Table of formula, with expressions and their SI units, constant values

Formula	Expression	SI Unit	Constant Values
Photon Energy	$E = h\nu$	Joules (J)	$h = 6.63 \times 10^{-34}$ Js
Planck's Relation	$E = \frac{hc}{\lambda}$	Joules (J)	$c = 3.0 \times 10^{8}$ m/s
de Broglie Wavelength	$\lambda = \frac{h}{p}$	Meters (m)	$h = 6.63 \times 10^{-34}$ Js
Momentum of Photon	$p = \frac{h}{\lambda}$	kg m/s	$h = 6.63 \times 10^{-34}$ Js
Kinetic Energy of Electron	$K_{max} = h\nu - \varphi_0$	Joules (J)	-
Threshold Frequency	$\nu_0 = \frac{\varphi_0}{h}$	Hertz (Hz)	$h = 6.63 \times 10^{-34}$ Js
Stopping Potential	$eV_0 = K_{max}$	Volts (V)	$e = 1.6 \times 10^{-19}$ C
Energy of Electron	$E = eV$	Joules (J)	$e = 1.6 \times 10^{-19}$ C
Electron Charge	$e = 1.6 \times 10^{-19}$	Coulombs (C)	-
Work Function	φ_0	Electron volts (eV)	-
Wave Speed	$v = f\lambda$	m/s	-
Potential Energy	$U = eV$	Joules (J)	$e = 1.6 \times 10^{-19}$ C
Photoelectric Current	$I = n \times e$	Amperes (A)	$e = 1.6 \times 10^{-19}$ C
Energy Quantum	$E = nh\nu$	Joules (J)	$h = 6.63 \times 10^{-34}$ Js
Relativistic Energy-Momentum	$E^2 = (pc)^2 + (m_0c^2)^2$	Joules (J)	$c = 3.0 \times 10^{8}$ m/s
Stopping Potential Relation	$V_0 = \frac{K_{max}}{e}$	Volts (V)	$e = 1.6 \times 10^{-19}$ C
Photon Momentum	$p = \frac{E}{c}$	kg m/s	$c = 3.0 \times 10^{8}$ m/s
Electric Field	$E = \frac{F}{q}$	Newtons/Coulomb (N/C)	-
Photoelectron Kinetic Energy	$K_{max} = eV_0$	Joules (J)	$e = 1.6 \times 10^{-19}$ C
Electron Wavelength Relation	$\lambda = \frac{1.227}{\sqrt{V}}$	nm	-
Work-Energy Theorem	$W = \Delta K$	Joules (J)	-
Electron Speed	$v = \sqrt{\frac{2eV}{m}}$	m/s	$e = 1.6 \times 10^{-19}$ C, $m = 9.11 \times 10^{-31}$ kg
Photon Energy in eV	$E = \frac{hc}{\lambda e}$	Electron volts (eV)	$h = 6.63 \times 10^{-34}$ Js, $e = 1.6 \times 10^{-19}$ C

Formula	Expression	SI Unit	Constant Values
Kinetic Energy-Voltage Relation	$K = eV$	Joules (J)	$e = 1.6 \times 10^{-19}$ C

This table includes essential formulas from the context of photoelectric effect, de Broglie hypothesis, and quantum mechanics, along with their respective SI units and constant values where applicable.