

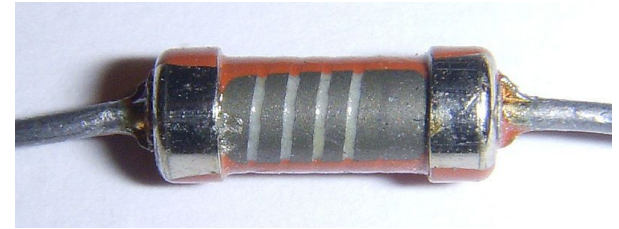
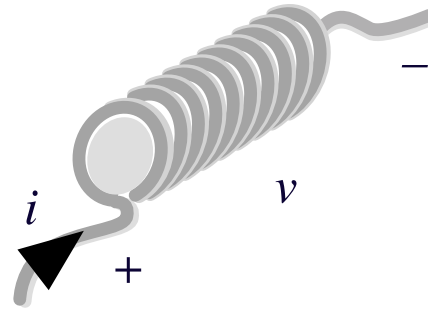
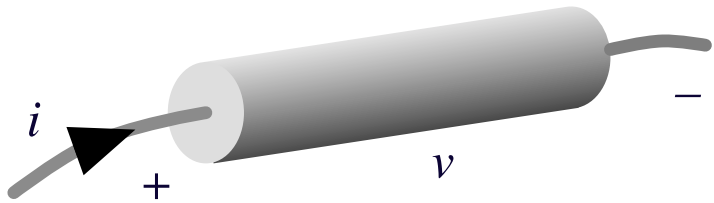
ELETTROTECNICA CIRCUITALE

M. GUARNIERI

COMPONENTI ADINAMICI

cap. 2 – slide aggiuntive

Resistori ohmici



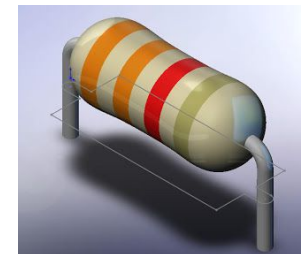
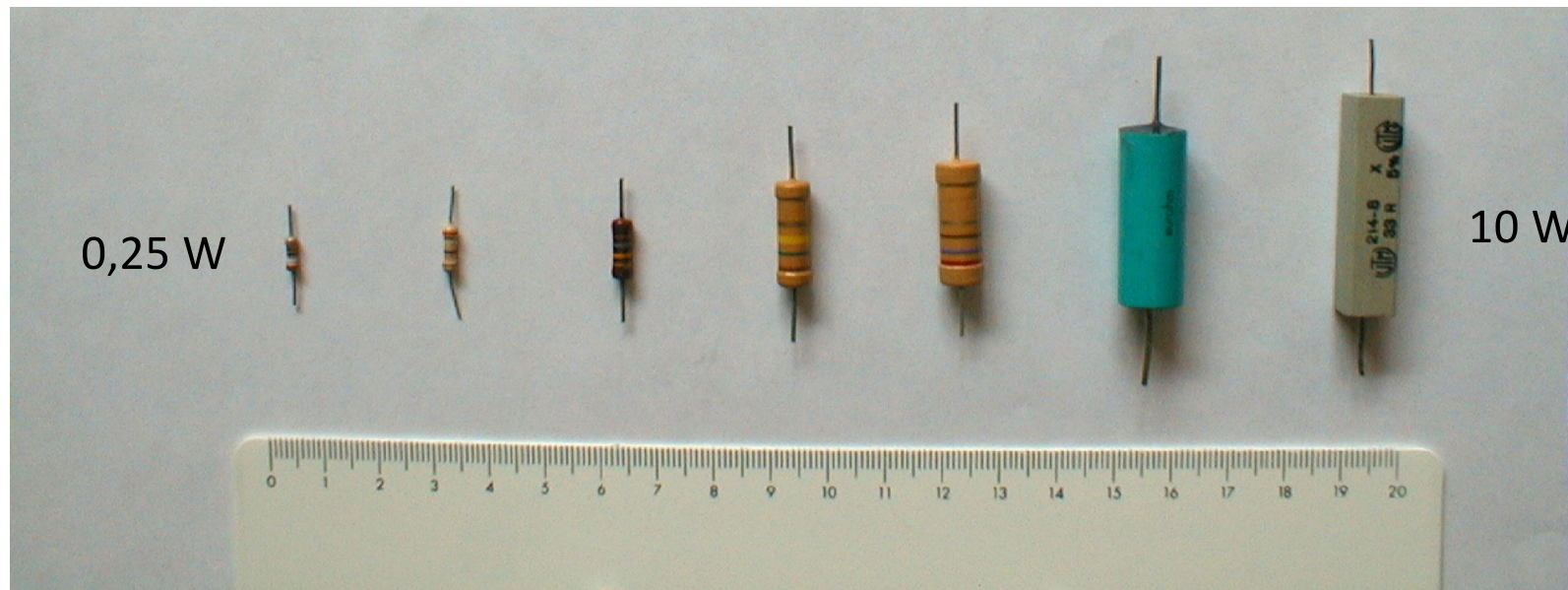
$$\mathbf{E}(P,t) = \rho \mathbf{J}(P,t)$$

