

Conversion Table for natural and MKSA Units

Natural units defined by: $\hbar = c = 1$ (and $4\pi\epsilon_0 = 1$). Remaining unit is chosen to be Energy (eV).

Quantity	Symbol	natural units	MKSA
Length	ℓ	1/eV	$1.9732705 \cdot 10^{-7} \text{ m} \approx 0.2 \text{ } \mu\text{m}$
Mass	m	1 eV	$1.7826627 \cdot 10^{-36} \text{ kg}$
Time	t	1/eV	$6.5821220 \cdot 10^{-16} \text{ s} \approx .66 \text{ fs}$
Frequency	ν	1 eV	$1.5192669 \cdot 10^{15} \text{ Hz}$
Speed	v	1	$2.99792458 \cdot 10^8 \text{ m/s}$
Momentum	p	1 eV	$5.3442883 \cdot 10^{-28} \text{ kg}\cdot\text{m/s}$
Force	F	1 eV ²	$8.1194003 \cdot 10^{-13} \text{ N}$
Power	P	1 eV ²	0.24341350 mW
Energy	E	1 eV	$1.6021773 \cdot 10^{-19} \text{ J}$
Charge	q	1	$1.8755468 \cdot 10^{-18} \text{ C}$
Charge density	ρ	1 eV ³	244.10013 C/m^3
Current	I	1 eV	2.8494561 mA
Current density	J	1 eV ³	$7.3179379 \cdot 10^{10} \text{ A/m}^2$
Electric field	E	1 eV ²	432.90844 V/mm
Potential	Φ	1 eV	85.424546 mV
Polarization	P	1 eV ²	$4.8167560 \cdot 10^{-5} \text{ C/m}^2$
Conductivity	σ	1 eV	$1.6904124 \cdot 10^5 \text{ S/m}$
Resistance	R	1	$29.979246 \text{ } \Omega$
Capacitance	C	1/eV	$2.1955596 \cdot 10^{-17} \text{ F}$
Magnetic flux	ϕ	1	$5.6227478 \cdot 10^{-17} \text{ Wb}$
Magnetic induction	B	1 eV ²	1.4440271 mT
Magnetization	M	1 eV ²	$1.4440271 \cdot 10^4 \text{ A/m}$
Inductance	L	1/eV	$1.9732705 \cdot 10^{-14} \text{ H}$
some constants:			
Planck's quantum	\hbar	1	$1.05457266 \cdot 10^{-34} \text{ J}\cdot\text{s}$
$h = 2\pi\hbar$	h	2π	$6.6260755 \cdot 10^{-34} \text{ J}\cdot\text{s}$
Charge of electron	e	$8.5424546 \cdot 10^{-2}$	$1.60217733 \cdot 10^{-19} \text{ C}$
Bohr radius, \hbar^2/me^2	a_0	$2.6817268 \cdot 10^{-4}/\text{eV}$	$5.29177249 \cdot 10^{-11} \text{ m}$
Energy 1 electron Volt	eV	1 eV	$1.60217733 \cdot 10^{-19} \text{ J}$
Rydberg energy, $e^2/2a_0$	E_{Ryd}	13.605698 eV	$2.1798741 \cdot 10^{-18} \text{ J}$
Hartree energy, e^2/a_0	E_{h}	27.211396 eV	$4.3597482 \cdot 10^{-18} \text{ J}$
Speed of light	c	1	$2.99792458 \cdot 10^8 \text{ m/s}$
Permeability of vacuum	μ_0	4π	$4\pi \cdot 10^{-7} \text{ H/m}$
Permittivity of vacuum	ϵ_0	$1/4\pi$	$8.854187817 \cdot 10^{-12} \text{ F/m}$
Bohr magneton	μ_B	$8.3585815 \cdot 10^{-8}/\text{eV}$	$9.2740154 \cdot 10^{-24} \text{ J/T}$
Mass of electron	m_e	510.99906 keV	$9.1093897 \cdot 10^{-31} \text{ kg}$
Mass of proton	m_p	938.27234 MeV	$1.6726231 \cdot 10^{-27} \text{ kg}$
Mass of neutron	m_n	939.56563 MeV	$1.6749286 \cdot 10^{-27} \text{ kg}$
Gravitation constant	G	$6.70711 \cdot 10^{-57}/\text{eV}^2$	$6.67259 \cdot 10^{-11} \text{ N}\cdot\text{m}^2/\text{kg}^2$