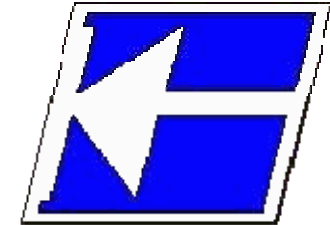


**Centro Federal de Educação Tecnológica de Santa Catarina**

**Departamento de Eletrônica**

**Desenho Técnico**



# **Placas de Circuito Impresso**

## **Fonte de Alimentação Linear**

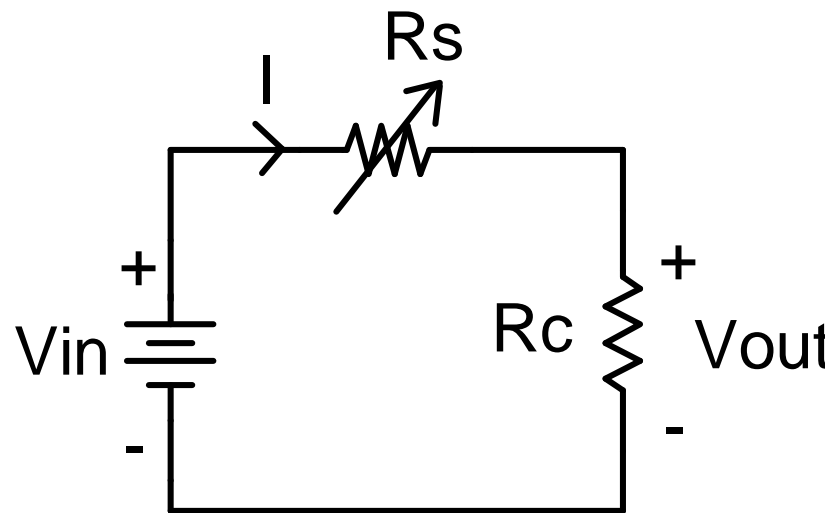
**Clóvis Antônio Petry, professor.**

**Florianópolis, outubro de 2007.**

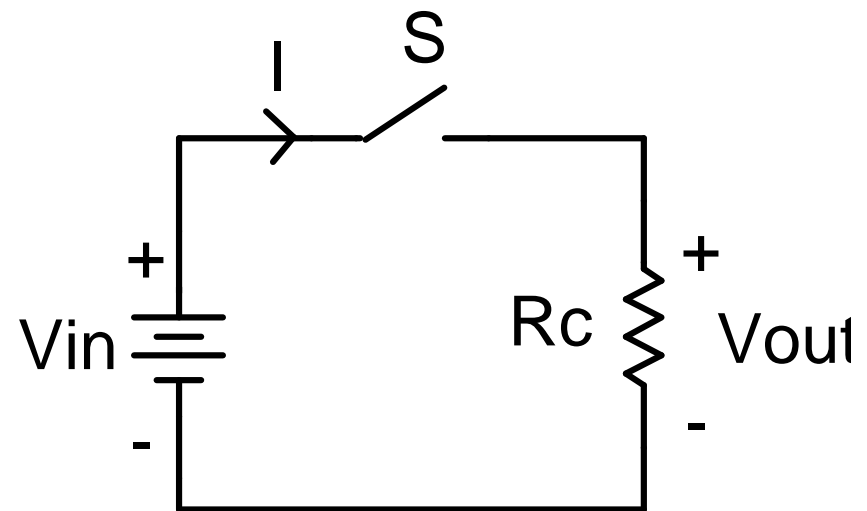
# Introdução à eletrônica

## Fontes de tensão lineares e chaveadas:

- As fontes lineares convertem a tensão alternada da rede em tensões contínuas, normalmente de baixa amplitude, sem o uso de componentes chaveados (comutados);
- Fontes chaveadas exercem a mesma função, mas utilizando componentes comutados (chaveados).



