Electricity

Parameter	Symbol	SI Unit	Dimensional Formula
Electric current	I	Ampere (A)	$[A]$
Charge	Q, q	Coulomb (C)	$[TA]$
Voltage, Electric potential difference	V	Volt (V)	$[ML^2T^{-3}A^{-1}]$
Electromotive force (EMF)	ε	Volt (V)	$[ML^2T^{-3}A^{-1}]$
Resistance	R	Ohm (Ω)	$[ML^2T^{-3}A^{-2}]$
Resistivity	ρ	Ohm meter ($\Omega \cdot m$)	$[ML^3T^{-3}A^{-2}]$
Conductivity	σ	Siemens per meter (S/m)	$[M^{-1}L^{-3}T^3A^2]$
Current density	j	Ampere per square meter (A/m^2)	$[AL^{-2}]$
Power	P	Watt (W)	$[ML^2T^{-3}]$
Energy	W	Joule (J)	$[ML^2T^{-2}]$
Drift velocity	v_d	Meter per second (m/s)	$[LT^{-1}]$
Mobility	μ	Meter squared per volt per second (m^2/V·s)	$[L^2T^{-1}V^{-1}]$
Internal resistance	r	Ohm (Ω)	$[ML^2T^{-3}A^{-2}]$
Conductance	G	Siemens (S)	$[M^{-1}L^{-2}T^3A^2]$
Capacitance	C	Farad (F)	$[M^{-1}L^{-2}T^4A^2]$

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