DISPOSITIVOS ELECTRONICOS

Resumen

Mg. Efraín H. Guevara

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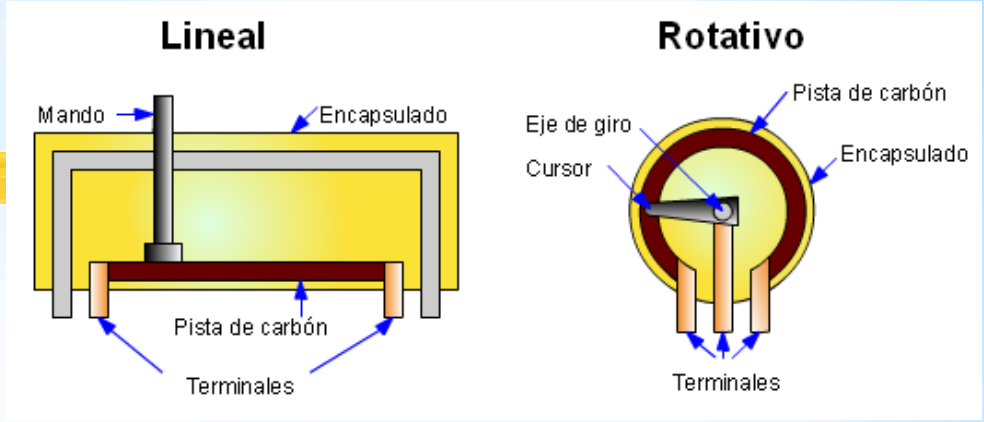
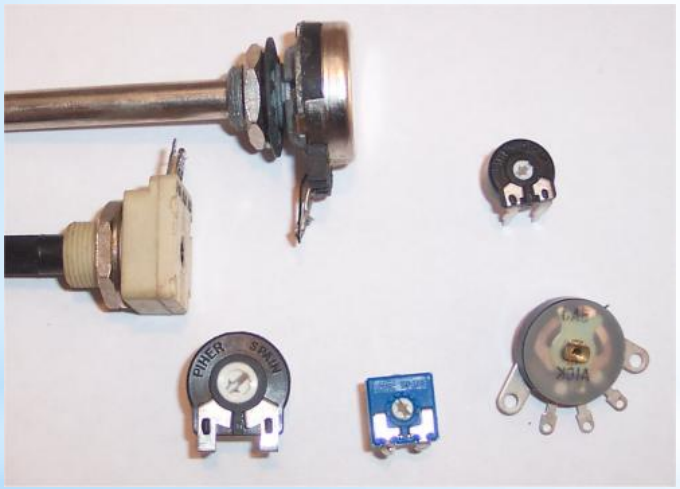
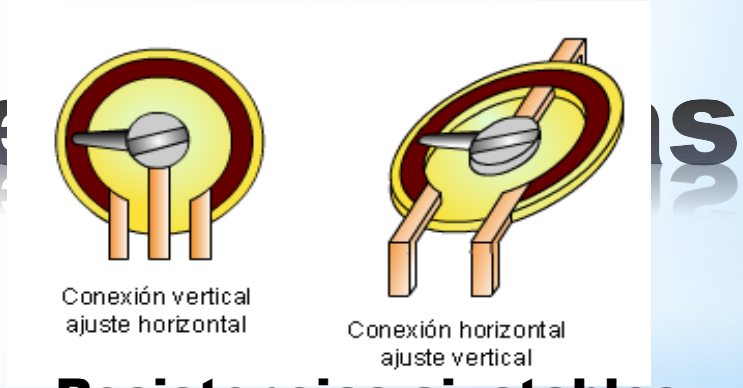
Fijas



Potenciómetros



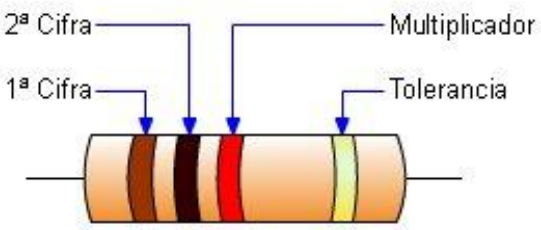
Variables



Resistencias ajustables

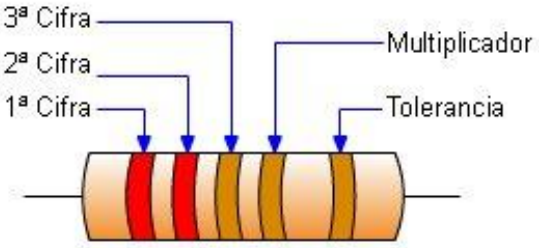
Código de colores

Resistencia normal



1000 ± 5% Ω

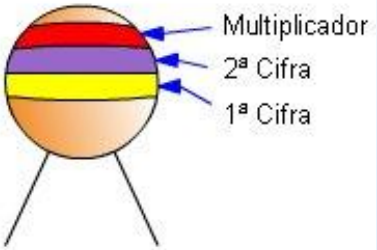
Resistencia de precisión



2210 ± 1% Ω

	1ª Cifra	2ª Cifra	3ª Cifra	Multiplicador	Tolerancia
NEGRO	0	0	0	x1	
MARRÓN	1	1	1	x10	± 1%
ROJO	2	2	2	x100	± 2%
NARANJA	3	3	3	x1.000	
AMARILLO	4	4	4	x10.000	
VERDE	5	5	5	x100.000	± 0,5%
AZUL	6	6	6	x1.000.000	
VIOLETA	7	7	7	Oro x0,1	Oro ± 5%
GRIS	8	8	8	Plata x0,01	Plata ± 10%
BLANCO	9	9	9		Sin color ± 20%

Resistencia NTC

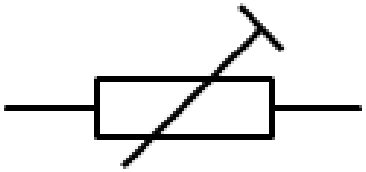


4700 Ω

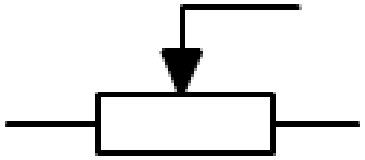
*Símbolos de las resistencias

Resistencia

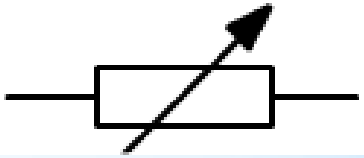
Resistencia variable con valor preajustado



