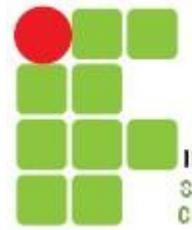
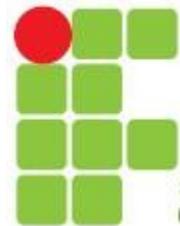
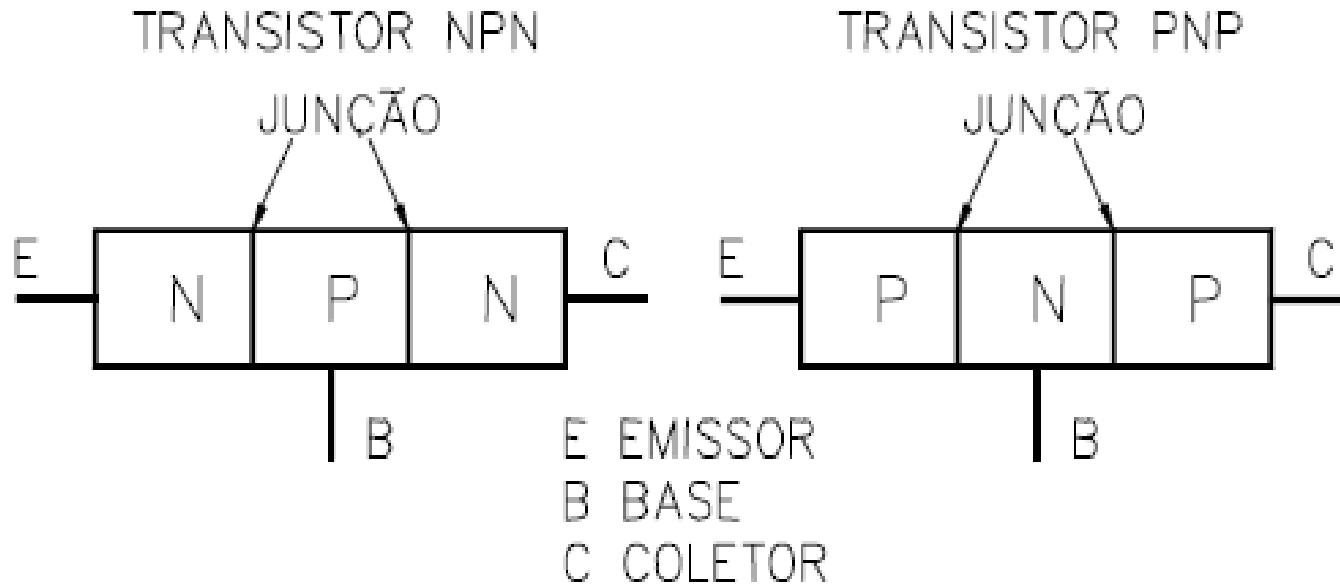


Transistores



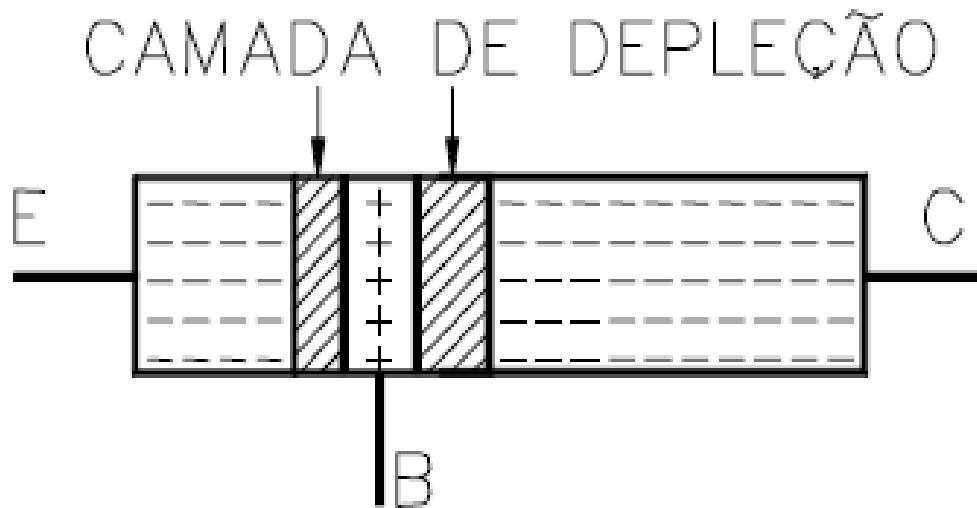
INSTITUTO FEDERAL
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Campus Araranguá