$$\left(\int_S dS \right) \left(\int_\ell \mathbf{E} d\ell \right) = \rho \left(\int_\ell d\ell \right) \left(\int_S \mathbf{J} dS \right) \Rightarrow Sv = \rho \ell i$$

$$v = \rho \frac{\ell}{S} i = R i \quad \text{con} \quad R = \rho \frac{\ell}{S}$$

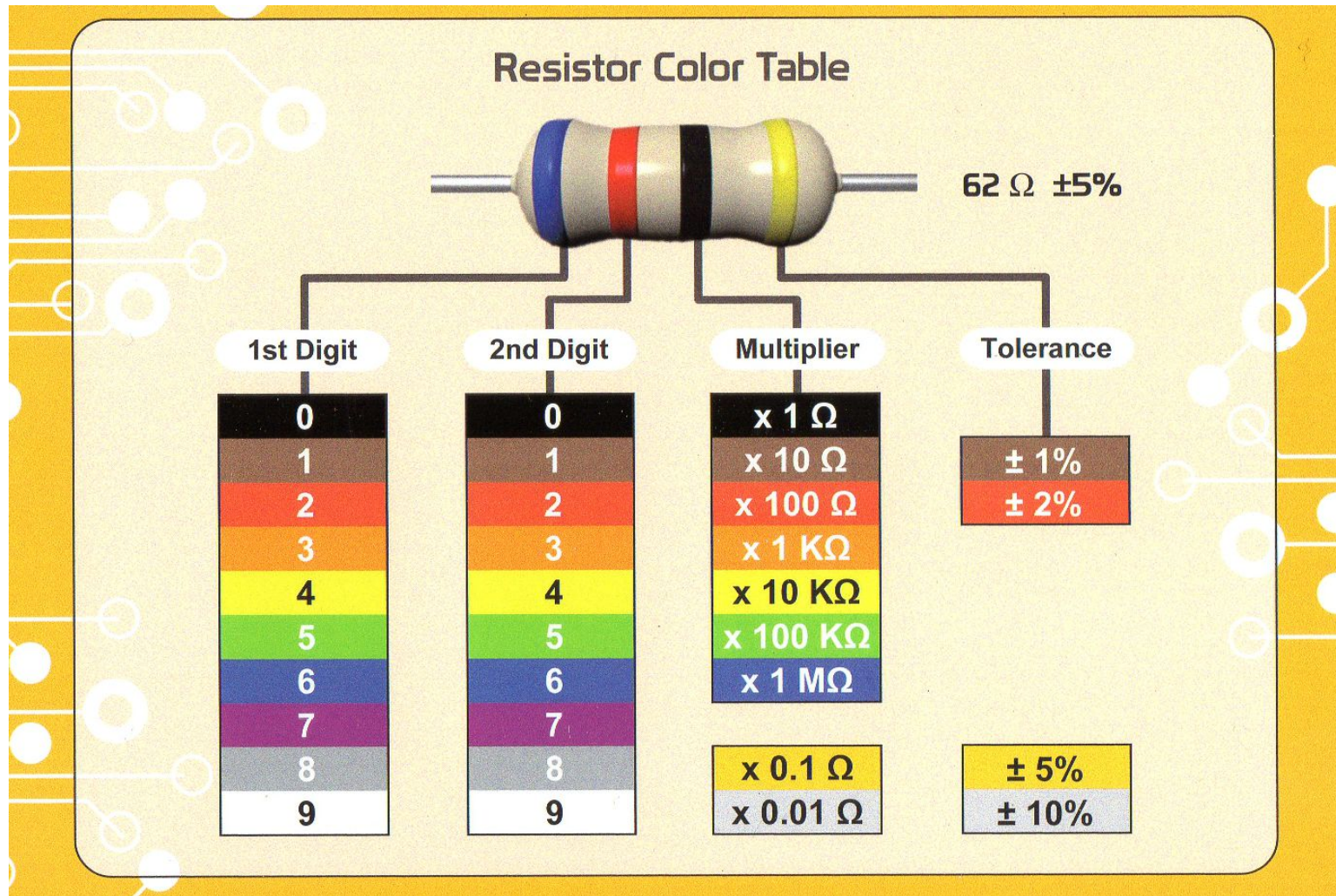
Resistori ohmici “resistenze”