Potenciómetro

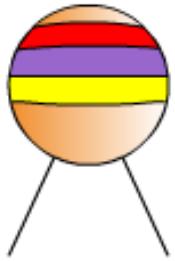


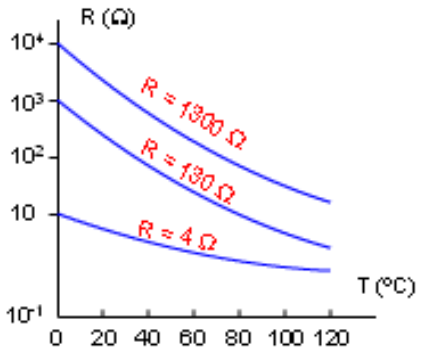
Resistencia variable



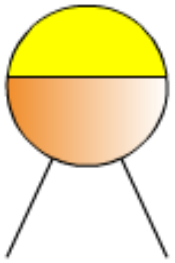
*Resistencias dependientes

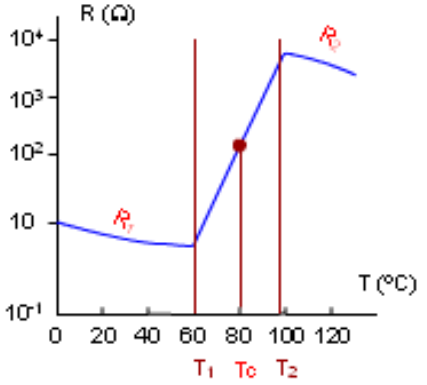
Resistencia NTC



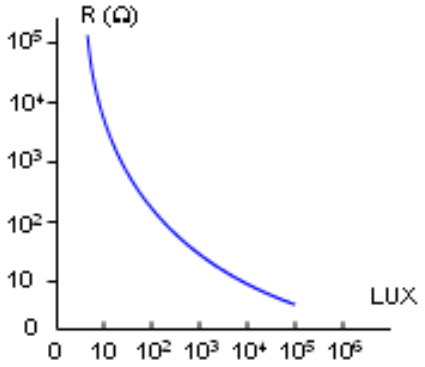


Resistencia PTC

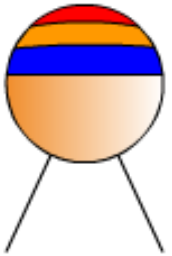


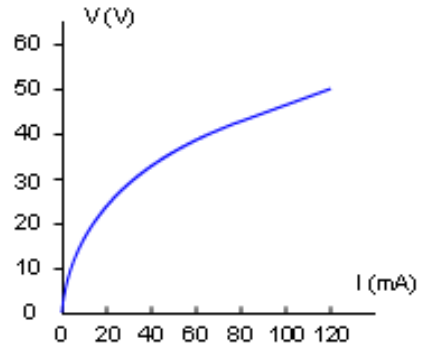


Resistencia LDR

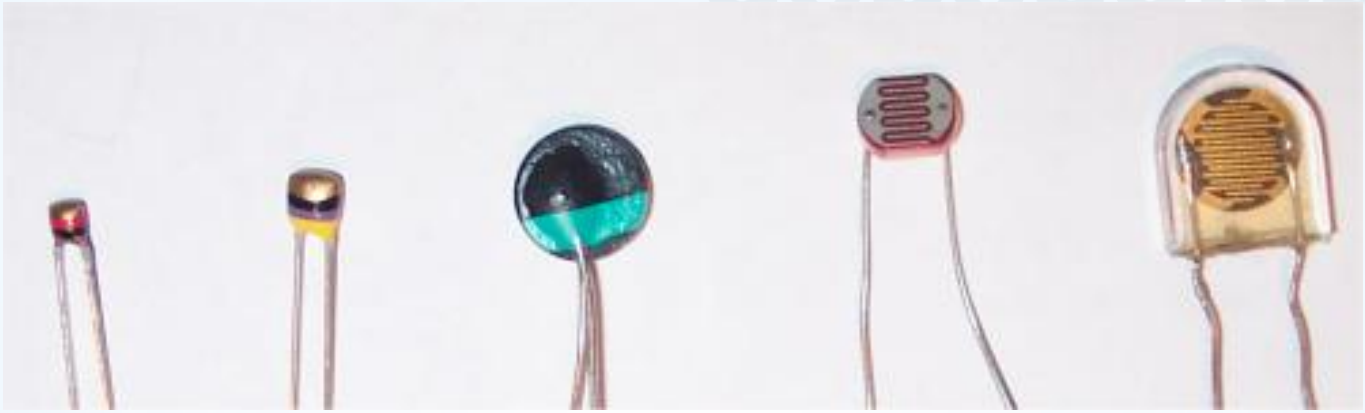


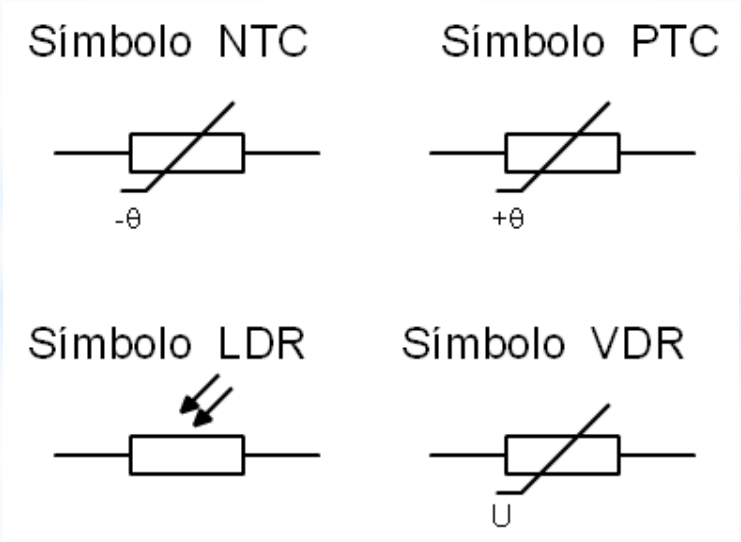
Resistencia VDR





*Resistencias dependientes





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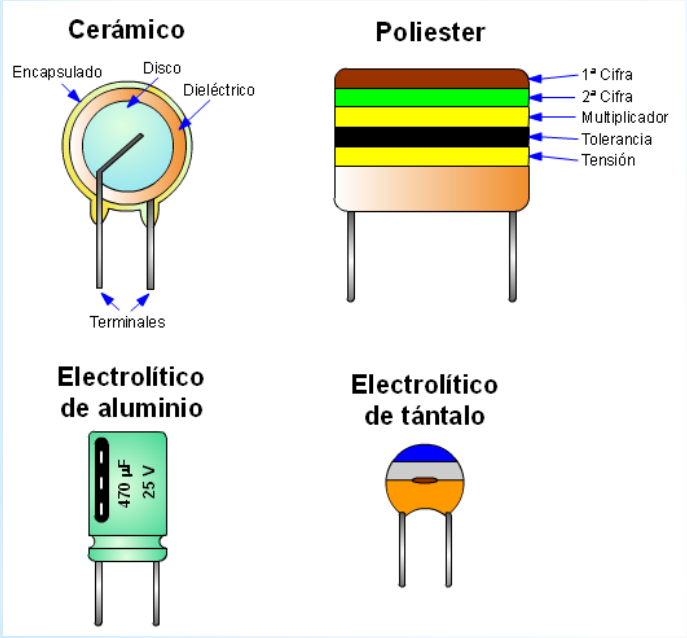
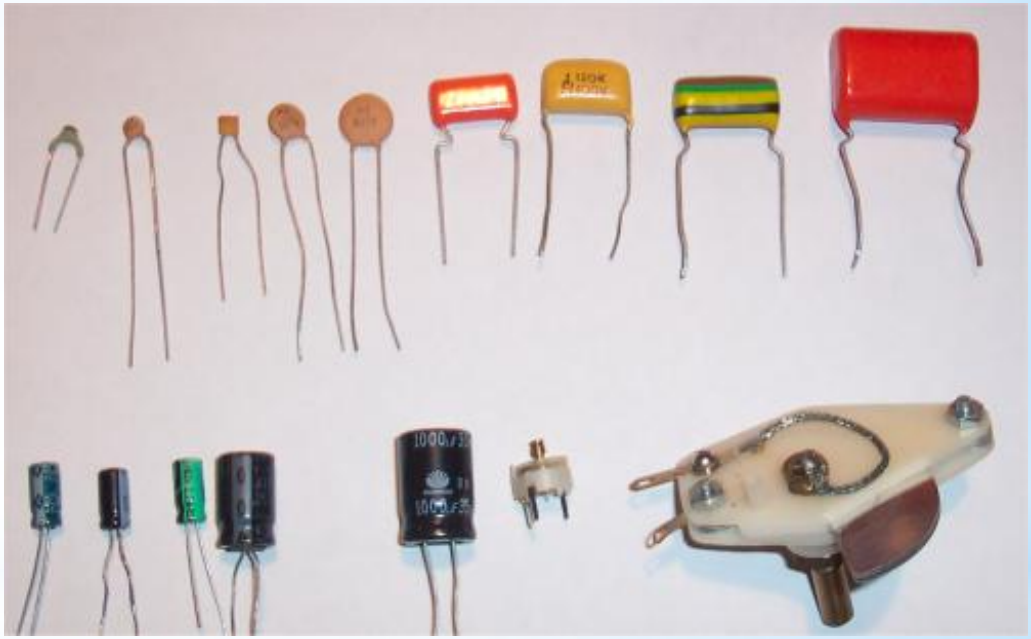
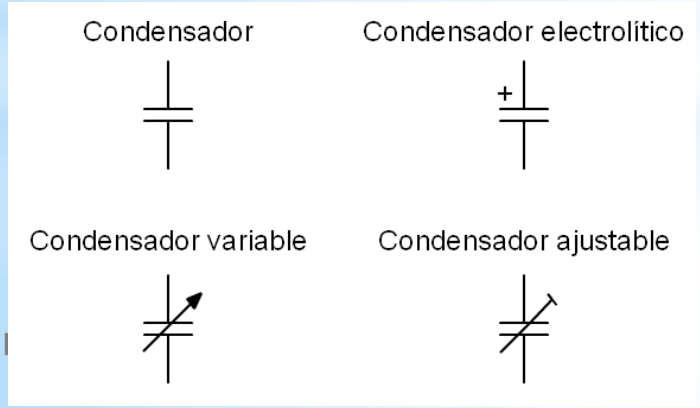
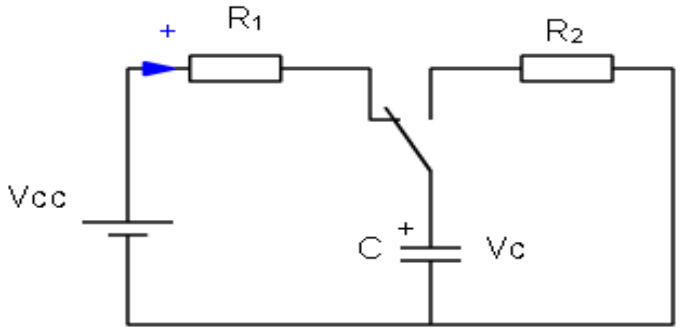
*Condensadores