Transistores Bipolares



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Campus Araranguá

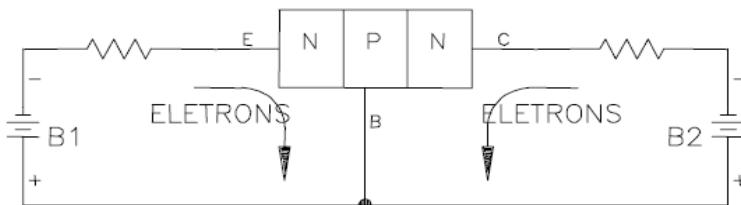
Transistores Bipolares



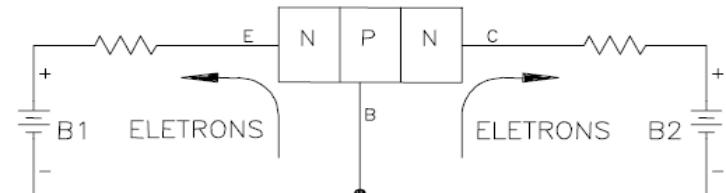
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Polarização

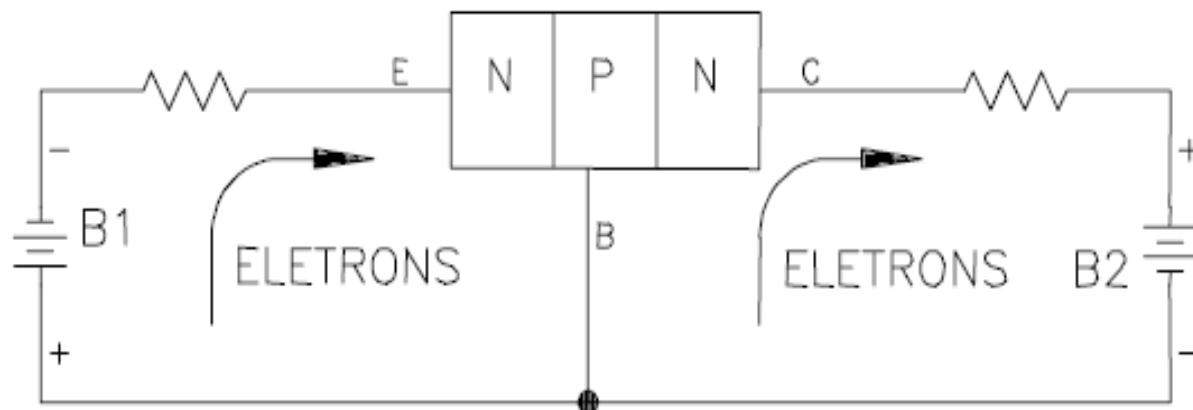
Direta



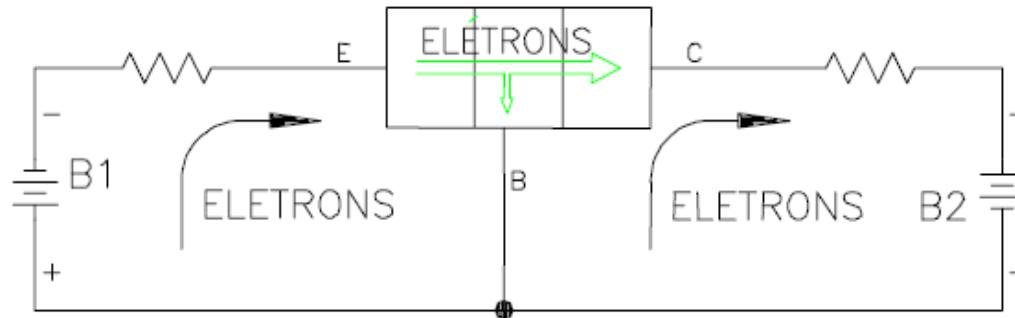
Reversa



Direta-Reversa



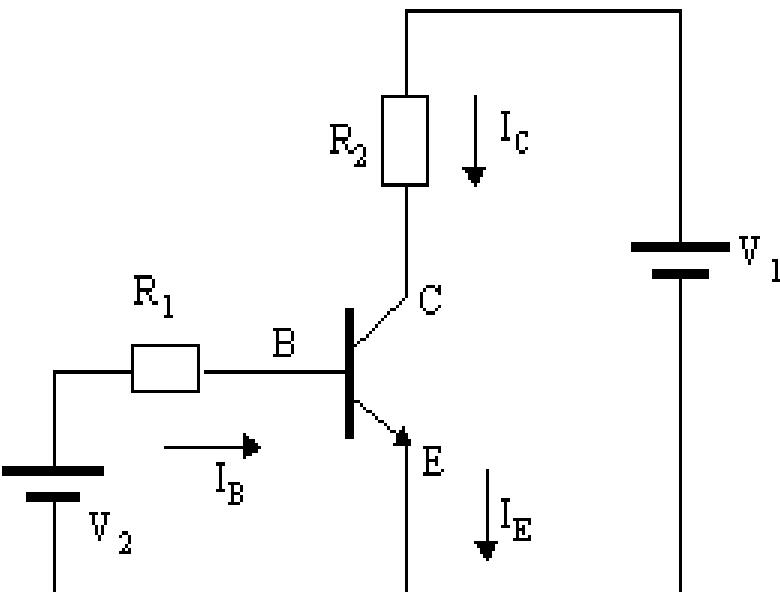
Polarização Direta-Reversa



Com a polarização direta do diodo emissor, é injetado uma alta corrente em direção a base. Na base uma pequena parcela da corrente, por recombinação, retorna ao pólo negativo da bateria B1 e o restante da corrente flui para o coletor e daí para