Regulador linear



Regulador chaveado

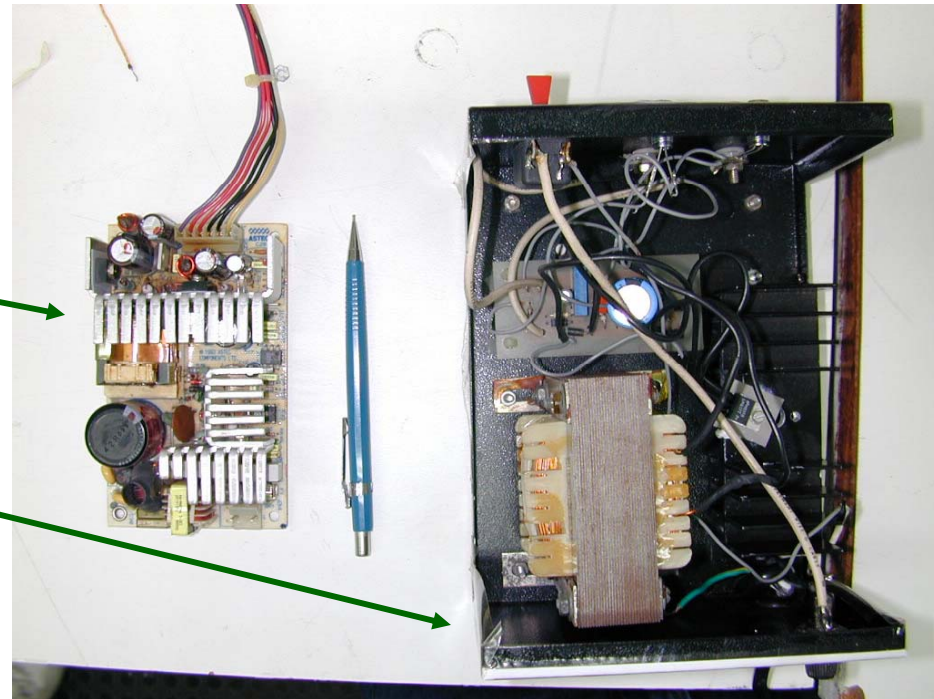
# Introdução à eletrônica

## Fontes de tensão lineares x chaveadas:

- Fontes lineares: são mais robustas, simples e fáceis de projetar, podem ser mais baratas ou não, são muito volumosas e pesadas.
- Fontes chaveadas: não são tão robustas, mais difíceis de projetar e **consertar**, podem ser mais baratas ou não, são pequenas e leves.

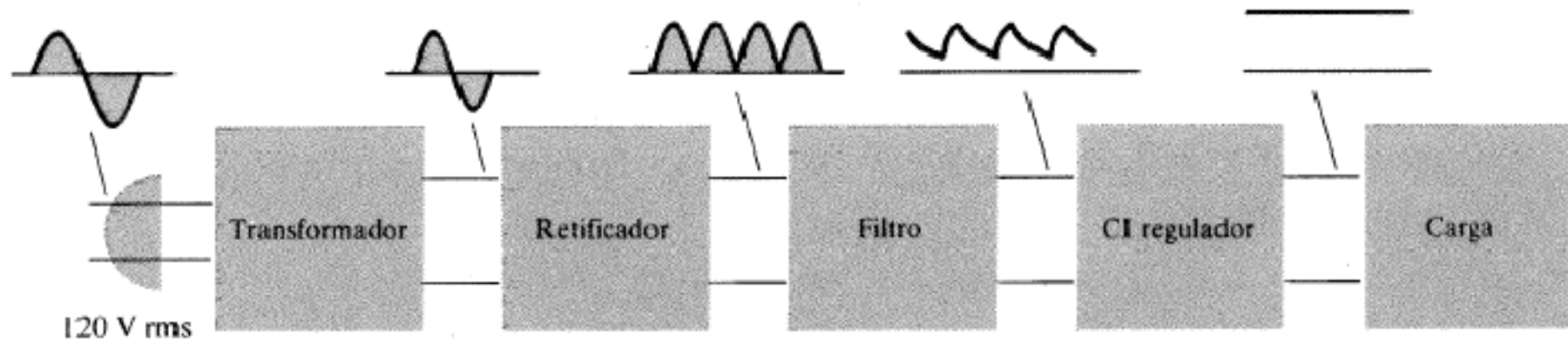
Fonte chaveada de 65 W

Fonte linear de 29 W




# Fontes lineares

Diagrama de blocos:



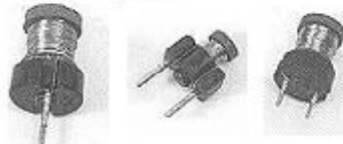
# Fontes lineares

## Transformador:

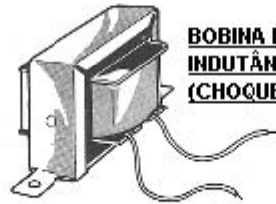
 SÍMBOLO



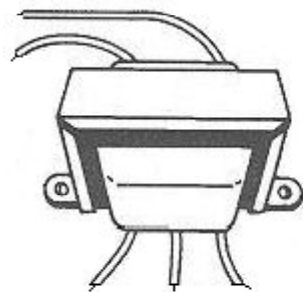
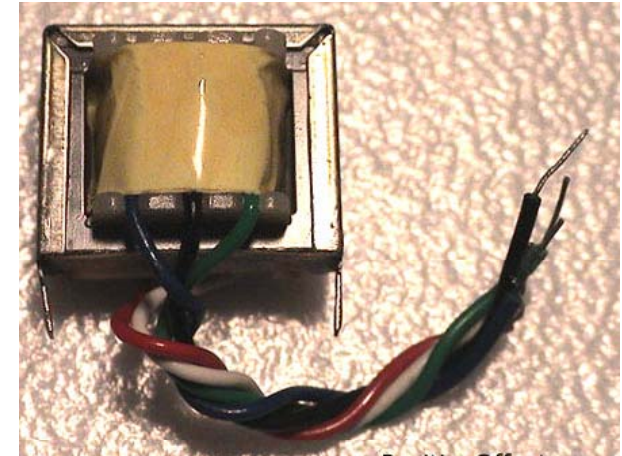
**BOBINAS ENCAPSULADAS**



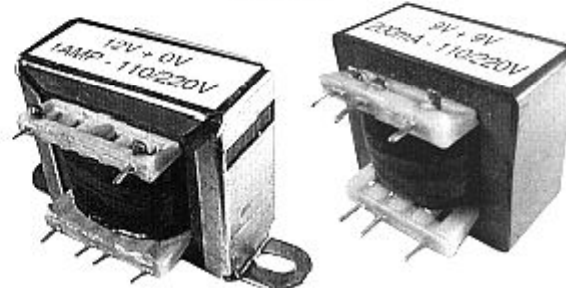
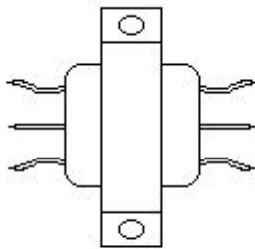
**BOBINAS COM O FIO EXTERNO**



**BOBINA DE GRANDE INDUTÂNCIA (CHOQUE DE FILTRO)**



**TRAFOS COM FIOS**

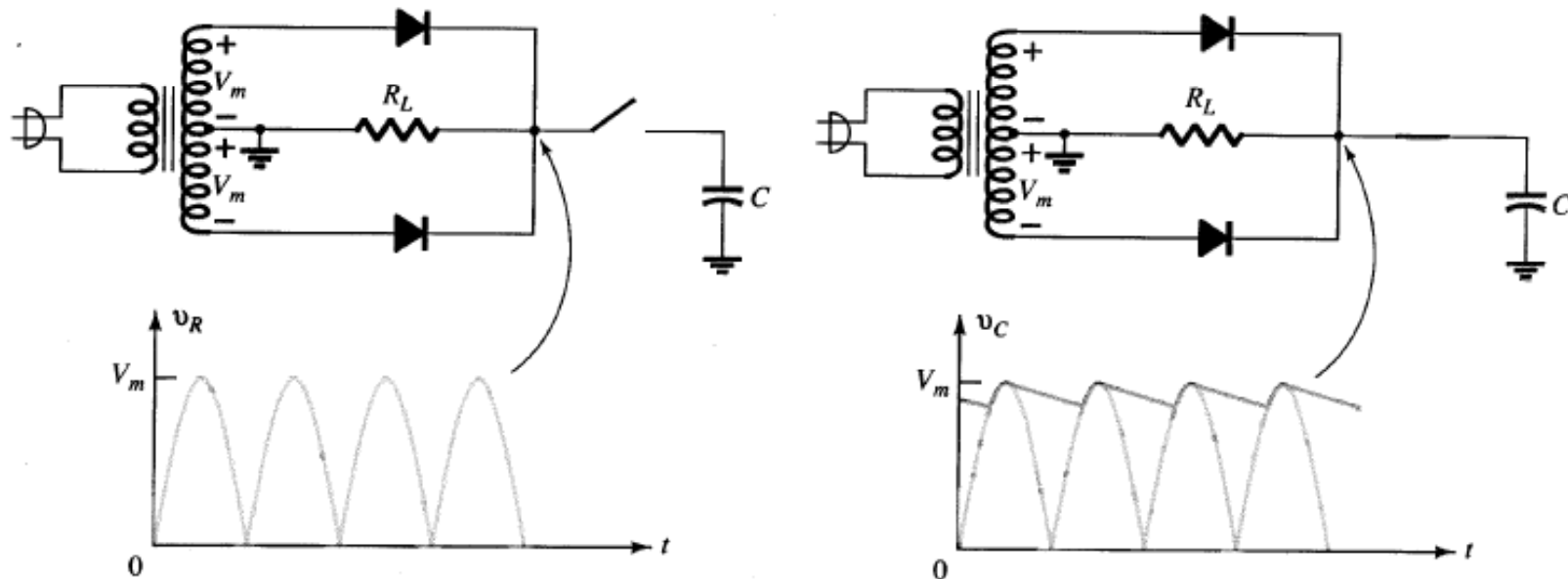
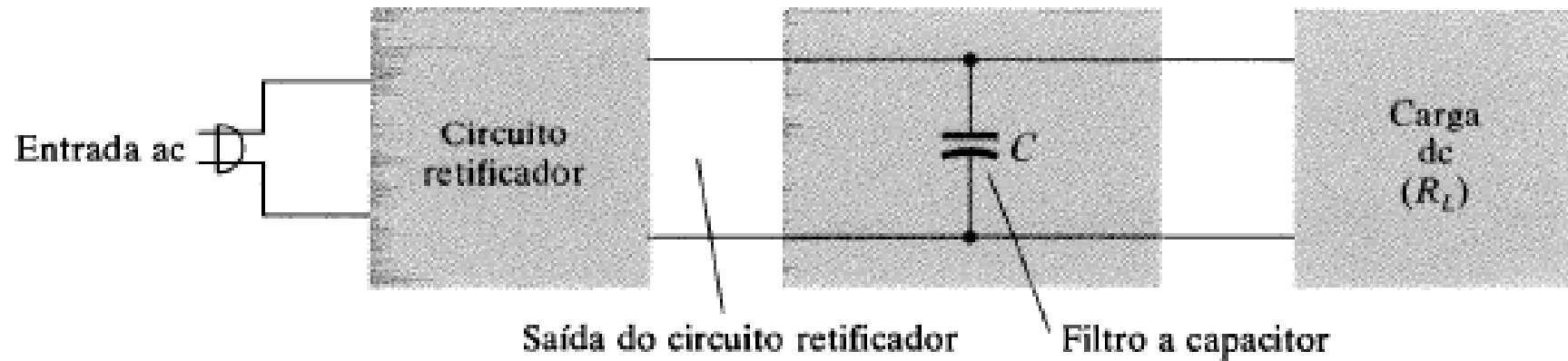