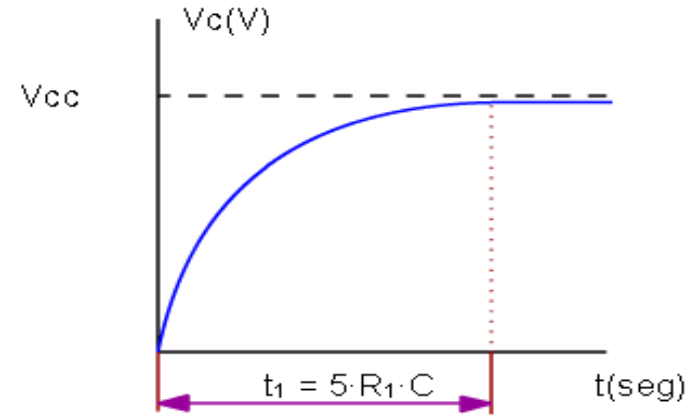


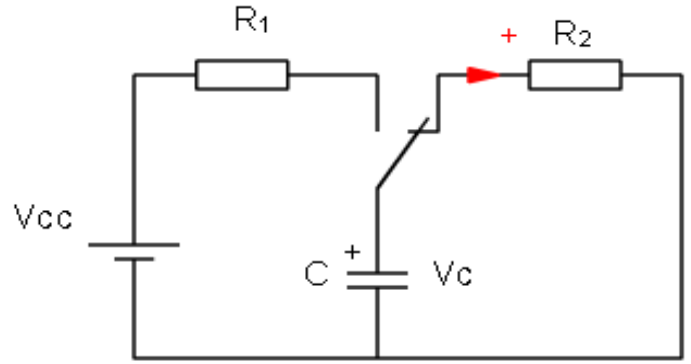


Carga y descarga del condensador

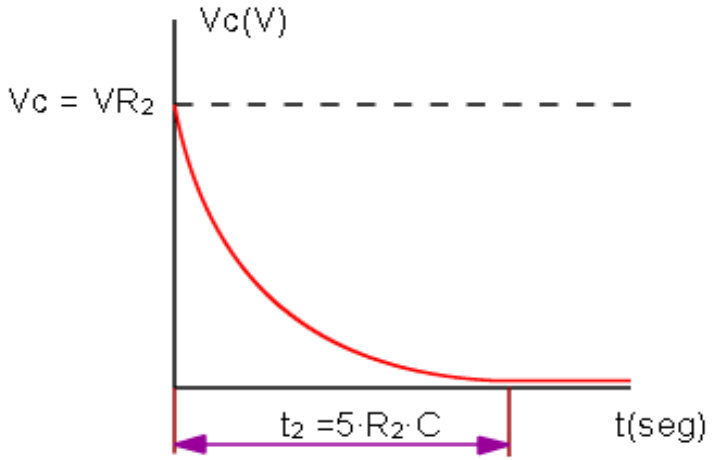


Carga del condensador





Descarga del condensador



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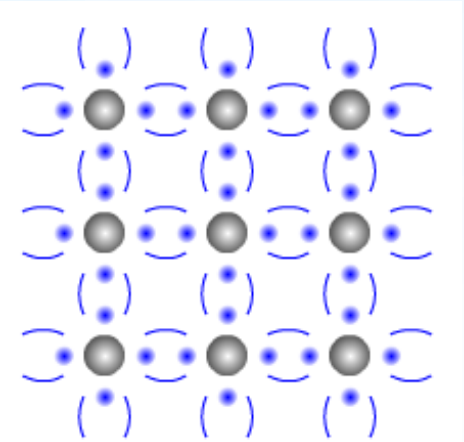
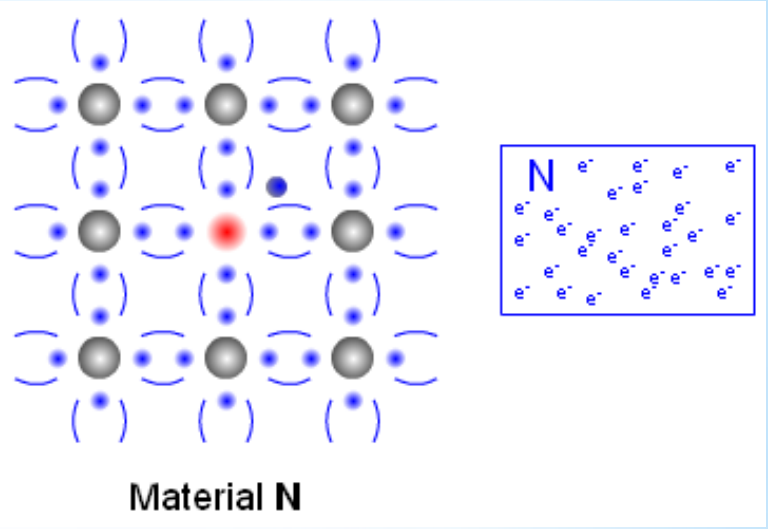
*Material semiconductor

Leyenda

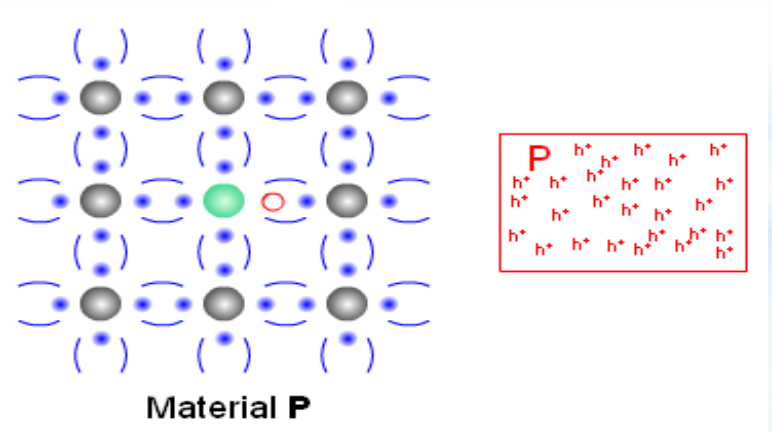
- Átomo semiconductor Si, Ge
- Electrón de valencia
- Enlace covalente
- Átomo impureza (Sb)
- Electrón libre
- Átomo impureza (In)
- Falta de un electrón hueco



Material neutro



Material **N**



Material **P**

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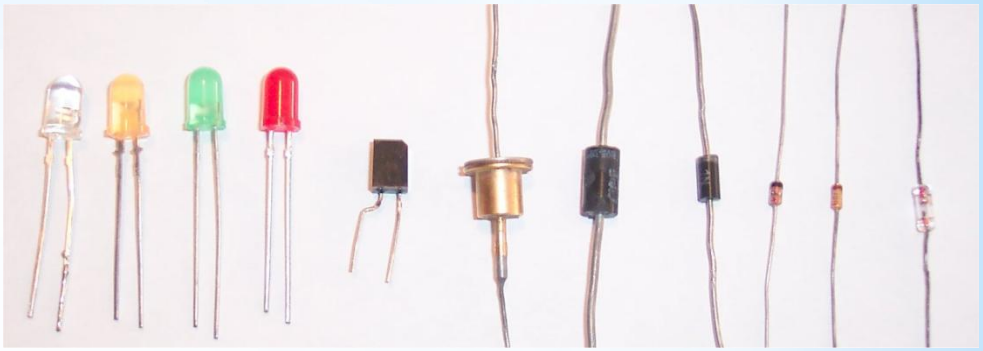
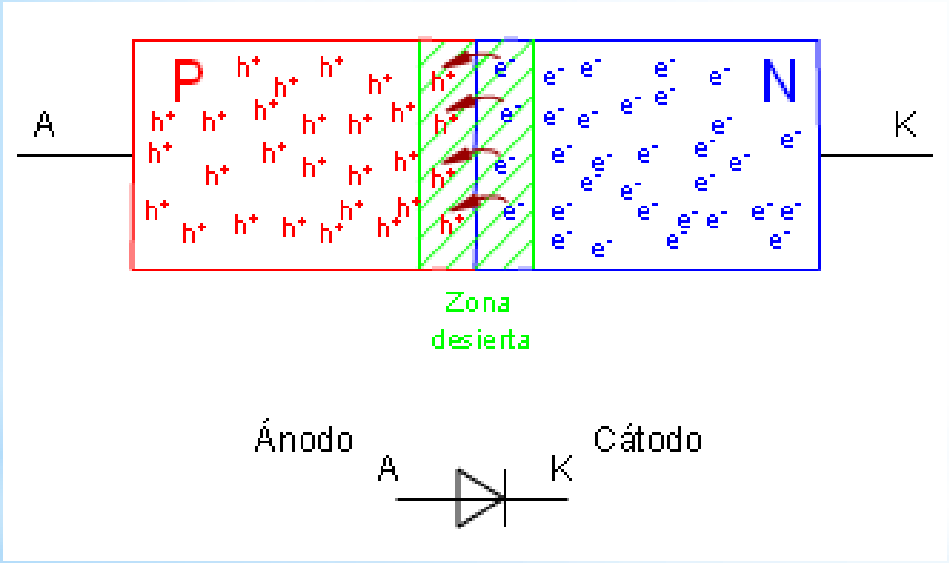
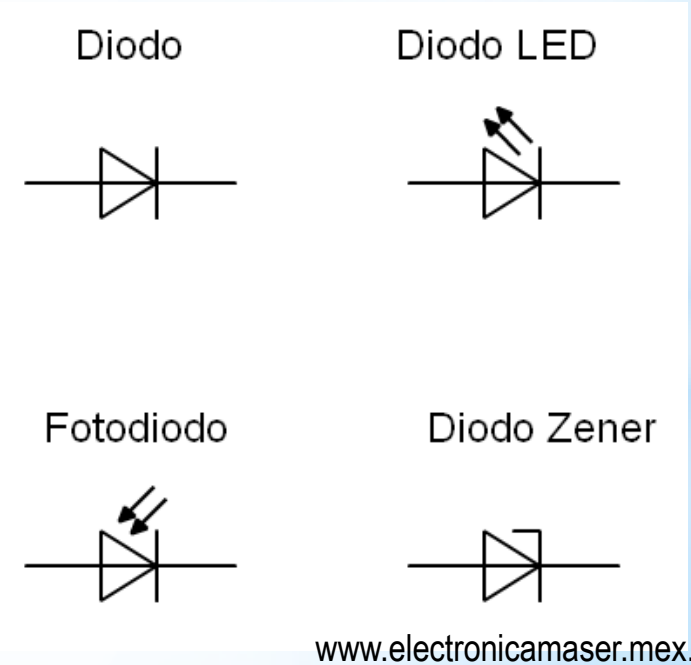
*Diodo, tipos







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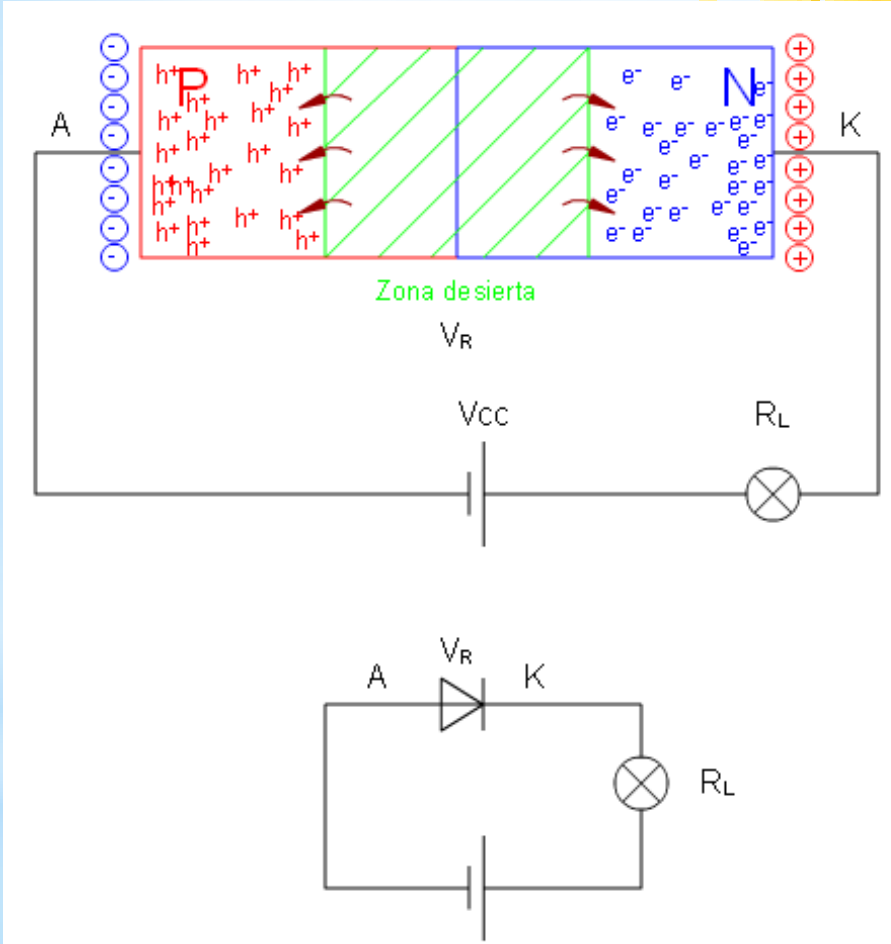
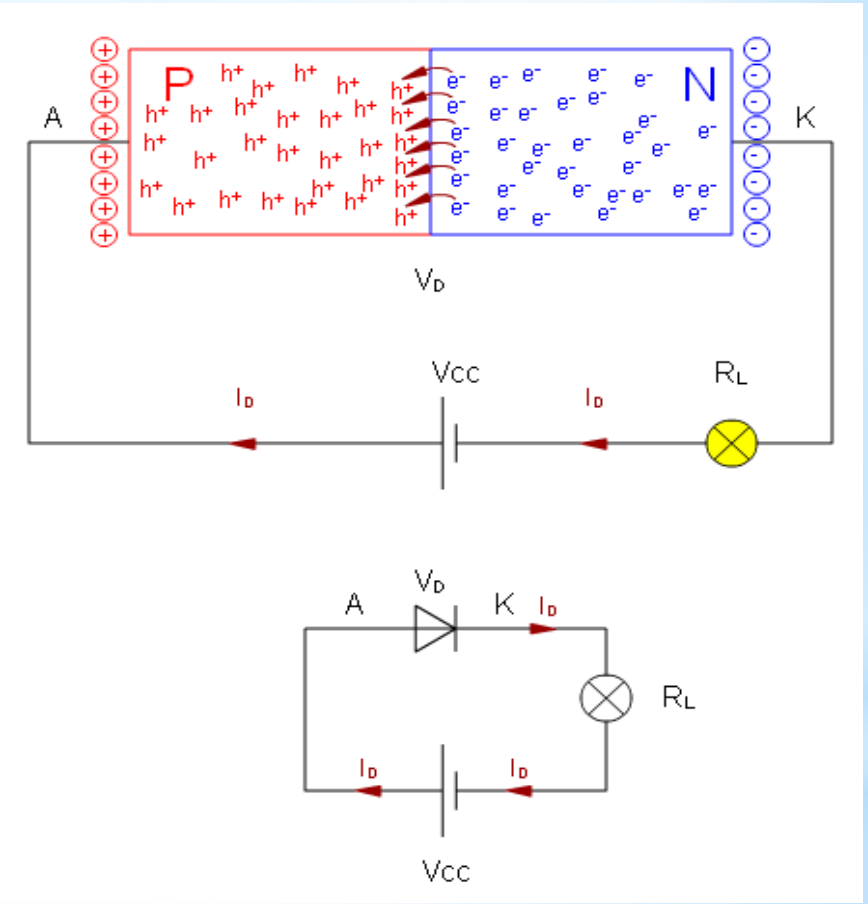
*Polarización del diodo

