This table shows basic electrical formulas used to find voltage, current, resistance, power, and energy, helping analyse and design electrical circuits.

$V=\frac WQ$	V= Electric Potential, Q= Charge, W= Electric potential energy
$I=\frac qt =\frac {n e}{t}$	I = Current, q = Charge, t = time, n = number of electrons, $e = -1.6\times10^{-19}$
$I= n eAv_d$	n = number of electrons per unit volume, $e = -1.6\times10^{-19}$, A= area of cross-section of the wire, v_d= drift velocity of free electrons
$R=\rho \frac lA$	R= Resistance, ρ =Resistivity or specific resistance, l= length, A= cross-section area
$G=\frac 1R$	G= Conductance, R= Resistance
$R_1= R_0(1+\alpha_0t_1)$	A metallic conductor having resistance R_0 at $0^{o}C$ and R_1 at $t_{1}^{o}C, \alpha _{0}=$ Temperature coefficient of resistance at $0^{o}C$
$\alpha _{1} = \frac{\alpha _{0}}{1+\alpha _{0}t_{1}}$	$\alpha _{1}$ = Temperature coefficient of resistance at $t_{1}^{o}C$ $\alpha _{0}$= Temperature coefficient of resistance at $0^{o}C$
$R_2= R_1[1+\alpha _{1}(t_{2}-t_{1})]$	Conductor having resistance R_2 at $t_{2}^{o}C$ and R_1 at $t_{1}^{o}C$, $\alpha _{1}$ = Temperature coefficient of resistance at $t_{1}^{o}C$
$V= IR$	V= Potential Difference, I= Current, R= Resistance
$P= VI=I^{2}R=\frac{V^{2}}{R}$	P= Electric Power, V= Potential Difference, I= Current, R= Resistance
$W=Pt= VIt=I^{2}Rt=\frac{V^{2}t}{R}$	W= Electrical energy consumed, P= Electric Power, t= energy consumed time, V= Potential Difference, I= Current, R= Resistance