**TRAFOS DE ENCAIXE NA PLACA**



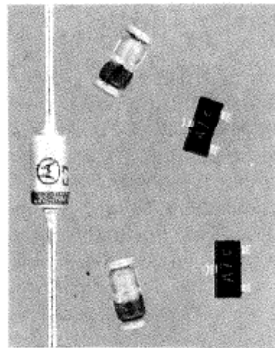
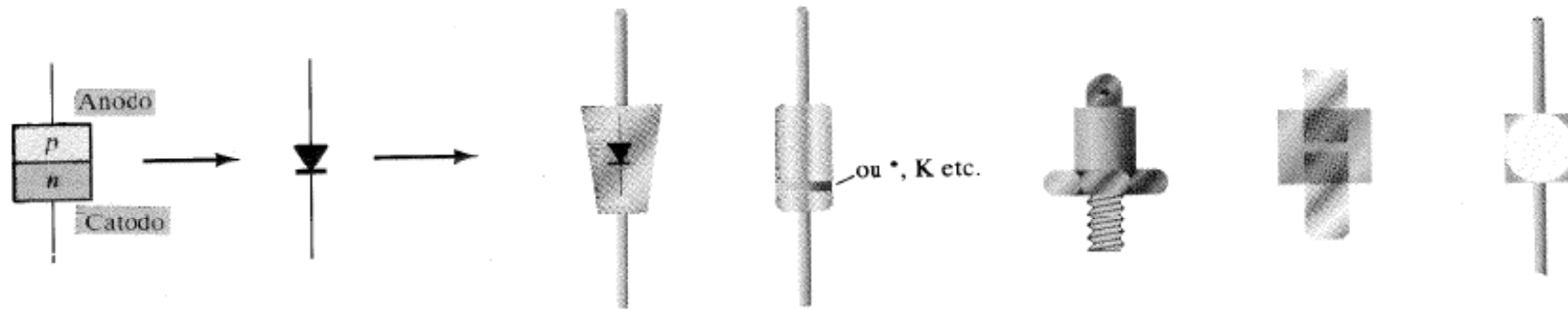
# Fontes lineares

## Filtro capacitivo:

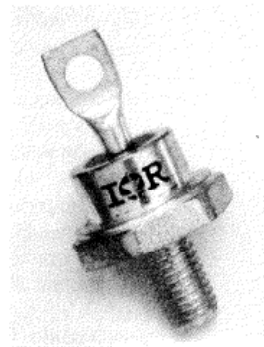


# Fontes lineares

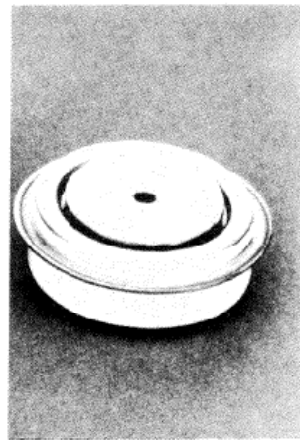
## Diodos:



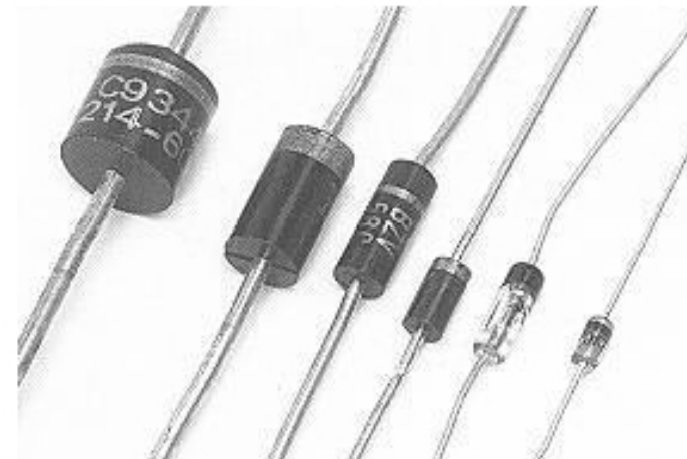
(a)



(b)

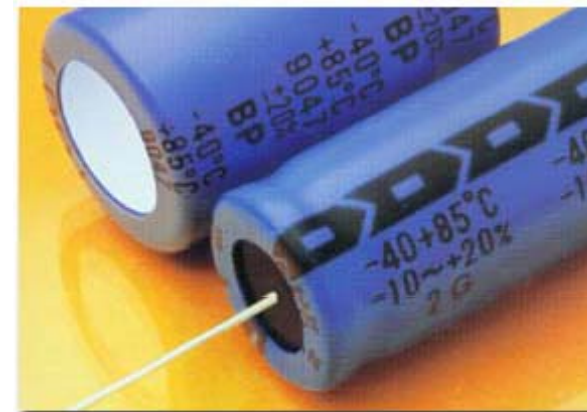
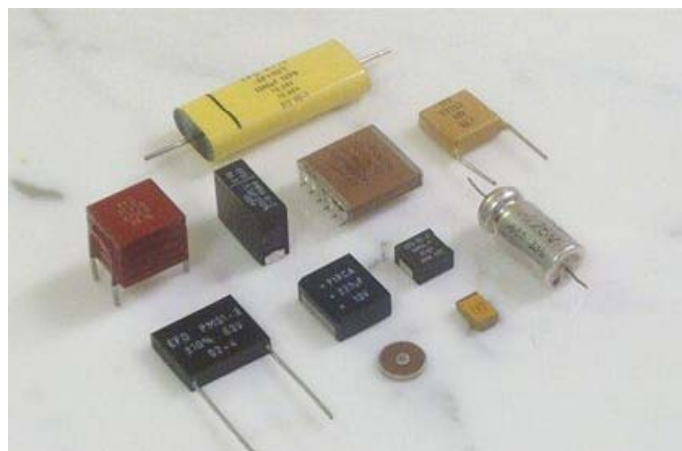
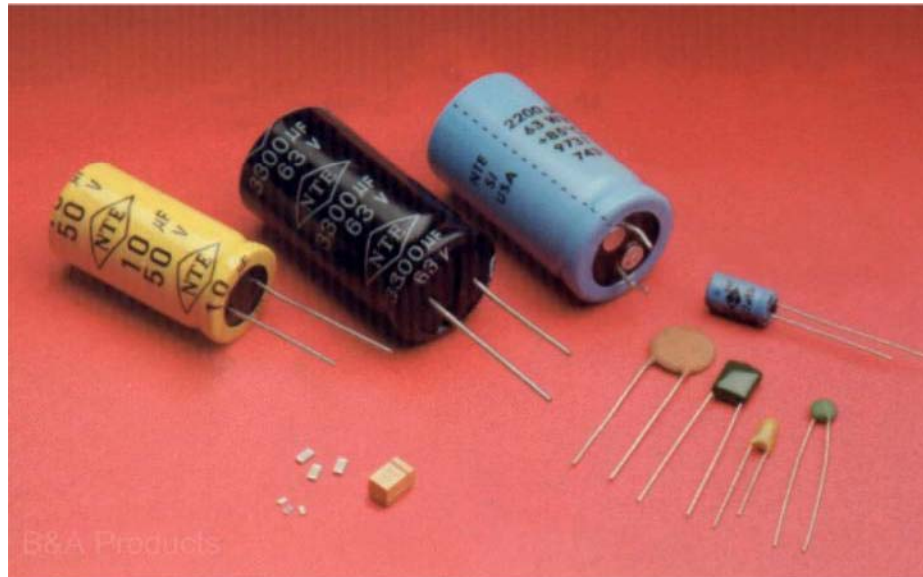