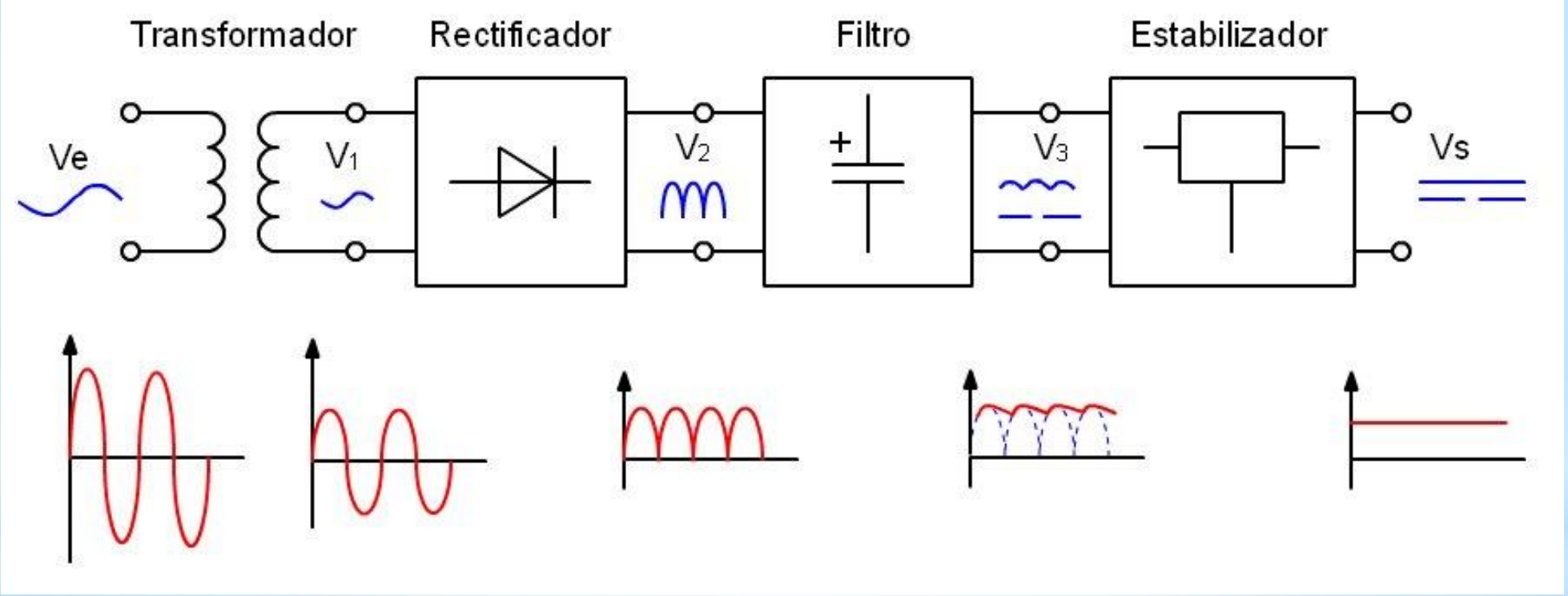


Polarización inversa

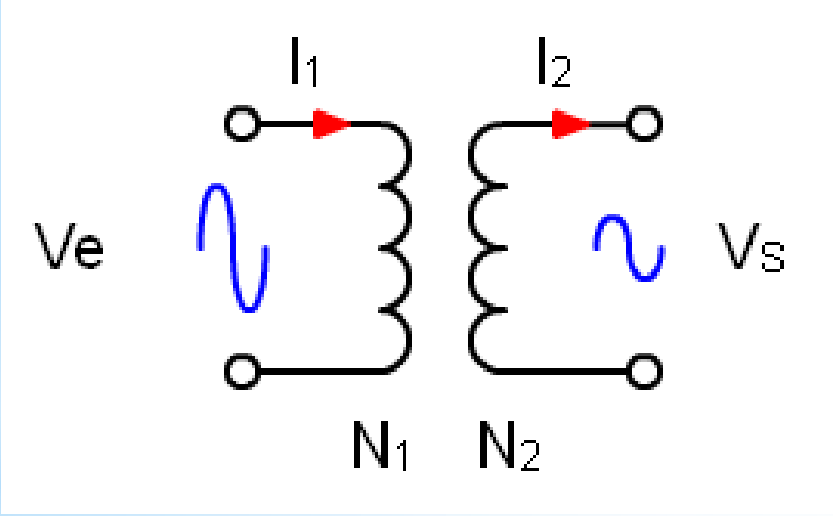


Polarización directa

*Fuente de alimentación



*Transformador



$P_1 = P_2$ (potencia del devanado1 = potencia del 2)

o lo que es lo mismo:

$Ve \cdot I_1 = Vs \cdot I_2 \Rightarrow \quad Ve / Vs = I_2 / I_1$

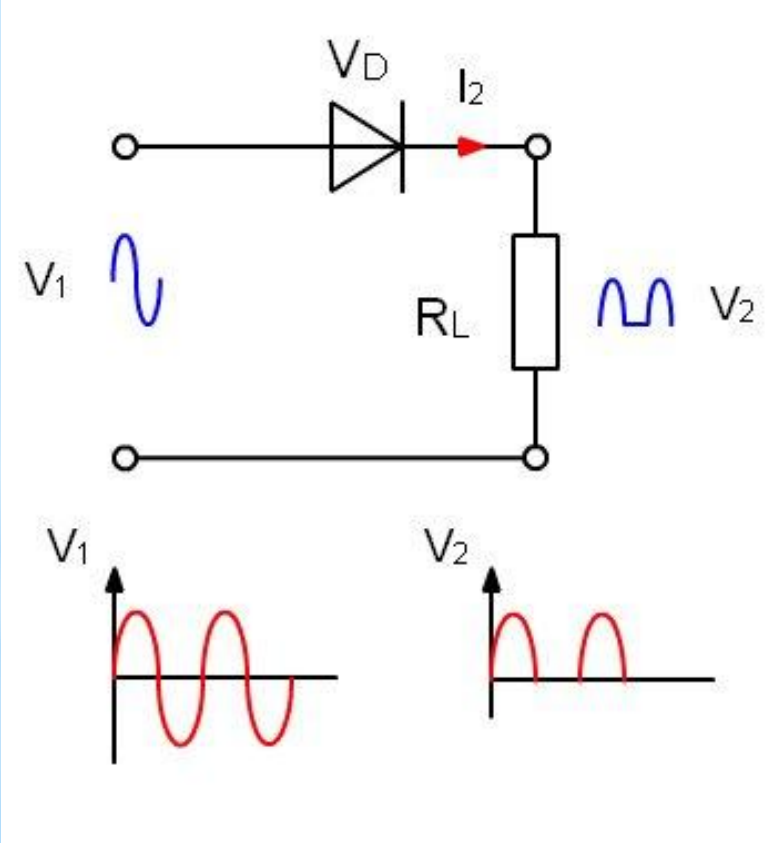
También se cumple:

$N_1 / N_2 = Ve / Vs = m$ (relación de transformación)