o pólo positivo da bateria B2, considerando a tensão coletor - base (V_{CB}) bem maior que a tensão emissor – base (V_{BE}).



Polarização Direta-Reversa

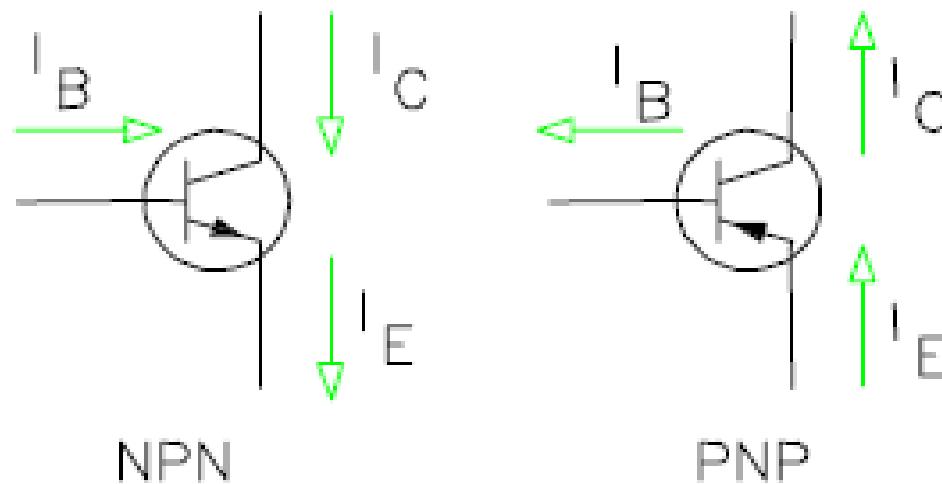


- Um aumento na corrente de base I_B provoca um aumento na corrente de coletor I_C
- A corrente de base sendo bem menor que a corrente de coletor, uma pequena variação de I_B provoca uma grande variação de I_C . Isto significa que a variação de corrente de coletor é um reflexo amplificado da variação da corrente na base.
- Este efeito amplificação, denominado ganho de corrente pode ser expresso matematicamente pela relação entre a variação de corrente do coletor e a variação da corrente de base , isto é:

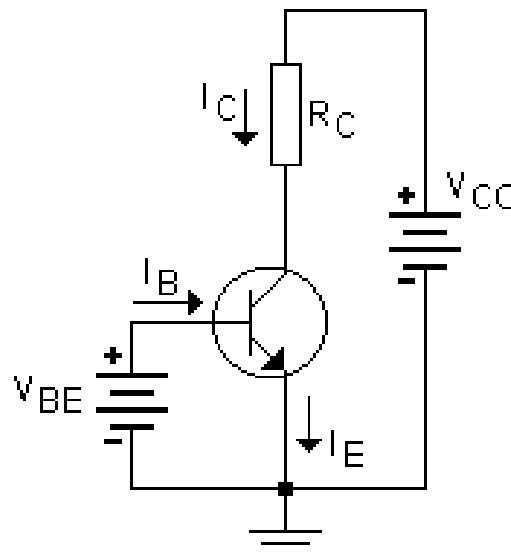
$$\text{Ganho}(\beta) = \frac{\Delta I_C}{\Delta I_B}$$



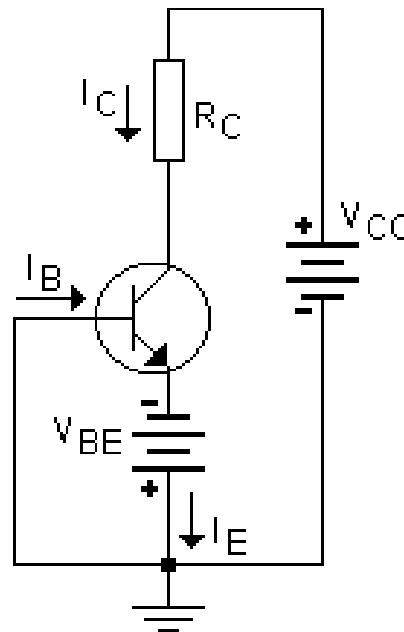
Simbologia



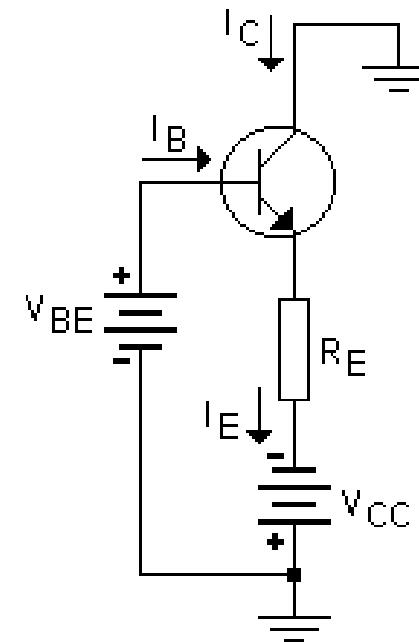
Configurações



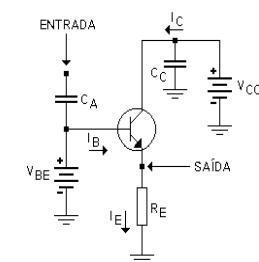
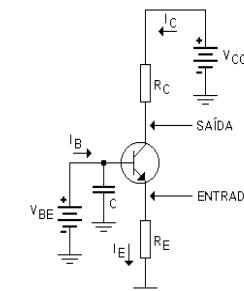
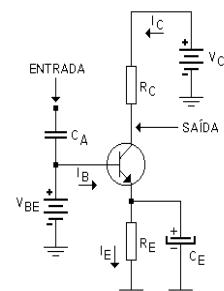
EMISSOR COMUM



