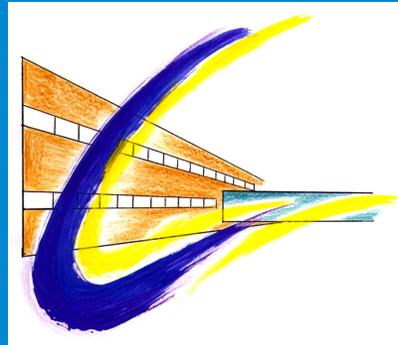


SMX-M1-UF1-NF1-AF1-PRE

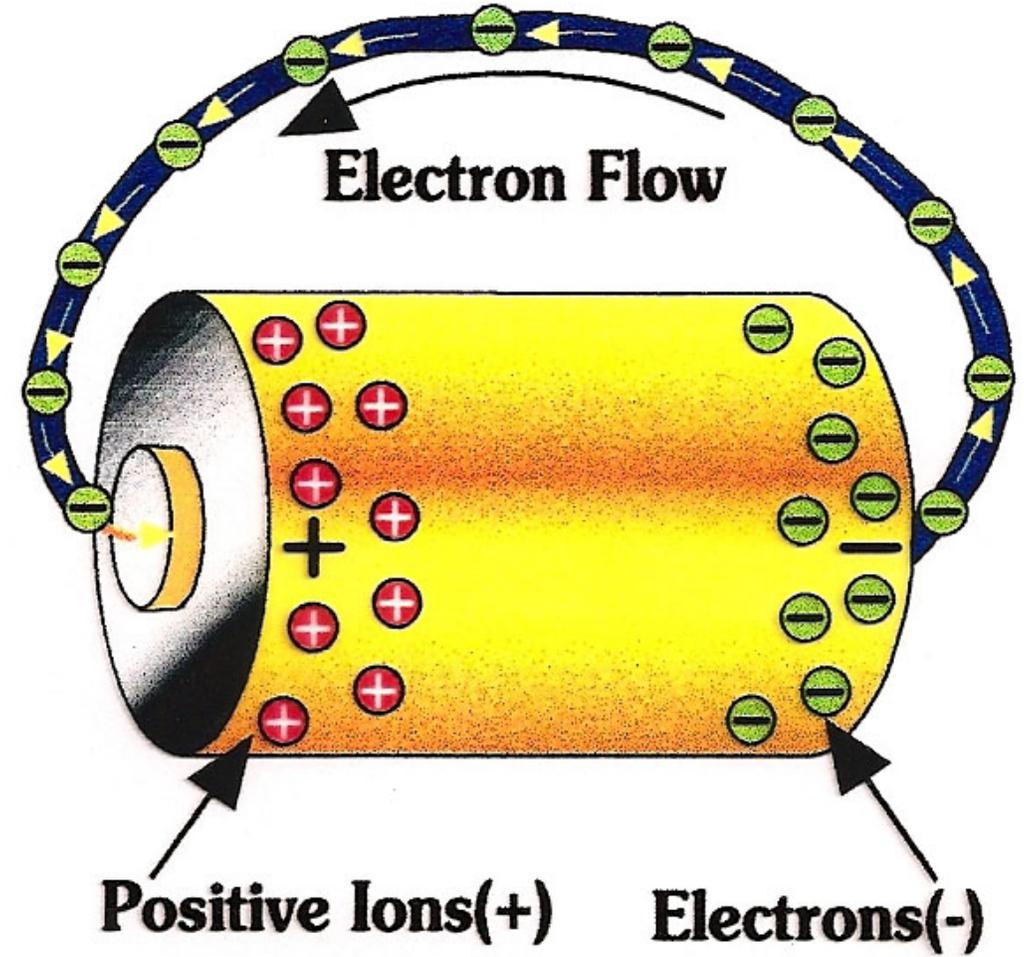
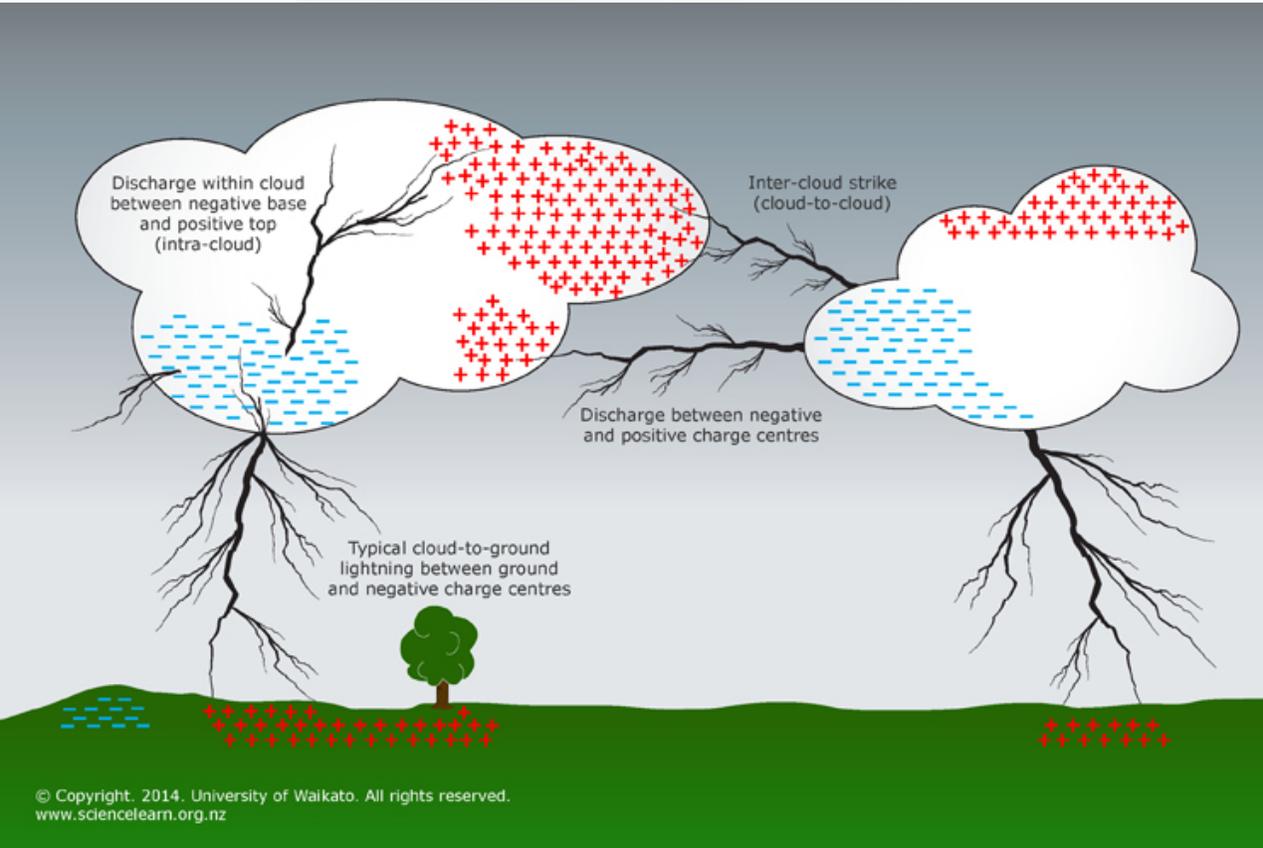
Electricitat