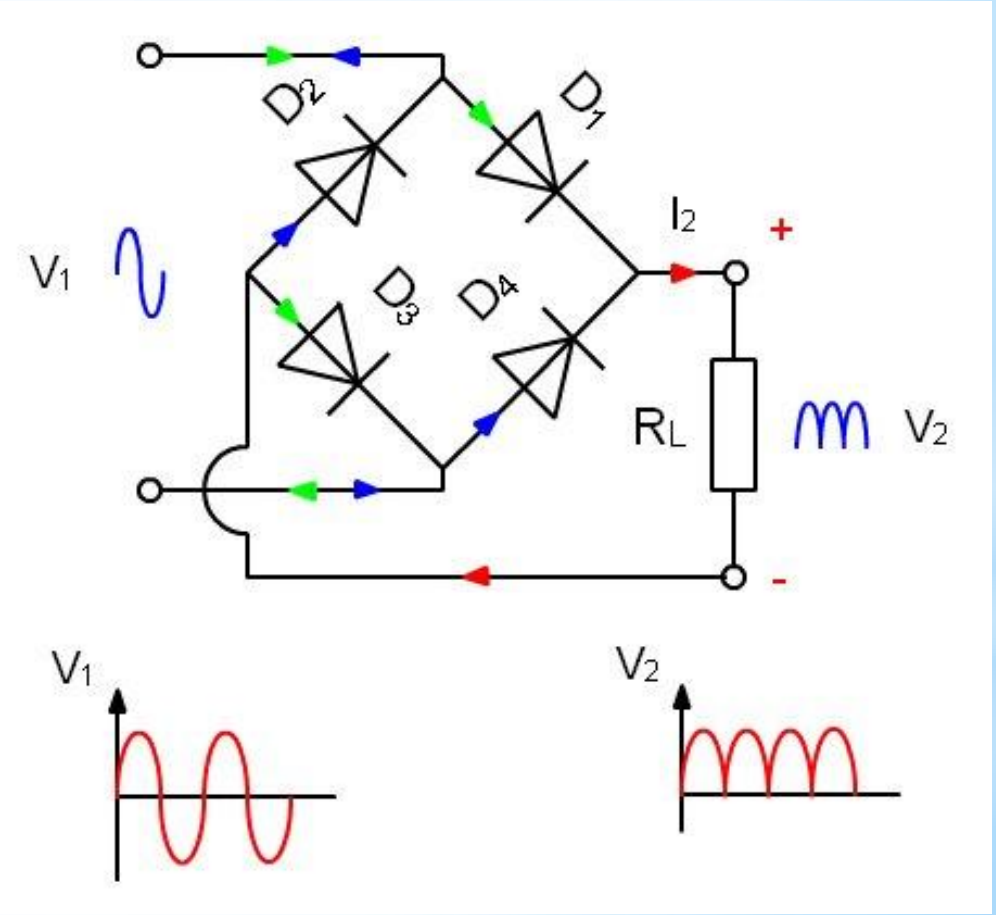
Donde:
N_1 = número de espiras del devanado 1
N_2 = número de espiras del devanado 2

