Solar Cell Current Delivered by Illuminated Diode Formula Breakdown

$$I = I_L - I_0 \cdot \left(e^{\frac{q \cdot V}{(m \cdot k) \cdot T}} - 1 \right)$$

Original Formula

Solar Cell Current = (Greatest Current – Reverse Saturation Current) *

[[Euler's # ^ [(Elementary Charge * Voltage) / (Ideality Factor * Boltzmann constant) * Absolute Temp]] -1]

Euler's #: 2.718281

Elementary charge: 1.602×10^-19

Boltzmann Constant: 1.381×10^-23

Modified Formula for the Python Program

Solar Cell Current = (CurrentDifference) *

[[Math.e ^ [(ElementaryChargeTimesVoltage) / (IdealityTimesBoltzmann) * Absolute Temp]] -1]

Solar Cell Current = (CurrentDifference) *

$$\left[\text{Math.e}^{\left[\frac{\text{(ElementaryChargeTimesVoltage)}}{\text{(IdealityTimesBoltzmannTimesTemp)}} \right]} \right]^{-1}$$

Solar Cell Current = (CurrentDifference) *

$$\left[\text{Math.e}^{\left[\text{(ElementaryDividedIdealityBoltzmann)} \right]} \right]^{-1}$$

Solar Cell Current =

(CurrentDifference) * $\left[\text{EulersNumberToPower}^{-1} \right]$

Solar Cell Current =

(CurrentDifference) * EulersNumberToPowerMinusOne