Joan Botella Vinaches
Institut Castellbisbal

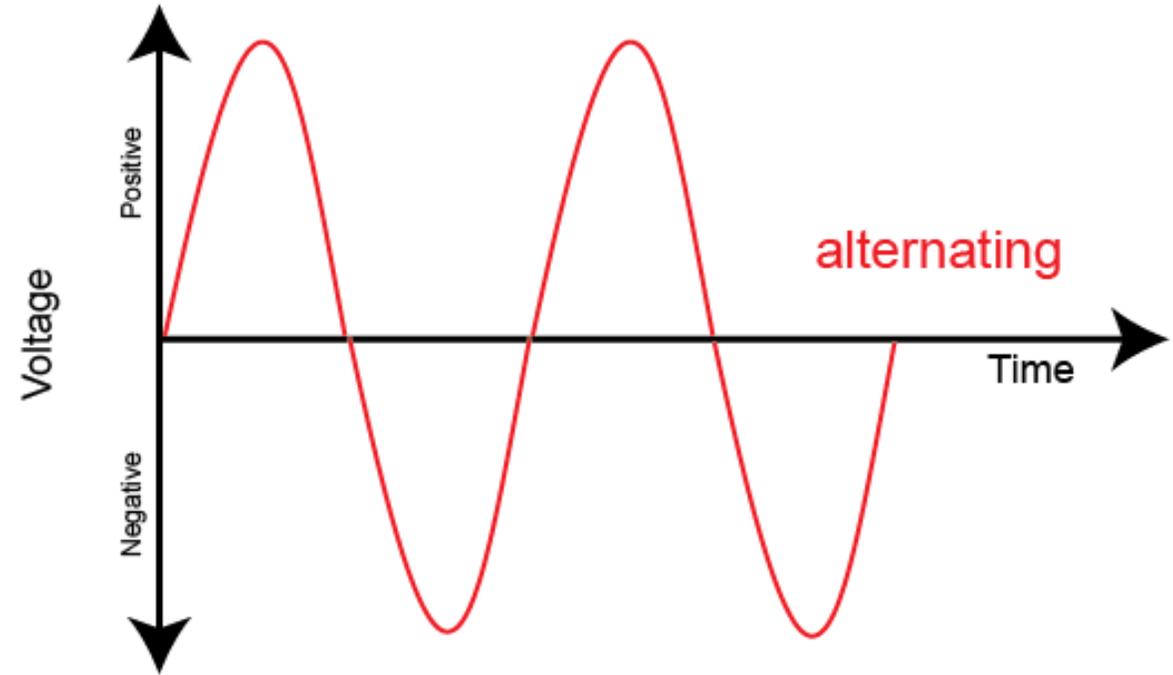
Electricitat

Electricitat

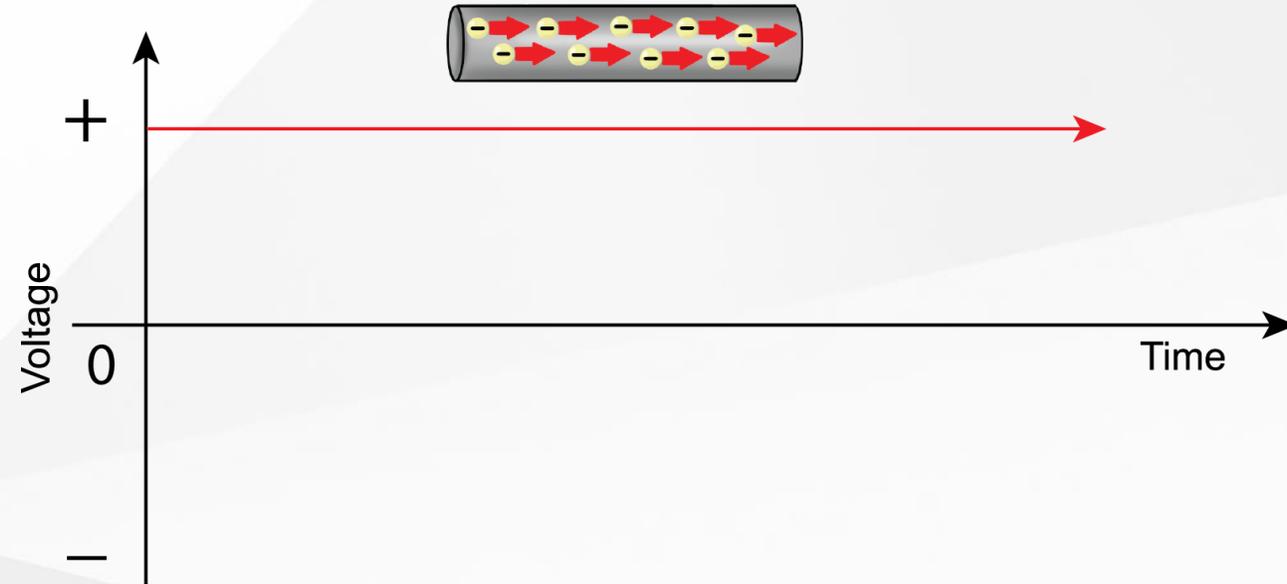


ALUOL

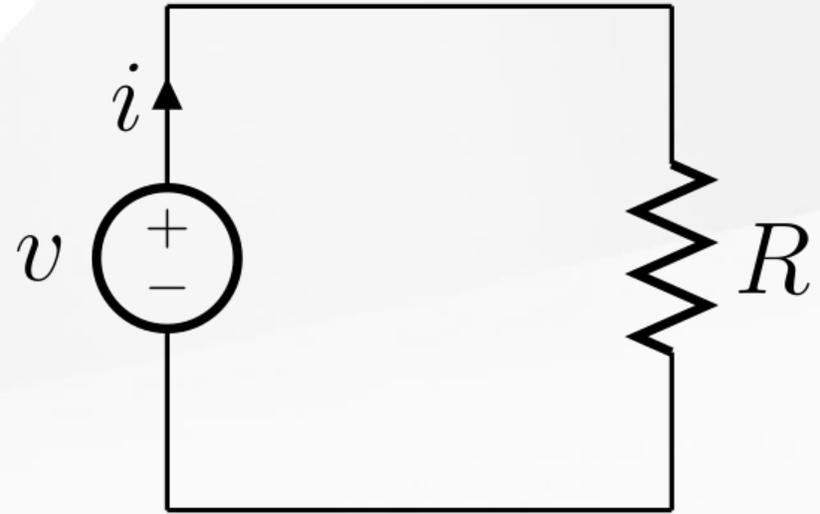
- Corrent alterna
 - Va canviant de sentit.
 - Arriba més lluny més fàcilment.
 - En Europa l'estandard és **230 V a 50 Hz**, en EEUU 120/240 V a 60 Hz.



- Corrent contínua
 - La que utilitzen els dispositius electrònics.



- Magnituds físiques
 - Voltatge -> Volts (V)
 - Intensitat -> Ampers (A)
 - Resistència -> Ohms (Ω)
 - Potència -> Watt (W)

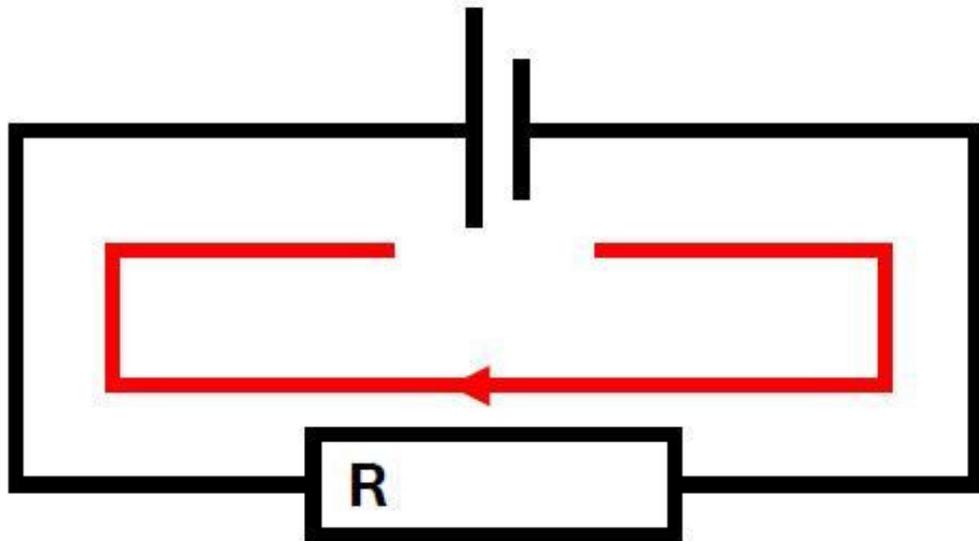


Dirección física de la corriente

(Sentido de los electrones)

+

-

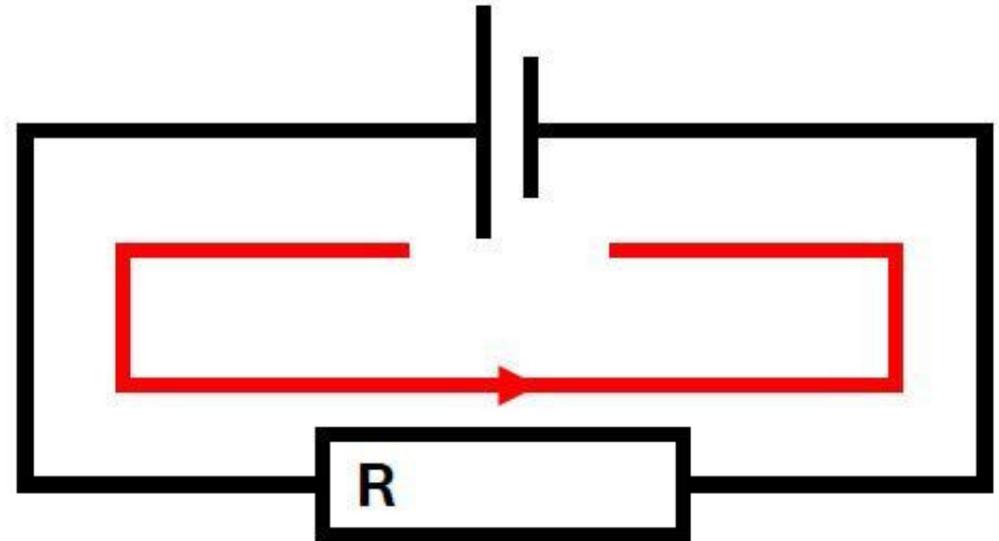


Dirección técnica de la corriente

(Sentido de la intensidad)

+

-



lenovo
Registered Trademark of Lenovo

AC ADAPTER (电源适配器/交换式电源供应器)

MODEL(型号/型號): ADLX45NLC3A

LC PN:36200246

11DN-ASMY003 (E01) DIM-ASMY002

INPUT (輸入/輸入): 100-240V~ 1.3A(1.3A) 50-60Hz

OUTPUT (輸出/輸出): 20V 2.25A(2.25A)

For use with Information Technology Equipment Only.

ATTENTION:

UTILISER AVEC DU MATERIEL INFORMATIQUE SEULEMENT.

Endast för kontorsmaskin.

Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan.

Apparatet må tillkoplas jordet stikkontakt.

Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk.

SOLO PARA USO DE EQUIPO DE INFORMATICA

47 CFR FCC Rules and Regulations Part 15 Subpart B,

Class B Digital Device

CANADA ICES/NMB-003 Class/ Class B

MADE IN CHINA(D) / FABRIQUÉ EN CHINE

(中国制造/中國製造)

制造商: 北京科技股份有限公司

Manufactured for Lenovo Product of China

Eq contact address: Lenovo, Enslanova 21, 851 01 Bratislava, Slovakia



적류전원장치 AC ADAPTER
KTL SU10462-12007
KCC-REM-A1B-ADLX45NLC3

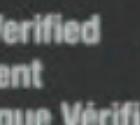
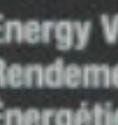
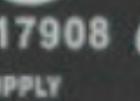
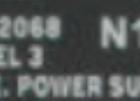
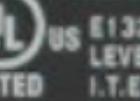
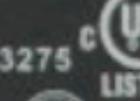
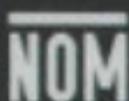
품명: 적류전원장치
Mfr. Name: LITE-ON TECHNOLOGY
한국레노버 (CHANGZHOU) CO., LTD.

A/S Center: 080-513-0880
최저소비효율기준 만족 제품

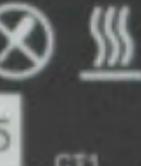
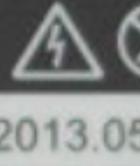
The device complies with part 15 of the FCC rules. Operation is subject to following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Consumo de energia: 51.1368Wh
En modo de espera: 0.0931 Wh

SAFETY MARK
121570-11



NSW25783



NNO-1/09

34212

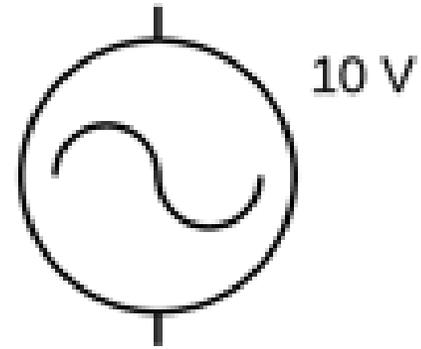
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CT1

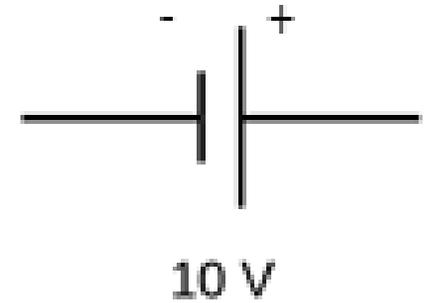
Components electrònics bàsics

- **Generador**

- de corrent alterna
- de corrent contínua



AC Voltage Source

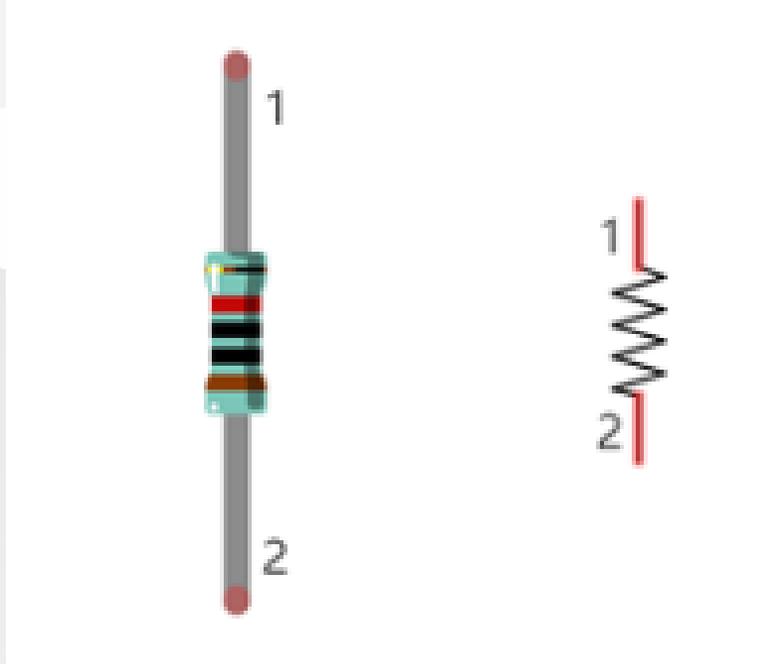


DC Voltage Source

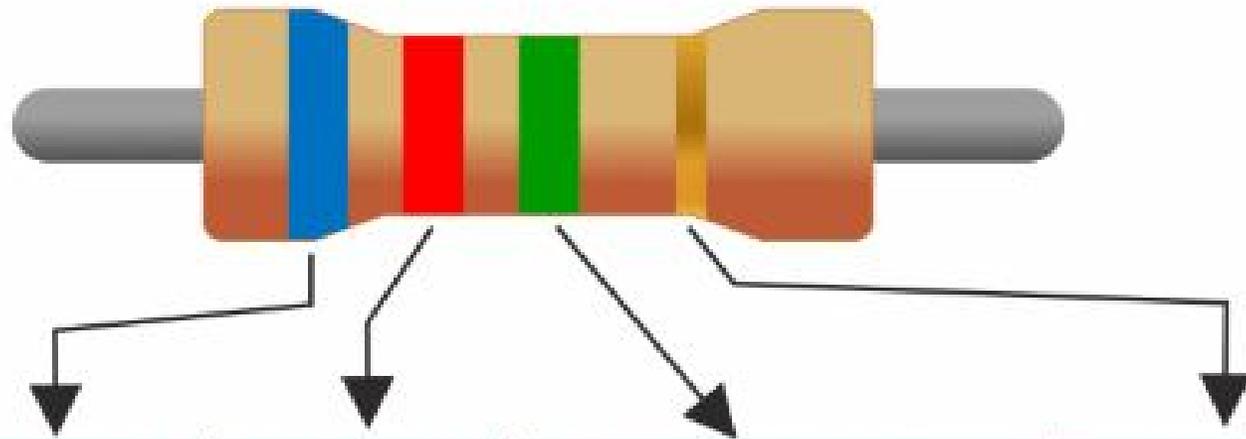
- **Bateries:** les piles són generadors de corrent contínua. Ens donen un voltatge, i tenen un pol positiu i un altre negatiu.