(c)



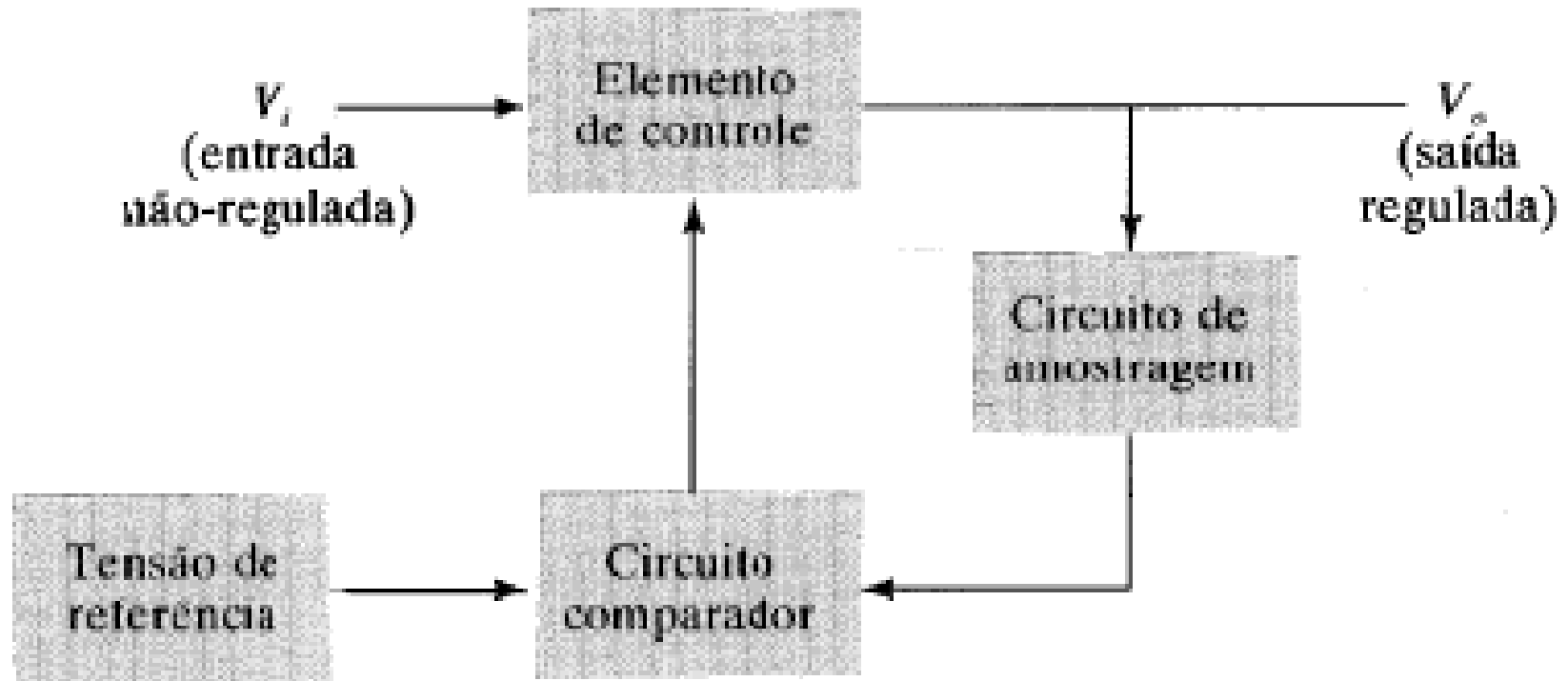
# Fontes lineares

## Capacitores:



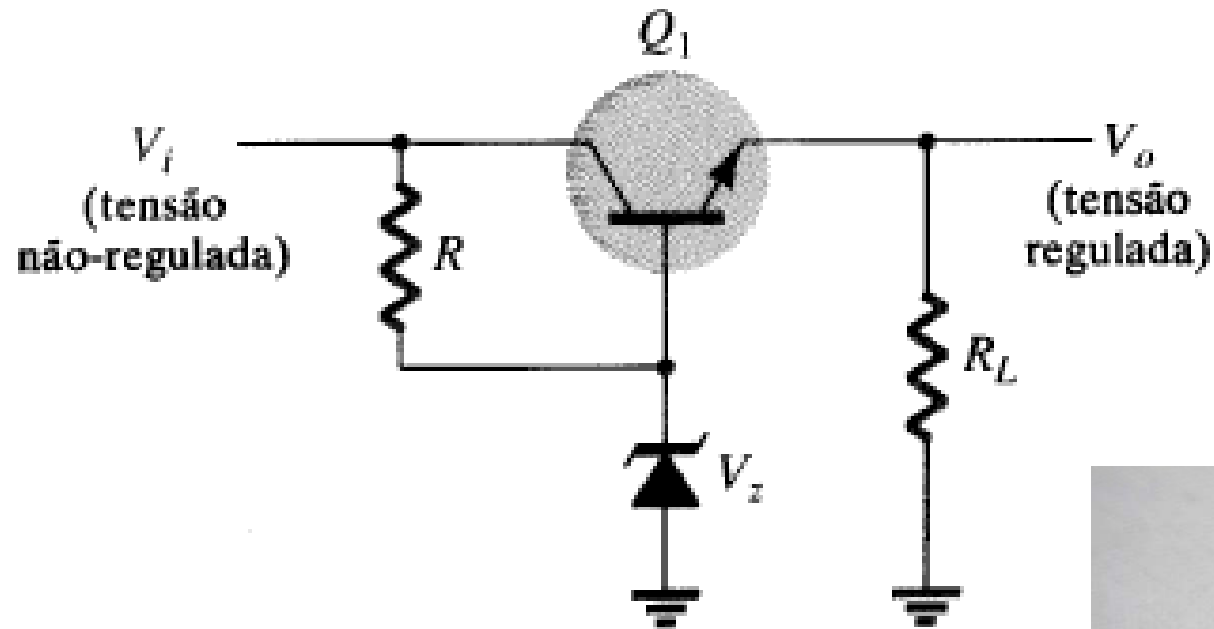
# Fontes lineares

Regulação de tensão em série:



# Fontes lineares

Regulação da tensão usando transistor:



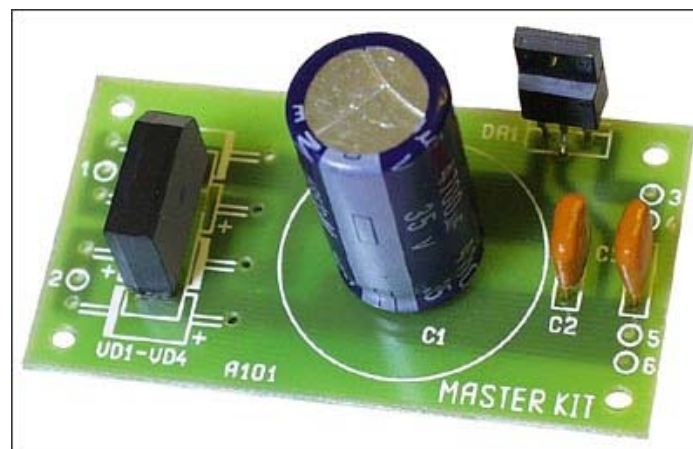
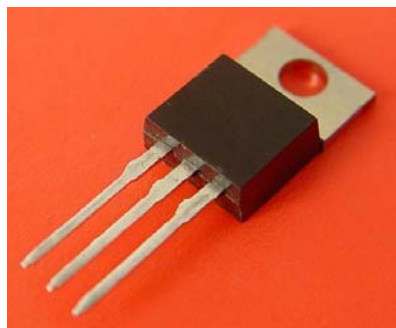
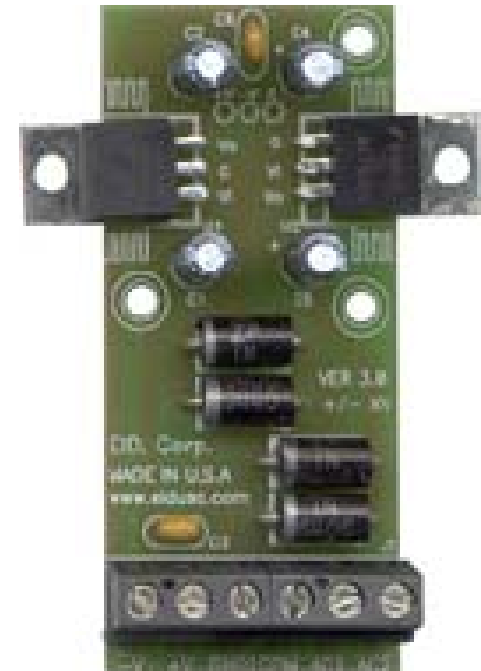
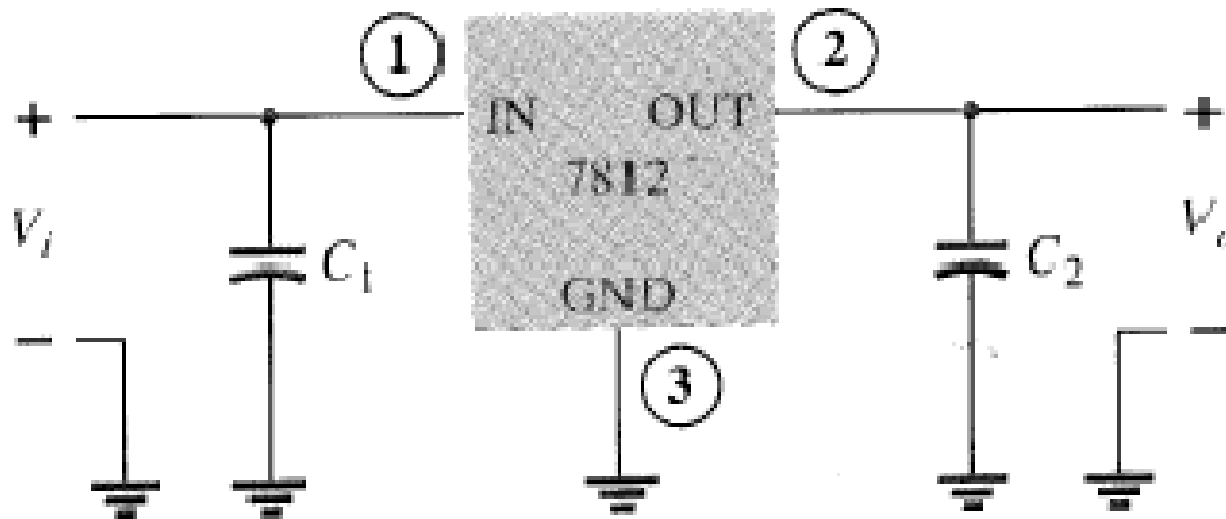
# Fontes lineares