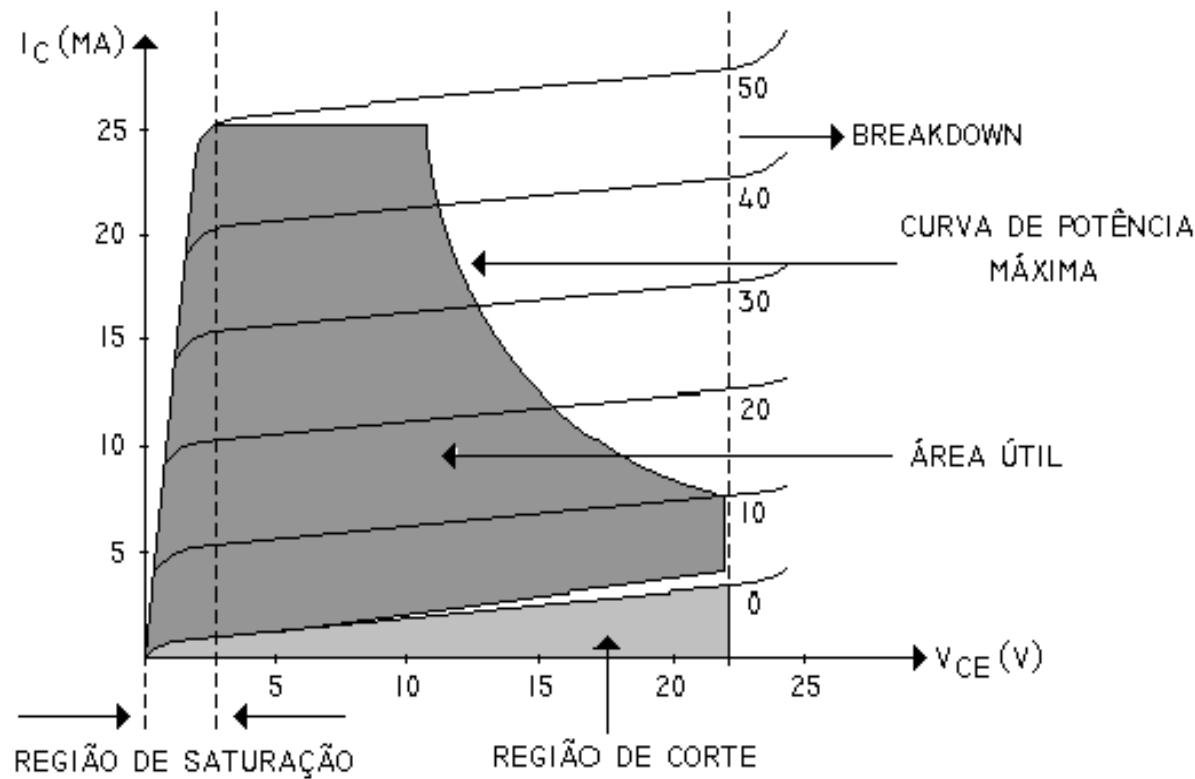
BASE COMUM



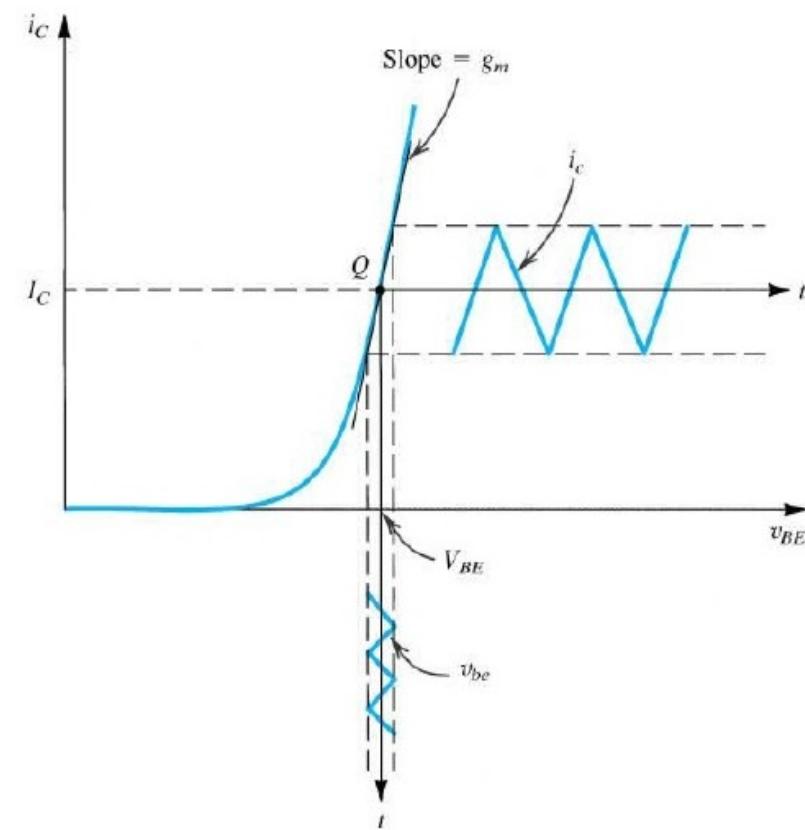
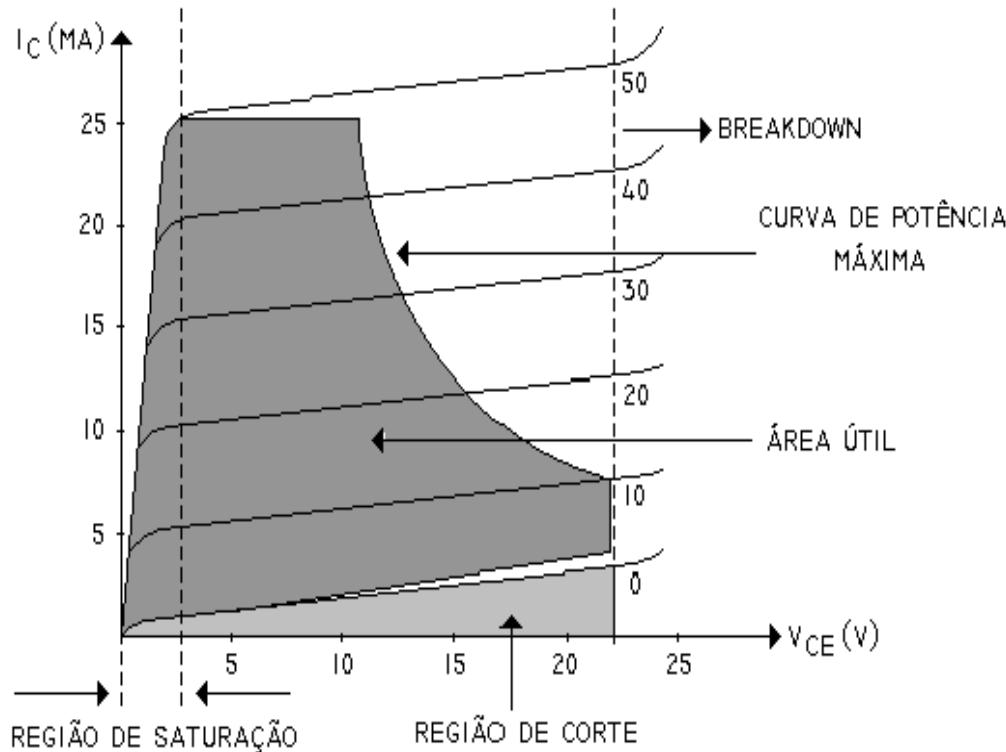
COLETOR COMUM