*Rectificador

De media onda

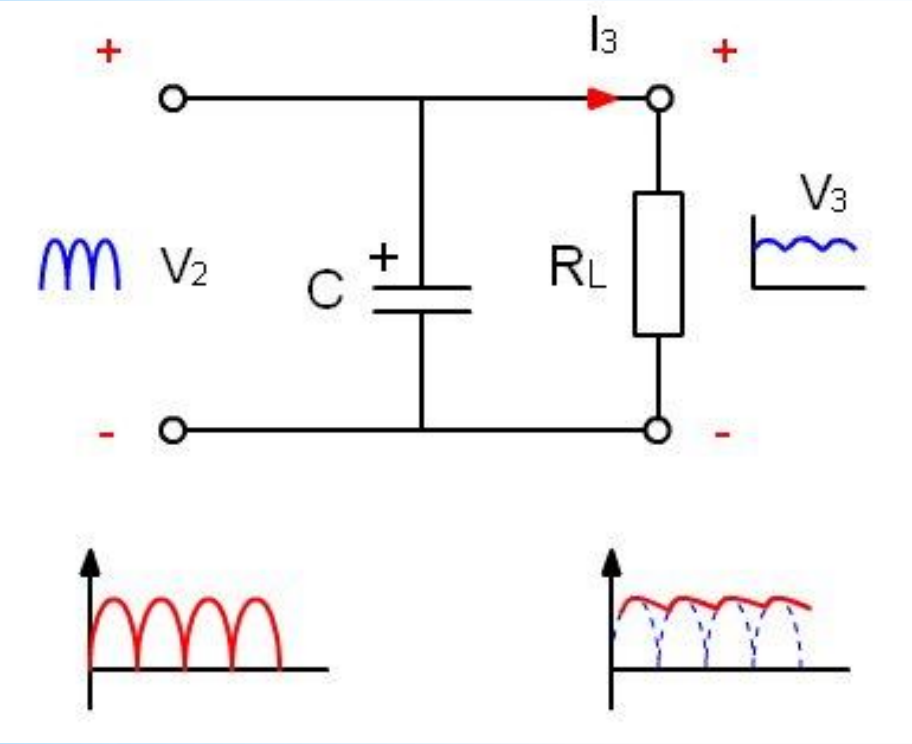


De onda completa

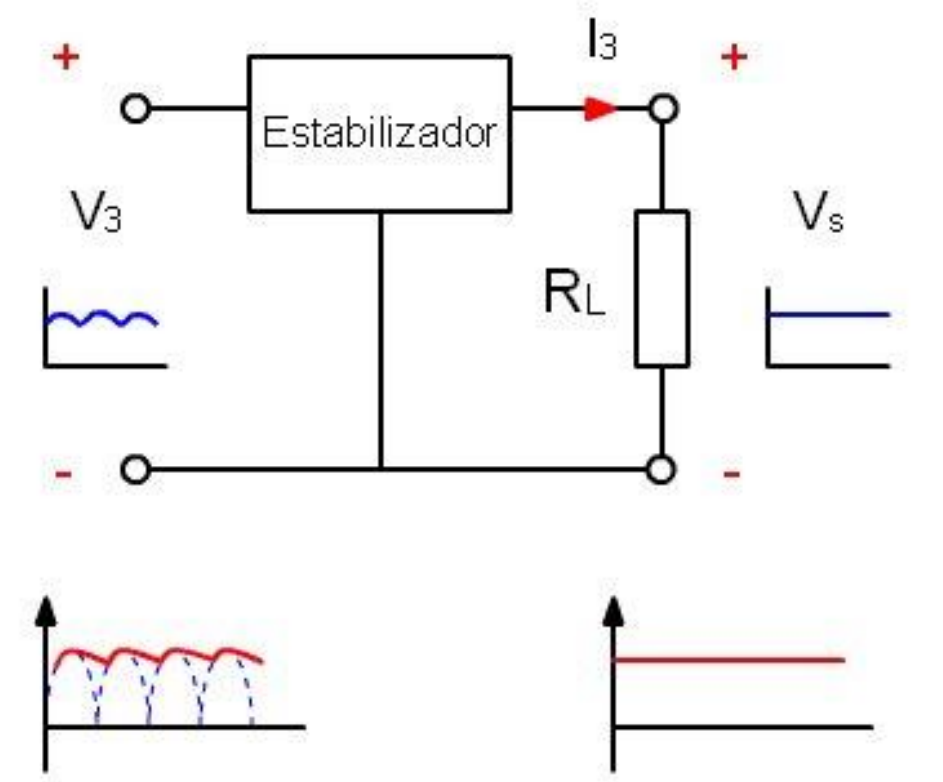


*Filtro y estabilizador

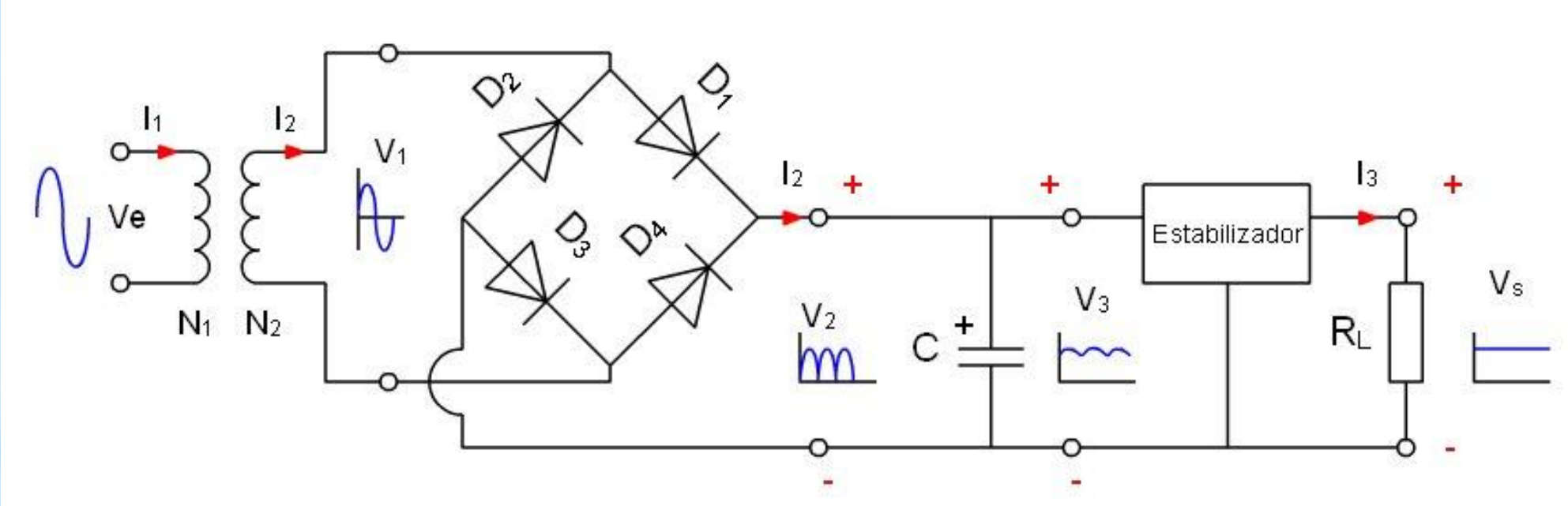
Filtro



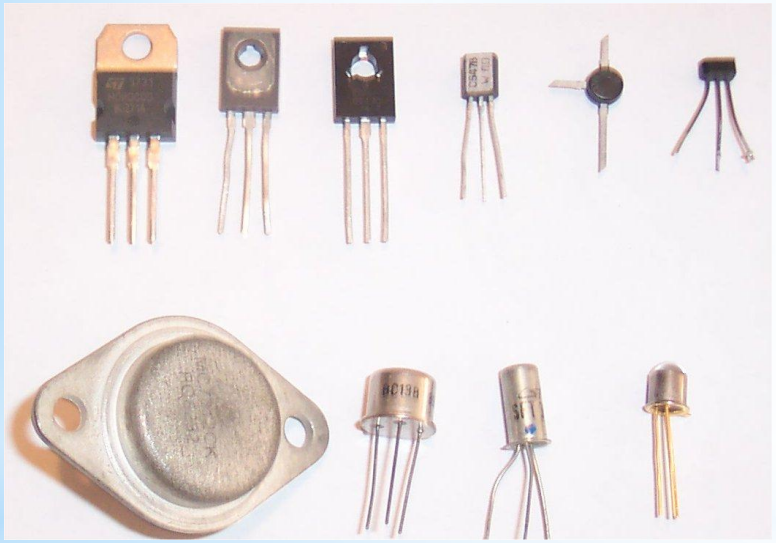
Estabilizador

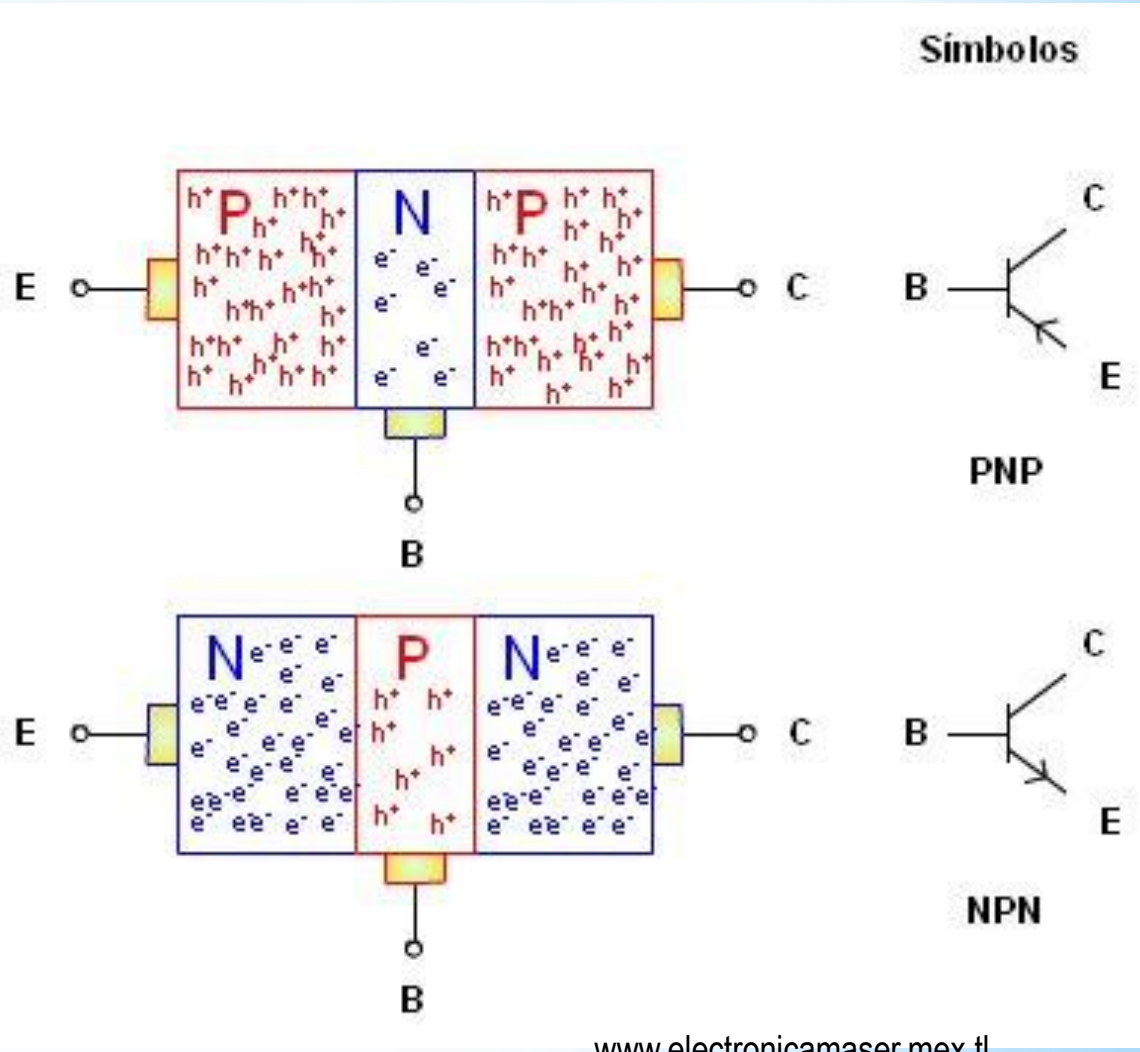


*Fuente de alimentación real



*Transistor, tipos y símbolos





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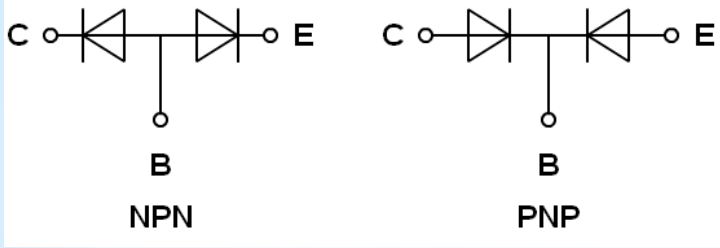
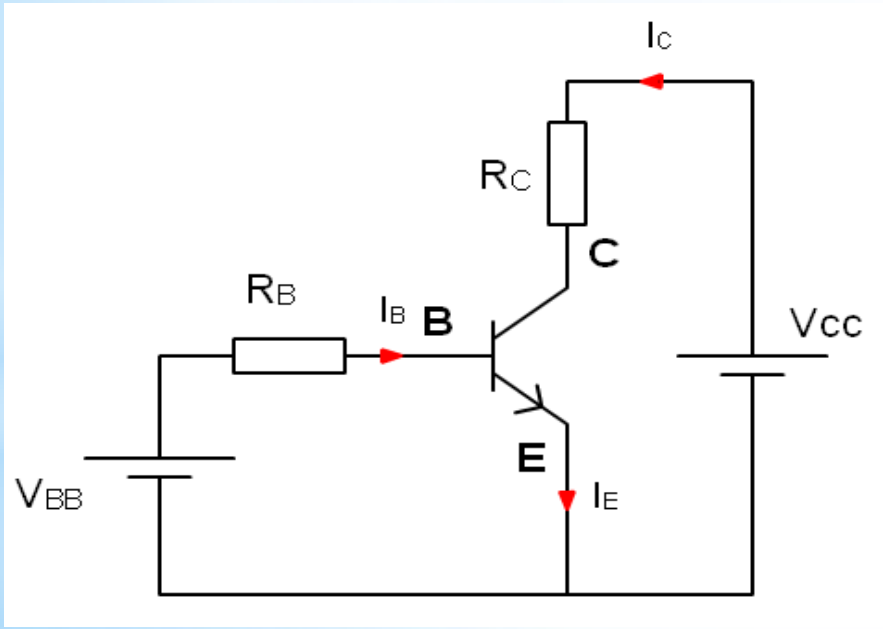
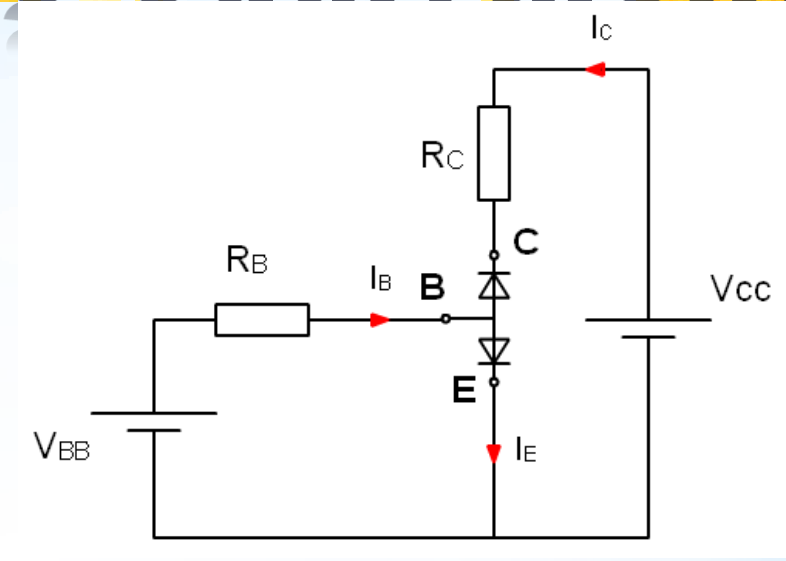
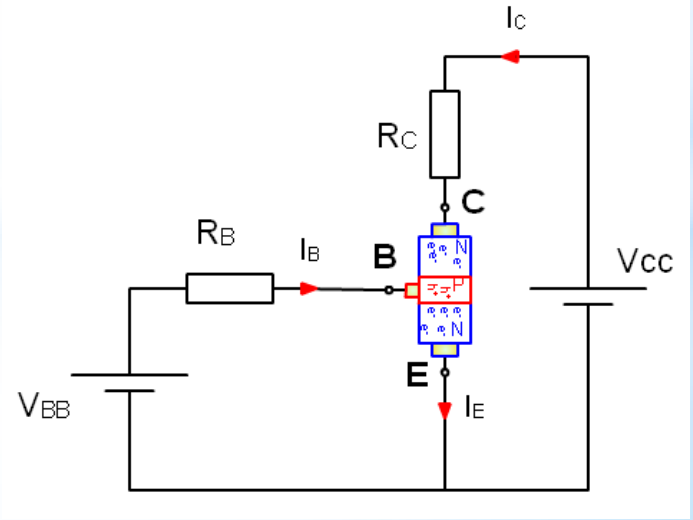
*Transistor, polarización, circuitos equivalentes