- **Resistència o resistor**

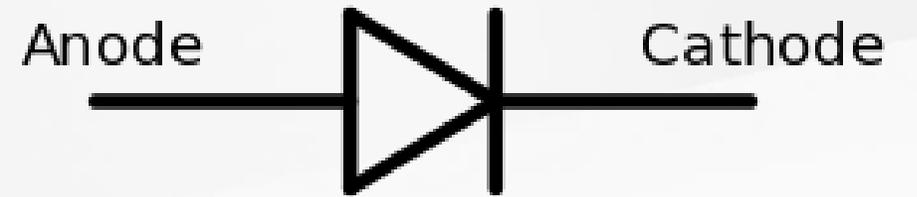
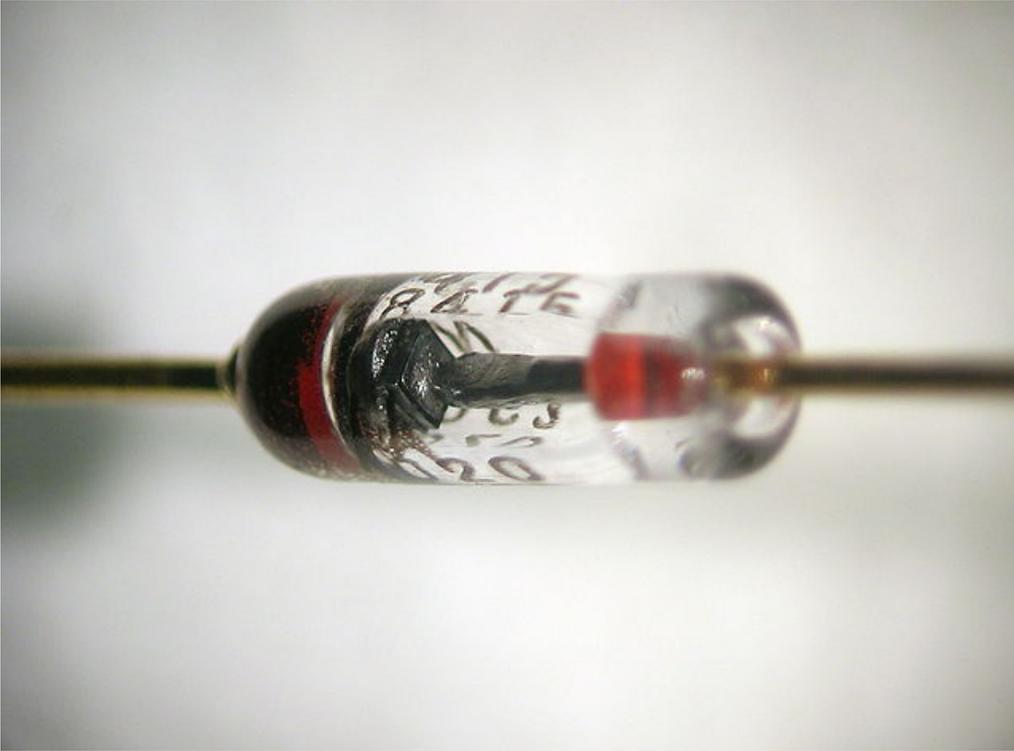


Components electrònics - Resistència

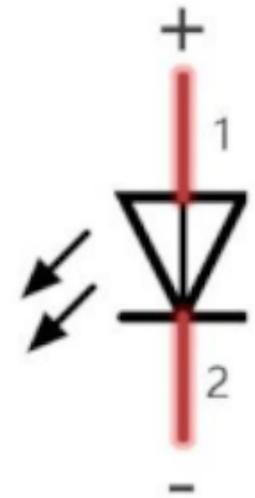
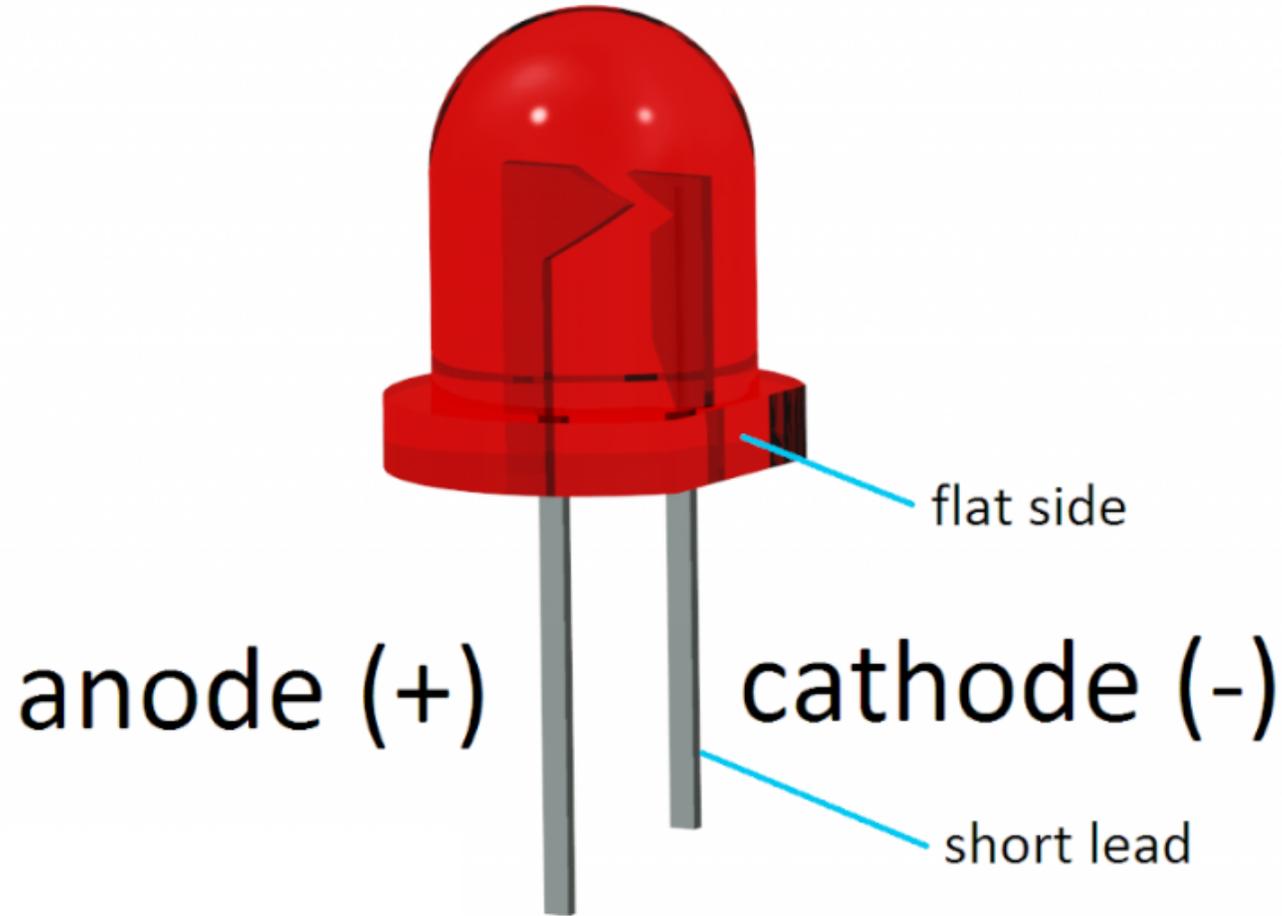


COLOR	BANDA 1	BANDA 2	MULTIPLICADOR	TOLERANCIA
NEGRO	0	0	x 1 Ω	
MARRÓN	1	1	x 10 Ω	+ / - 1%
ROJO	2	2	x 100 Ω	+ / - 2%
NARANJA	3	3	x 1000 Ω	
AMARILLO	4	4	x 10,000 Ω	
VERDE	5	5	x 100,000 Ω	
AZUL	6	6	x 1,000,000 Ω	
VIOLETA	7	7	x 10,000,000 Ω	
GRIS	8	8	x 100,000,000 Ω	
BLANCO	9	9	x 1,000,000,000 Ω	
DORADO			x 0,1 Ω	+ / - 5%
PLATEADO			x 0,01 Ω	+ / - 10%

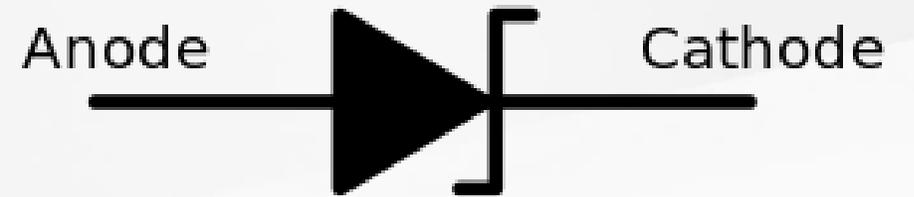
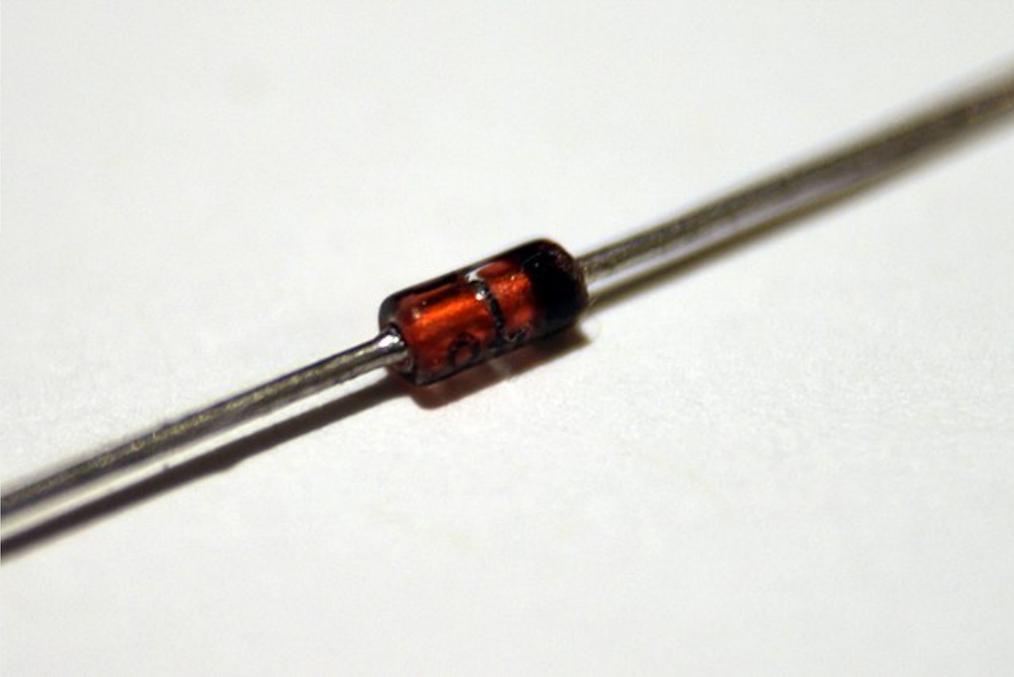
- **Díode**: Solament permet passar la corrent en un sentit.



