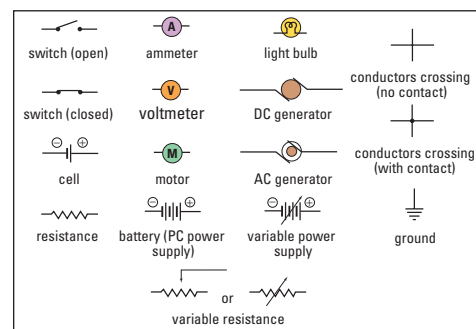


Physical Constants and Data

Fundamental Physical Constants

Quantity	Symbol	Accepted value
speed of light in a vacuum	c	2.998×10^8 m/s
gravitational constant	G	6.673×10^{-11} N · m ² /kg ²
Coulomb's constant	k	8.988×10^9 N · m ² /C ²
charge on an electron	e	1.602×10^{-19} C
rest mass of an electron	m_e	9.109×10^{-31} kg
rest mass of a proton	m_p	1.673×10^{-27} kg
rest mass of a neutron	m_n	1.675×10^{-27} kg
Planck's constant	h	6.626×10^{-34} J · s

Electric Circuit Symbols



Other Physical Data

Quantity	Symbol	Accepted value
standard atmospheric pressure	P	1.013×10^5 Pa
speed of sound in air		343 m/s (at 20°C)
water: density (4°C)		1.000×10^3 kg/m ³
latent heat of fusion		3.34×10^5 J/kg
latent heat of vaporization		2.26×10^6 J/kg
specific heat capacity (15°C)		4186 J/(kg°C)
kilowatt hour	E	3.6×10^6 J
acceleration due to Earth's gravity	g	9.81 m/s ² (standard value; at sea level)
mass of Earth	m_E	5.98×10^{24} kg
mean radius of Earth	r_E	6.38×10^6 m
mean radius of Earth's orbit	R_E	1.49×10^{11} m
period of Earth's orbit	T_E	365.25 days or 3.16×10^7 s
mass of Moon	m_M	7.36×10^{22} kg
mean radius of Moon	r_M	1.74×10^6 m
mean radius of Moon's orbit	R_M	3.84×10^8 m
period of Moon's orbit	T_M	27.3 days or 2.36×10^6 s
mass of Sun	m_s	1.99×10^{30} kg
radius of Sun	r_s	6.96×10^8 m

Resistor Colour Codes

Colour	Digit represented	Multiplier	Tolerance
black	0	$\times 1$	
brown	1	$\times 1.0 \times 10^1$	
red	2	$\times 1.0 \times 10^2$	
orange	3	$\times 1.0 \times 10^3$	
yellow	4	$\times 1.0 \times 10^4$	
green	5	$\times 1.0 \times 10^5$	
blue	6	$\times 1.0 \times 10^6$	
violet	7	$\times 1.0 \times 10^7$	
gray	8	$\times 1.0 \times 10^8$	
white	9	$\times 1.0 \times 10^9$	
gold		$\times 1.0 \times 10^{-1}$	5%
silver		$\times 1.0 \times 10^{-2}$	10%
no colour			20%