Encapsulamento de semicondutores:

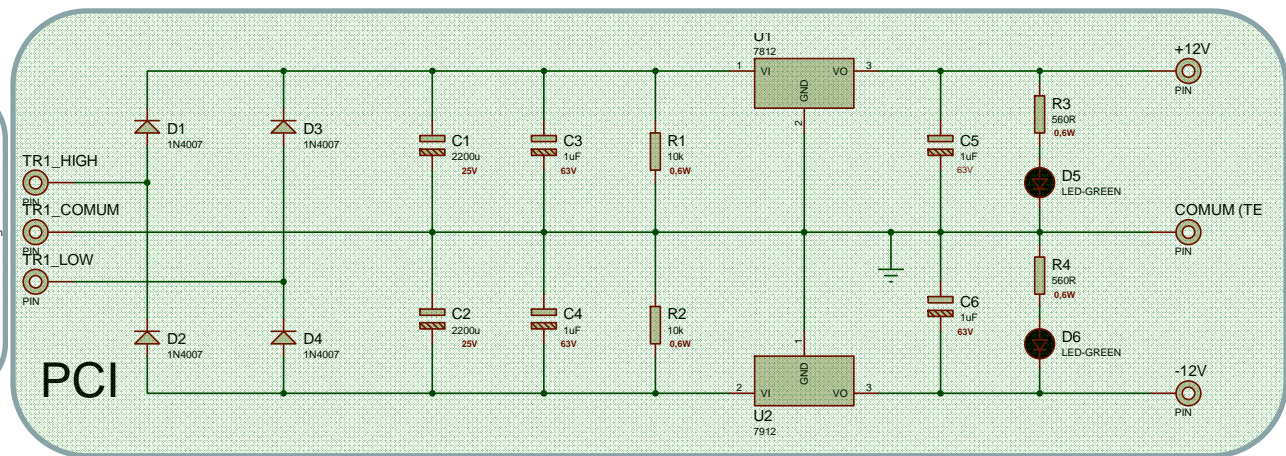
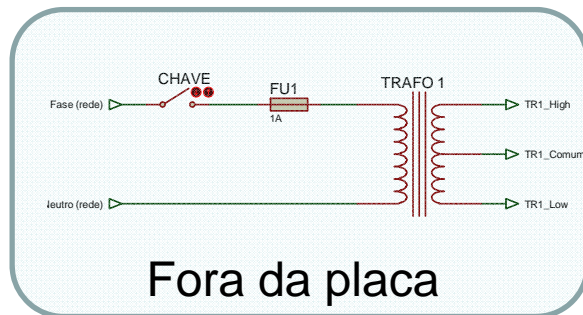


# Fontes lineares

Regulação de tensão usando CI:



# Esquemático da fonte de alimentação



## Próxima aula

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### **Assunto:**

1. Desenho da placa de circuito impresso da fonte de alimentação.