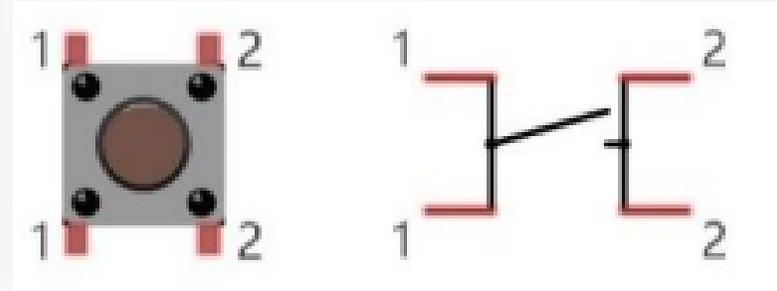
- **LED** (*Light Emitting Diode*)



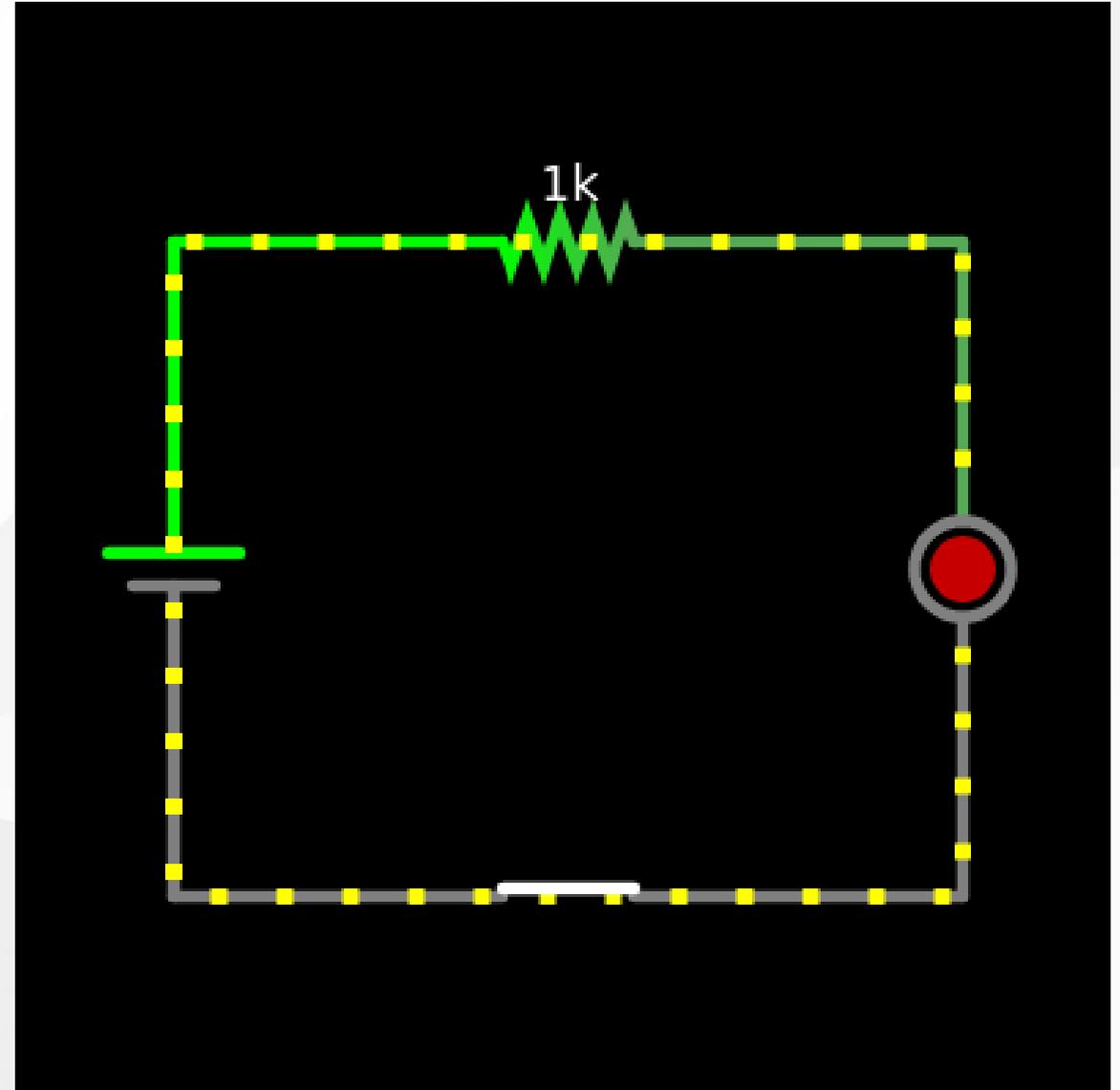
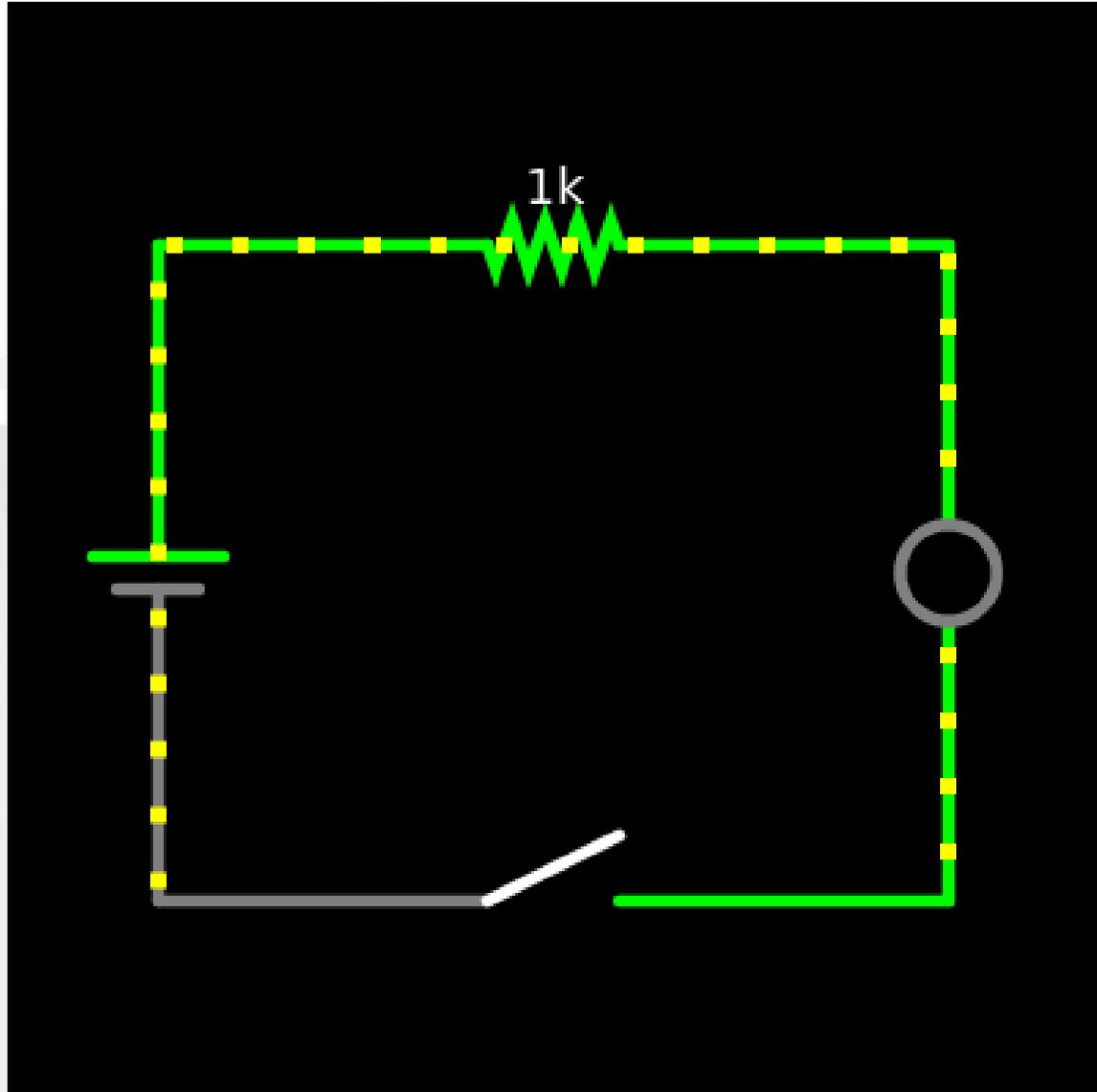
- **Díode Zener**: Permet passar corrent en sentit contrari si arriba a un voltatge determinat.



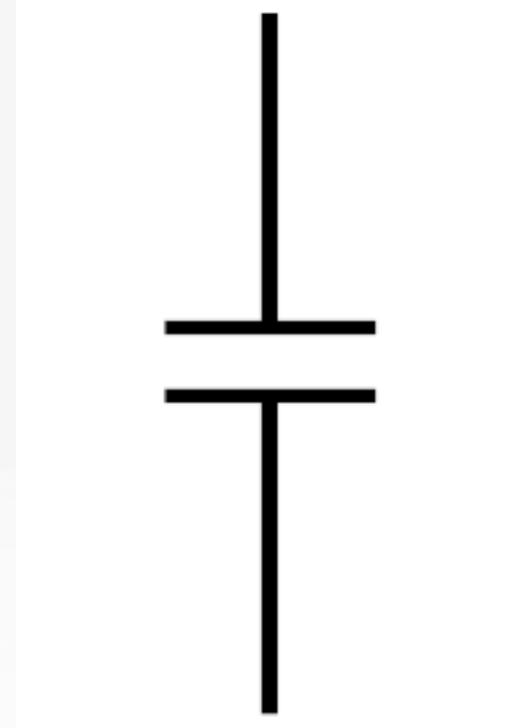
- **Interruptor**: Obri o tanca el circuit.
 - Per un circuit obert no passa la corrent.



