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## Nomenclature

$E_g$	Band gap energy (eV)
$V_{oc}$	Open circuit voltage (V)
$J_{sc}$	Short circuit current density (A)
$J_0$	Reverse saturation current density (A)
$I_{sc}$	Short circuit current (A)
$I_0$	Reverse saturation current(A)
$I_{ph}$	Photo current (A)
FF	Fill factor
$\eta$	cell efficiency
$V_m$	Voltage at the maximum power point (V)
$I_m$	Current at the maximum power point (A)
T	Temperature of the PV cell ( K or °C )
$R_s$	Series resistance ( $\Omega$ )
$R_{sh}$	Shunt resistance ( $\Omega$ )
$R_{so}$	reciprocal of slope of the I–V characteristic of the cell for $V=V_{oc}$ and $I=0$ ( $\Omega$ )
$R_{sho}$	reciprocal of the slope of the I–V characteristic of the cell for $V=0$ and $I=I_{sc}$ ( $\Omega$ )
$k_B$	Boltzmann constant ( $1.381 \times 10^{-23}$ J/K)
n	diode quality factor
q	electron charge ( $1.602 \times 10^{-19}$ C)