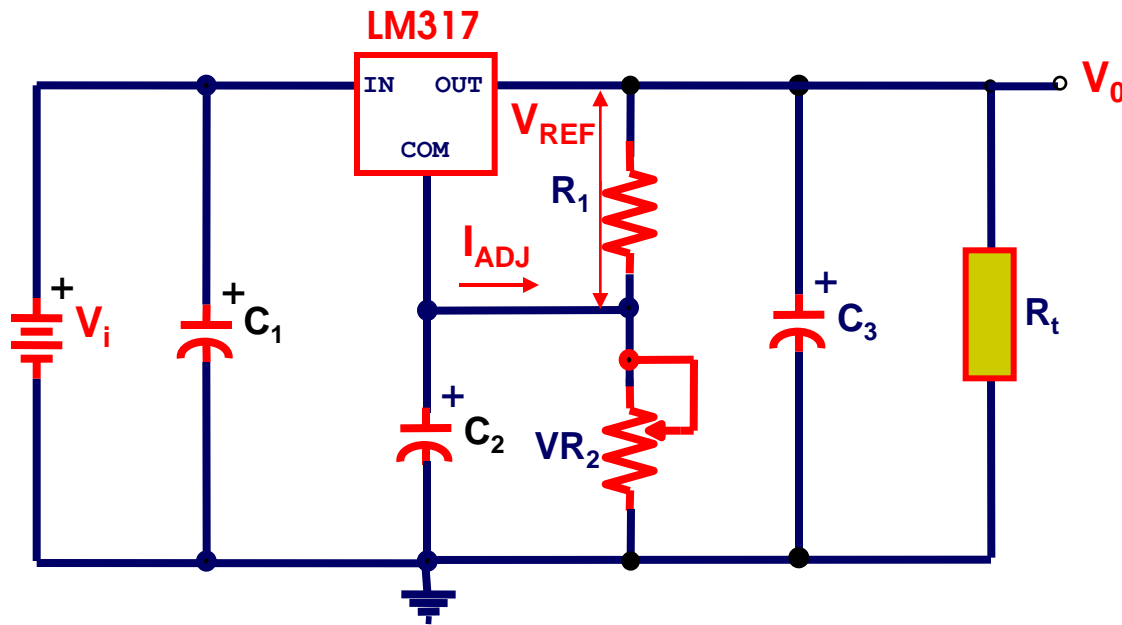
$$I_{out_{max}} = 1A$$



ỔN ÁP (VOLTAGE REGULATORS)



ỔN ÁP DƯỚI IC ĐIỀU CHỈNH ĐƯỢC :



LM 317

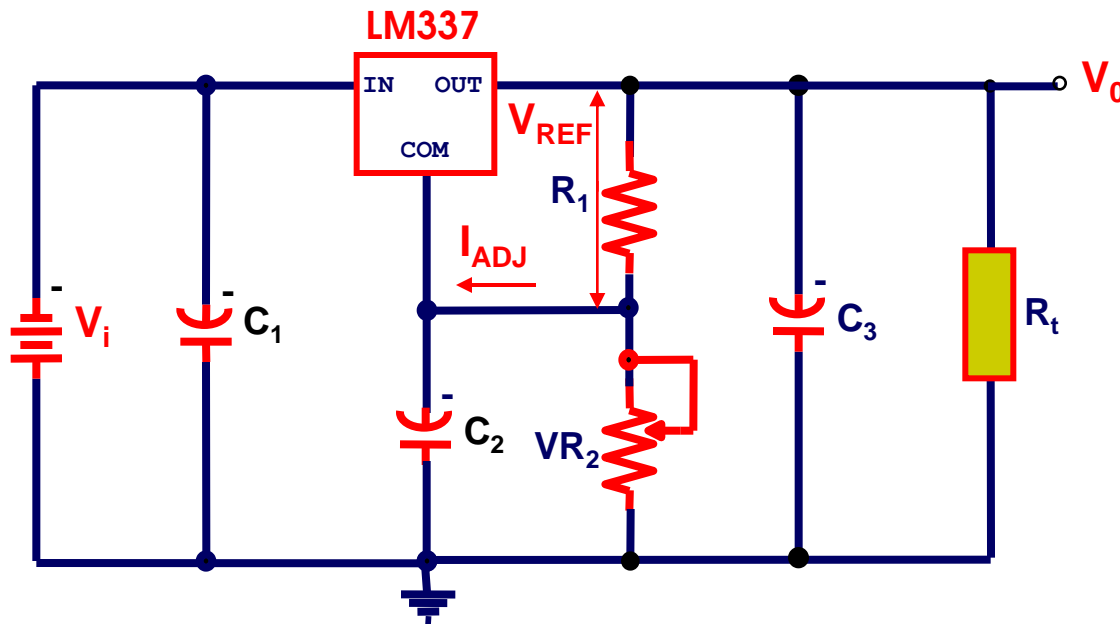
1. Adj 2. Output 3. Input

$$V_{OUT} = V_{REF} \left(1 + \frac{R_2}{R_1} \right) + I_{ADJ} R_2$$

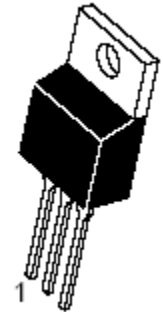
ỔN ÁP (VOLTAGE REGULATORS)



ỔN ÁP ÂM IC ĐIỀU CHỈNH ĐƯỢC :