per circuiti di segnale o di piccola potenza
possono dissipare alcuni watt per centimetro cubo.

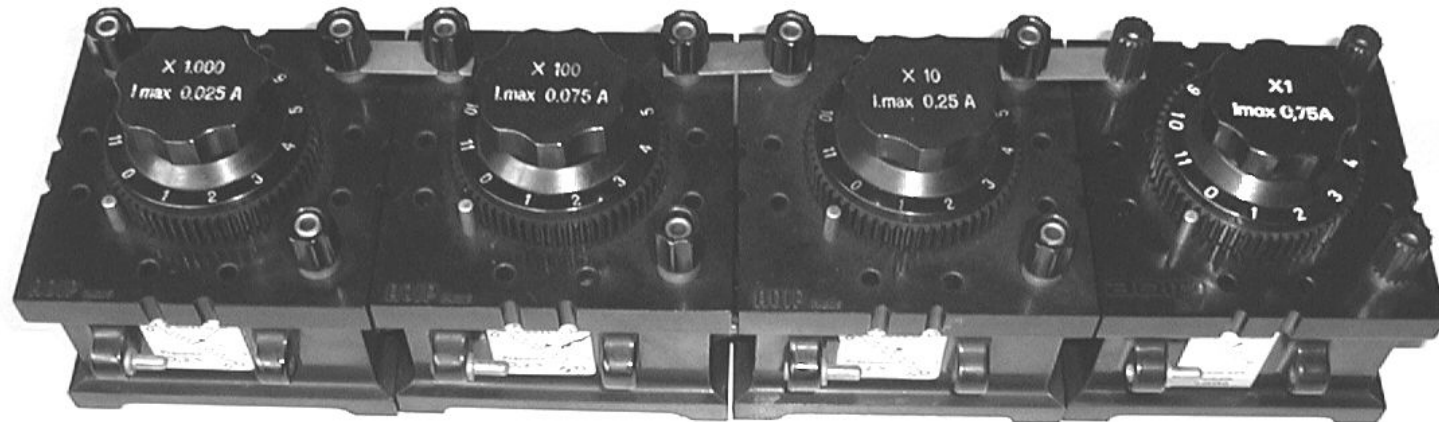


Resistori ohmici

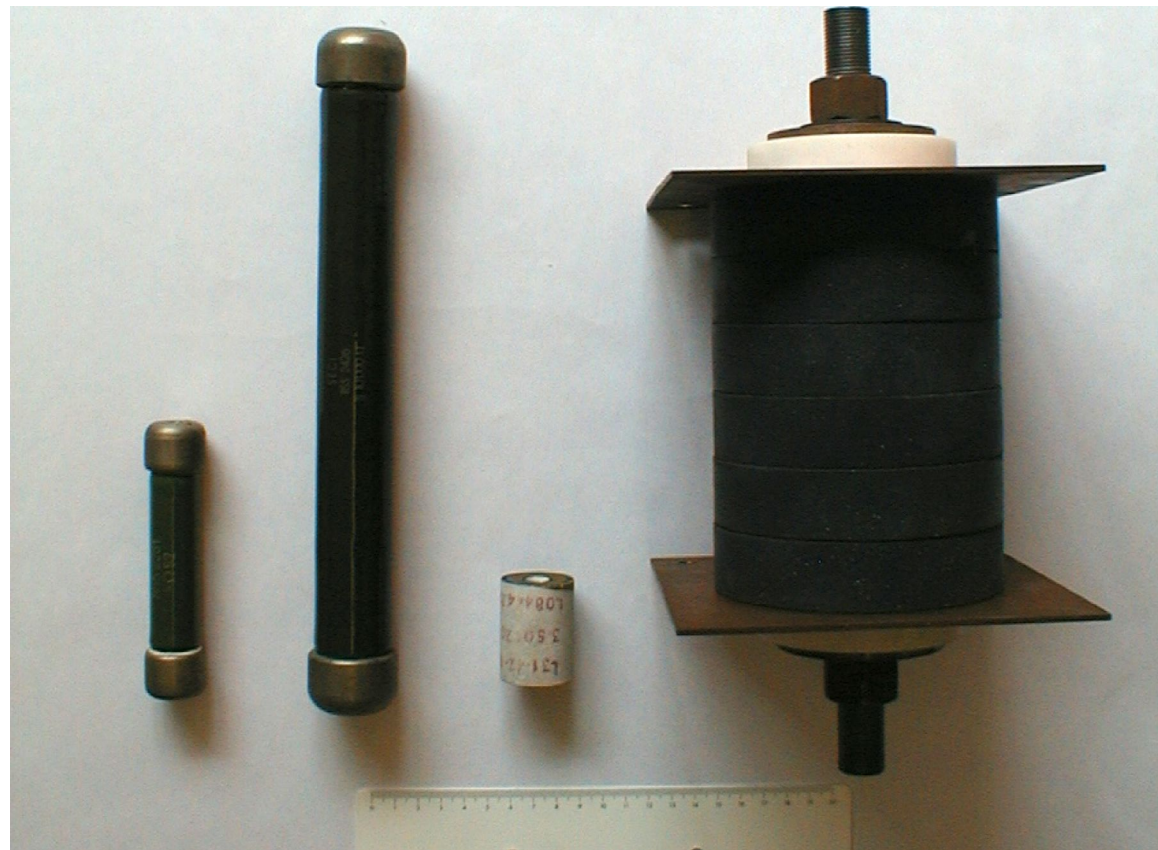