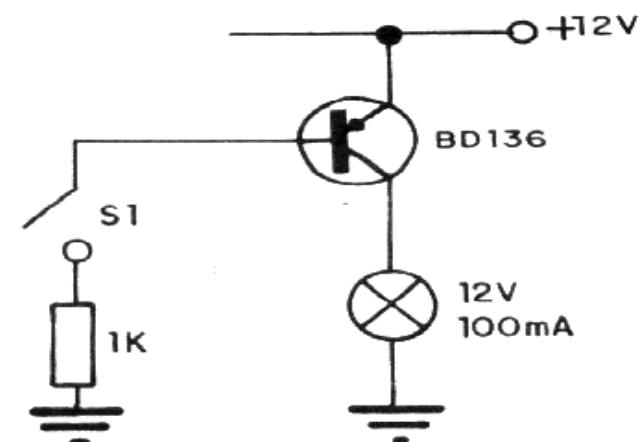
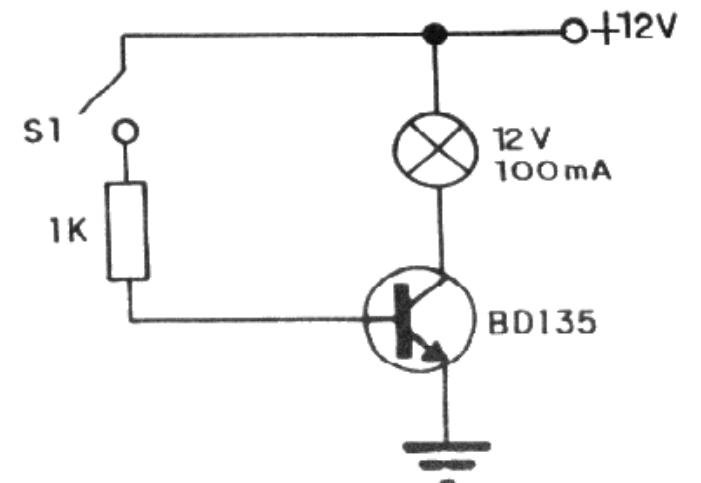
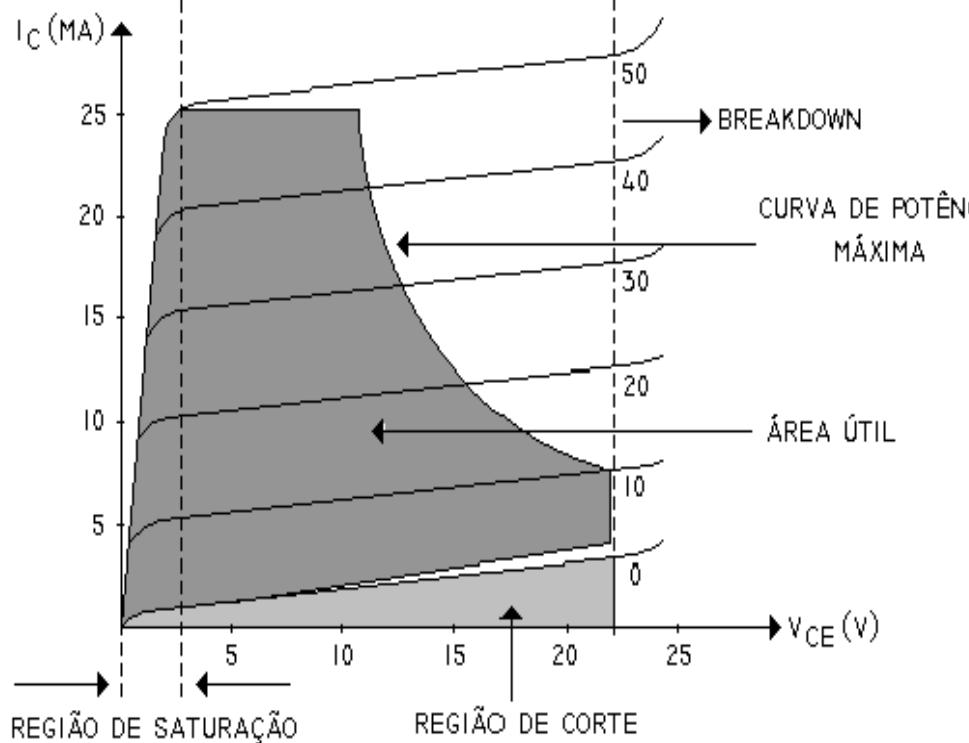
Regiões de Funcionamento (EC)