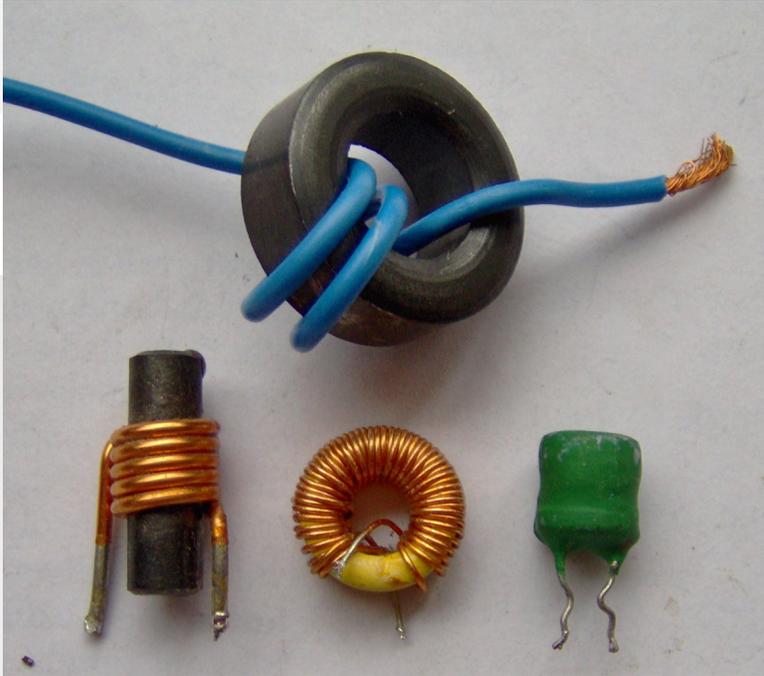
Components electrònics - Interruptor



- **Condensador**: Contribueix a mantindre el voltatge estable.

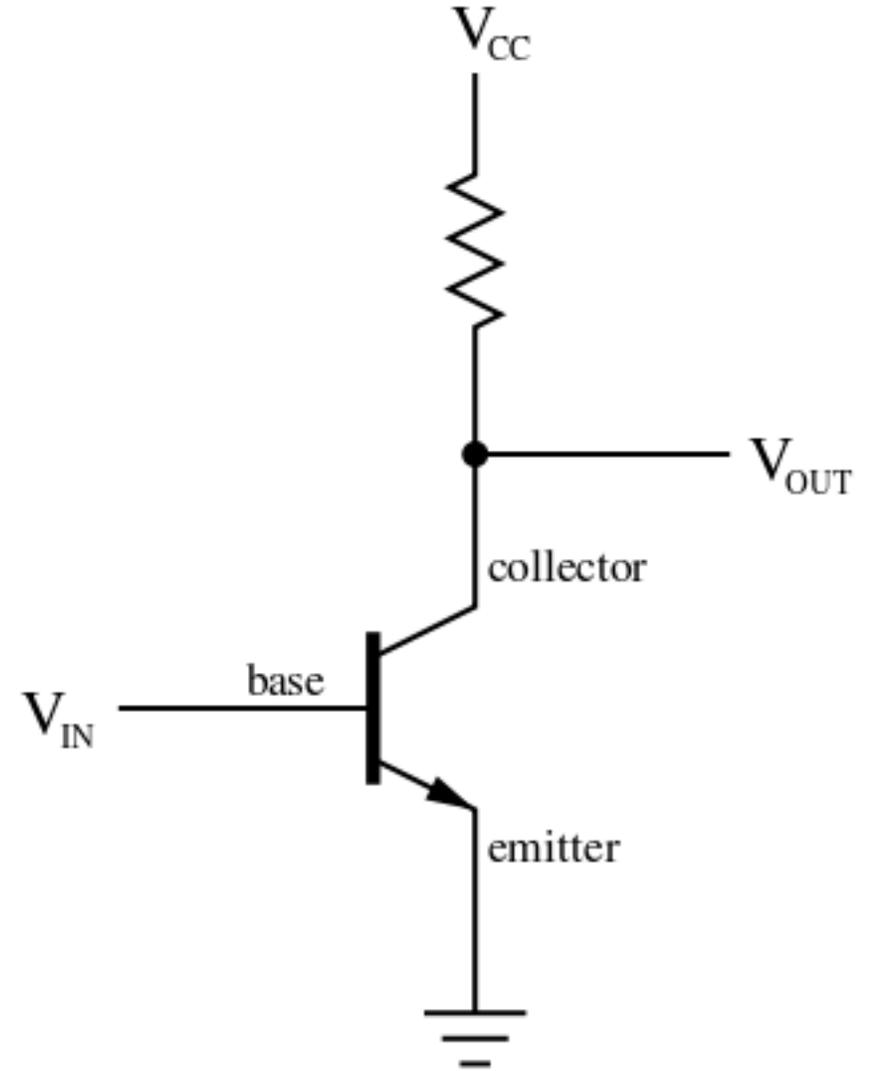
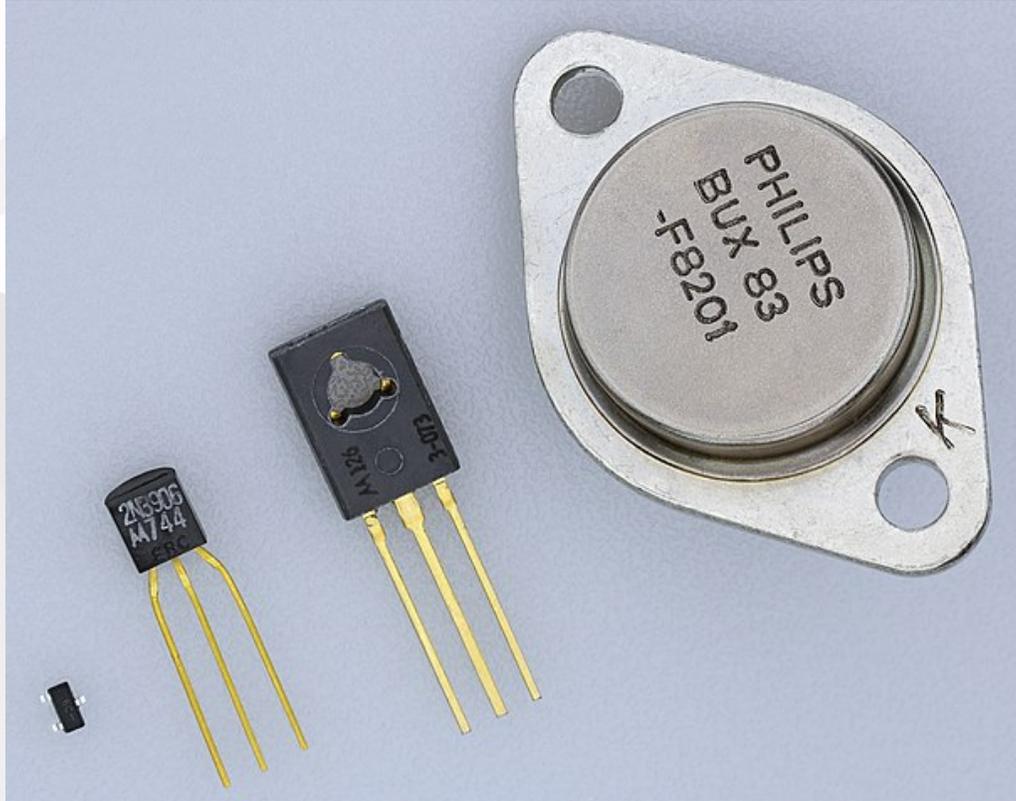


- **Inductor**: Contribueix a mantindre la corrent estable.

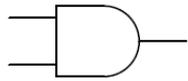


- **Transistor**: És una resistència controlable per senyals.
 - Gràcies als transistors podem construir portes lògiques,
 - amb portes lògiques podem construir circuits digitals,
 - i amb circuits digitals podem construir processadors i altres components dels computadors.