“resistenze” – scala colori



Resistori ohmici a decadi da laboratorio

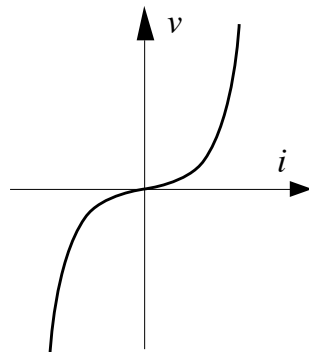
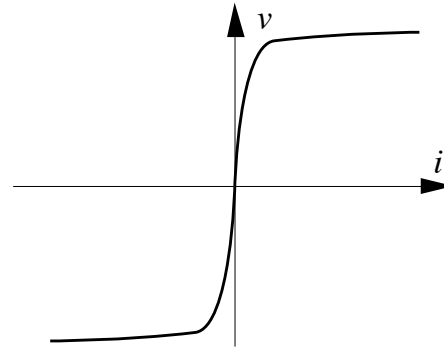
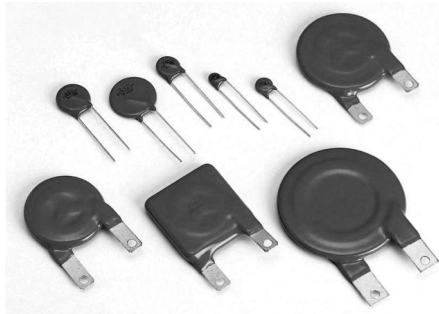


