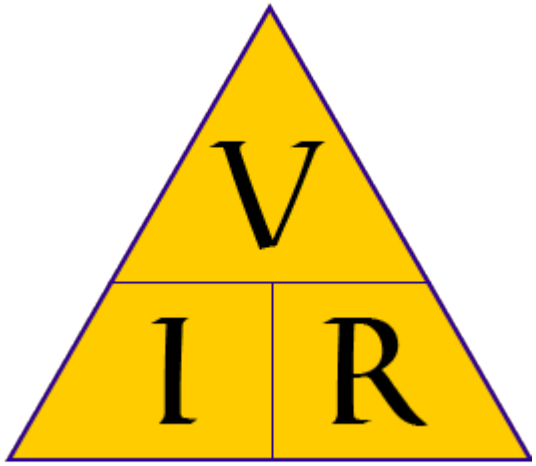
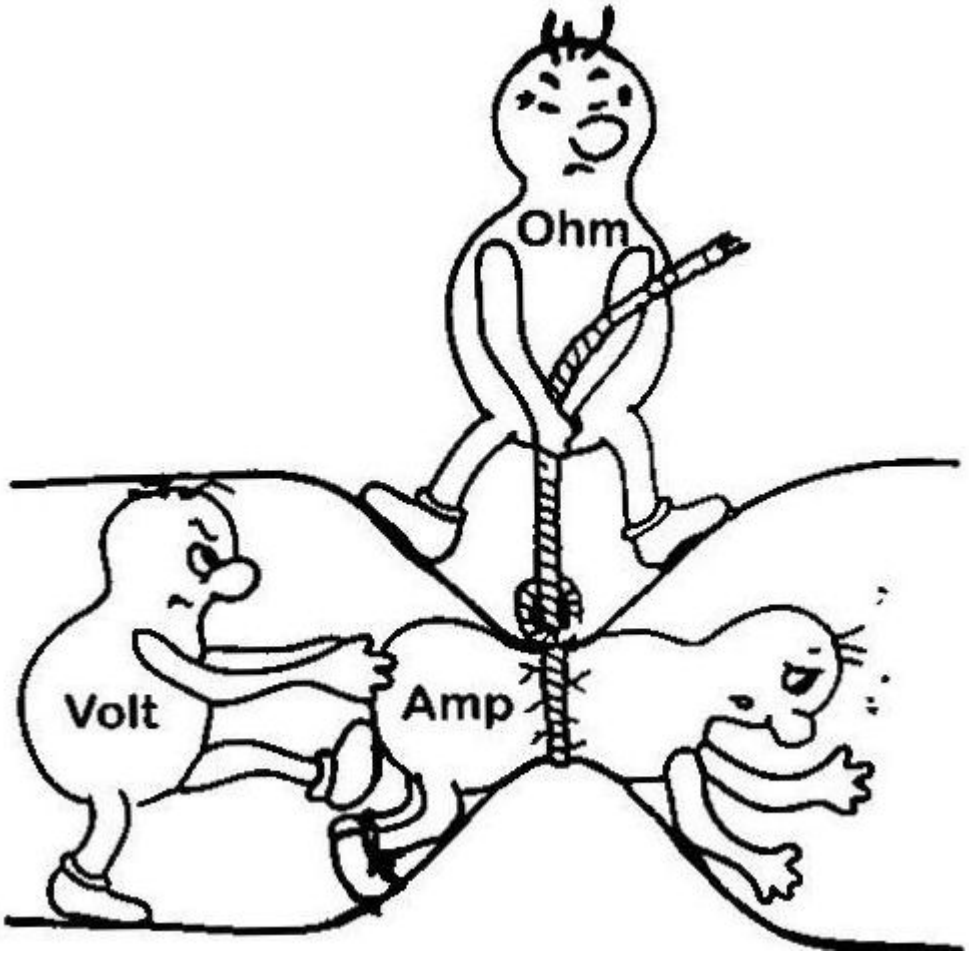
Ohm Kanunu



Ω

Georg Ohm
(1789-1854)

Ohm Kanunu



DİRENÇ

Direnç üzerindeki :
1.Renk Bandı:Birinci sayı
2.Renk Bandı:İkinci sayı
3.Renk Bandı:Çarpan
4.Renk Bandı:Tolerans

Örnek:
1.Band: Kahverengi 1
2.Band: Siyah 0
3.Band: Kırmızı 10^2
4.Band: Gümüş ±%10

Bu direncin değeri 1000 ±%10 yani 1Kiloohm dur.