Transistores como Amplificador



Transistores como Chave



Encapsulamento



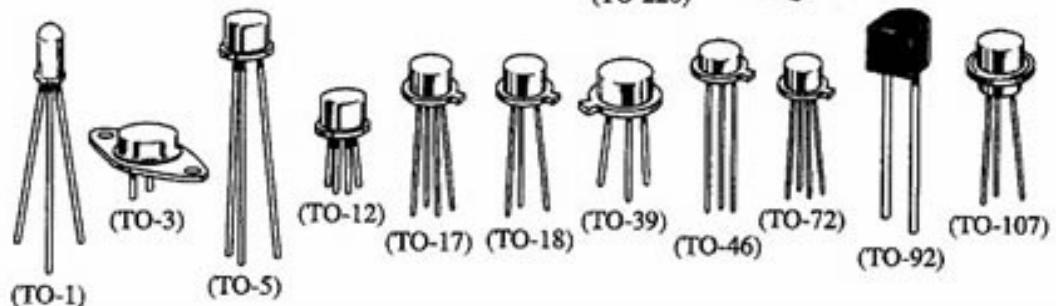
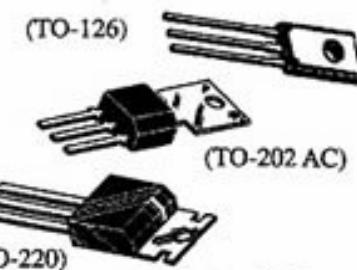
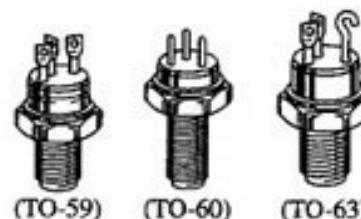
Transistor
baixa potência



Transistor média
potência



Transistor de
potência



Teste de Transistor