Resistori per alta tensione /alta potenza continuativa

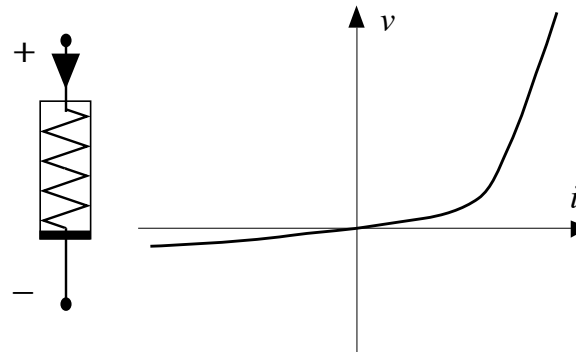


Resistori non lineari

Varistori

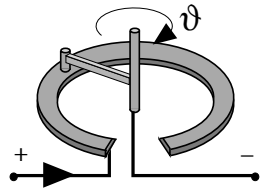
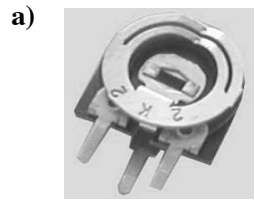
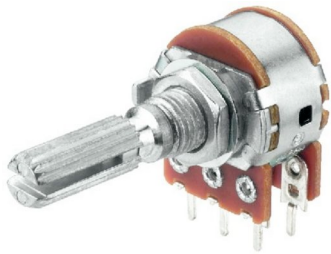


Lampadina a incandescenza
convesso

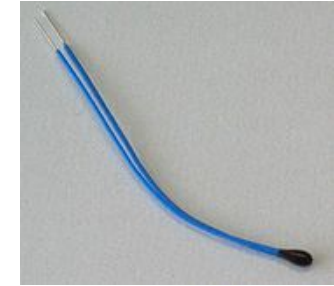
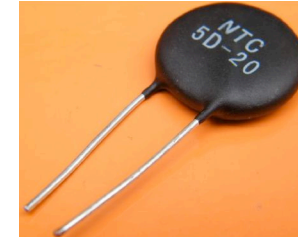
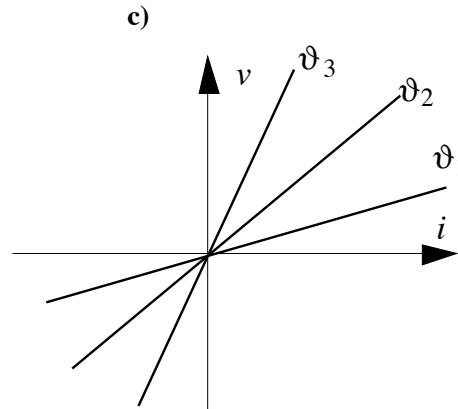