RENKLER	SAYI	ÇARPAN	TOLERANS
Renksiz	–	–	±%20
Gümüş	–	10^{-2}	±%10
Altın	–	10^{-1}	±%5
Siyah	0	10^{0}	–
Kahverengi	1	10^{1}	±%1
Kırmızı	2	10^{2}	±%2
Turuncu	3	10^{3}	–
Sarı	4	10^{4}	–
Yeşil	5	10^{5}	±%0,5
Mavi	6	10^{6}	±%0,25
Mor	7	10^{7}	±%0,1
Gri	8	10^{8}	±%0,05
Beyaz	9	10^{9}	–

TABLE 3–1 Resistivity of Materials, ρ

Material	Resistivity, ρ, at 20°C (Ω-m)
Silver	1.645×10^{-8}
Copper	1.723×10^{-8}
Gold	2.443×10^{-8}
Aluminum	2.825×10^{-8}
Tungsten	5.485×10^{-8}
Iron	12.30×10^{-8}
Lead	22×10^{-8}
Mercury	95.8×10^{-8}
Nichrome	99.72×10^{-8}
Carbon	3500×10^{-8}
Germanium	20–2300*
Silicon	≅500*
Wood	10^{8}–10^{14}
Glass	10^{10}–10^{14}
Mica	10^{11}–10^{15}
Hard rubber	10^{13}–10^{16}
Amber	5×10^{14}
Sulphur	1×10^{15}
Teflon	1×10^{16}

$$R = \frac{\rho \ell}{A} \quad [\text{ohms}, \Omega]$$

ρ = resistivity, in ohm-meters (Ω-m)

ℓ = length, in meters (m)

A = cross-sectional area, in square meters (m^2).

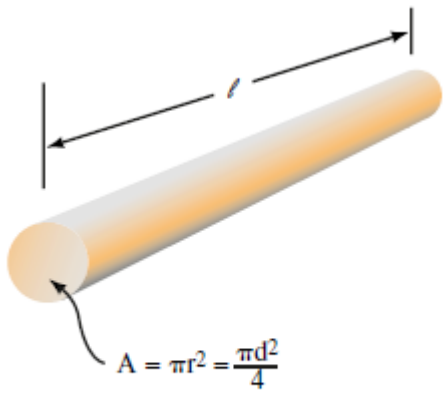
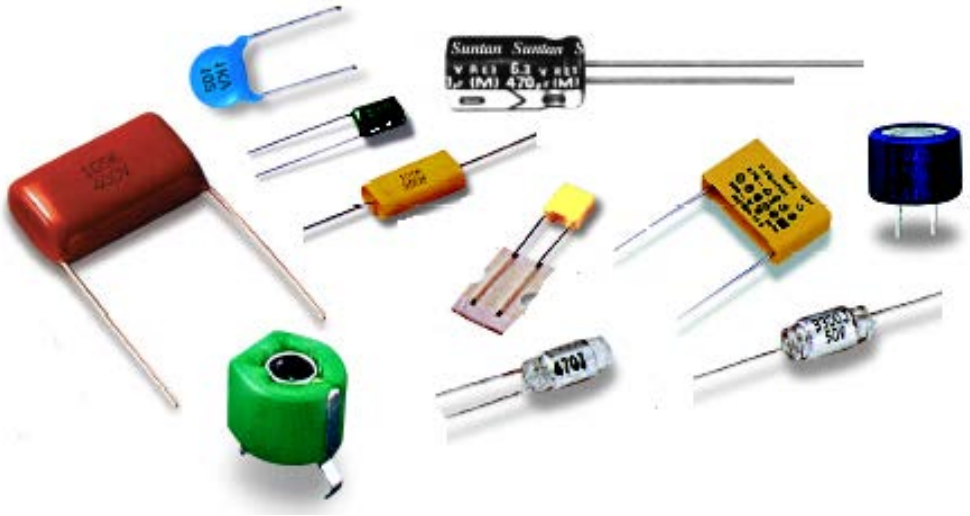


FIGURE 3–2 Conductor with a circular cross-section.