- Transistors i diagrama

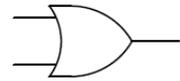


• Portes lògiques amb transistors



AND

A	B	Output
0	0	0
0	1	0
1	0	0
1	1	1



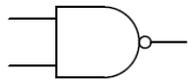
OR

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1



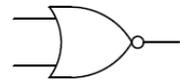
XOR

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	0



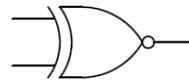
NAND

A	B	Output
0	0	1
0	1	1
1	0	1
1	1	0



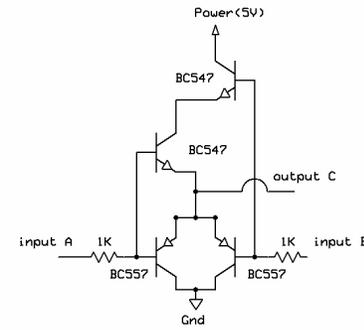
NOR

A	B	Output
0	0	1
0	1	0
1	0	0
1	1	0

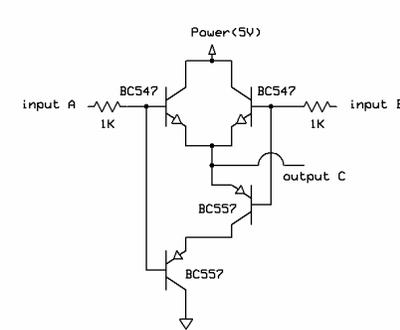


XNOR

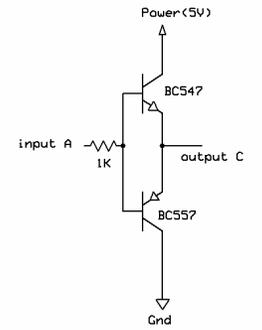
A	B	Output
0	0	1
0	1	0
1	0	0
1	1	1



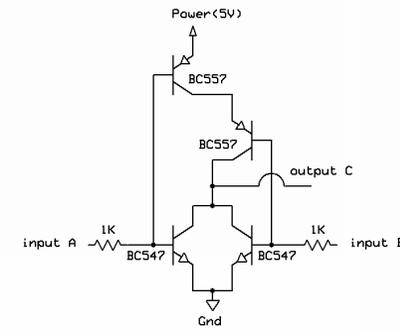
AND Gate



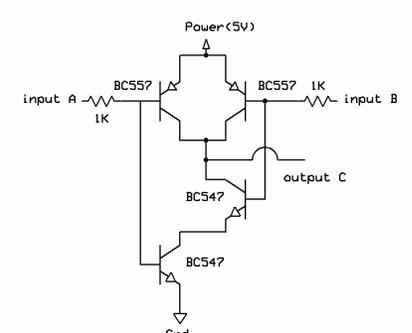
OR Gate



NOT Gate

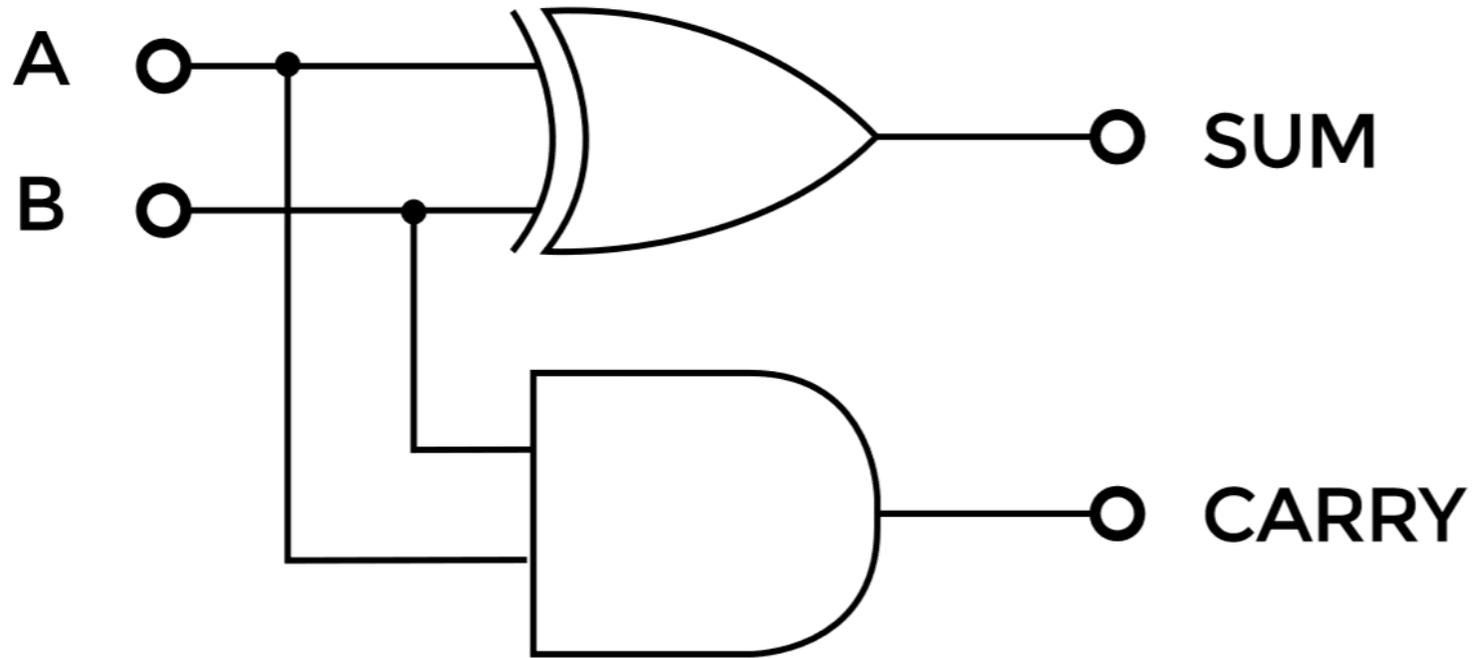


NOR Gate



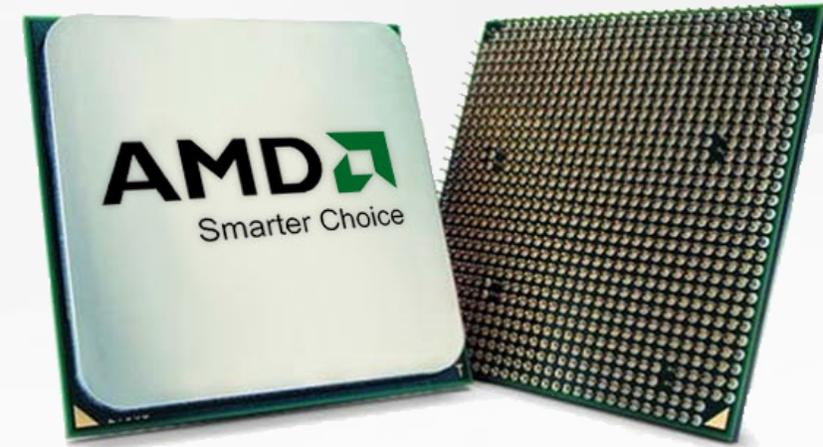
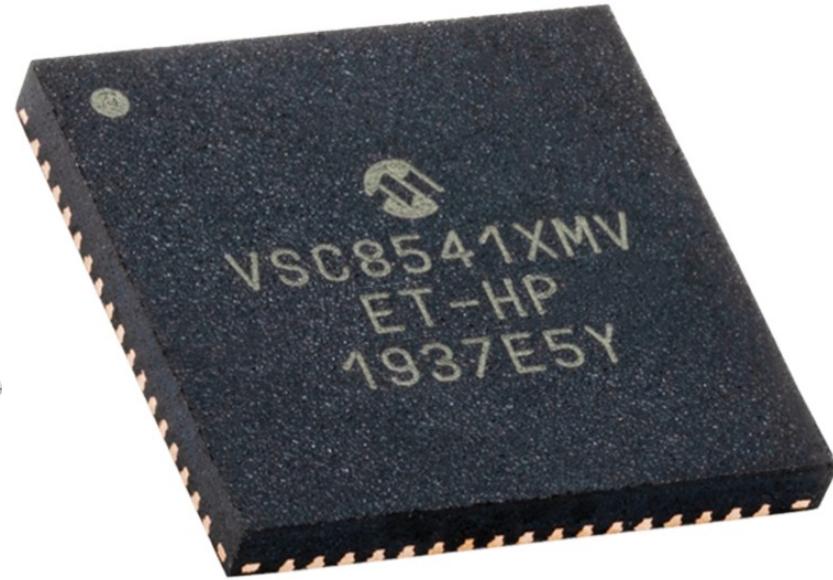
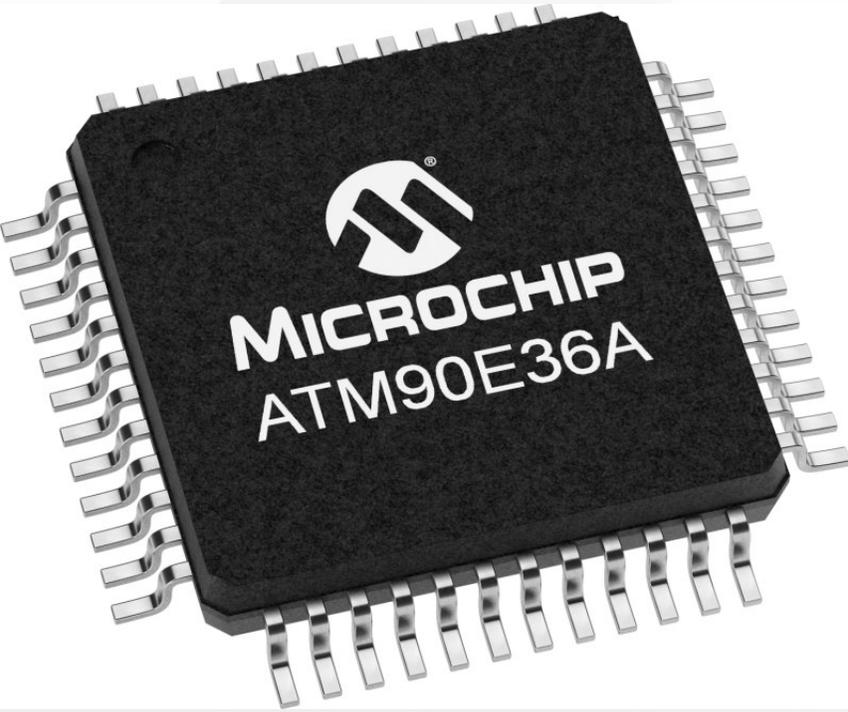
NAND Gate

- [Semisumador](#)