Resistore

Resistori comandati



potenziometro, trimmer



termoresistore

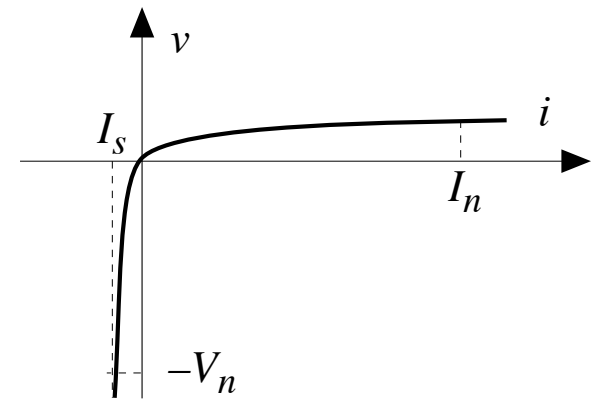
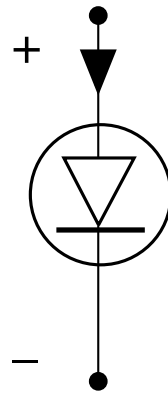
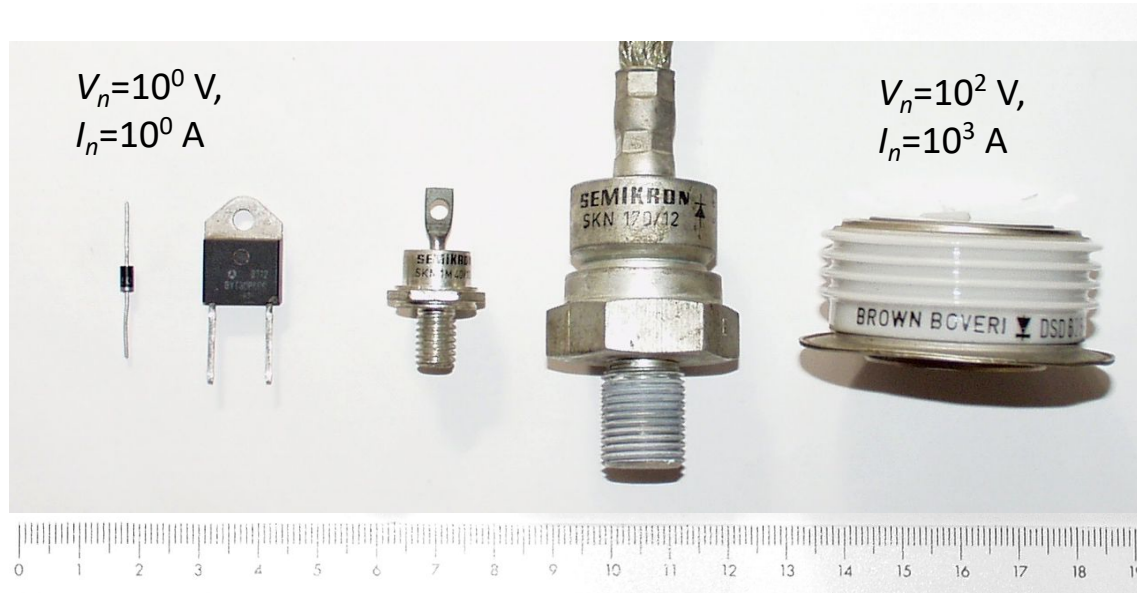


fotoresistore

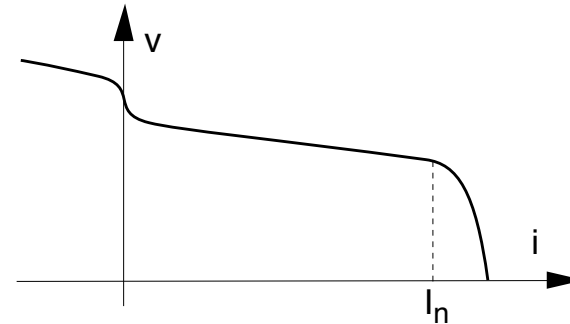
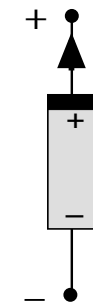
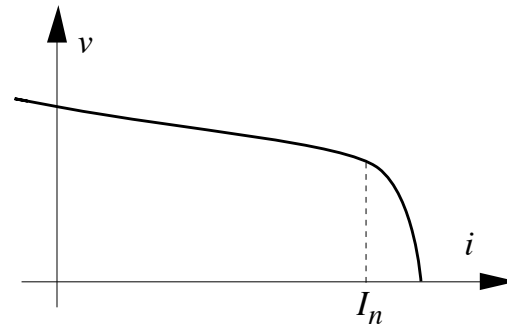
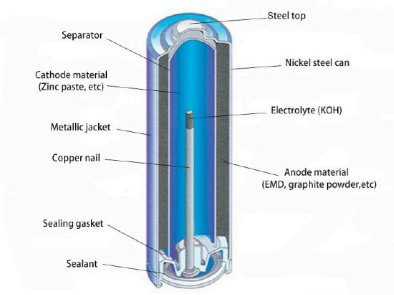
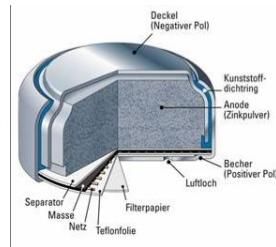