Kondansatör



Kondansatör

Kondansatörler yapılarındaki dielektrik malzemeye göre sınıflandırılırlar. Belli başlı kondansatörler şunlardır:

1. Havalı
2. Kağıt
3. Mika
4. Polistren
5. Tantal
6. Yağlı
7. Elektrolitik
8. Polyester
9. Seramik
10. Mylar

http://www.youtube.com/watch?v=5qwCmyETAvA

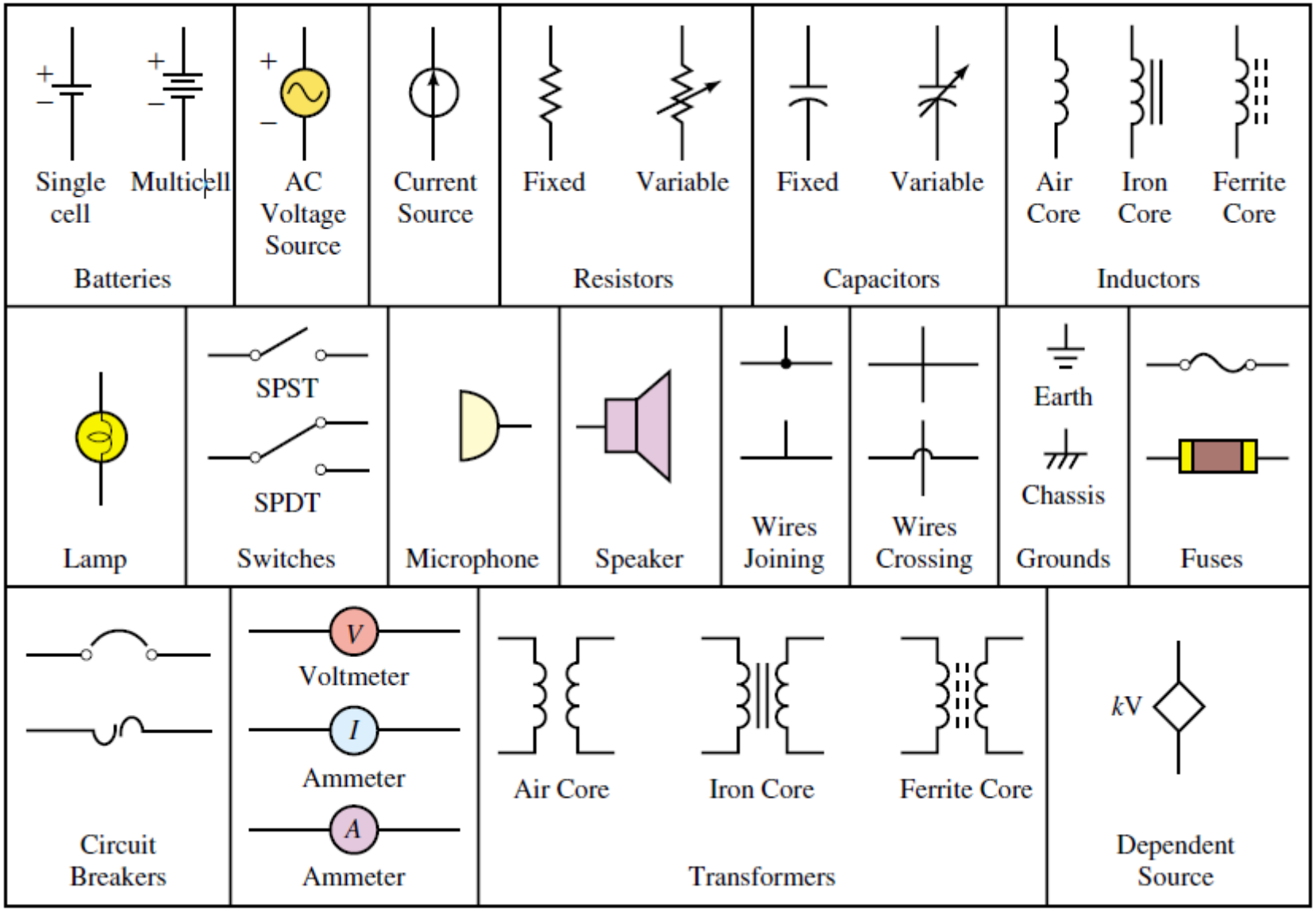
http://www.youtube.com/watch?v=X5bzjs3ByBU

http://www.capacitorguide.com/

http://www.youtube.com/watch?v=spuf53W8ckE

http://www.youtube.com/watch?v=ZYH9dGl4gUE

gibi kondansatör çeşitleri mevcuttur.


Single cell
Multicell
Batteries
AC Voltage Source
Current Source
Fixed
Variable
Resistors
Fixed
Variable
Capacitors
Air Core
Iron Core
Ferrite Core
Inductors
Lamp
SPST
SPDT
Switches
Microphone
Speaker
Wires Joining
Wires Crossing
Earth
Chassis
Grounds
Fuses
Circuit Breakers
V
Voltmeter
I
Ammeter
A
Ammeter
Air Core
Iron Core
Ferrite Core
Transformers
kV
Dependent Source