Equivalente de diodos

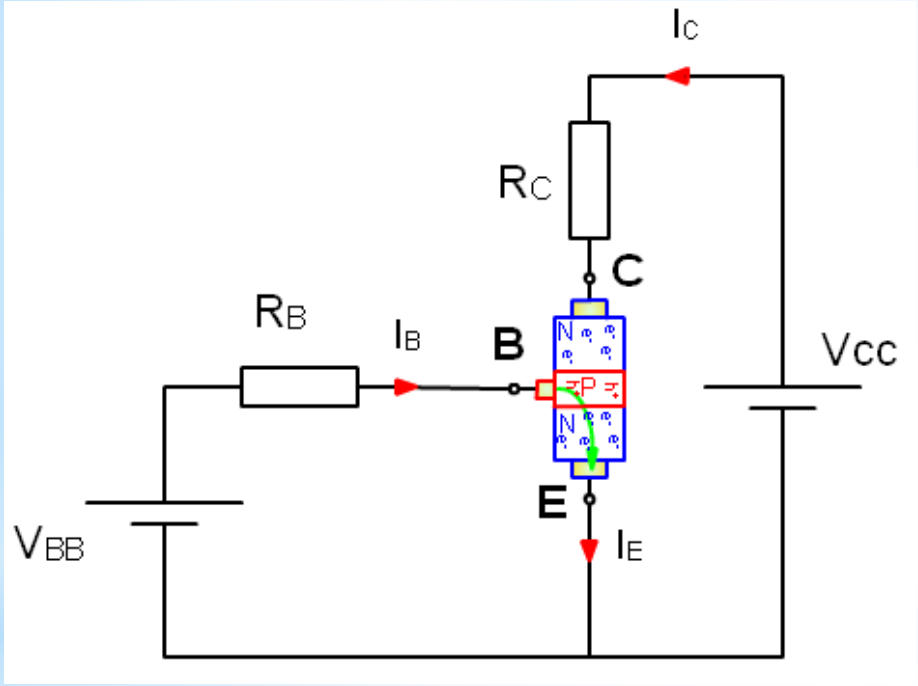




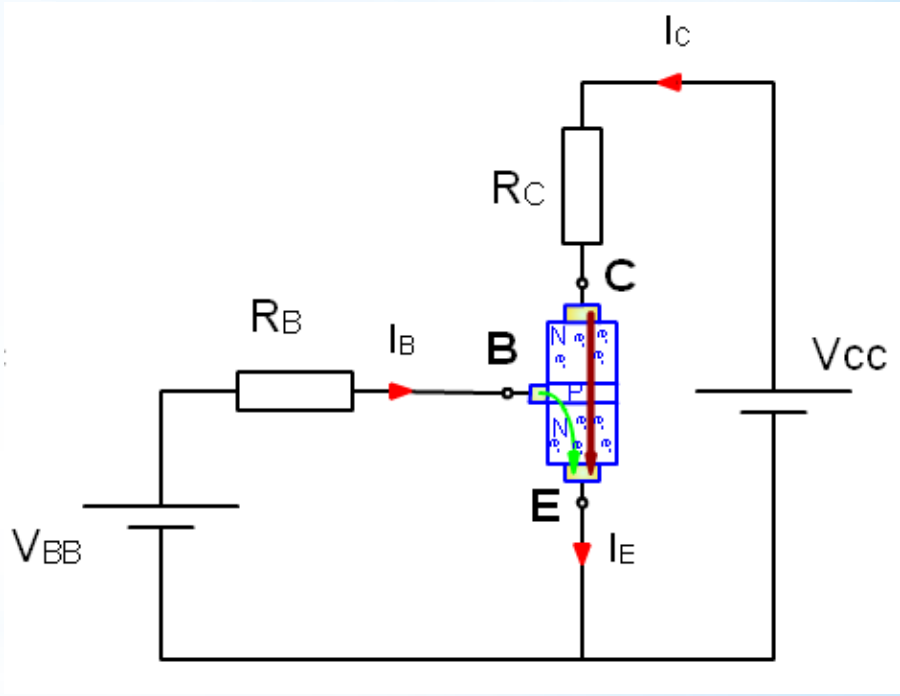




*Transistor polarización

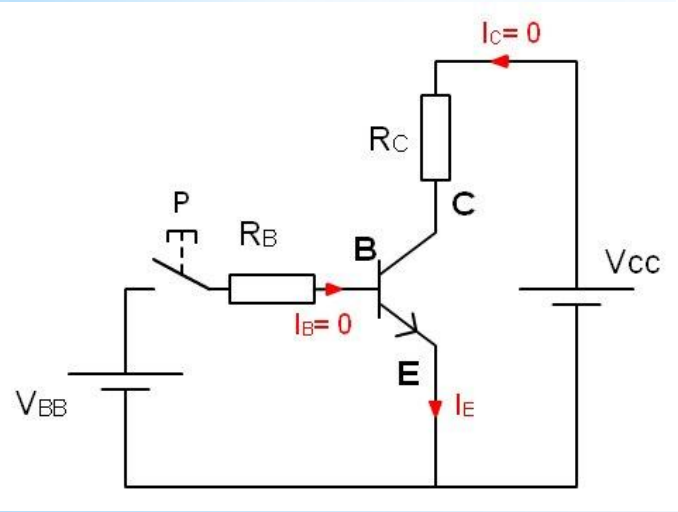


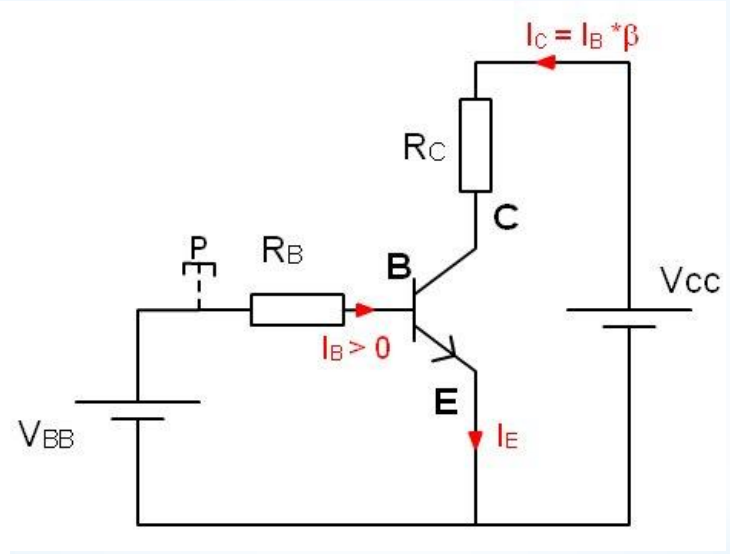
Corriente base-emisor

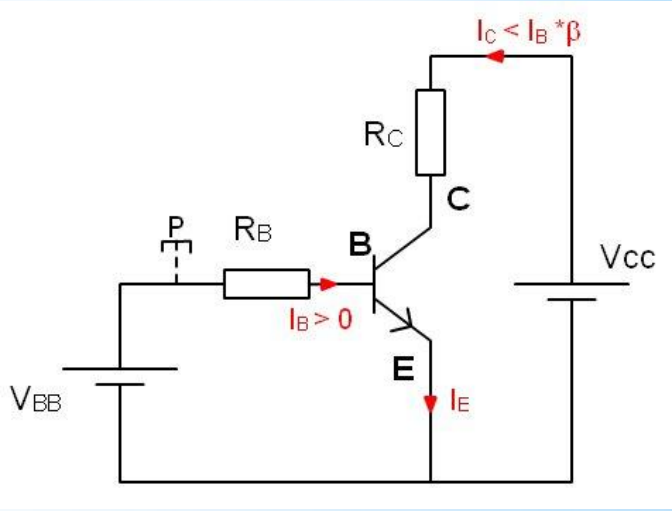


corriente colector-emisor

Transistor, corte, activa y saturación







Transistor en corte

Transistor en activa

Transistor en saturación

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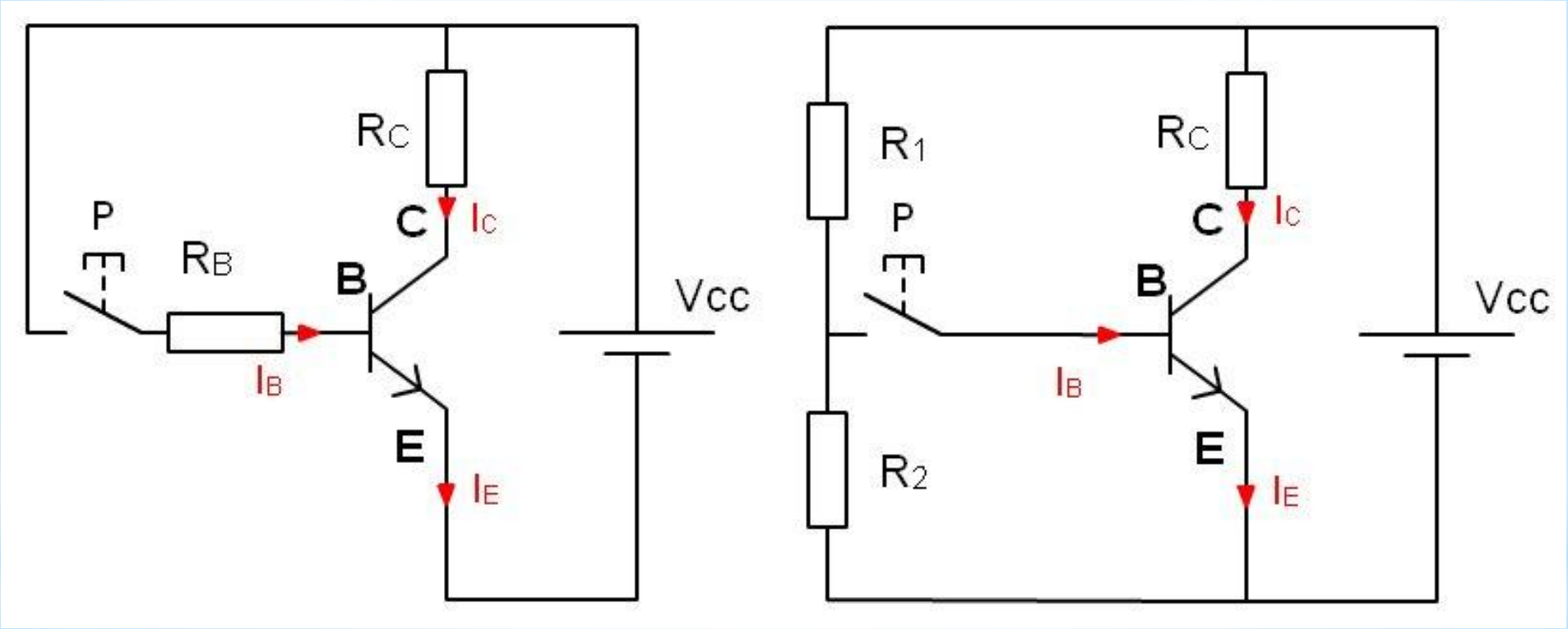
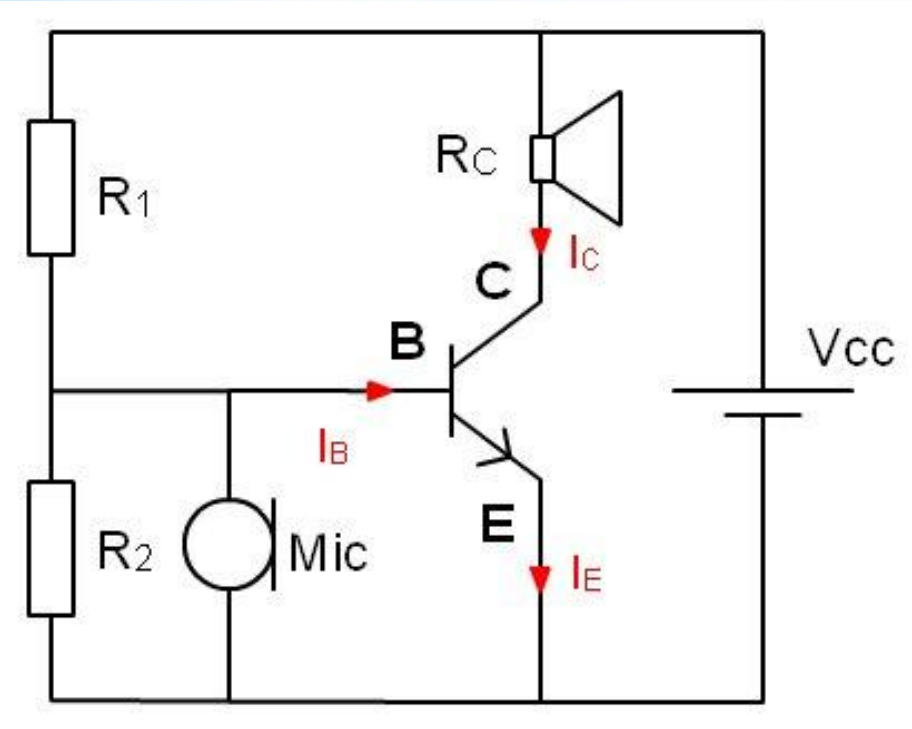
*Polarización con una fuente