magnetoresistore

Diodi



Generatori reali di potenza elettrochimici



Panasonic NCR18500

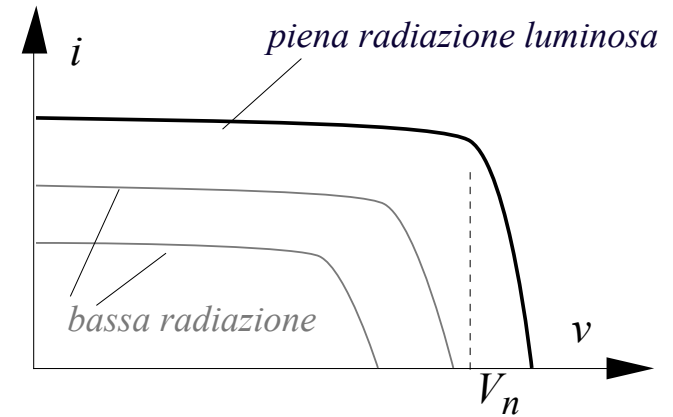
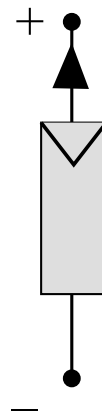


Generatori reali di potenza elettrochimici



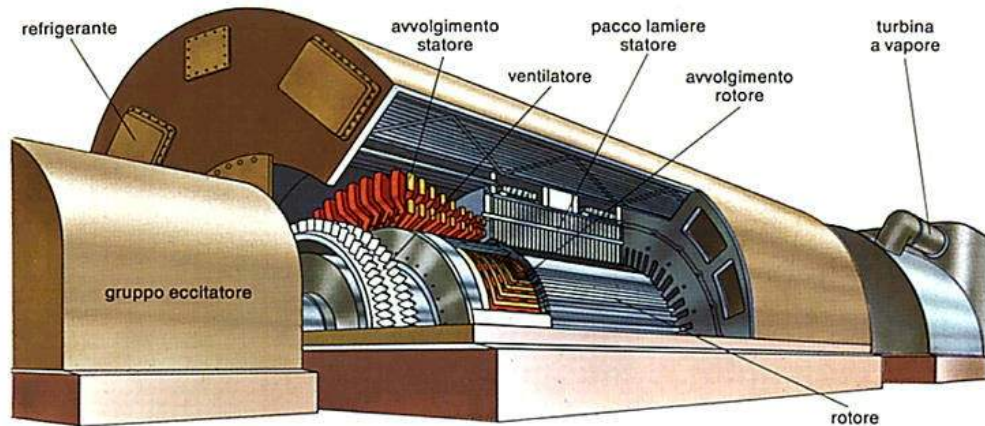
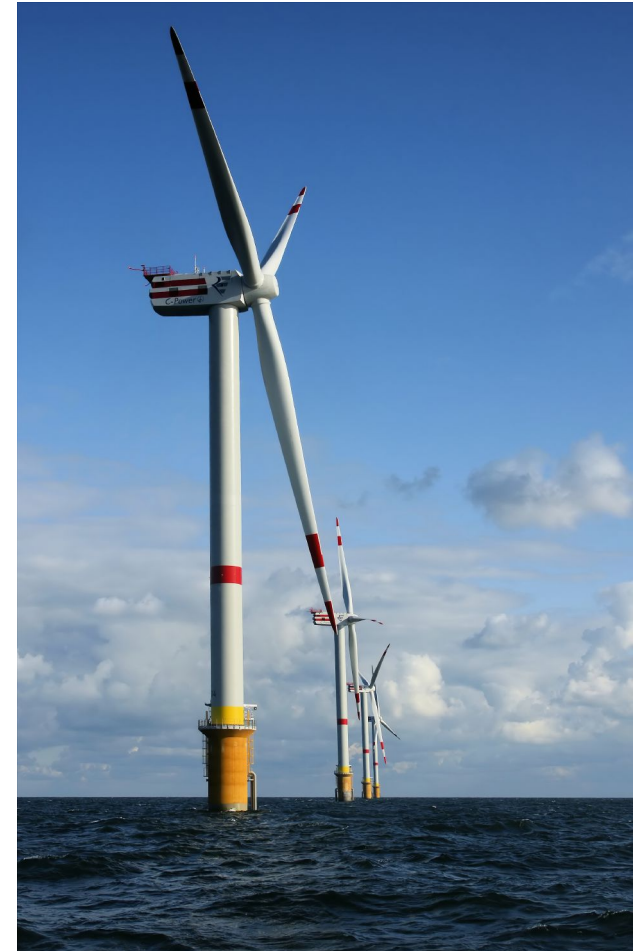
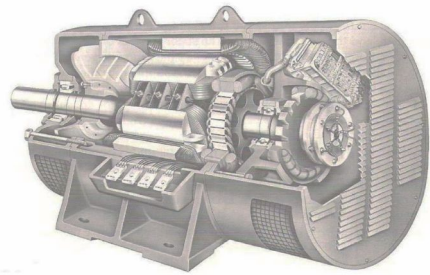
185 kW, 53 kWh → 210 km/h 393 km

Generatori reali di potenza fotovoltaici (PV)