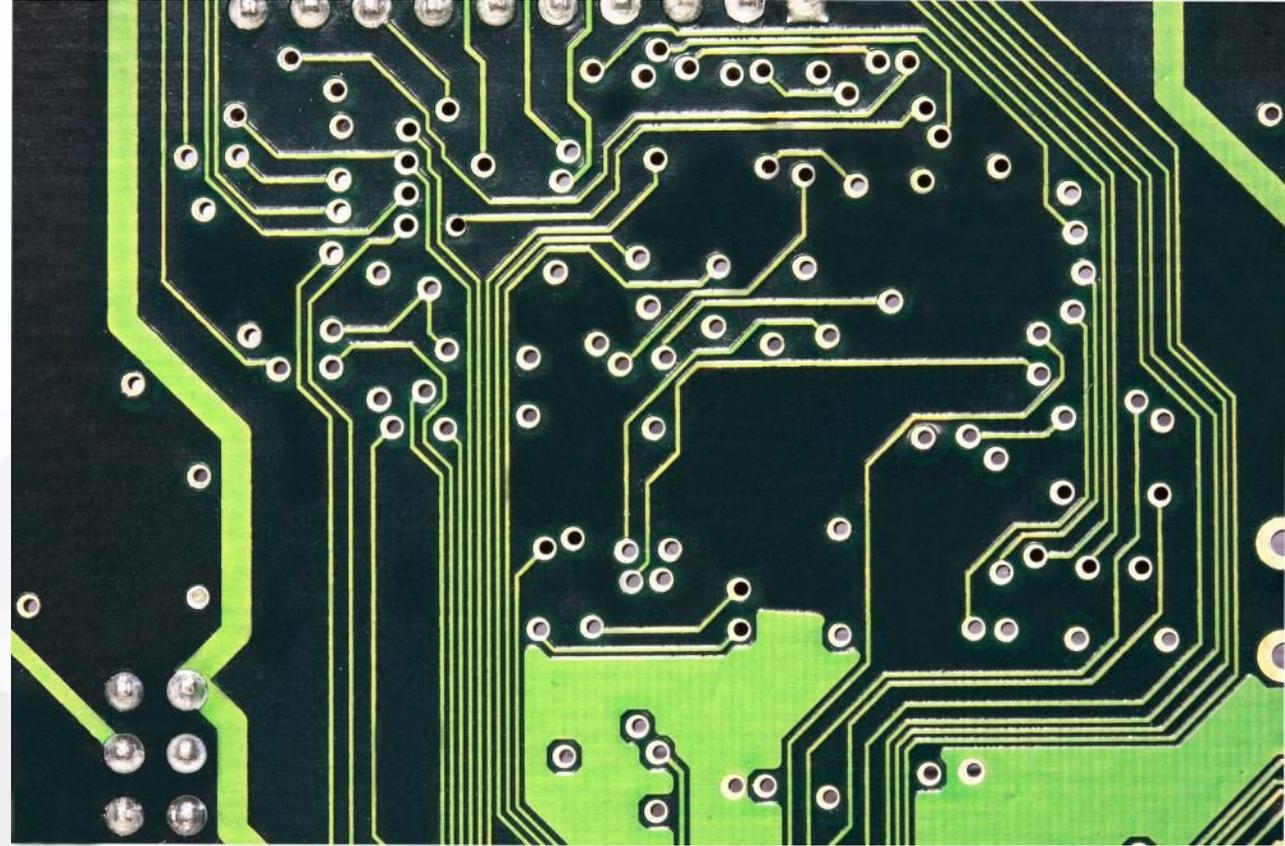


A	B	Sum	Carry
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

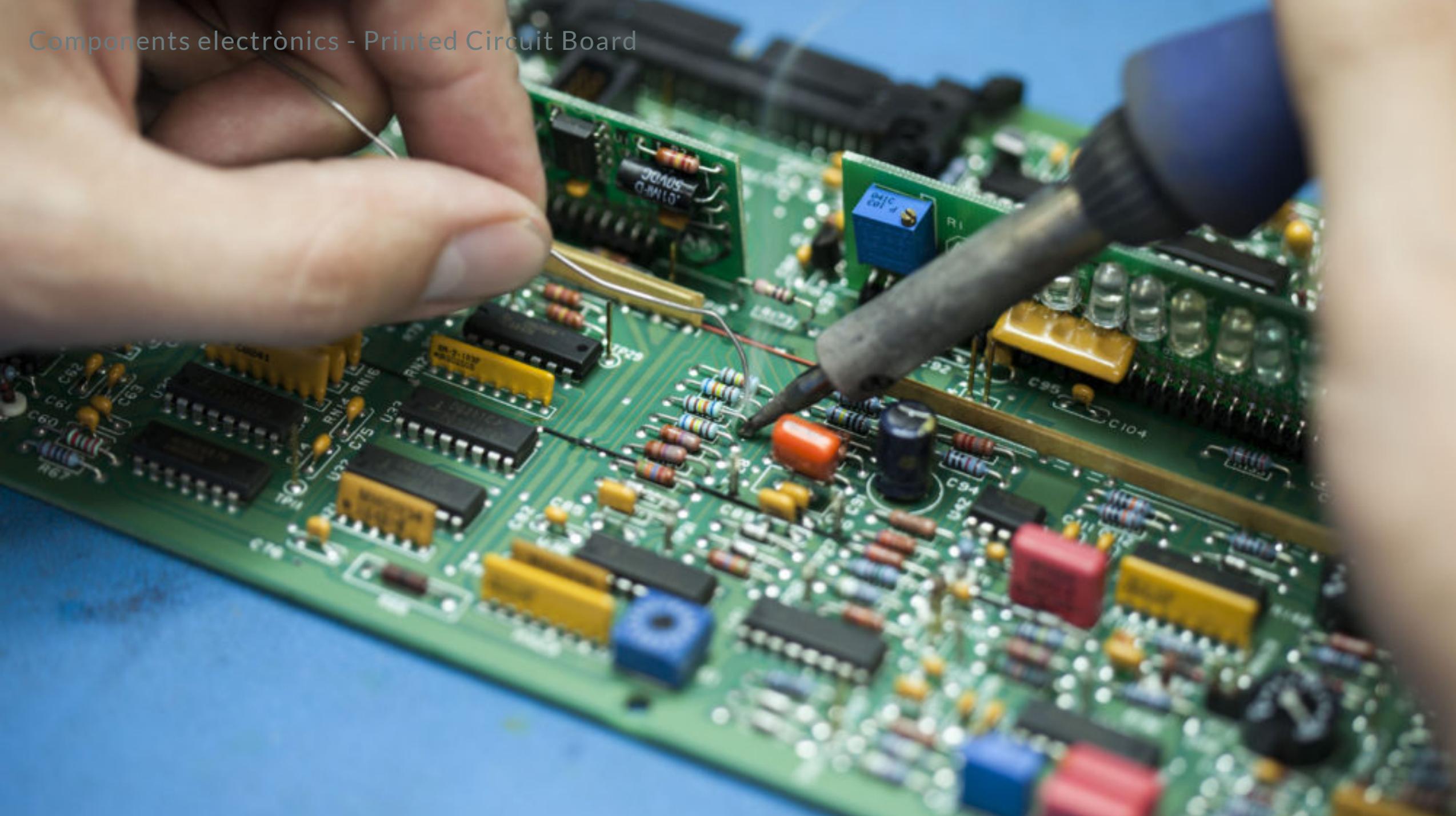
- **Circuit integrat**



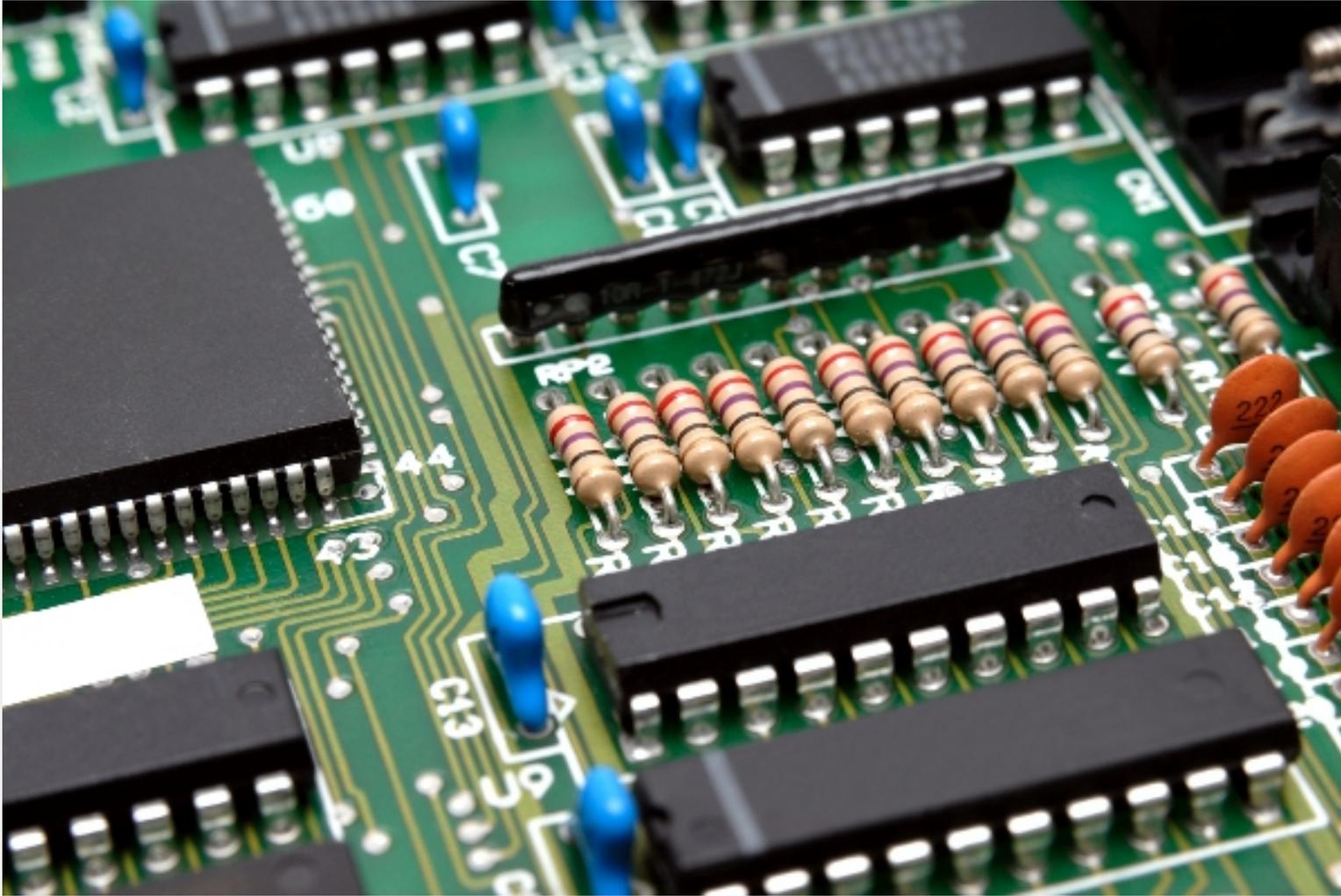
- **Printed Circuit Board**
 - What is a PCB?



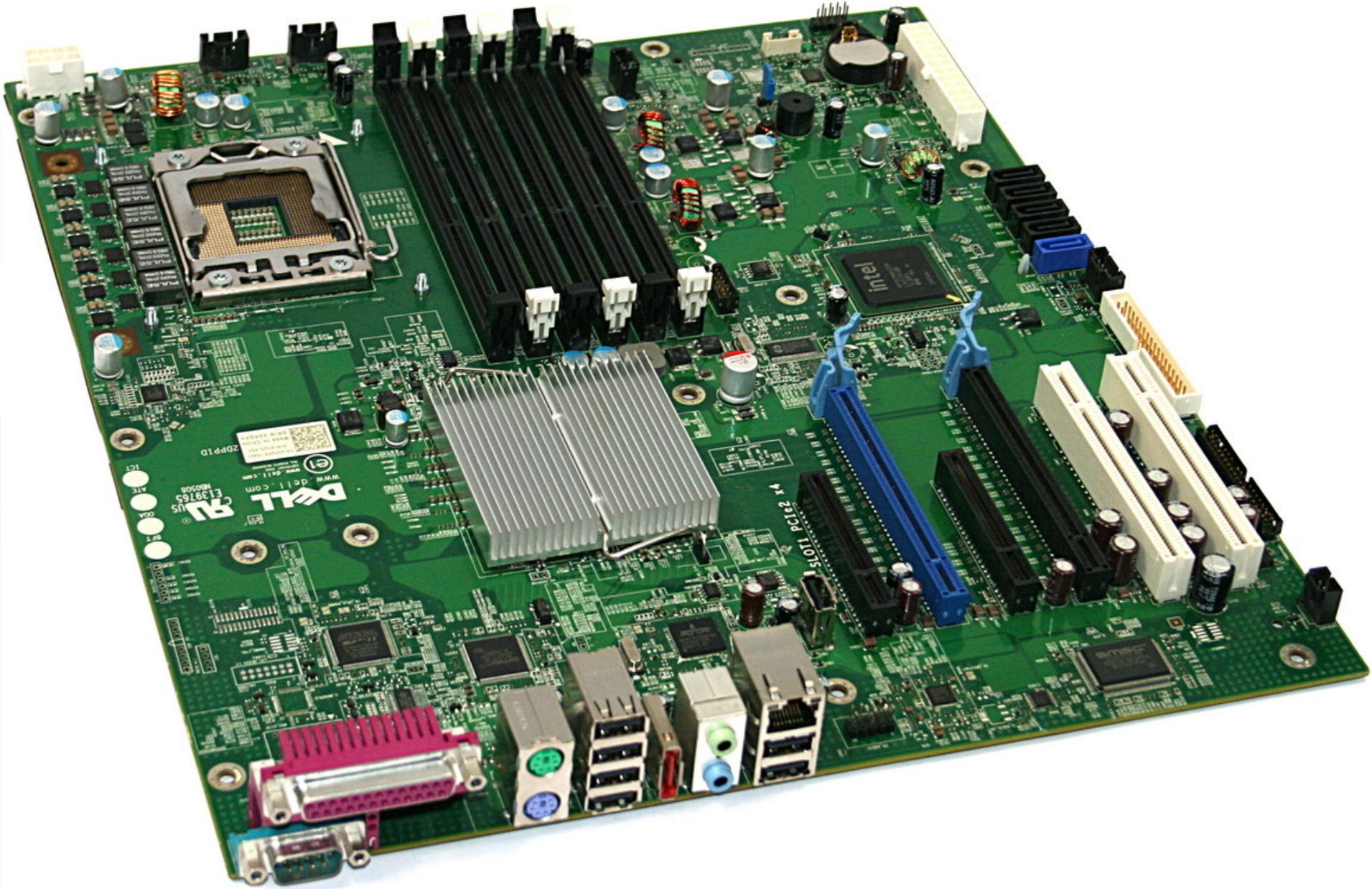
Components electronics - Printed Circuit Board



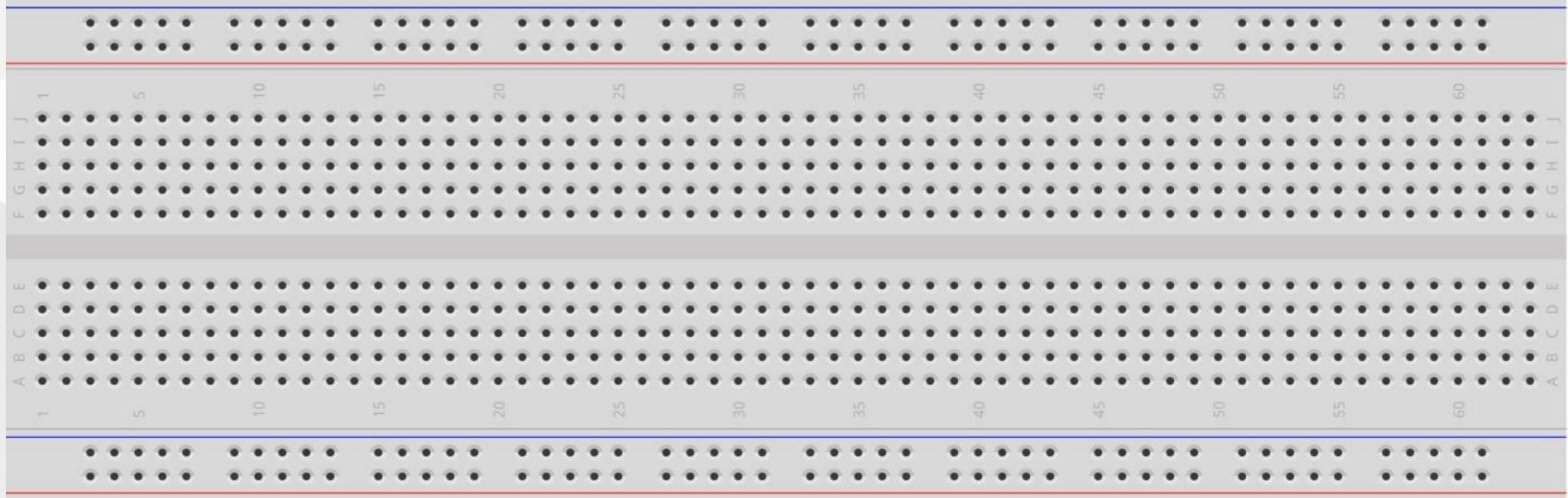
Components electrònics - Printed Circuit Board