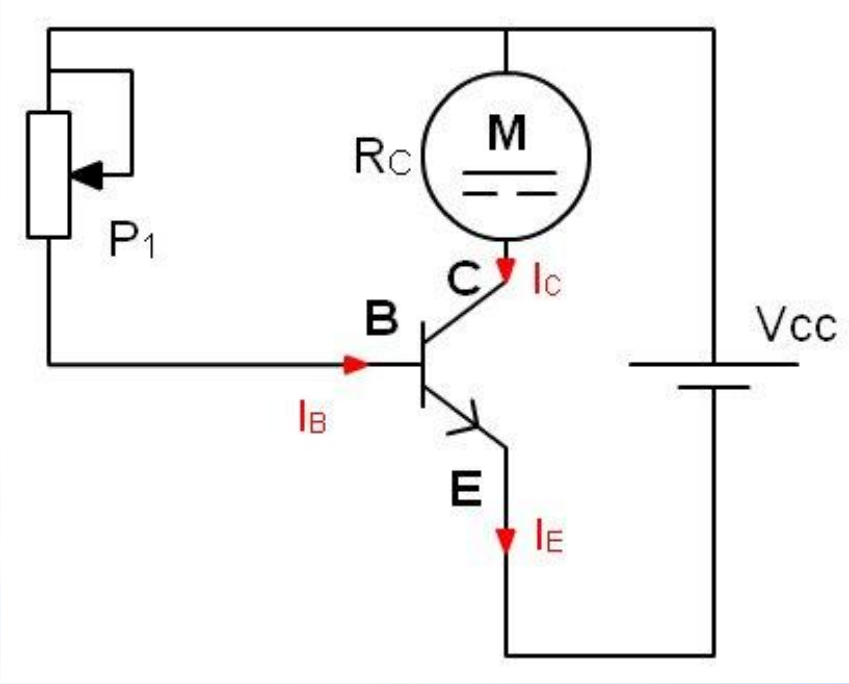


*Montajes

Amplificador de sonido

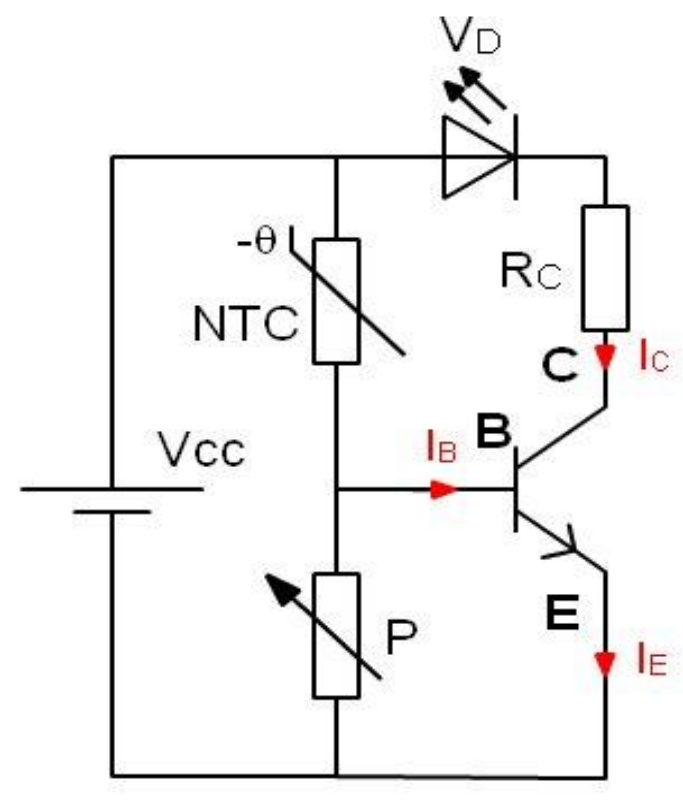


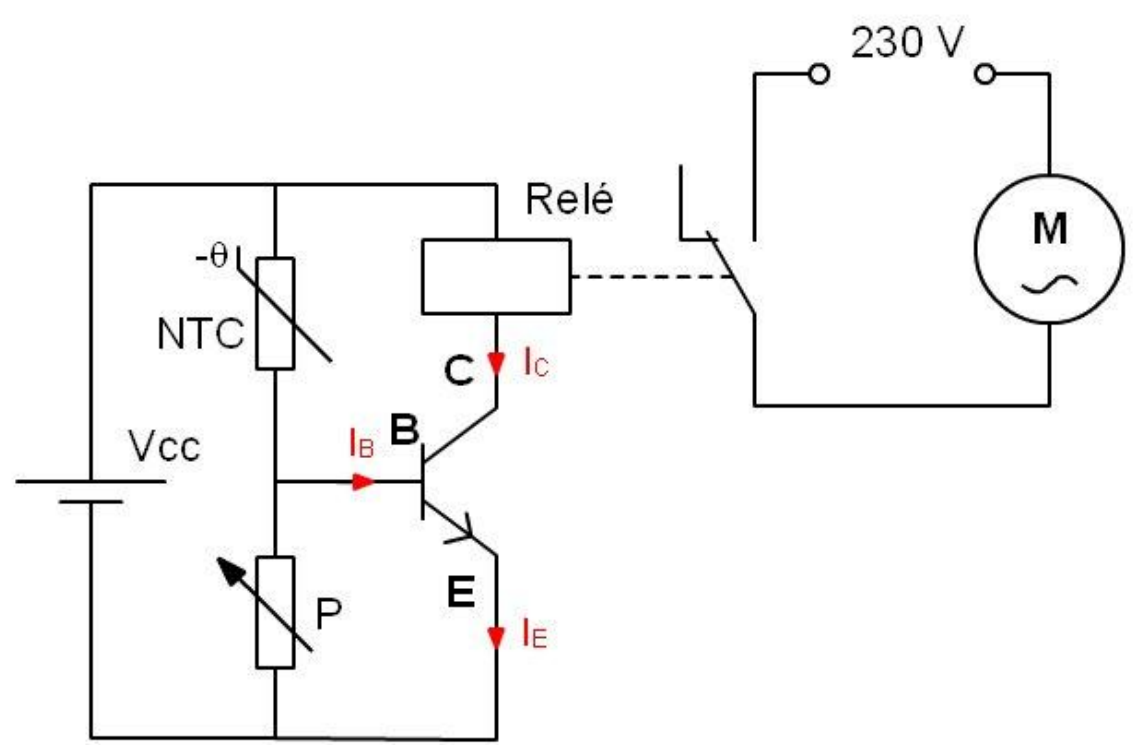
Control de velocidad de un motor



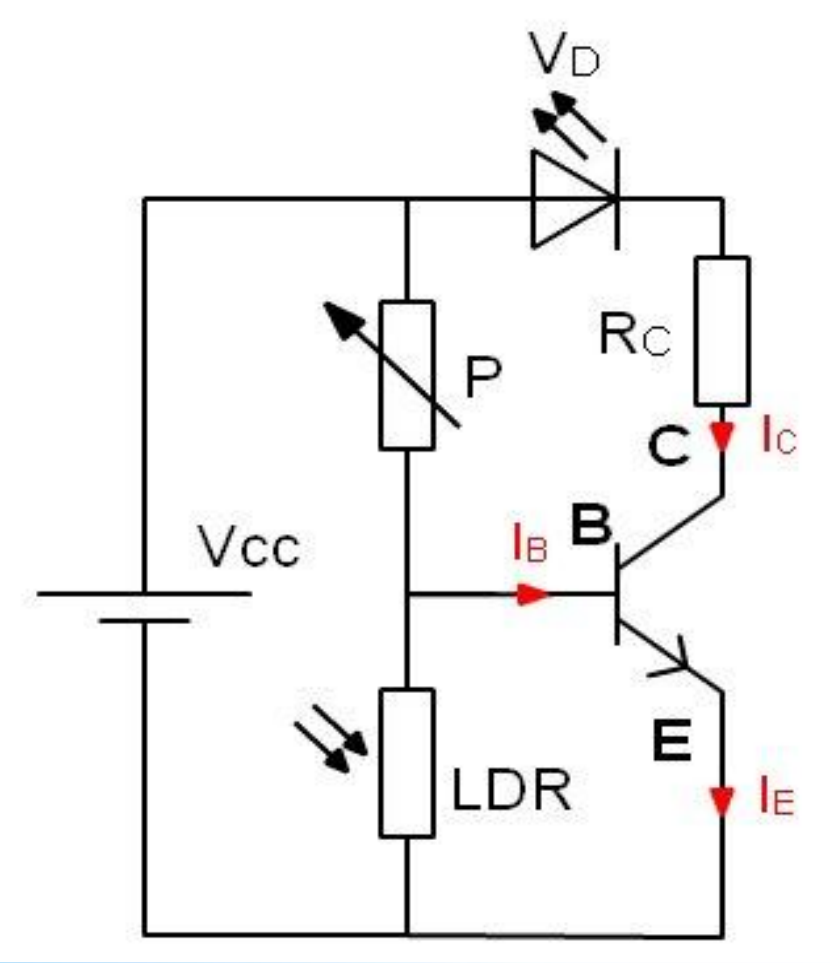
*Montajes

Control de temperatura con NTC





*Montajes



Control de intensidad luminosa con LDR