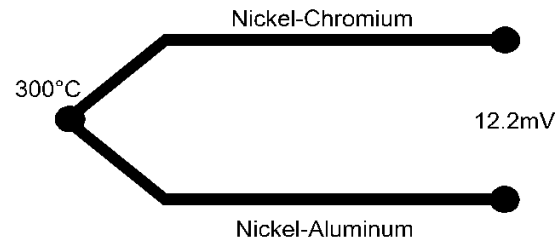


non più la maggiore:
Longyangxia Dam (China): 850 MW

Generatori reali di potenza elettromeccanici



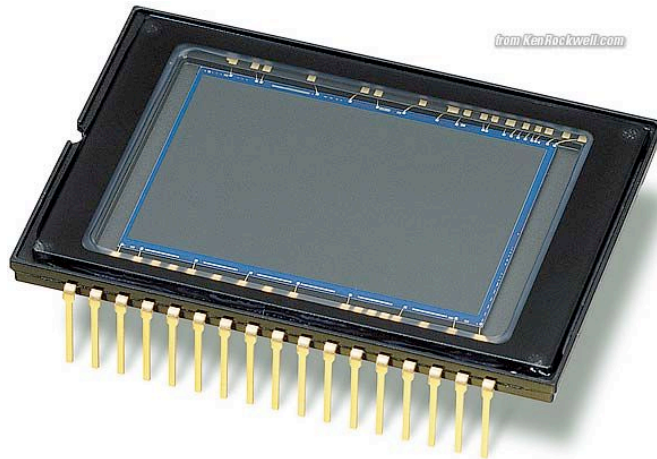
Generatori reali di segnale



Termocoppia



generatori piezoelettrici



Trasduttore di immagine a matrice di sensori fotovoltaici – CCD (charge-coupled device)



Generatore elettronico di segnali