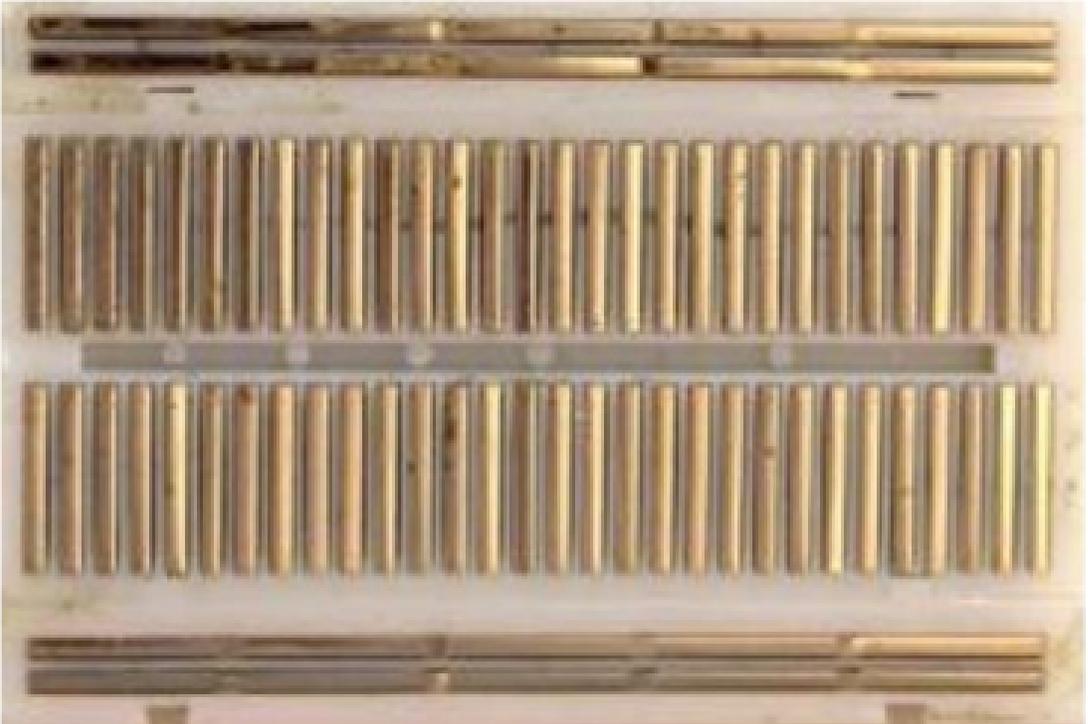
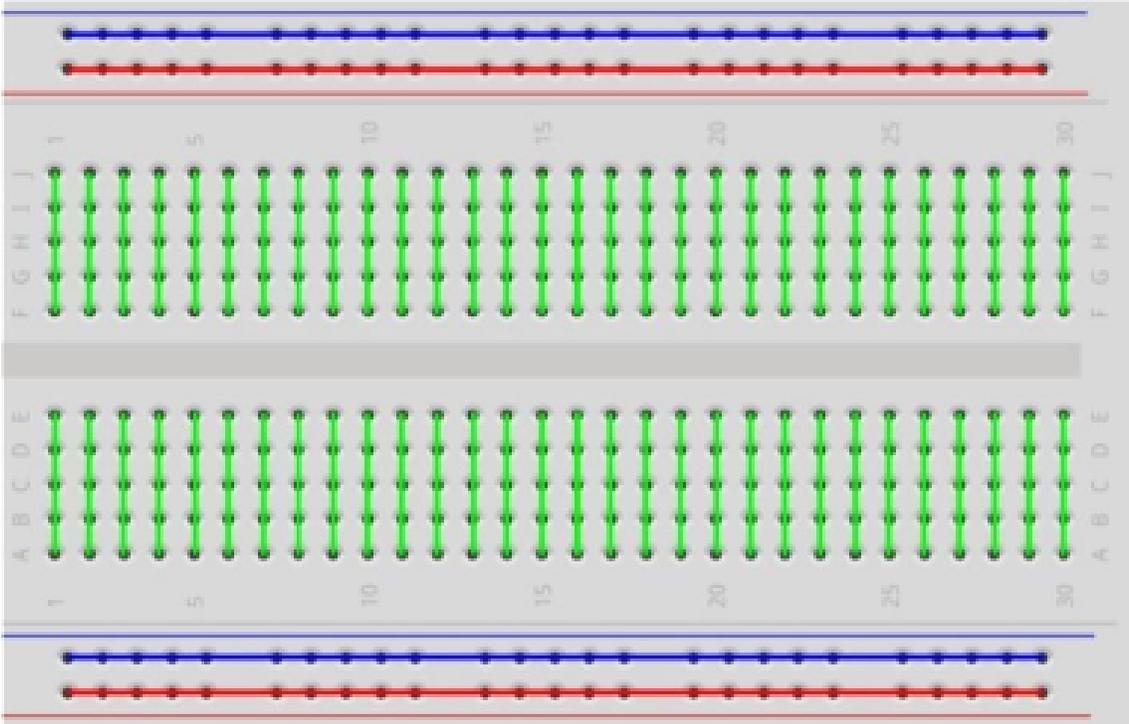
Components electrònics - Printed Circuit Board



- [Breadboard](#) o protoboard



Components electronics - Breadboard

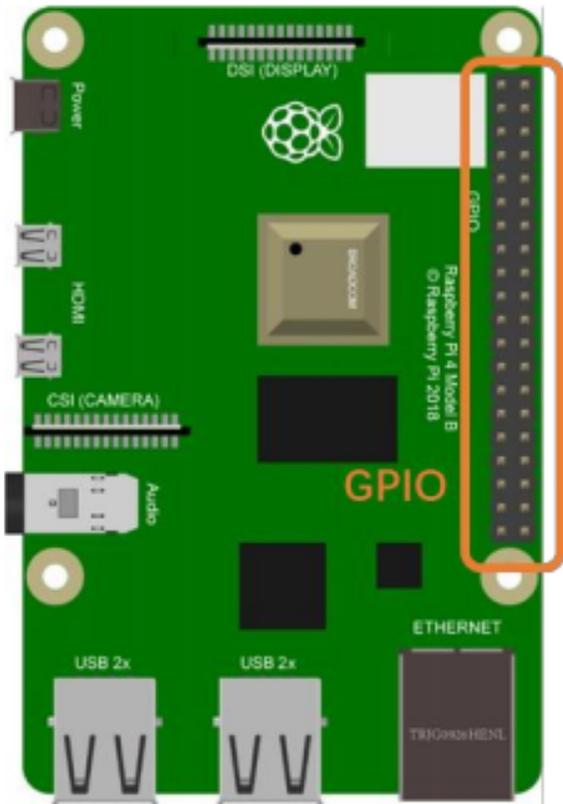


Raspberry Pi

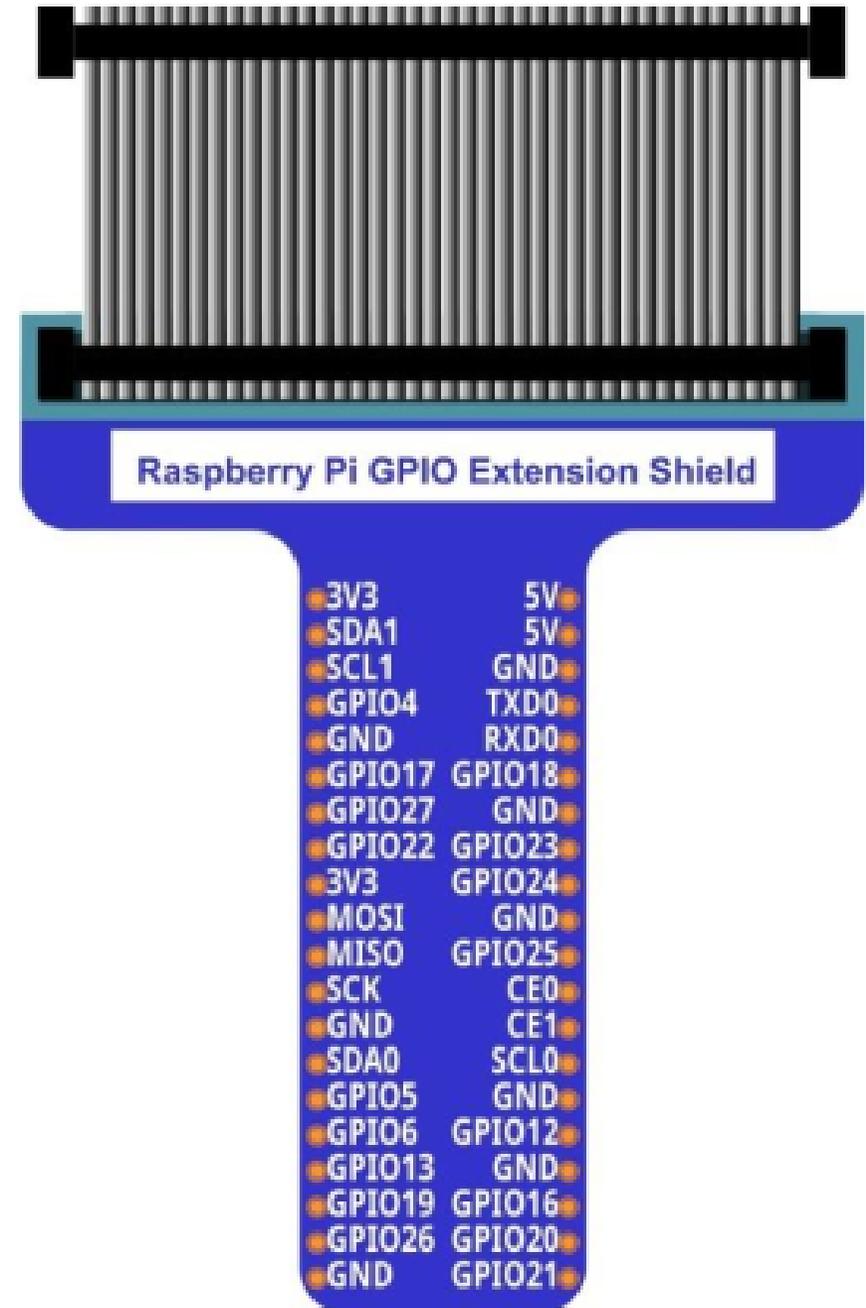
Raspberry Pi



Raspberry Pi



	Pin 1	Pin 2		Pin 39	Pin 40
+3V3			+5V		
GPIO2 / SDA1			+5V		
GPIO3 / SCL1			GND		
GPIO4			TXD0 / GPIO 14		
GND			RXD0 / GPIO 15		
GPIO17			GPIO 18		
GPIO27			GND		
GPIO22			GPIO 23		
+3V3			GPIO 24		
GPIO10 / MOSI			GND		
GPIO9 / MISO			GPIO 25		
GPIO11 / SCLK			CE0# / GPIO8		
GND			CE1# / GPIO7		
GPIO0 / ID_SD			ID_SC / GPIO1		
GPIO5			GND		
GPIO6			GPIO12		
GPIO13			GND		
GPIO19 / MISO			CE2# / GPIO16		
GPIO26			MOSI / GPIO20		
GND			SCLK / GPIO21		



Raspberry Pi