LM 337



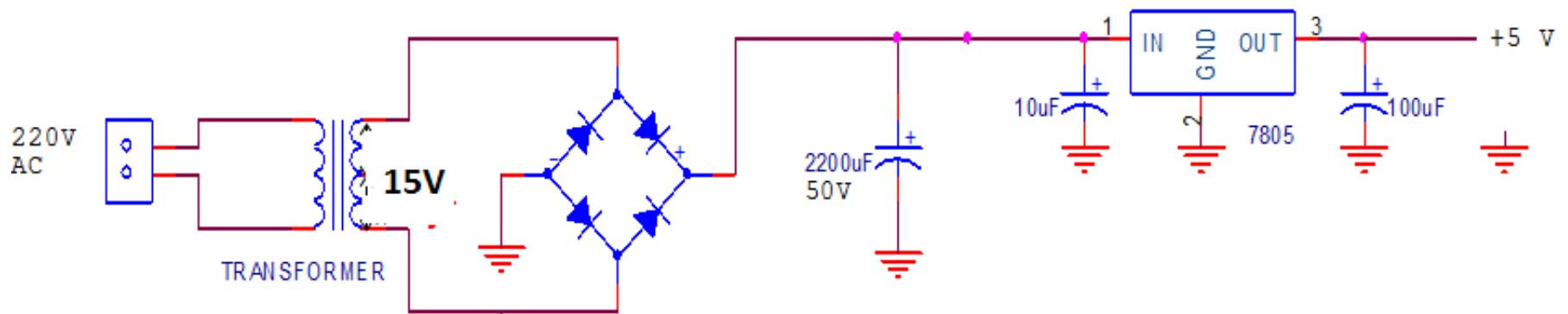
- Pin 1. Adjust
Pin 2. V_{in}
Pin 3. V_{out}

$$V_{OUT} = V_{REF} \left(1 + \frac{R_2}{R_1} \right) + I_{ADJ} R_2$$

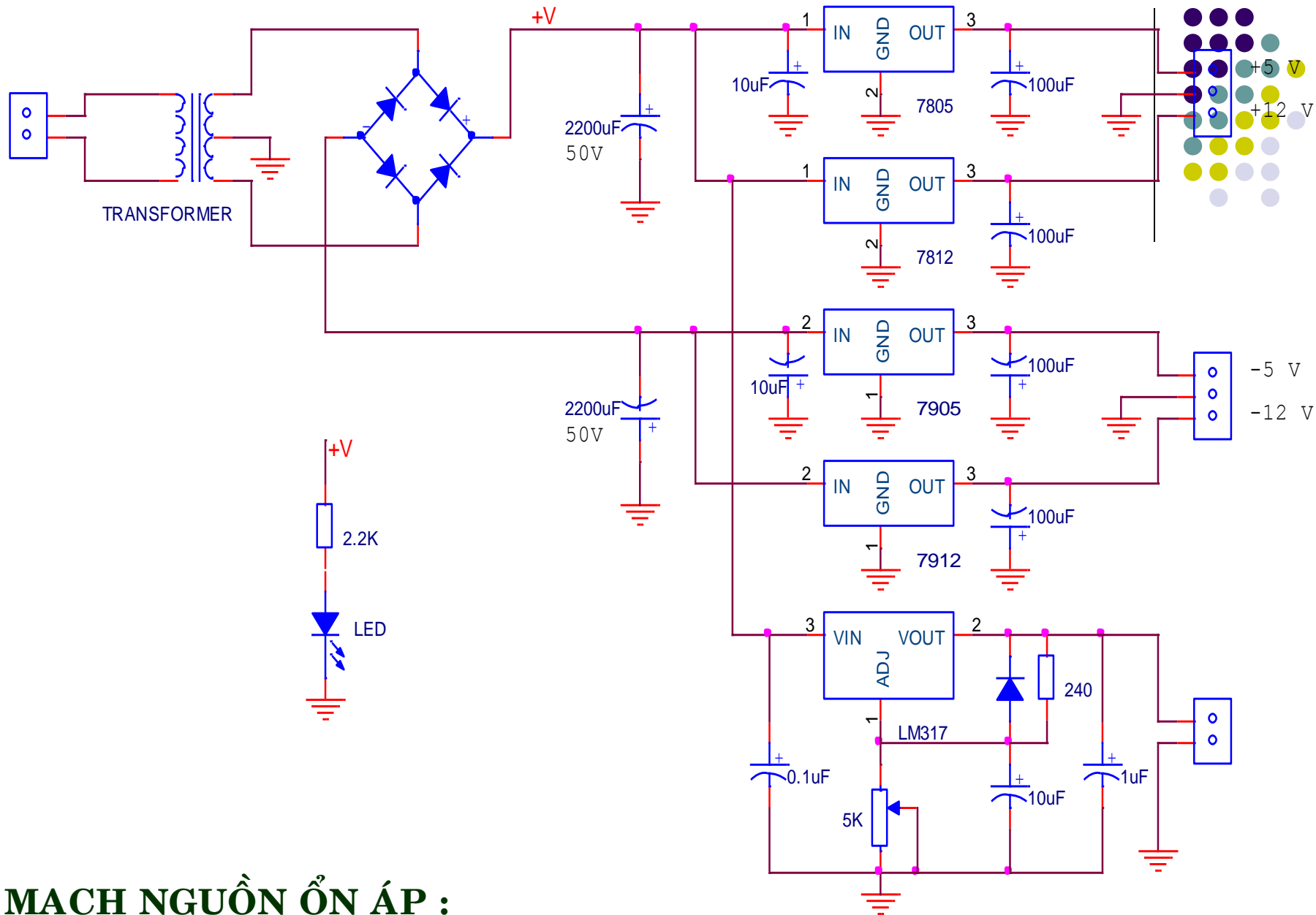
ỔN ÁP (VOLTAGE REGULATORS)



MẠCH NGUỒN ỔN ÁP 5V:



220V
AC



MẠCH NGUỒN ỔN ÁP :